

ORAL ARGUMENT NOT YET SCHEDULED
IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 25-1275

ENVIRONMENTAL DEFENSE FUND, *et al.*,
Petitioners,
v.
LEE ZELDIN, *et al.*,
Respondents.

Petition for Review of Final Action of the
United States Environmental Protection Agency

PETITIONERS' OPENING BRIEF

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CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to Circuit Rule 28(a)(1), Petitioners hereby certify as follows:

I. Parties and *Amici*

Petitioners: Petitioners in this case are Environmental Defense Fund, Clean Air Council, Center for Biological Diversity, Dakota Resource Council, Earthworks, Environmental Law & Policy Center, Food & Water Watch, Fort Berthold Protectors of Water & Earth Rights, GreenLatinos, Natural Resources Defense Council, and Sierra Club.

Respondents: Respondents in this case are the United States Environmental Protection Agency (“EPA”) and Lee Zeldin, in his official capacity as Administrator of the EPA.

Intervenors: Intervenors in this case are American Exploration & Production Council, American Petroleum Institute, Arizona Legislature, Arkansas Producer Associations and Royalty Owners, Commonwealth of Virginia, Domestic Energy Producers Alliance, Eastern Kansas Oil & Gas Association, Gas and Oil Association of WV, GPA Midstream Association, Illinois Oil & Gas Association, Independent Petroleum Association of America, Indiana Oil and Gas Association, International Association of Drilling Contractors, Interstate Natural Gas Association of America, Kansas Independent Oil & Gas Association, Kentucky Oil and Gas Association, Michigan Oil and Gas

Association, National Stripper Well Association, North Dakota Petroleum Council, Ohio Oil and Gas Association, Pennsylvania Independent Oil & Gas Association, Petroleum Alliance of Oklahoma, State of Alabama, State of Alaska, State of Arkansas, State of Georgia, State of Idaho, State of Indiana, State of Iowa, State of Kansas, State of Kentucky, State of Missouri, State of Montana, State of Nebraska, State of North Dakota, State of Ohio, State of Oklahoma, State of South Carolina, State of Texas, State of West Virginia, State of Wyoming, Texas Alliance of Energy Producers, Texas Producer Associations & Royalty Owners Association, Western Energy Alliance

Amici Curiae: None at present.

II. Ruling Under Review

Petitioners challenge EPA’s final action *Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources*, 90 Fed. Reg. 55671 (Dec. 3, 2025) (“Delay Rule”).

III. Related Cases

Environmental Defense Fund, et al. v. Zeldin, Nos. 25-1164 and 25-1168 (challenges to prior interim final rule delaying same regulations, dismissed as moot in light of adoption of rule challenged in this case).

RULE 26.1 DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure and D.C. Circuit Rule 26.1, Movants Environmental Defense Fund, Clean Air Council, Center for Biological Diversity, Dakota Resource Council, Earthworks, Environmental Law & Policy Center, Food & Water Watch, Fort Berthold Protectors of Water & Earth Rights, GreenLatinos, Natural Resources Defense Council, and Sierra Club state that they are non-profit environmental organizations without any parent corporation or stock.

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GLOSSARY

2024 Rule	EPA, <i>Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review</i> , 89 Fed. Reg. 16821 (Mar. 8, 2024)
Delay Rule	EPA, <i>Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources</i> , 90 Fed. Reg. 55671 (Dec. 3, 2025)
EPA	United States Environmental Protection Agency
Interim Final Rule	EPA, <i>Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review Final Rule</i> , 90 Fed. Reg. 35966 (July 31, 2025)
Memorandum	EPA, Memorandum to Docket, Economic Impact Analysis (July 23, 2025)
RTC	Response to Comments

INTRODUCTION

The Environmental Protection Agency (“EPA” or “Agency”) spent years crafting cost-effective standards to provide critical public health and climate protections against pollution from the oil and gas industry. Then, in a matter of months as part of its stated intent to pursue the “biggest deregulatory action in U.S. history,” EPA reversed course in an action to substantially delay compliance with those standards. Petitioners challenge that delay as a violation of the Clean Air Act devoid of reasoned decision-making.

In March 2024, EPA fulfilled its obligation under section 111 of the Clean Air Act, 42 U.S.C. § 7411, to promulgate standards to reduce methane and other air pollution from the oil and gas sector. Natural gas is composed mostly of methane, along with smog- and soot-forming volatile organic compounds and cancer-causing hazardous air pollutants. Anytime gas is leaked or intentionally vented from oil and gas facilities, these pollutants are emitted into the air.

Cumulatively, these releases have made the oil and gas industry “by far, the largest methane-emitting industry in the nation.” 86 Fed. Reg. 63110, 63147 (Nov. 15, 2021). Methane is an extremely potent greenhouse gas: it is more than eighty times more powerful than carbon dioxide at trapping heat in the atmosphere and is responsible for one-third of the warming—and the cascading climate impacts—occurring today. *Id.* at 63113-14. EPA calculated that the 2024 Rule

would cut emissions of 58 million tons of methane, 16 million tons of volatile organic compounds, and 590,000 tons of hazardous air pollutants over the next 15 years. 89 Fed. Reg. 16821, 17017 (Mar. 8, 2024).

In March 2025, just one year after finalizing the 2024 Rule, EPA abruptly changed direction, announcing plans to initiate a wholesale reconsideration of the 2024 Rule as part of the Trump Administration's larger efforts to weaken health and environmental protections. Although many of the standards had been in effect for more than a year, EPA adopted an Interim Final Rule in July 2025 that immediately suspended many of the compliance obligations established in the 2024 Rule. As EPA Administrator Lee Zeldin later confirmed, the Agency suspended those deadlines to buy time to conduct its planned reconsideration. EPA then reaffirmed the Interim Final Rule in December 2025 with the nearly identical final Delay Rule challenged here.

EPA promulgated the Delay Rule without regard for the public health and welfare impacts of the delays, ignoring a core purpose of section 111 and violating this Court's binding precedent in *American Lung Association v. EPA*, 985 F.3d 914 (D.C. Cir. 2021), *rev'd and remanded on other grounds sub nom. West Virginia v. EPA*, 597 U.S. 697 (2022). The Agency also unlawfully skirted the Clean Air Act's strict three-month limit on stays pending reconsideration. And in its haste, EPA

failed to provide factual support and a rational basis for the delays, falling far short of the Act's standards for reasoned decision-making.

The Delay Rule must be vacated.

JURISDICTIONAL STATEMENT

This Court has jurisdiction under section 307(b)(1) of the Clean Air Act, 42 U.S.C. § 7607(b)(1), to review this timely challenge to EPA's final action of the Delay Rule.

STATUTES AND REGULATIONS

Pertinent statutes and regulations are reproduced in an addendum to this brief.

STATEMENT OF ISSUES

1. Whether EPA's failure to consider the health and environmental impacts of the Delay Rule violated Clean Air Act sections 111 and 307(d)(9), 42 U.S.C. §§ 7411, 7607(d)(9).
2. Whether EPA unlawfully circumvented the express limitations on stays pending reconsideration set forth in Clean Air Act section 307(d)(7)(B), 42 U.S.C. § 7607(d)(7)(B).
3. Whether EPA arbitrarily and capriciously extended deadlines without a reasoned justification for each extension.

STATEMENT OF THE CASE

I. Legal Background: Clean Air Act Sections 111 and 307(d)(7)(B).

The “central purpose” of section 111 of the Clean Air Act is to prevent “harm [to] people and the environment.” *Am. Lung Ass’n*, 985 F.3d at 993. To effectuate this purpose, section 111 directs EPA to list “categories of stationary sources” that it concludes “cause[], or contribute[] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.” 42 U.S.C. § 7411(b)(1)(A). For each source category, EPA must prescribe federal “standards of performance” for new, modified, and reconstructed sources (essentially, sources built after the proposal of the rule) that reflect the “degree of emission limitation achievable” through application of the “best system of emission reduction,” taking into account factors such as costs, energy requirements, and the quantity of pollution abated. *Id.* §§ 7411(a)(1), (b)(1)(B); *see also Sierra Club v. Costle*, 657 F.2d 298, 326 (D.C. Cir. 1981). For pollutants such as methane that are not regulated under certain other Clean Air Act provisions, the Agency must also issue emission guidelines for existing sources, requirements that are implemented through state plans submitted to and subject to approval by EPA. 42 U.S.C. § 7411(d).

Once the EPA has adopted section 111 standards, the Clean Air Act provides only two paths for the Agency to alter compliance obligations. First, if parties

demonstrate to EPA that they lacked an opportunity to comment on an issue of central relevance to the rule, EPA must grant administrative reconsideration pursuant to section 307(d)(7)(B)—and may opt to stay the rule’s effectiveness for a maximum of three months. *Id.* § 7607(d)(7)(B); *see also Air All. Houston v. EPA*, 906 F.3d 1049, 1054 (D.C. Cir. 2018).

Second, EPA may revise section 111 standards, including compliance deadlines, by invoking the Act’s standard rulemaking process and abiding by the Act’s accompanying requirements. 42 U.S.C. §§ 7411, 7607(d); *Clean Air Council v. Pruitt*, 862 F.3d 1, 6 (D.C. Cir. 2017) (EPA’s delay of section 111 oil and gas methane rule compliance dates was “tantamount to amending or revoking a rule”). EPA has no authority to suspend or delay a currently effective rule apart from these two paths.

II. Regulatory Background.

A. The 2024 Rule.

On March 8, 2024, EPA promulgated a rule strengthening the oil and gas source category’s new source standards for methane and volatile organic compounds. 89 Fed. Reg. 16821, 16826-27 (Mar. 8, 2024) (“2024 Rule”). In addition, for the first time, EPA met its mandatory duty to establish emission guidelines for state plans to limit methane from existing oil and gas facilities, which constitute the “vast majority of polluting sources.” *Id.* at 16826-27; 86 Fed.

Reg. at 63150, 63152. In the 2024 Rule, EPA established standards consisting of emission limitations, compliance assurance measures, and compliance deadlines for each type of covered equipment in the category. 89 Fed. Reg. at 16871-16902.

The 2024 Rule reflected EPA’s careful consideration of and response to nearly one million comments. Over the course of two years, the Agency determined the best system of emission reduction for various pollution sources across the sector, considering compliance feasibility and cost. *See id.* at 16824; *see also* JA____[EPA-HQ-OAR-2021-0317-4009] (Response to Public Comments on the November 2021 Proposed Rule and the December 2022 Supplemental Proposed Rule (Nov. 2023)) (“2024 RTC”). The compliance deadline for almost all new source standards was May 7, 2024, although EPA gave operators an additional year to comply with the process controller standard, with a deadline of May 7, 2025. 89 Fed. Reg. at 16820, 17048. The Agency also established a state plan submittal deadline of March 9, 2026, and allowed states to grant existing sources an additional three years (until 2029) to achieve full compliance with the standards in the final plans. *Id.* at 17141, 17011.

The purpose of the 2024 Rule was to carry out EPA’s responsibility under section 111 to “mitigat[e] climate-destabilizing pollution and protect[] human health by reducing [greenhouse gas] and [volatile organic compound] emissions from the oil and natural gas industry.” *Id.* at 16823; *see also id.* at 16826 (“EPA has

the unique responsibility and authority to regulate harmful air pollutants emitted by the Crude Oil and Natural Gas source category.”). As such, the 2024 Rule contained an extensive discussion of the emission impacts of cancer-causing hazardous air pollutants and smog-forming volatile organic compounds from the oil and gas industry, *see, e.g., id.* at 16841, and gave “careful consideration” to the benefits of reducing this pollution to communities living near oil and gas development. *Id.* at 17019-23. The 2024 Rule also extensively discussed the industry’s contributions to climate change and recognized that a warming climate “endanger[s] the physical survival, health, economic well-being, and quality of life of people living in the United States...especially those in the most vulnerable communities.” *Id.* at 16824, 16836-41.

In formulating each of the 2024 Rule’s standards, including those that are now delayed, EPA extensively evaluated pollution sources, mitigation methods, and their associated environmental and health benefits. *See, e.g.,* 87 Fed. Reg. 74702, 74747 (Dec. 6, 2022) (recognizing super emitters’ “significant impact” on communities); 89 Fed. Reg. at 16877 (creating program to address the “widespread problem of abnormally large emissions events”); *id.* at 16881 (citing need for process controller standards because those units “are a significant source of methane emissions”); 87 Fed. Reg. at 74793 (concluding that a minimum net heating value is required to ensure combustion devices adequately reduce

emissions); *id.* at 74804 (creating closed-vent system standards to “ensure that emissions are captured”). EPA also balanced the benefits of pollution reductions with industry’s implementation concerns in setting substantive requirements and compliance timelines. *See, e.g.*, 89 Fed. Reg. at 17010.

In addition, EPA quantified the emission impacts of the 2024 Rule, estimating that between 2024 and 2038, the Rule would reduce methane, volatile organic compound, and hazardous air pollutant emissions by 58 million, 16 million, and 590,000 tons, respectively over the next 15 years. *Id.* at 17017. The Agency further calculated that the 2024 Rule would avoid approximately \$110 billion in climate-related damages and \$7 billion in other health-related damages between 2024 and 2038, *id.*, and determined that these benefits were more than five times the industry’s net costs to implement the rule, *id.* at 16836, tbl. 6. EPA concluded that “based on the totality of circumstances, the advantages that the rule provides...outweigh its disadvantages, namely cost of industry compliance in the context of the industry’s revenue and expenditures.” *Id.* at 16868.

In April 2024, certain states and industry parties filed legal challenges to the 2024 Rule. This Court and the Supreme Court denied requests to stay the rule pending judicial review. Order, *Texas v. EPA*, No. 24-1054 (D.C. Cir. July 9, 2024) (Doc. 2063659); Order, *Oklahoma v. EPA*, 145 S.Ct. 121 (Oct. 4, 2024).

B. EPA's Reconsideration of the 2024 Rule.

Between April and May 2024, EPA received several petitions for reconsideration requesting that the Agency revisit numerous aspects of the 2024 Rule that it had already addressed during the comment periods, including requests to alter the standards on the grounds of claimed cost and feasibility concerns.¹ In response, the Agency agreed to reconsider two narrow issues—exemptions for temporary flaring and requirements for the net heating value of control devices—and later finalized its limited reconsideration. 90 Fed. Reg. 3734 (Jan. 15, 2025); 91 Fed. Reg. 18056 (Apr. 9, 2026).

The potential scope of reconsideration widened dramatically, however, when the Trump Administration took office. On January 20, 2025, President Trump signed Executive Order 14154, “Unleashing American Energy,” which (among other things) directed federal agencies to “review...those agency actions that impose an undue burden on the identification, development, or use of domestic energy resources.” 90 Fed. Reg. 8353, 8354. In response, EPA announced in March 2025 what the Administrator’s press release called the “Biggest Deregulatory

¹ See, e.g., JA _____ [EPA-HQ-OAR-2025-0162-0003] (GPA Petition (May 2, 2024)); JA _____ [EPA-HQ-OAR-2025-0162-0007] (API/AXPC Petition (Apr. 5, 2024)); JA _____ [EPA-HQ-OAR-2025-0162-0006] (ExxonMobil Petition (Apr. 26, 2024)); JA _____ [EPA-HQ-OAR-2025-0162-0009] (TXOGA Petition (May 7, 2024)).

Action in U.S. History,” targeting 31 regulations for revision or rescission—including the 2024 Rule.² Administrator Zeldin recently confirmed the Agency is actively reconsidering the 2024 Rule more broadly and that EPA is “about to announce” another phase of reconsideration.³

C. EPA’s Interim Final Rule Suspending Compliance Deadlines.

Soon after EPA’s March announcement, in July 2025, EPA adopted an Interim Final Rule that immediately suspended key compliance deadlines in the 2024 Rule as it continues its broad reconsideration. 90 Fed. Reg. 35966, 35969-70 (July 31, 2025). Administrator Zeldin testified to Congress that EPA delayed the deadlines “to allow [EPA] to fix...the flaws with the [2024 Rule].”⁴

Although by that point all the new-source deadlines had already passed (most over a year earlier), the Interim Final Rule extended many of them to January 22, 2027—extensions of up to almost three years from the original deadlines. These included deadline extensions for the Super Emitter Program, process controller standards, storage tank standards, leak-repair requirements, and

² EPA, *EPA Launches Biggest Deregulatory Action in U.S. History* (Mar. 12, 2025), <https://perma.cc/F57N-B3QV>; EPA, *Trump EPA Announces OOOO b/c Reconsideration of Biden-Harris Rules Strangling American Energy Producers* (Mar. 12, 2025), <https://perma.cc/4XPZ-792G>.

³ *FY2027 EPA Budget: Hearing Before the Subcomm. on Env’t of the H. Comm. on Energy & Commerce*, 119th Cong., at 1:07:48 (Apr. 28, 2026) (statement of Lee Zeldin, Adm’r, EPA), <https://perma.cc/WMV7-44NP>.

⁴ *Id.*

compliance-assurance requirements for several types of emission control equipment, such as enclosed combustion devices, flares, and closed-vent systems. 90 Fed. Reg. at 35970-77. These delayed new-source standards address significant sources of emissions: for example, process controllers accounted for 65% of total methane emitted by onshore oil production in 2019, 89 Fed. Reg. at 16881, while the Super Emitter Program is intended to “comprehensively address[] the widespread problem of abnormally large emissions events,” *id.* at 16877; *see also* ADD_263-66 ¶¶ 33-34 (Proville-Mirtich).

As for existing sources, the Interim Final Rule postponed the state plan submission deadline by ten months to January 22, 2027—effectively delaying all requirements for existing sources in the 2024 Rule. 90 Fed. Reg. at 35977-79.

Petitioners promptly sought review of the Interim Final Rule and filed a motion for summary vacatur. *Env’t Defense Fund v. U.S. EPA*, Nos. 25-1164; 25-1168, Doc. 2130555 (D.C. Cir. Aug. 18, 2025). That motion and the petition for review were subsequently dismissed as moot. *Id.*, Doc. 2161664 (Mar. 2, 2026). Petitioners also filed detailed comments objecting to the Interim Final Rule’s delays and rationales during EPA’s post hoc comment period.⁵

⁵ JA____[EPA-HQ-OAR-2025-0162-0178] (EDF Comment (Oct. 2, 2025)).

D. EPA’s Delay Rule Affirming the Interim Final Rule.

On December 3, 2025, EPA published a final rule affirming the Interim Final Rule’s delays. 90 Fed. Reg. 55671, 55674.⁶ The Delay Rule also went further than the Interim Final Rule by extending the deadline for sources to submit annual compliance reports by 360 days for *all* standards (not just those subject to the Interim Final Rule). *Id.* at 55674. EPA asserted that the deadline extensions were “necessary” “[b]ased on information received in petitions for reconsideration.” *Id.*

Neither the Interim Final Rule nor the Delay Rule made any mention of climate or health harms associated with the increased air pollution due to the delays. Nor did EPA attempt to quantify the forgone reductions or the resulting health and environmental impacts from delaying the 2024 Rule’s new-source standards. *See* JA____[EPA-HQ-OAR-2025-0162-0025_1] (Memorandum to Docket, Economic Impact Analysis (July 23, 2025)) (“Memorandum”); JA____[EPA-HQ-OAR-2025-0162-0672] (Memorandum to Docket, Affirmation of Economic Impact Analysis (Oct. 31, 2025)).

As its sole effort to evaluate the Delay Rule’s effects on pollution, EPA prepared a Memorandum containing a cursory “economic impact analysis” that

⁶ The Delay Rule “reaffirms the conclusions reached in the [Interim Final Rule]” and refers back to the “reasons stated in the [Interim Final Rule].” 90 Fed. Reg. at 55680, 55675. For this reason, Petitioners will reference both rules in this brief.

calculated the forgone emission reductions from delaying the existing source emission guidelines. JA _____ - _____ [Memorandum_5-8]. Notably, the Agency declared that the Memorandum “was not part of the EPA’s decision-making and has no independent effect” because it was prepared solely for the Office of Management and Budget (OMB) pursuant to Executive Order 12866.

JA _____ [EPA-HQ-OAR-2025-0162-0673_31] (Response to Public Comments on the July 31, 2025 Interim Final Rule (Nov. 24, 2025)) (“RTC”). The Memorandum estimated the delay will result in emissions of 3.8 million tons of methane, 960,000 tons of smog-forming volatile organic compounds, and 36,000 tons of hazardous air pollutants that would have otherwise been eliminated in 2028. It also predicted an overall increase in emissions of 1.3 million tons of methane, 350,000 tons of volatile organic compounds, and 13,000 tons of hazardous air pollutants between 2028 and 2039.

Neither the Memorandum nor the Delay Rule included any discussion of the monetary climate or ozone pollution costs caused by the amended compliance dates, JA _____ [Memorandum_10], despite EPA’s previous calculation that the 2024 Rule would avoid billions of dollars in climate- and health-related damages. 89 Fed. Reg. at 16836.

In response to comments insisting that the Agency must consider factors including emission impacts, EPA stated that it “disagrees...that the [Rule] violated

any provision of [Clean Air Act] section 111” because “the specific changes are related to limited, targeted[] extensions.” JA_____[RTC_27]; *see also id.* (asserting that compliance delays “are not a true change in agency policy”); 90 Fed. Reg. at 55674 (describing rule as limited to “compliance deadline issues” as opposed to “substantive amendments”). EPA did not respond to Petitioners’ comment that under this Court’s decision in *American Lung Association*, the Clean Air Act requires the Agency to weigh the public health and welfare impacts of any delay in compliance deadlines. *See* JA_____-_____[RTC_46-47]; *see also* 90 Fed. Reg. at 55679 (acknowledging comments that EPA “failed to adequately address the environmental and public health effects of the deadline extension” and stating only that “EPA disagrees with these comments”). Petitioners challenged the Delay Rule upon finalization and filed a motion for summary vacatur. Pet. for Review, Doc. 2149019;⁷ Mot. for Summ. Vacatur, Doc. 2151923. The Court denied the Petitioners’ motion, Order, Doc. 2161664 (Mar. 2, 2025), and merits briefing followed.

⁷ The Court initially consolidated this petition and those challenging the Interim Final Rule, Order, Doc. 2149415 (Dec. 9, 2025), but terminated the consolidation upon dismissing the Interim Final Rule challenge, Order, Doc. 2161664 (Mar. 2, 2026).

SUMMARY OF ARGUMENT

The Delay Rule should be reversed because the EPA arbitrarily ignored the health and climate consequences of delaying Clean Air Act protections. EPA's refusal to consider the air pollution-reduction benefits forgone by delaying compliance with the 2024 Rule is a clear violation of the Act and this Court's binding precedent in *American Lung Association*. That case squarely holds that EPA must consider emission impacts when extending section 111 deadlines, since reducing pollution is “arguably the most important aspect” of the problem and “the central purpose” of the statute. 985 F.3d at 947, 993, 995.

The Delay Rule is also unlawful because it is subject to—and violates—the Clean Air Act's conditions on stays pending reconsideration, including the three-month limitation on such stays. 42 U.S.C. § 7607(d)(7)(B). EPA's Administrator publicly professed that the Delay Rule was intended to buy time to fix the 2024 Rule, and the record here confirms that intent. But “EPA cannot escape Congress's clear intent to specifically limit the agency's authority under Section [307] by grasping at its separate, more general authority” under section 111. *Air All. Houston*, 906 F.3d at 1061.

Finally, each of the Delay Rule's deadline extensions are independently arbitrary and capricious. EPA relied heavily on factual conclusions that the Agency previously considered and rejected in the 2024 Rule, yet EPA failed to adequately

explain its about-face. EPA’s generalized assertions about feasibility and “timing difficulties” lack record support. 90 Fed. Reg. 35966. The Agency also repeatedly relied on communications that are not in the record, as well as unverified and self-serving assertions from regulated parties—all while ignoring contradictory information in the record.

For all these reasons, the Court should reverse the Delay Rule as arbitrary and capricious and contrary to law.

STANDING

As set forth in detail in the attached declarations, Petitioners have standing to bring this action because their members and their families live, work, and recreate in close proximity to new and existing oil and gas facilities that will continue to emit harmful air pollution as a result of the Delay Rule.⁸ As associations, Petitioners have standing to bring this case on behalf of their

⁸ See ADD_254-55, 256, 260 ¶¶ 16-17, 20, 27 (Proville-Mirtich); ADD_305-06, 315-16 ¶¶ 1-2, 16-17 (Schreiber); ADD_230, 236-37, 244 ¶¶ 1-2, 9-11, 22 (Palacios); ADD_285-87 ¶¶ 2-3, 6, 8-10 (Richardson); ADD_114-16 ¶¶ 6, 8 (Levenshus); ADD_189-91 ¶¶ 2-8 (McNall); ADD_103-05 ¶¶ 1-6 (Graber); ADD_164, 168-70 ¶¶ 4, 13-18 (MacFarlane); ADD_274-75, 77-82 ¶¶ 1-3, 10-19 (Ramírez); ADD_176-77 ¶ 8 (Magaña); ADD_145, 147 ¶¶ 1-2, 5 (Kuehn); ADD_133 ¶ 12 (Jones); ADD_213-19 ¶¶ 20-36 (Nichols); ADD_184-85 ¶ 13 (Maher); ADD_227-28 ¶ 19 (Pagel); ADD_136, 139-40 ¶¶ 5, 19-21 (Kemper); ADD_14, 16-18, ¶¶ 5, 11-17 (Bower-Bjorson); ADD_202-05 ¶¶ 11-18 (Michaels); ADD_82-83 ¶ 34 (DelBuono); ADD_151-56 ¶¶ 1-9 (Leach); ADD_297-300 ¶¶ 9-12 (Satrom); ADD_380 ¶ 8 (Yeung); ADD_86-87, 92-93, 101 ¶¶ 1-2, 5, 17-19, 35 (Deville); ADD_368-72, 375 ¶¶ 1-8, 15 (Weiss).

members because those members would have standing in their own right; neither the claims asserted nor the relief requested require individual participation; and the interests at stake are germane to Petitioner organizations' purposes. *See Healthy Gulf v. Dep't of Interior*, 152 F.4th 180, 189 (D.C. Cir. 2025). Pollution reduction and public health protection are relevant to Petitioners' purposes as national and regional nonprofit groups that advocate for stronger health and environmental protections for their members and the public.⁹

Because of the Delay Rule, oil and gas facilities will emit millions of tons of methane and volatile organic compounds and hundreds of thousands of tons of hazardous air pollutants between now and the end of 2028 that would have otherwise been controlled under the 2024 Rule. *See supra* p.13; *see also* ADD_265-68 ¶¶ 34, 36 (Proville-Mirtich). Petitioners' members are currently being exposed to these emissions. *Id.* at 265-73 ¶¶ 23-34. And they face health risks from such increased emissions, causing injury. *See Clean Wisconsin v. EPA*, 964 F.3d 1145, 1156 (D.C. Cir. 2020).

For example, Don Schreiber had open-heart surgery for congestive heart failure in 2014 and has post-operative residual congestive heart failure. ADD_311

⁹ *See* ADD_246-70 (Proville-Mirtich); ADD_113-16 (Levenshus); ADD_173-79 (Magaña); ADD_128-34 (Jones); ADD_180-87 (Maher); ADD_221-28 (Pagel); ADD_12-28 (Bower-Bjorson); ADD_197-206 (Michaels); ADD_377-80 (Yeung); ADD_85-101 (Deville); ADD_367-76 (Weiss).

¶ 11 (Schreiber). The Delay Rule's additional emissions of volatile organic compounds will contribute to already elevated ozone levels where he lives, increasing the risk of worsening his heart condition and causing other respiratory and cardiovascular problems. Other Petitioners' members and their families suffer from asthma, respiratory conditions, and other adverse health conditions, which can be caused or exacerbated by pollution from oil and gas facilities.¹⁰ Petitioners' members have directly experienced adverse impacts from emissions and associated processes, including venting, flaring, and leaking wells, near where they live, work, and recreate.¹¹ As a result, Petitioners' members spend less time outdoors, keep their windows closed, and take other steps to reduce their exposure, thereby causing aesthetic and recreational injuries.¹² *See Nat. Res. Def. Council v. EPA*, 755 F.3d 1010, 1017-18 (D.C. Cir. 2014) (finding injury-in-fact where members spent less time outdoors due to concerns about health risks from emissions). Further,

¹⁰ *See* ADD_304-17 (Schreiber); ADD_229-45 (Palacios); ADD_284-92 (Richardson); ADD_188-96 (McNall); ADD_102-12 (Graber); ADD_163-72 (MacFarlane); ADD_273-83 (Ramirez); ADD_135-43 (Kemper); ADD_12-28 (Bower-Bjorson); ADD_68-84 (DelBuono); ADD_85-101 (Deville).

¹¹ *See* ADD_304-17 (Schreiber); ADD_229-45 (Palacios); ADD_284-92 (Richardson); ADD_188-96 (McNall); ADD_102-12 (Graber); ADD_273-83 (Ramirez); ADD_207-20 (Nichols); ADD_135-43 (Kemper); ADD_12-28 (Bower-Bjorson); ADD_85-101 (Deville); ADD_367-76 (Weiss).

¹² *See* ADD_304-17 (Schreiber); ADD_284-92 (Richardson); ADD_102-12 (Graber); ADD_273-83 (Ramirez); ADD_207-20 (Nichols); ADD_135-43 (Kemper); ADD_12-28 (Bower-Bjorson); ADD_68-84 (DelBuono); ADD_293-303 (Satrom); ADD_367-76 (Weiss).

Petitioners' members face injury from climate change impacts connected to additional methane emissions.¹³ *See Nat. Res. Def. Council v. Wheeler*, 955 F.3d 68, 77 (D.C. Cir. 2020) (finding standing based on climate change harms). The methane emissions at issue here will have a substantially larger climate-warming impact than the hydrofluorocarbon emissions at issue in *Wheeler*. *See* ADD_268-69, ¶ 37 (Proville-Mirtich).

These injuries are all directly traceable to the Delay Rule, which delays oil and gas facilities' compliance with substantial portions of the 2024 Rule's requirements and allows states to delay emission reductions. *See* ADD_258-68, ¶¶ 23-36 (Proville-Mirtich); *NRDC v. EPA*, 755 F.3d at 1017. And they would be redressed by a favorable decision declaring the Delay Rule unlawful and restoring oil and gas facilities' and states' obligations to comply with and implement the 2024 Rule—thereby reducing harmful emissions and members' exposure. *See Friends of the Earth, Inc. v. Laidlaw Env't Servs. (TOC), Inc.*, 528 U.S. 167, 181 (2000) (finding redressability satisfied where relief would lessen environmental harm).

¹³ *See* ADD_304-17 (Schreiber); ADD_229-45 (Palacios); ADD_284-92 (Richardson); ADD_188-96 (McNall); ADD_102-12 (Graber); ADD_163-72 (MacFarlane); ADD_144-49 (Kuehn); ADD_135-43 (Kemper); ADD_12-28 (Bower-Bjorson); ADD_68-84 (DelBuono); ADD_150-52 (Leach); ADD_85-101 (Deville).

STANDARD OF REVIEW

The Court “appl[ies] the same standard of review under the Clean Air Act as [it does] under the Administrative Procedure Act.” *Am. Lung Ass’n*, 985 F.3d at 941 (quotation omitted); *see also* 42 U.S.C. § 7607(d)(1)(C). The Court “may reverse any...action found to be...arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 42 U.S.C. § 7607(d)(9). Under this standard, agencies must engage in reasoned decision-making. *Michigan v. EPA*, 576 U.S. 743, 750 (2015). That means agencies must “examine the relevant data and articulate a satisfactory explanation for its action.” *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 513 (2009). Agency action is arbitrary and capricious if the agency has “entirely failed to consider an important aspect of the problem.” *Motor Vehicle Mfrs. Ass’n of U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). When an agency changes its position based on “factual findings that contradict those which underlay its prior policy,” it must “provide a more detailed justification.” *Fox*, 556 U.S. at 515.

ARGUMENT

I. EPA’s Failure to Consider Emission Impacts of the Delay Rule Violates Section 111 and the Requirement for Reasoned Decision-Making.

In issuing the Delay Rule, EPA ignored key factors that must be considered when setting or revising section 111 standards: the consequent public health and environmental impacts. That failure flatly contravenes this Court’s decision in

American Lung Association, which holds that EPA must consider emission impacts when amending section 111 deadlines because reducing pollution is “arguably the most important aspect” of the problem and “the central purpose” of the statute. 985 F.3d at 947, 995, 993.

A. EPA Failed to Consider Emission Impacts in Violation of Section 111.

EPA failed to comply with the requirements of the statutory authority it invoked to promulgate the Delay Rule, Clean Air Act section 111. *See* 90 Fed. Reg. at 55673. As this Court has held, EPA may not delay section 111 standards without considering the resulting emission impacts and the attendant harms to people and the environment. *Am. Lung Ass’n*, 985 F.3d at 993-95. The Agency must explain how any delay is “consistent with the core objectives of the Clean Air Act” and consider the “need for speed” to avoid the “human and environmental costs” of any delay. *Id.* at 993-94. To that end, EPA may not focus solely on the interests of regulated industry in altering compliance dates of a section 111 rule, but must weigh those interests against environmental and health harms from prolonged exposure to pollution, placing a “high priority on efficiently and effectively reducing emissions.” *Id.* at 947.

EPA has not done so here. The Agency never explained or considered how the Delay Rule comports with section 111’s goal of reducing air pollution, and neither the Interim Final Rule nor the Delay Rule makes *any* mention of the

climate or health harms associated with the pollutants the 2024 Rule sought to mitigate. *See Am. Lung Ass’n*, 985 F.3d at 993-95 (faulting different delay rule because “one would have no idea that the EPA actually recognized” the need to reduce pollution). Each of the delays is based on EPA’s blind and unexplained acceptance of “information received in petitions for reconsideration” submitted by the regulated industry. 90 Fed. Reg. at 55674. But the Delay Rule makes no attempt to weigh those concerns against the increased harm to public health and the climate, let alone place a “high priority” on reducing emissions. *See, e.g., id.* at 55673-74 (summarizing rule and discussing industry compliance concerns without discussing public health or climate); 90 Fed. Reg. at 35969-70 (same). The Agency simply gave no consideration to the “need for speed” or “prompt reduction” of emissions. *Am. Lung Ass’n*, 985 F.3d at 993.

Petitioners commented that the Delay Rule violated *American Lung Association*’s requirement for EPA to consider the public health impacts resulting from any delay in compliance deadlines. EPA acknowledged Petitioners’ comment but provided no substantive response. *See* JA _____ - _____ [RTC_46-47]. Just as in *American Lung Association*, “Petitioners called the EPA’s attention to an important aspect of the regulatory problem, and the EPA looked away.” 985 F.3d at 994.

EPA sought to justify its failure by drawing a distinction found nowhere in the Clean Air Act, asserting that the Delay Rule’s revisions involve “compliance

deadline issues” as opposed to “substantive amendments” to the standards themselves. 90 Fed. Reg. at 55674; *see also* JA____[RTC_27] (stating that EPA “disagrees...that the [Rule] violated any provision of CAA Section 111” because “the specific changes are related to limited, targeted[] extensions”). This Court has repeatedly rejected any such distinction. *See Clean Air Council*, 862 F.3d at 6 (concluding EPA’s delay of section 111 methane rule compliance dates was “tantamount to amending or revoking a rule”); *Env’t Def. Fund v. EPA*, 716 F.2d 915, 920 (D.C. Cir. 1983) (“The suspension or delayed implementation of a final regulation normally constitutes substantive rulemaking....”). Indeed, in *American Lung Association* itself, EPA had extended the time for states to submit plans to implement section 111 standards from nine months to three years. 985 F.3d at 940. As this Court has recognized, delaying compliance with important emission-reduction standards necessarily entails significant public health and environmental impacts, and must be treated the same as any other amendment to the standards.

The Delay Rule’s failure to consider public health and climate harms stands in sharp contrast to the 2024 Rule, which gave “careful consideration” to the impacts of air pollution and greenhouse gas emission on communities as well as the need for speed in reducing those emissions. *See supra* p.7. There, EPA set compliance timelines that carefully balanced the benefits of pollution reductions with implementation considerations. *See, e.g.*, 89 Fed. Reg. at 17010 (state plan

deadline); *see supra* p.7-8. In the Delay Rule, EPA offered no rationale for its newfound position that only industry interests matter when delaying implementation. *See Am. Lung Ass’n*, 985 F.3d at 994 (noting that EPA’s explanation was “contrary to its explanation of the rule it displaced”); *see also infra* p.57-60.

By ignoring environmental and public health consequences of the amended deadlines and silently eschewing its prior effort to balance the different factors relevant to section 111, EPA offered a “radically incomplete explanation” for the Delay Rule and ignored “arguably the most important aspect” of the problem. *Am. Lung Ass’n*, 985 F.3d at 994-95.

B. EPA’s Economic Impact Analysis Does Not Remedy the Delay Rule’s Legal Deficiencies.

Although EPA prepared a cursory “Economic Impact Analysis” Memorandum for OMB’s review that contains some limited discussion of public health impacts, EPA expressly disclaims any reliance on that analysis in its decision-making. JA____[RTC_31]; *see supra* p.13. The Memorandum therefore cannot remedy EPA’s failure to comply with the law. *Michigan v. EPA*, 576 U.S. 743, 760 (2015) (holding the Court could not rely on regulatory impact analysis prepared for OMB where the agency had expressly disclaimed reliance on the analysis).

But even if the Memorandum *had* played a role in EPA’s decision, it would not remedy EPA’s legal violations because it presents a one-sided analysis emphasizing industry’s cost savings while broadly ignoring the human health costs. *See Ctr. for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1198 (9th Cir. 2008) (holding agency “cannot put a thumb on the scale by undervaluing the benefits and overvaluing the costs of more stringent standards”); *see also Michigan*, 576 U.S. at 753 (“[R]easonable regulation ordinarily requires paying attention to the advantages *and* the disadvantages of agency decisions.”).

First, as to the new-source standard delays, EPA arbitrarily ignored the additional pollution altogether. JA _____ - _____ [Memorandum_1-2]. That omission from both the Memorandum and the Delay Rule is arbitrary because the impact of the forgone reductions is considerable. *See* ADD_263-69, ¶¶ 33-37 (Proville-Mirtich) (estimating significant additional pollution from new-source delays). At the very least, the impact “is certainly not zero.” *Ctr. for Biological Diversity*, 538 at 1200; *see also 350 Montana v. Haaland*, 50 F.4th 1254, 1265-66 (9th Cir. 2022) (finding arbitrary an environmental assessment that summarily determined emission impacts would be minor).

Indeed, until January 2027, EPA has relieved new and modified sources from compliance with the standard for zero-emission process controllers (which make up 65% of methane emissions from oil facilities, 89 Fed. Reg. at 16881),

eliminated the Super Emitter Program (designed to mitigate the largest emission events), and delayed the criteria for operators to determine which storage tanks are subject to the 2024 Rule. *See supra* p.10-11. These are substantive provisions that EPA carefully crafted in consideration of the relevant factors under section 111 and the statute’s “central purpose” of abating harmful emissions. Relief from compliance with these standards necessarily allows more pollution than would have otherwise occurred—a fact that EPA ignores.

In an effort to excuse this failure, EPA contended that the delayed provisions are, “for the most part,” compliance-assurance mechanisms.

JA____[Memorandum_2]. This response ignores the requirements—including the process controller standards and the Super Emitter Program—that are *not* compliance assurance mechanisms but instead core provisions of the 2024 Rule driving emission reductions. And the Agency is wrong to assert that extensions of compliance-assurance mechanisms are non-substantive. In fact, they are essential to ensure achievement of the standards’ material goal of reducing emissions.

Absent effective monitoring, testing, and implementation, the substantive standards are wholly unenforceable and ineffective. *See* 42 U.S.C. § 7411(b)(1)(B)-(c);

ADD_263-65 ¶¶ 33 n.12, 34 n.13 (Proville-Mirtich); *see also, e.g., supra* p.11; *infra* p.53-56.

Second, for the existing source standards, the Memorandum acknowledged the additional emissions of methane, volatile organic compounds, and hazardous air pollutants in 2028 resulting from the delay but still failed to adequately weigh the impacts of this pollution against any compliance considerations. *See* JA____[Memorandum_6]. Specifically, while EPA quantified cost savings to industry, JA____[Memorandum_5], it arbitrarily failed to monetize the consequent ozone and climate harms.

EPA's approach in the 2024 Rule belies its new claim that the Agency was "unable" to monetize health effects. JA____[Memorandum_7]. For the 2024 Rule, EPA monetized the public health benefits of curbing the volatile organic compound emissions that contribute to ozone, accounting for "avoided premature deaths, reductions in new asthma cases and incidences of asthma symptoms, reductions in hospital admissions and emergency department visits, and reductions in lost school days." 89 Fed. Reg. at 17019. EPA estimated these benefits are worth \$7.0 billion (at a 2% discount rate). *Id.* In contrast, for the Delay Rule, EPA claimed it could not monetize health effects because the 2024 Rule estimated emission impacts for both the new-source and existing-source standards, while for the Delay Rule, the Agency only examined existing-source emissions. JA____[Memorandum_7]; *see also* JA____[RTC_34]. But nothing prevents EPA from monetizing the health effects of, at minimum, the existing-source delay's

effects (for which it already estimated forgone emissions); the Agency simply chose not to do so. EPA has thus failed to offer a “reasoned explanation...for disregarding facts and circumstances that underlay” its prior decision in the 2024 Rule to quantify these impacts. *Fox*, 556 U.S. at 516.

Similarly, in the 2024 Rule, EPA finalized a peer-reviewed report updating methodologies to monetize the climate benefits from curbing methane emissions and determined that the 2024 Rule would prevent \$110 billion in climate damages. 89 Fed. Reg. at 16835-36 (discussing methodology). In the Delay Rule, EPA declined to monetize the climate harms from postponing control requirements, claiming too much uncertainty exists to do so. JA_____,_____[Memorandum_6, 10]; *see* ADD_27-43 (Buma). Yet EPA failed to even acknowledge the departure from its prior practice. JA_____[Memorandum_10]; *Fox*, 556 U.S. at 515 (“An agency may not...depart from a prior policy *sub silentio*...”). Nor did EPA grapple with its prior factual findings from the 2024 Rule showing that uncertainty does not prevent monetizing climate impacts. *Fox*, 556 U.S. at 515-16; *see also id.* at 537 (Kennedy, J., concurring in part and concurring in the judgment) (an agency may not “disregard contrary or inconvenient factual determinations that it made in the past”). In fact, EPA failed even to provide any *qualitative* discussion of climate impacts—entirely ignoring “an important aspect of the problem.” *Am. Lung Ass’n*, 985 F.3d at 995 (quoting *State Farm*, 463 U.S. at 43).

In sum, the Delay Rule violates the Clean Air Act by delaying meaningful oil and gas standards without considering “the central purpose” of section 111—reducing pollution harms. *Id.* at 993. The Court should vacate it.

II. The Delay Rule Violates the Clean Air Act’s Limitation on Stays Pending Reconsideration.

The Delay Rule is additionally unlawful because it is subject to—and violates—the Clean Air Act’s express limitations on stays pending reconsideration. 42 U.S.C. § 7607(d)(7)(B). The Act includes specific authority for EPA to suspend a rule’s effectiveness during a reconsideration process, but this authority is narrowly circumscribed—relevant here, any such stay is limited to three months. *Id.* The multi-year postponements provided by the Delay Rule far exceed this time limit.

Instead of complying with section 307, EPA cites section 111 as authority for the Delay Rule (without, however, showing that the delayed standard meets section 111’s substantive requirements; *see supra* Section I). But “EPA cannot escape Congress’s clear intent to specifically limit the agency’s authority under Section [307] by grasping at its separate, more general authority”—here, its section 111 authority. *Air All. Houston*, 906 F.3d at 1061. “Congress saw fit to place a three-month statutory limitation on [stays pending] ‘such reconsideration’...and this court ‘must give effect to the unambiguously expressed intent of Congress.’” *Id.* (quotations omitted).

EPA’s own statements and the circumstances of the rulemaking demonstrate that the Delay Rule’s purpose is to buy time for the agency to reconsider the rule, falling directly within the scope of section 307. *See id.* at 1061-63 (finding “a stay pending reconsideration” occurs when EPA takes more time “to decide what it wants to do, rather than [make] a substantive amendment to” a rule); *NRDC v. Reilly*, 976 F.2d 36, 38 (D.C. Cir. 1992) (holding section 307(d)(7)(B)’s limitations applied despite invocation of a separate authority where “the stays...represented a continuation of the reconsideration process”). For example, EPA Administrator Zeldin recently testified to Congress that reconsideration of the 2024 Rule has involved “a multiple phased process,” including an impending proposal to amend the 2024 Rule and a delay of compliance deadlines “to allow us to fix...the flaws with the [2024 Rule].”¹⁴

The Delay Rule’s record further confirms that it was aimed at buying more time to address substantive issues raised in reconsideration petitions. Indeed, EPA rejected commenters’ requests to “extend implementation further,” not because the Agency determined additional time was unwarranted, but because “EPA is reconsidering the 2024 Final Rule.” JA_____ [RTC_15]; *see also* 90 Fed. Reg. at 35971 (determining extension “is sufficient for present purposes” because “a

¹⁴ Statement of Lee Zeldin, Adm’r, EPA, *supra* note 3, at 1:07:56.

separate rulemaking action will address the substantive problems raised”). The Agency thus selected new deadlines based on when it expected to complete the reconsideration rule—not on an evaluation of the time needed for compliance. The Delay Rule is therefore the “functional equivalent of a stay” pending reconsideration because it is, in fact, a “direct outgrowth” of a process to reconsider the 2024 Rule. *Air All. Houston*, 906 F.3d at 1063.

Furthermore, as a rationale for many of the delays, EPA cites claimed problems with the substantive design of the underlying standards rather than the need for more time for industry to comply with such standards. For example, EPA alleges:

- test methods as “not always feasible,” 90 Fed. Reg. 35971;
- monitoring requirements as presenting “substantive problems,” *id.*;
- regulatory text as “ambiguous,” *id.* at 35974, or containing “problematic regulatory language,” *id.* at 35969; and
- specific requirements as “technically and economically infeasible,” *id.* at 35973.

Even taking these concerns as accurate (which they are not; *see infra* Section III, EPA has not addressed them in this Delay Rule by, for example, amending the regulatory text or changing the standards’ requirements. Instead, it has provided additional compliance time to allow EPA to revise or rescind the underlying

standards in the 2024 Rule as part of its “ongoing” reconsideration. EPA Status Report 2, *Texas v. EPA*, No. 24-1054 (Mar. 23, 2026), Doc. 2165169.

In addition, EPA was “indisputably” responding to section 307 petitions in issuing the Delay Rule. *Air All. Houston*, 906 F.3d at 1061. The Agency asserted that the deadline extensions were “necessary” “[b]ased on information received in petitions for reconsideration.” 90 Fed. Reg. at 55674. Indeed, the Delay Rule directly and repeatedly refers to the industry reconsideration petitions as justification for the delays. *See, e.g.*, 90 Fed. Reg. at 35970 (“Multiple petitions for reconsideration...raised concerns”), 35969 (“Based on information received in petitions for reconsideration....”); 90 Fed. Reg. at 55674 (same), 55677 (“to address the...issues raised by petitioners”). *See also infra* Section III (discussing EPA citing petitions for reconsideration as justification for each of the delays).

EPA has thus left no doubt that it is postponing requirements of the 2024 Rule in order “to decide what it wants to do” about the underlying standards. *Air All. Houston*, 906 F.3d at 1063. The Agency indisputably plans “to consider petitions for reconsideration of the [original rule] and take further regulatory action.” *Id.* at 1060-61. The Delay Rule thus constitutes a stay pending reconsideration. *See id.* Because EPA cannot “misuse [] its substantive rulemaking authority” under section 111 “to evade” section 307’s strict three-month limit on

stays pending reconsideration, *id.* at 1066, the Delay Rule is unlawful and should be vacated.

III. The Rule Is Arbitrary and Capricious Because EPA Failed to Provide Reasoned Justifications for the Extensions.

In promulgating the 2024 Rule, EPA considered and responded to nearly one million comments, issuing specific factual determinations about feasibility and appropriate implementation timelines. In the Delay Rule—issued just one year later—the Agency simply abandoned its 2024 conclusions, citing undisclosed stakeholder conversations and unsubstantiated industry representations. The Agency’s change in position is unreasoned and unsupported.

The same two errors riddle EPA’s reasoning for eleven distinct deadline extensions in the Delay Rule. First, the Agency repeatedly fails to adequately explain its about-faces from the 2024 Rule. In the 2024 Rule, EPA considered and largely rejected industry concerns that now form the basis for the Delay Rule. Agencies changing course, as EPA has here, “must supply a reasoned analysis.” *State Farm*, 463 U.S. at 57 (quotation omitted). But the Agency here has not shown that “there are good reasons” for its changes, let alone offered anything close to a “detailed justification” explaining its newfound, contradictory factual conclusions. *Fox*, 556 U.S. at 515; *see also Sinclair Wyo. Refining Co. v. EPA*, 114 F.4th 693, 713 (D.C. Cir. 2024) (“EPA made no attempt to explain its about-face on this

critical assumption, and that failure of explanation alone renders EPA’s...actions arbitrary and capricious.”).

Second, time and again, the Delay Rule’s “record evidence did not adequately support EPA’s assumption[s].” *Sinclair Wyo. Refining*, 114 F.4th at 713. EPA based its determinations on vague mentions of “recent communications” and “stakeholder engagement,” 90 Fed. Reg. at 55673-74—none of which are in the record. EPA labeled these unidentified communications “credible concerns,” *see, e.g., id.* at 55676, without engaging in its own analysis or explaining why its factual conclusions from 2024 no longer hold. But the Agency cannot unquestioningly accept regulated parties’ assertions at face value without critical review and without other record evidence. *Susquehanna Int’l Grp. v. SEC*, 866 F.3d 442, 447 (D.C. Cir. 2017). “If an agency relies on a regulated party’s analysis to justify its decision, it must either critically review that analysis or perform its own.” *Affirmed Energy, LLC v. FERC*, 166 F.4th 1070, 1083 (D.C. Cir. 2026). Further, in several instances, EPA ignored information it received that contradicts industry’s claims. *See Sierra Club v. EPA*, 863 F.3d 834, 838 (D.C. Cir. 2017). The Agency’s factual judgments thus lack the support of “substantial” evidence—a fatal flaw. *Ass’n of Data Processing Serv. Orgs. v. Bd. of Governors of Fed. Rsrv. Sys.*, 745 F.2d 677, 684 (D.C. Cir. 1984) (“[I]t is impossible to conceive of a

‘nonarbitrary’ factual judgment supported only by evidence that is not substantial.”
(quotation omitted)).

EPA has fallen far short of satisfying standards for reasoned decision-making on eleven discrete deadline extensions. Petitioners describe these shortcomings in turn.

A. Zero-Emitting Process Controllers.

In the 2024 Rule, EPA required new sources to use zero-emitting process controllers and provided a one-year phase-in period. Now, EPA has extended the compliance deadline by another eighteen months. 90 Fed. Reg. at 55677. The Agency failed to adequately explain its change in position from determinations made just one year prior, and its action lacks record support.

In the 2024 Rule, EPA expressly considered supply chain issues for process controllers and determined that it was appropriate for new sources to comply with the zero-emission standard within one year after promulgation. EPA specifically granted that additional year “[t]o address potential delays in the availab[ility] of equipment.” JA_____ [2024 RTC_I-11-9].¹⁵ In developing the compliance schedule, the Agency considered comments asserting that procurement lead times can range from three months to twenty-four months, and countervailing evidence

¹⁵ All citations are to page numbers (not comment or response numbers).

from a research report that “suppliers are well-equipped to meet anticipated demand within the EPA’s proposed regulatory timeline.” 89 Fed. Reg. at 16929. After weighing and considering these pieces of evidence, EPA allowed twelve months to comply. *Id.*

EPA, though, has not provided an adequate rationale for its new factual findings that the original timeline was insufficient and an additional eighteen months was necessary—let alone offered the “more detailed justification” that is required. *Fox*, 556 U.S. at 515; see *Perez v. Mortgage Bankers Ass’n*, 575 U.S. 92, 106 (2015). The Agency relied only on a trade association petition, meeting notes with that same association, and comments from the association. 90 Fed. Reg. at 35974 (citing JA____[EPA-HQ-OAR-2025-0162-0010_10]¹⁶ (INGAA Petition (May 15, 2024)), JA____[EPA-HQ-OAR-2025-0162-0019_4] (INGAA Supplemental Letter (Oct. 15, 2024))); 90 Fed. Reg. at 55677 (citing JA____[EPA-HQ-OAR-2025-0162-0184]) (INGAA Comment (Oct. 3, 2025))). None of those documents provide adequate evidence sufficient to support EPA’s changed factual determination.

¹⁶ The Interim Final Rule cites documents in the 2024 Rule’s docket; EPA reproduced those documents for the Delay Rule’s docket with updated docket numbers. Where applicable, all citations are to the updated docket numbers, with the document’s original date.

First, the documents offer bare assertions, without data or evidence, stating only that the supply chain “currently requires 12-18 months to deliver certain types of components.” JA_____[INGAA Petition_10]. Second, even the trade association’s stated timeline does not support EPA’s action: the 2024 Rule *already* provided twelve months of lead time, and EPA’s deadline extension provides a total of thirty months—far more than the timeline identified by the trade association. Third, these “self-serving views of the regulated entities” are particularly unpersuasive and cannot alone underpin reasoned decision-making. *NetCoalition v. SEC*, 615 F.3d 525, 541 (D.C. Cir. 2010).¹⁷

In addition, EPA ignored contradictory record evidence from at least two comments on the Interim Final Rule. Kathairos Solutions, a supplier of zero-emitting process controller technology, commented that it and other providers are “able to supply industry with the equipment needed to meet the original” deadlines of the 2024 Rule. JA_____[EPA-HQ-OAR-2025-0162-0156] (Kathairos Comment (Oct. 1, 2025)). Kathairos noted that its technology is already used by more than sixty operators across thousands of facilities. JA_____[Kathairos Comment]. Another commenter noted one operator’s successful replacement of more than 8,000 process controllers, demonstrating that conversions can be conducted at

¹⁷ *Superseded by statute on other grounds*, Pub.L. No. 111-203, 124 Stat. 1376 (2010), as recognized in *NetCoalition v. SEC*, 715 F.3d 342 (D.C. Cir. 2013).

scale. JA_____[EPA-HQ-OAR-2025-0162-0185_7] (TCS Comment (Oct. 3, 2025)). EPA did not consider either of these comments, which directly contradict its proffered rationale. EPA also made no mention of the report it previously relied on demonstrating supply chain stability. *See* 89 Fed. Reg. at 16929; *see Sierra Club*, 863 F.3d at 838 (“Although EPA provided some explanation...EPA failed to respond adequately to comments disputing those explanations.”); *see also Action on Smoking and Health v. CAB*, 699 F.2d 1209, 1217 (D.C. Cir. 1983).

Further, when EPA issued the Interim Final Rule in July 2025, the zero-emission standard had already been in effect for several months. Thus, although real-world data on the standard’s implementation was available, EPA neglected to investigate. The Agency’s reliance on self-serving statements from the trade association, while failing to “examine the relevant data” from other commenters, is therefore especially egregious here. *Nat’l Lifeline Ass’n v. FCC*, 921 F.3d 1102, 1115 (D.C. Cir. 2019) (quotation omitted).

B. Super Emitter Program.

In the 2024 Rule, EPA adopted the Super Emitter Program to ensure that operators quickly investigate and respond to timely notifications of large methane emission incidents. 89 Fed. Reg. at 16877. Under the Program, EPA-certified third parties using EPA-approved technologies can alert the agency of large emission incidents. EPA is then responsible for verifying the information and notifying

operators. EPA issued seven such notifications under the Program before suspending it in the Interim Final Rule.¹⁸ The Agency’s decision to delay the Program lacks record support and is devoid of any rational connection between EPA’s stated concerns and its course of action.

EPA pointed to two “unanticipated difficulties” related to the Program. 90 Fed. Reg. 35976. As its first justification, the Agency stated that the 2024 Rule does not require third parties to identify the specific operator responsible for a super-emitter incident and claims that it has been “labor-intensive” for the Agency to do so. *Id.* In fact, the 2024 Rule required third parties to identify any owner or operator within fifty meters of the super-emitter event, “if [the information is] available.” 89 Fed. Reg. at 16880. Moreover, EPA provided no data or analysis to substantiate its claim that identifying the responsible operator has unduly taxed agency resources. It did not disclose, for example, how many of the seven reported super-emitter events lacked attribution data, or how long it took the Agency to identify the relevant operators. The Agency’s bald assertion falls short of “record evidence” to “adequately support EPA’s assumption[s].” *Sinclair Wyo. Refining*, 114 F.4th at 713. In fact, EPA issued all seven notifications within eleven days of

¹⁸ EPA, EPA Methane Super-Emitter Program Data Explorer, <https://perma.cc/55XS-9U98>.

detection, confirming that attribution was accomplished promptly and without undue administrative burden.¹⁹

Further, EPA conceded that it has thus far received “few submittals,” thereby limiting the total labor required—but goes on to theorize that “*if* the number of notifications...were to substantially increase,” the Agency’s “ability to timely provide the notification...would be constrained.” 90 Fed. Reg. 35976 (emphasis added). Such speculation is insufficient to support reasoned decision-making. *See Sorenson Comm’ns Inc. v. FCC*, 755 F.3d 702, 708-09 (D.C. Cir. 2014) (explaining that agency’s predictive judgements must be “based on some logic and evidence, not sheer speculation” (quotation omitted)). EPA also simply ignored the corresponding effect on pollution under its own hypothetical: an increase in notifications means more super-emitter incidents being identified and more pollution abated.

Besides, EPA has not explained how delaying the Super Emitter Program solves any problem related to timely attribution. And EPA’s stated concern—that “[d]elays in providing the notifications” would limit “the opportunity to take corrective action,” 90 Fed. Reg. 35976—is *worsened* by pausing the entire Program, not improved. EPA’s decision thus lacks “a rational connection between

¹⁹ *Id.*

the facts found and the choice made.” *State Farm*, 463 U.S. at 43 (quotation omitted).

EPA’s second justification fares no better. The Agency identified a single instance in which it received a super-emitter notification regarding a facility not subject to EPA’s oil and gas regulations. 90 Fed. Reg. 35976. The Agency raised concerns about the Program’s requirement to post and notify even non-covered facilities of the emissions event. But it is irrational to suspend the *entire* Program based on a *single* event, especially when a targeted clarifying revision to the Program (unlike a wholesale delay) could have directly addressed EPA’s concern about its lack of discretion.

C. Low-Emitting Valves.

The 2024 Rule included requirements to replace leaking valves with low-emitting (“low-e”) options, such as replacing the valves or installing low-emission packing, unless technically infeasible. 90 Fed. Reg. at 35973. EPA has delayed those requirements until January 2027, but the agency’s stated rationale lacks support in the record.

EPA offers two justifications for the delay. First, it claims the 2024 Rule text created “confusion” both because of a misprint issue in the Code of Federal Regulations and because it could be interpreted to require operators to repair a valve and then immediately replace the now-repaired valve. *Id.* at 35973. But

neither of these issues are addressed by a compliance delay. EPA has already clarified that it “was not [its] intention to require that a source repack an existing valve and replace that valve during the same repair.” *Id.* If this clarification were not enough to clear up any lingering confusion, EPA does not explain why a deadline extension—which offers no relief as to confusion—was a better choice than fixing the misprint and supposedly “confusing” language. EPA’s rationale cannot justify the final rule’s deadline extension.²⁰

Second, EPA states that the delay provides sources with time to obtain low-e equipment “given the cost and widespread need for such equipment.” 90 Fed. Reg. at 55677. The Agency bases this concern on “credible” information that the needed equipment is “not commercially available.” *Id.* But the record contains no such information. EPA cites only one reconsideration petition raising concerns about low-e equipment availability. *Id.* at 35973 n.32 (citing JA _____ [GPA Petition]). That petition does not even mention supply constraints—instead, it takes issue with the *cost* of compliance, requests EPA reconsider the requirements and, while doing so, stay the low-e valve requirements for three months pursuant to Clean Air Act

²⁰ To the extent EPA requires additional time to address confusion, that time would constitute a stay pending reconsideration, subject to the limits of section 307(d)(7)(B). *See supra* Section II.

section 307(d)(7)(B). JA _____ - _____ [GPA Petition_9-10].²¹ EPA cannot rely on information that it never received or aired for comment. And even if the petition had discussed general supply constraints, the Agency abdicated its responsibility for reasoned decision-making by “simply summariz[ing]” regulated entities’ comments and then “announc[ing]” that it “was ‘persuaded.’” *In re NTE Conn., LLC*, 26 F.4th 980, 988 (D.C. Cir. 2022).

D. Enclosed Combustion Devices: Performance Testing.

EPA’s 2024 Rule included performance testing requirements for enclosed combustion devices. The Agency has now delayed these requirements, supposedly in order “to address the supply chain, personnel, and laboratory limitations identified by [industry] petitioners.” 90 Fed. Reg. at 35971. But EPA has failed to explain its change in position from the 2024 Rule, and its decision is unsupported by the record.

In the Delay Rule, the Agency cites just one petition for reconsideration to support its delay of performance testing requirements. *See* JA _____ [API/AXPC Petition]. The petition, though, only made general assertions that “additional time is needed,” JA _____ [API/AXPC Petition_5], and raised concerns that EPA already addressed in the 2024 Rule. For example, the petition argued that installing

²¹ *See supra* Section II (discussing EPA’s clear intent to circumvent limits of section 307(d)(7)(B)).

monitoring equipment requires specialized labor. JA_____[API/AXPC Petition_5]. But the Agency already “address[ed] labor availability concerns” by reducing the number of sources that need to comply. JA_____[2024 RTC_II-20-81]; *see also* JA_____[2024 RTC_II-20-79].

The 2024 Rule also dealt with the more generalized supply chain concerns. JA_____ - _____[2024 RTC_II-17-74 to 75]; JA_____[2024 RTC_II-17-76] (“EPA has made numerous changes to the final rule to ease the...supply chain issues.”). To address these concerns, the 2024 Rule provided a pathway for operators to request approval for alternative approaches. JA_____[2024 RTC_II-17-76]. Overall, EPA in 2024 specifically concluded that it “*does not think that a year extension is needed for performance testing,*” explaining that “the commenter has not provided data showing” that EPA’s actions to mitigate the concerns were accounted for. JA_____[2024 RTC_II-17-77] (emphasis added).

The cited petition for reconsideration did not include any new information beyond the concerns EPA responded to in 2024. Nor did EPA explain why it no longer believes that the “numerous changes” it made in 2024 suffice to address those concerns. The Agency also did not explain why it rejected its prior conclusion that “the commenters provided no justification as to why [the rule’s alternative compliance pathways] would not significantly reduce the supply chain issues.” JA_____[2024 RTC_II-17-77]; *see Fox*, 556 U.S. at 516.

EPA's action here also lacks adequate support in the record. The Agency purported to rely on reconsideration petitioners' concerns that there are not enough testing firms available for the number of covered enclosed combustion devices, and not enough time for regulatory authorities to process alternative performance testing requests. 90 Fed. Reg. at 55675-76. But there is no record evidence of these concerns. Contrary to EPA's assertions, the petitioners did not specify any "laboratory limitations" or "supply chain" issues, only raising technical issues relating to testing duration and labor concerns. *See id.* at 55675; JA____[API/AXPC Petition_5].²² However, even with respect to the labor concerns, the petitioners failed to quantify vendor availability, offer evidence that work could not be completed within the timeline, or even identify how many devices still need to be tested. In fact, the requirements had already been fully in effect for more than a year prior to the Interim Final Rule's promulgation—yet EPA identified no evidence of widespread noncompliance. EPA's decision thus rested wholly on "anecdotes" from biased market participants. *NetCoalition*, 615 F.3d 525 at 541. This "unquestioning reliance" on a regulated entity's vague, speculative concerns does not pass muster. *Susquehanna*, 866 F.3d at 447.

²² The laboratory limitations and supply chain concerns raised in the comments cited by EPA apply to the separate net heating value monitoring requirements—not the enclosed combustion device testing at issue here. *See, e.g.*, 90 Fed. Reg. at 55675 n.24.

The Delay Rule also ignored countervailing record evidence. Commenters submitted information showing that there are at least seventy-three available models of enclosed combustion devices that the Agency has already exempted from performance testing, and that there are many alternative testing methods already allowed by EPA. JA____[EDF Comment_11]. Without any record evidence as to how many enclosed combustion devices remain untested, EPA had no basis to conclude that any extension was necessary. EPA neither acknowledged nor responded to this comment. *See generally* JA____[RTC]. EPA “cannot ignore evidence that undercuts its judgment,” nor “minimize such evidence without adequate explanation.” *Genuine Parts Co. v. EPA*, 890 F.3d 304, 312 (D.C. Cir. 2018).

E. Combustion Devices: Continuous Pilot Flames and Alarms.

Federal regulations have long required a continuous flame when combustion devices are in operation to ensure complete combustion of vapors being routed through them. *See* 40 C.F.R. pt. 60. In 2024, EPA concluded that a continuous *pilot* flame is necessary to assure a continuous flame, JA____[2024 RTC_II-17-1], and therefore included a requirement for a continuous pilot flame and accompanying monitoring requirements, including an alarm system to alert the operator when a pilot flame is unlit, *see* 90 Fed. Reg. at 35976-77.

EPA has now delayed these requirements, pointing to concerns about the need for supplemental gas to the pilot flames and issues with the remote geographic location of some sites. *Id.* at 35978-79; 90 Fed. Reg. at 55677. But EPA's factual determinations are devoid of record support and the Agency has failed to explain its change in position.

EPA cited to a single petition for reconsideration for support. *See* JA_____ [API/AXPC Petition_13-14]. Yet the petition provides no technical detail, no supporting evidence, and no data concerning the supposed logistical difficulties; it does not even estimate how much additional time *would* (in the petitioners' view) be required. EPA has thus "effectively abdicated" its responsibility to make a reasoned determination by taking the regulated entity's word at face value without any independent review or verification. *Susquehanna*, 866 F.3d at 446. Reasoned decision-making "requires some record evidence reasonably adequate to support the finding" that this deadline extension was necessary; none exists here. *Orchard Hill Bldg. Co. v. Army Corps of Eng'rs*, 893 F.3d 1017, 1027 (7th Cir. 2018); *see also Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 544 (D.C. Cir. 1983) (vacating Clean Air Act rule due to lack of "substantial evidence to support EPA's belief").

F. Storage Vessels: Thirty-Day Potential-to-Emit Calculation.

Federal standards have long included provisions explaining how operators should determine whether the new source standards apply to particular storage vessels, also known as tanks. Applicability depends on storage vessels' potential emissions; those with potential emissions below specific thresholds are exempt. 40 C.F.R. § 60.5365b(e). In 2024, EPA required operators to calculate potential emissions using the vessel's first thirty days of production. *See* 89 Fed. Reg. at 16978-79. Now, though, EPA has delayed the requirement to use this calculation method, ostensibly "to allow facilities time to obtain additional information and make the requisite decisions." 90 Fed. Reg. at 55677; *see also* 90 Fed. Reg. at 35976; JA____[RTC_65].

There is no record support for EPA's rationale; such a "conclusory" and "unsupported supposition" is insufficient. *United Tech. Corp. v. U.S. Dep't of Defense*, 601 F.3d 557, 562, 565 (D.C. Cir. 2010) (quotation omitted). The Agency fails to identify what additional information facilities supposedly need to obtain, or how that information might affect operators' decision-making. In fact, petitioners did not even request this relief. Rather, they requested a simple clarification regarding how a subset of tanks should conduct the calculation. *See* 90 Fed. Reg. at 35975 (citing JA____[API/AXPC Petition]). The petition cited by EPA only expressed confusion as to tanks that pre-dated the 2024 Rule's effective date (but

post-dated the applicability date), requesting a limited “stay...for *pre-effective date* tanks.” JA_____[API/AXPC Petition_7] (emphasis added). The same petitioners later followed up with a proposed interpretation to clear up any confusion.

JA_____ - _____[EPA-HQ-OAR-2025-0162-0011_5-6] (API/AXPC Supplemental Petition (May 6, 2024)). And the regulated entities’ “self-serving views...provide little support” for EPA’s actions. *NetCoalition*, 615 F.3d at 541.

EPA’s decision is also irrational for two reasons. First, EPA has not explained how a delay clears up any confusion, or why a delay is necessary when the Agency could have instead adopted petitioners’ proposed interpretation.²³ And second, EPA’s action was much broader than even the relief requested by petitioners, extending to *all* storage vessels, not just pre-effective date equipment. The Agency “comes up short” both on “whether the rulemaking record supports whatever factual conclusions underlie the rule” and “whether the policy determinations behind the rule are rational.” *McGregor Printing Corp. v. Kemp*, 20 F.3d 1188, 1194-95 (D.C. Cir. 1994).

²³ To the extent that EPA requires more time to consider petitioners’ proposed interpretation, its action to stay the underlying requirement during reconsideration would be subject to the limits of section 307(d)(7)(B). *See supra* Section II.

G. Storage Vessels: Throughput-Based Modification Trigger.

EPA's delay of the throughput-based modification trigger similarly lacks record support. The 2024 Rule established that when a storage vessel's throughput increases, an operator must recalculate the vessel's potential emissions using the new throughput to determine applicability. If the new potential emissions are above a fixed threshold for either volatile organic compounds or methane, then the storage vessel has been "modified" and becomes subject to the 2024 Rule's provisions for new and modified sources. JA____[2024 RTC_I-9-43]; 40 C.F.R. § 60.5365b(e)(3)(ii).

Now, EPA has delayed this modification trigger, offering only a single sentence of justification: a delay "would provide time" for sources "to make any needed adjustments to facility planning, equipment procurement, and process changes." JA____[RTC_65]; *see also* 90 Fed. Reg. at 35975 (virtually identical); *id.* at 55677 (virtually identical). EPA does not explain why the multiple years between the 2024 proposed rule's release and EPA's current action have not already provided enough time for sources to conduct "facility planning." EPA similarly fails to identify what equipment, if any, is in short supply, and what process changes would require an additional eighteen months for sources to comply.

EPA's only record citations are generalized operator statements, such as projecting a "[c]ascading effect of storage tank applicability." JA____[EPA-HQ-

OAR-2025-0162-0018_15] (Hess Meeting (Nov. 7, 2024)). These sweeping assertions fall far short of providing a factual basis for an eighteen-month delay. Besides, EPA “could not simply rubberstamp” regulated entities’ assertions without providing its own review or assessment. *In re NTE Conn.*, 26 F.4th at 988. In short, EPA’s delay of this provision is utterly unsupported by the record.

H. Legally and Practicably Enforceable Emission Limits.

EPA arbitrarily and capriciously failed to explain its about-face on “legally and practicably enforceable” limits. Agency regulations allow sources to rely on emission limits issued under state law to demonstrate that their emissions are below applicability thresholds—and that the sources are therefore exempt from the federal standards—so long as those state emission limits are “legally and practicably enforceable.” *See* 90 Fed. Reg. at 35975. That general structure predates the 2024 Rule and extends beyond the oil and gas regulations. In the 2024 Rule, EPA concluded that a sector-specific definition was necessary because the Agency had “expended extensive resources in enforcement actions,” and better defining the exemption criteria would “reduce or eliminate such cases.”

JA_____[2024 RTC_I-9-32]. EPA specifically determined that its “enforcement history demonstrates” the new definition was “necessary.” JA_____[2024 RTC_I-9-23].

Now, EPA has taken precisely the opposite position without any new record evidence or explanation for the change. The Agency pointed to reconsideration petitions requesting “more time than afforded in the 2024 final rule” for state agencies to adopt compliant limits. 90 Fed. Reg. at 35975. But EPA already considered the same requests to delay the definition in the 2024 Rule and concluded it did “not see a need to delay finalizing the definition.” JA_____[2024 RTC_I-19-16]; *see also* JA_____,_____[2024 RTC_I-9-21, I-9-25] (summarizing comments). EPA explained that additional time was unwarranted because operators and states had already been “on notice” of the new definition since the draft rule had been published several years prior. JA_____[2024 RTC_I-9-15]. And EPA specifically “address[ed] the...concern that certain states do not have permit programs” that comported with the new requirements, weighing it against the “unenforceable” nature of the prior criteria. JA_____ - _____[2024 RTC_II-13-34 to 35]. EPA thus determined that “regulatory certainty” was necessary “to guide states” and ensure enforceability. JA_____[2024 RTC_II-13-35].

Neither the reconsideration petitions, the Interim Final Rule, nor the Delay Rule identified any change of circumstance or new information that EPA was unaware of in 2024. EPA did not explain why its prior concerns about enforceability are no longer of import, or why a delay is needed for “sufficient time” to establish compliant limits, 90 Fed. Reg. at 55677, when EPA rejected

those precise concerns just one year earlier. In other words, the Agency has not offered a “reasoned explanation...for disregarding facts and circumstances that underlay” the original rule. *Fox*, 556 U.S. at 514-16.

Further, EPA’s action lacks record support. The Agency did not assess the progress states have made in adopting compliant limits or offer any information as to how this provision—which had already been in effect for more than a year—has played out in practice. Instead, EPA “effectively abdicated [its] responsibility” to conduct its own independent review of the facts. *Susquehanna*, 866 F.3d at 446.

I. Closed-Vent Systems.

For closed-vent systems, EPA has yet again failed to explain its change in policy, and the record does not support its rationale. In 2024, EPA finalized a standard of “no identifiable emissions” leaking from closed-vent systems. The Agency explained that the change from the previous requirement of “no *detectable* emissions...reflect[ed] the change in monitoring methods used for demonstrating compliance.” 89 Fed. Reg. at 16898 (emphasis added). Now though, EPA has delayed the requirement to comply with the standard, expressing “serious concerns” about operators’ ability to “meet the...requirements on the compliance schedule in the 2024 final rule.” 90 Fed. Reg. at 55676.

EPA in 2024 rejected the precise concerns that it now relies on and has not explained its new change in position. In this action, EPA pointed to assertions in

petitions for reconsideration that leaks are “inevitable,” because “normal wear and tear” will cause emissions “over time.” *Id.*; JA____[API/AXPC Petition_4].²⁴ Yet EPA considered these same claims leading up to the 2024 Rule, when commenters (including petitioners for reconsideration) argued against the standard’s adoption because “a ‘zero-emissions’ standard can never be perfectly achieved:” “small leaks are unavoidable” and equipment “undergoes continuous wear and tear.” 89 Fed. Reg. at 16985. EPA rejected those comments, explaining that the requirement to operate with no identifiable emissions to the atmosphere had previously been successfully applied to closed-vent systems in the oil and gas sector, as well as to other analogous emission sources. *Id.* at 16986. EPA further explained that the new terminology is not more stringent than the prior regulations; it merely reflects EPA’s new approval of a different type of monitoring instrument. *Id.* In this action, the Agency has not identified any new information or explained its about-face. *See State Farm*, 463 U.S. at 57.

EPA’s rationale is unsupported by the record in two further ways. First, the Agency failed to acknowledge the full scope of its action, let alone offer substantial evidence in support. EPA asserted that the Delay Rule narrowly delays inspection

²⁴ *See also* JA____[ExxonMobil Petition_1]; JA____[GPA Petition_14 to 15]; JA____[Hess Meeting_16]; JA____[EPA-HQ-OAR-2025-0162-0005_16] (API/AXPC Meeting (Mar. 18, 2024)) (each discussing leaks as unavoidable over time).

requirements relating to the “no identifiable emissions” standard. But the regulatory text suspends *all* monitoring and repair requirements for closed-vent systems. *See* 40 C.F.R. § 60.5416b (setting a January 22, 2027, effective date for inspection and monitoring requirements). EPA did not even acknowledge the practical effect of its new rule, erroneously claiming that operators “still must...perform initial and ongoing inspections.” 90 Fed. Reg. at 55676; *but see*, e.g., 40 C.F.R. § 60.5416b(a)(1)(i) (requiring initial inspection only *after* January 22, 2027).

In short, rather than revert to the prior “no detectable emissions” standard, or some other temporary measure, EPA rendered closed-vent systems’ performance standard completely unenforceable until 2027. The delay effectively imposes laxer requirements on closed-vent systems at new sources subject to the 2024 Rule compared to older sources that are subject to earlier regulations for this sector. *See* 40 C.F.R. § 60.5416; *id.* § 60.5416a. EPA has thus utterly failed to “adequately explain[] the basis for” delaying the requirements for closed-vent systems. *McGregor Printing Corp.*, 20 F.3d at 1194.

Second, even if operators’ concerns were legitimate, they still would not support EPA’s action here. EPA averred that the delay is necessary because operators may be unable to meet “the compliance schedule in the 2024 final rule.” 90 Fed. Reg. at 55676. But if leaks were “inevitable,” no amount of additional

compliance time would solve that problem.²⁵ The Agency’s decision thus lacks “a rational connection between the facts found and the choice made.” *State Farm*, 463 U.S. at 43.

J. Annual Compliance Report Deadline.

The 2024 Rule required operators to submit their initial compliance reports by August 2025. For the first time in the Delay Rule, EPA extended this deadline to November 30, 2026, purporting to “agree[]” with commenters “that there was confusion with respect to how the 2025 [Interim Final Rule] impacted the annual compliance reports.” 90 Fed. Reg. at 55679. This explanation is unsupported by the record and lacks a rational connection to the underlying facts.

After issuing the Interim Final Rule, EPA made clear on its website that the reporting deadline extension applied to only a limited set of requirements. *See, e.g., id.* (noting webpage explanation that “the reporting deadlines associated with these [Interim Final Rule] compliance deadlines were also extended”). In the Delay Rule, EPA has now claimed that a fourteen-month delay is needed for *all* reporting deadlines, not just those affected by a changed compliance deadline. EPA asserted that operators needed “time to remove certain information” related to the Delay

²⁵ Again, if EPA is simply buying time to reconsider the underlying standard, such a stay is subject to strict limits—limits that EPA has violated—under section 307(d)(7)(B). *See supra* Section II.

Rule’s provisions from their annual report, *id.*, but did not explain why removal would be necessary; upon receipt of an over-inclusive report, EPA could just disregard the unnecessary information.

Further, the comments EPA cites did not even discuss confusion with respect to the Delay Rule. *See id.* at 55679 n.30. Instead, commenters requested an extension because they believe EPA should “pause enforcement of rules under review,”—*i.e.*, rules under reconsideration. JA____[EPA-HQ-OAR-2025-0162-0037_2] (Berexco Comment (Aug. 22, 2025)); *see also, e.g.*, JA____[EPA-HQ-OAR-2025-0162-0168_4] (Ballard Comment (Oct. 2, 2025)) (“[O]ngoing *reconsideration measures* and announcements have created confusion.” (emphasis added)). Such a stay pending reconsideration is subject to strict time limits, which EPA has not observed here. *See supra* Section II. These concerns cannot justify the deadline extension, nor can EPA invent “confusion” with respect to the Delay Rule as a pretext for its action.

K. State Plans.

Existing sources, which make up the “vast majority” of the facilities in the oil and gas sector, 86 Fed. Reg. at 63152, are not subject to any emission limits until states adopt state plans (or EPA adopts a federal plan for states without approved plans of their own). In the Delay Rule, EPA failed to justify, with record evidence, its departure from its original position that two years is the appropriate

timeframe for states to develop and submit state plans. In this regard, the Delay Rule is plainly arbitrary and capricious.

In the proposal for the 2024 Rule, EPA originally included an eighteen-month deadline for state plan submissions. 87 Fed. Reg. at 74831. But EPA finalized a two-year state plan deadline in light of comments arguing that eighteen months was insufficient. 89 Fed. Reg. at 17010. Considering the relevant evidence, EPA found that the two-year timeline would “be adequate to complete state administrative processes, conduct public hearings, engage with pertinent stakeholders, and meet all other applicable requirements.” *Id.* Furthermore, EPA determined that the two-year timeline “strikes an appropriate balance” between states’ needs and the need for “expeditious implementation in consideration of the important benefits of the pollution reductions.” *Id.*

EPA has now extended the state plan deadline by a further ten months, disregarding the careful balancing it conducted for the 2024 Rule and ignoring the air pollution and public health implications of the delay in curbing emissions from existing sources. *See supra* Section I. The Agency has failed to explain why “expeditious implementation” and the resulting benefits are no longer important. 89 Fed. Reg. at 17010. This omission is particularly glaring because, as EPA concedes, the state plans will be responsible for the substantial majority of emission reductions achieved through the 2024 Rule. *See* JA_____,_____[EPA-

HQ-OAR-2021-0317-4021_1-13 tbl. 1-4, 1-14 tbl.1-5] (2024 Rule Regulatory Impact Analysis (Dec. 2023)). EPA has thus also “entirely failed to consider an important aspect of the problem”—the problem of air pollution and public health harms caused by a delay. *Am. Lung Ass’n*, 985 F.3d at 993 (quoting *State Farm*, 463 U.S. at 43).

EPA’s action also lacks adequate record support. The Agency claims that its delay decision is based on “ongoing and recent communications with stakeholders.” 90 Fed. Reg. at 55679. In particular, EPA asserts that one state “informally” asked the applicable EPA Region for an extension and that some other unspecified number of states “have been inquiring as to the consequences of late state plan submissions.” 90 Fed. Reg. at 35977.²⁶ But no evidence of these communications is included in the record. *See Small Refiner*, 705 F.2d at 511 (vacating rule that was “not supported by the evidence in the record”). And no state filed a petition for reconsideration or other formal request to modify the deadline. 90 Fed. Reg. at 35977. Nor are these unsupported, vague assertions sufficient to serve as the basis to overturn EPA’s prior findings that two years would provide

²⁶ If a state fails to submit a plan, EPA has one year to implement a federal plan for the state. 40 C.F.R. § 60.27a(c). But EPA does not need to prepare a federal plan if the state issues, and EPA approves, a state plan before EPA issues the federal plan. *Id.* EPA anticipates that around fifteen states will rely on EPA to issue a federal plan. 90 Fed. Reg. at 35978 tbl. 2.

adequate time. *See In re NTE Conn.*, 26 F.4th at 988 (explaining that agency may not “simply summarize[]” comments and then “announce[]” that it “was persuaded”) (quotation omitted).

Although EPA lists “challenges” that it claims (without support) an unspecified number of states are facing, it cites no evidence showing that states were unable to meet the two-year deadline despite best efforts. 90 Fed. Reg. at 35979. The only evidence EPA does cite shows that it has provided states with information summarizing the requirements for state plans and providing answers to frequently asked questions. *Id.* Likewise, numerous states have been working closely with EPA’s Office of Air Quality Planning and Standards to resolve issues. *Id.* Neither of these factors support the Delay Rule’s ten-month extension.

EPA also failed to consider contrary evidence in the record. *See Comcast Corp. v. FCC*, 579 F.3d 1, 8 (D.C. Cir. 2009). Petitioners and a coalition of seventeen states plus the District of Columbia provided comments showing that states such as Texas, Utah, Wyoming, California, Colorado, Pennsylvania, and Maine have taken steps toward completing their state plans. JA_____[EDF Comment_28-29]; JA_____ - _____[EPA-HQ-OAR-2025-0162-0186_17-18] (California Comment (Oct. 3, 2025)). EPA entirely fails to respond to these comments showing “on the ground evidence” of state progress. JA_____ - _____, _____[RTC_46-47, 49].

* * *

For each of the foregoing standards, EPA's Delay Rule is unsupported by adequate explanation or record evidence, and vacatur is warranted.

CONCLUSION

The Delay Rule should be vacated in its entirety.

DATED: June 3, 2026

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CERTIFICATE OF COMPLIANCE

Pursuant to Federal Rule of Appellate Procedure 32(a)(7)(B), undersigned counsel hereby certifies that the foregoing brief contains 12,984 words, as counted by counsel's word processing system, and thus complies with the 13,000-word limit.

Further, this document complies with the typeface and type-style requirements of the Federal Rules of Appellate Procedure, 32(a)(5) and (a)(6), because this document has been prepared in a proportionally spaced typeface using Microsoft Word for Microsoft 365 using size 14 Times New Roman font.

Dated: June 3, 2026

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CERTIFICATE OF SERVICE

I hereby certify that on this 3rd day of June, 2026 I filed the foregoing brief on Respondents with the Court's CMS/ECF system, which will provide copies to counsel of record.

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ORAL ARGUMENT NOT YET SCHEDULED

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 25-1275

ENVIRONMENTAL DEFENSE FUND, *et al.*,
Petitioners,

v.

LEE ZELDIN, *et al.*,
Respondents.

Petition for Review of Final Action of the
United States Environmental Protection Agency

ADDENDUM TO PETITIONERS' OPENING BRIEF

DATED: June 3, 2026

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Attachment 1

42 U.S.C. § 7411

42 USCS § 7411

Current through Public Law 119-93, approved May 19, 2026.

United States Code Service > TITLE 42. THE PUBLIC HEALTH AND WELFARE (Chs. 1 — 164) > CHAPTER 85. AIR POLLUTION PREVENTION AND CONTROL (§§ 7401 — 7675) > PROGRAMS AND ACTIVITIES (§§ 7401 — 7515) > AIR QUALITY AND EMISSION LIMITATIONS (§§ 7401 — 7438)

§ 7411. Standards of performance for new stationary sources

(a) Definitions. For purposes of this section:

- (1)** The term “standard of performance” means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.
- (2)** The term “new source” means any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source.
- (3)** The term “stationary source” means any building, structure, facility, or installation which emits or may emit any air pollutant. Nothing in title II of this Act [42 USCS §§ 7621 et seq.] relating to nonroad engines shall be construed to apply to stationary internal combustion engines.
- (4)** The term “modification” means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.
- (5)** The term “owner or operator” means any person who owns, leases, operates, controls, or supervises a stationary source.
- (6)** The term “existing source” means any stationary source other than a new source.
- (7)** The term “technological system of continuous emission reduction” means—
 - (A)** a technological process for production or operation by any source which is inherently low-polluting or nonpolluting, or
 - (B)** a technological system for continuous reduction of the pollution generated by a source before such pollution is emitted into the ambient air, including precombustion cleaning or treatment of fuels.
- (8)** A conversion to coal (A) by reason of an order under section 2(a) of the Energy Supply and Environmental Coordination Act of 1974 [15 USCS § 792(a)] or any amendment thereto, or any subsequent enactment which supersedes such Act, or (B) which qualifies under section 113(d)(5)(A)(ii) of this Act shall not be deemed to be a modification for purposes of paragraphs (2) and (4) of this subsection.

(b) List of categories of stationary sources; standards of performance; information on pollution control techniques; sources owned or operated by United States; particular systems; revised standards.

(1)

(A) The Administrator shall, within 90 days after the date of enactment of the Clean Air Amendments of 1970 [enacted Dec. 31, 1970], publish (and from time to time thereafter shall revise) a list of categories of stationary sources. He shall include a category of sources in such list if in his judgment in causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.

(B) Within one year after the inclusion of a category of stationary sources in a list under subparagraph (A), the Administrator shall publish proposed regulations, establishing Federal standards of performance for new sources within such category. The Administrator shall afford interested persons an opportunity for written comment on such proposed regulations. After considering such comments, he shall promulgate, within one year after such publication, such standards with such modifications as he deems appropriate. The Administrator shall, at least every 8 years, review and, if appropriate, revise such standards following the procedure required by this subsection for promulgation of such standards. Notwithstanding the requirements of the previous sentence, the Administrator need not review any such standard if the Administrator determines that such review is not appropriate in light of readily available information on the efficacy of such standard. Standards of performance or revisions thereof shall become effective upon promulgation. When implementation and enforcement of any requirement of this Act indicate that emission limitations and percent reductions beyond those required by the standards promulgated under this section are achieved in practice, the Administrator shall, when revising standards promulgated under this section, consider the emission limitations and percent reductions achieved in practice.

(2) The Administrator may distinguish among classes, types, and sizes within categories of new sources for the purpose of establishing such standards.

(3) The Administrator shall, from time to time, issue information on pollution control techniques for categories of new sources and air pollutants subject to the provisions of this section.

(4) The provisions of this section shall apply to any new source owned or operated by the United States.

(5) Except as otherwise authorized under subsection (h), nothing in this section shall be construed to require, or to authorize the Administrator to require, any new or modified source to install and operate any particular technological system of continuous emission reduction to comply with any new source standard of performance.

(6) The revised standards of performance required by enactment of subsection (a)(1)(A)(i) and (ii) shall be promulgated not later than one year after enactment of this paragraph [enacted Aug. 7, 1977]. Any new or modified fossil fuel fired stationary source which commences construction prior to the date of publication of the proposed revised standards shall not be required to comply with such revised standards.

(c) State implementation and enforcement of standards of performance.

(1) Each State may develop and submit to the Administrator a procedure for implementing and enforcing standards of performance for new sources located in such State. If the Administrator finds the State procedure is adequate, he shall delegate to such State any authority he has under this Act to implement and enforce such standards.

(2) Nothing in this subsection shall prohibit the Administrator from enforcing any applicable standard of performance under this section.

(d) Standards of performance for existing sources; remaining useful life of source.

(1) The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 110 [42 USCS § 7410] under which each State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been issued or which is not included on a list published under section 108(a) [42 USCS § 7408(a)] or emitted from a source category which is regulated under section 112

[42 USCS § 7412] but (ii) to which a standard of performance under this section would apply if such existing source were a new source, and (B) provides for the implementation and enforcement of such standards of performance. Regulations of the Administrator under this paragraph shall permit the State in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies.

(2) The Administrator shall have the same authority—

(A) to prescribe a plan for a State in cases where the State fails to submit a satisfactory plan as he would have under section 110(c) [42 USCS § 7410(c)] in the case of failure to submit an implementation plan, and

(B) to enforce the provisions of such plan in cases where the State fails to enforce them as he would have under sections 113 and 114 [42 USCS §§ 7413 and 7414] with respect to an implementation plan.

In promulgating a standard of performance under a plan prescribed under this paragraph, the Administrator shall take into consideration, among other factors, remaining useful lives of the sources in the category of sources to which such standard applies.

(e) **Prohibited acts.** After the effective date of standards of performance promulgated under this section, it shall be unlawful for any owner or operator of any new source to operate such source in violation of any standard of performance applicable to such source.

(f) **New source standards of performance.**

(1) For those categories of major stationary sources that the Administrator listed under subsection (b)(1)(A) before the date of the enactment of the Clean Air Act Amendments of 1990 [enacted Nov. 15, 1990] and for which regulations had not been proposed by the Administrator by such date, the Administrator shall—

(A) propose regulations establishing standards of performance for at least 25 percent of such categories of sources within 2 years after the date of the enactment of the Clean Air Act Amendments of 1990 [enacted Nov. 15, 1990];

(B) propose regulations establishing standards of performance for at least 50 percent of such categories of sources within 4 years after the date of the enactment of the Clean Air Act Amendments of 1990 [enacted Nov. 15, 1990]; and

(C) propose regulations for the remaining categories of sources within 6 years after the date of the enactment of the Clean Air Act Amendments of 1990 [enacted Nov. 15, 1990].

(2) In determining priorities for promulgating standards for categories of major stationary sources for the purpose of paragraph (1), the Administrator shall consider—

(A) the quantity of air pollutant emissions which each such category will emit, or will be designed to emit;

(B) the extent to which each such pollutant may reasonably be anticipated to endanger public health or welfare; and

(C) the mobility and competitive nature of each such category of sources and the consequent need for nationally applicable new source standards of performance.

(3) Before promulgating any regulations under this subsection or listing any category of major stationary sources as required under this subsection, the Administrator shall consult with appropriate representatives of the Governors and of State air pollution control agencies.

(g) **Revision of regulations.**

Attachment 2

42 U.S.C. § 7607

42 USCS § 7607

Current through Public Law 119-93, approved May 19, 2026.

United States Code Service > TITLE 42. THE PUBLIC HEALTH AND WELFARE (Chs. 1 — 164) > CHAPTER 85. AIR POLLUTION PREVENTION AND CONTROL (§§ 7401 — 7675) > GENERAL PROVISIONS (§§ 7601 — 7628)

§ 7607. Administrative proceedings and judicial review

(a) Administrative subpoenas; confidentiality; witnesses. In connection with any determination under section 110(f) [42 USCS § 7410(f)], or for purposes of obtaining information under section 202(b)(4) or 211(c)(3) [42 USCS § 7521(b)(4) or 7545(c)(3)], any investigation, monitoring, reporting requirement, entry, compliance inspection, or administrative enforcement proceeding under the [this] Act (including but not limited to section 113, section 114, section 120, section 129, section 167, section 205, section 206, section 208, section 303, or section 306 [42 USCS § 7413, 7414, 7420, 7429, 7477, 7524, 7525, 7542, 7603, or 7606][,], the Administrator may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and he may administer oaths. Except for emission data, upon a showing satisfactory to the Administrator by such owner or operator that such papers, books, documents, or information or particular part thereof, if made public, would divulge trade secrets or secret processes of such owner or operator, the Administrator shall consider such record, report, or information or particular portion thereof confidential in accordance with the purposes of section 1905 of title 18 of the United States Code, except that such paper, book, document, or information may be disclosed to other officers, employees, or authorized representatives of the United States concerned with carrying out this Act, to persons carrying out the National Academy of Sciences' study and investigation provided for in section 202(c) [42 USCS § 7521(c)], or when relevant in any proceeding under this Act. Witnesses summoned shall be paid the same fees and mileage that are paid witnesses in the courts of the United States. In case of contumacy or refusal to obey a subpoena served upon any person under this subparagraph, the district court of the United States for any district in which such person is found or resides or transacts business, upon application by the United States and after notice to such person, shall have jurisdiction to issue an order requiring such person to appear and give testimony before the Administrator to appear and produce papers, books, and documents before the Administrator, or both, and any failure to obey such order of the court may be punished by such court as a contempt thereof.

(b) Judicial review.

(1) A petition for review of action of the Administrator in promulgating any national primary or secondary ambient air quality standard, any emission standard or requirement under section 112 [42 USCS § 7412], any standard of performance or requirement under section 111 [42 USCS § 7411][,], any standard under section 202 [42 USCS § 7521] (other than a standard required to be prescribed under section 202(b)(1) [42 USCS § 7521(b)(1)]), any determination under section 202(b)(5) [42 USCS § 7521(b)(5)], any control or prohibition under section 211 [42 USCS § 7545], any standard under section 231 [42 USCS § 7571] any rule issued under section 113, 119, or under section 120 [42 USCS § 7413, 7419, or 7420], or any other nationally applicable regulations promulgated, or final action taken, by the Administrator under this Act may be filed only in the United States Court of Appeals for the District of Columbia. A petition for review of the Administrator's action in approving or promulgating any implementation plan under section 110 or section 111(d) [42 USCS § 7410 or 7411(d)], any order under section 111(j) [42 USCS § 7411(j)], under section 112 [42 USCS § 7412][,], under section 119 [42 USCS § 7419], or under section 120 [42 USCS § 7420], or his action under section 119(c)(2)(A), (B), or (C) (as in effect before the date of enactment of the Clean Air Act Amendments of 1977) or under regulations thereunder, or revising regulations for enhanced monitoring and compliance

certification programs under section 114(a)(3) of this Act, or any other final action of the Administrator under this Act (including any denial or disapproval by the Administrator under title I [42 USCS §§ 7401 et seq.]) which is locally or regionally applicable may be filed only in the United States Court of Appeals for the appropriate circuit. Notwithstanding the preceding sentence a petition for review of any action referred to in such sentence may be filed only in the United States Court of Appeals for the District of Columbia if such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination. Any petition for review under this subsection shall be filed within sixty days from the date notice of such promulgation, approval, or action appears in the Federal Register, except that if such petition is based solely on grounds arising after such sixtieth day, then any petition for review under this subsection shall be filed within sixty days after such grounds arise. The filing of a petition for reconsideration by the Administrator of any otherwise final rule or action shall not affect the finality of such rule or action for purposes of judicial review nor extend the time within which a petition for judicial review of such rule or action under this section may be filed, and shall not postpone the effectiveness of such rule or action.

(2) Action of the Administrator with respect to which review could have been obtained under paragraph (1) shall not be subject to judicial review in civil or criminal proceedings for enforcement. Where a final decision by the Administrator defers performance of any nondiscretionary statutory action to a later time, any person may challenge the deferral pursuant to paragraph (1).

(c) Additional evidence. In any judicial proceeding in which review is sought of a determination under this Act required to be made on the record after notice and opportunity for hearing, if any party applies to the court for leave to adduce additional evidence, and shows to the satisfaction of the court that such additional evidence is material and that there were reasonable grounds for the failure to adduce such evidence in the proceeding before the Administrator, the court may order such additional evidence (and evidence in rebuttal thereof) to be taken before the Administrator, in such manner and upon such terms and conditions as [to] the court may deem proper. The Administrator may modify his findings as to the facts, or make new findings, by reason of the additional evidence so taken and he shall file such modified or new findings, and his recommendation, if any, for the modification or setting aside of his original determination, with the return of such additional evidence.

(d) Rulemaking.

(1) This subsection applies to—

(A) the promulgation or revision of any national ambient air quality standard under section 109 [42 USCS § 7409],

(B) the promulgation or revision of an implementation plan by the Administrator under section 110(c) [42 USCS § 7410(c)],

(C) the promulgation or revision of any standard of performance under section 111 [42 USCS § 7411], or emission standard or limitation under section 112(d) [42 USCS § 7412(d)], any standard under section 112(f) [42 USCS § 7412(f)], or any regulation under section 112(g)(1)(D) and (F) [42 USCS § 7412(g)(1)(D),(F)], or any regulation under section 112(m) or (n) [42 USCS § 7412(m) or (n)],

(D) the promulgation of any requirement for solid waste combustion under section 129 [42 USCS § 7429],

(E) the promulgation or revision of any regulation pertaining to any fuel or fuel additive under section 211 [42 USCS § 7545],

(F) the promulgation or revision of any aircraft emission standard under section 231 [42 USCS § 7571],

(G) the promulgation or revision of any regulation under title IV (relating to control of acid deposition),

- (H) promulgation or revision of regulations pertaining to primary nonferrous smelter orders under section 119 [42 USCS § 7419] (but not including the granting or denying of any such order),
- (I) promulgation or revision of regulations under title VI [42 USCS §§ 7671 et seq.] (relating to stratosphere and ozone protection),
- (J) promulgation or revision of regulations under subtitle C of title I [42 USCS §§ 7470 et seq.] (relating to prevention of significant deterioration of air quality and protection of visibility),
- (K) promulgation or revision of regulations under section 202 [42 USCS § 7521] and test procedures for new motor vehicles or engines under section 206 [42 USCS § 7525], and the revision of a standard under section 202(a)(3) [42 USCS § 7521(a)(3)],
- (L) promulgation or revision of regulations for noncompliance penalties under section 120 [42 USCS § 7420],
- (M) promulgation or revision of any regulations promulgated under section 207 [42 USCS § 7541] (relating to warranties and compliance by vehicles in actual use),
- (N) action of the Administrator under section 126 [42 USCS § 7426] (relating to interstate pollution abatement),
- (O) the promulgation or revision of any regulation pertaining to consumer and commercial products under section 183(e) [42 USCS § 7511b(e)],
- (P) the promulgation or revision of any regulation pertaining to field citations under section 113(d)(3) [42 USCS § 7413(d)(3)],
- (Q) the promulgation or revision of any regulation pertaining to urban buses or the clean-fuel vehicle, clean-fuel fleet, and clean fuel programs under part C of title II [42 USCS §§ 7581 et seq.],
- (R) the promulgation or revision of any regulation pertaining to nonroad engines or nonroad vehicles under section 213 [42 USCS § 7547],
- (S) the promulgation or revision of any regulation relating to motor vehicle compliance program fees under section 217 [42 USCS § 7552],
- (T) the promulgation or revision of any regulation under title IV [42 USCS §§ 7641 et seq.] (relating to acid deposition),
- (U) the promulgation or revision of any regulation under section 183(f) [42 USCS § 7511b(f)] pertaining to marine vessels, and
- (V) such other actions as the Administrator may determine.

The provisions of section 553 through 557 and section 706 of title 5 of the United States Code shall not, except as expressly provided in this subsection, apply to actions to which this subsection applies. This subsection shall not apply in the case of any rule or circumstance referred to in subparagraphs (A) or (B) of subsection 553(b) of title 5 of the United States Code.

(2) Not later than the date of proposal of any action to which this subsection applies, the Administrator shall establish a rulemaking docket for such action (hereinafter in this subsection referred to as a “rule”). Whenever a rule applies only within a particular State, a second (identical) docket shall be simultaneously established in the appropriate regional office of the Environmental Protection Agency.

(3) In the case of any rule to which this subsection applies, notice of proposed rulemaking shall be published in the Federal Register, as provided under section 553(b) of title 5, United States Code, shall be accompanied by a statement of its basis and purpose and shall specify the period available for public comment (hereinafter referred to as the “comment period”). The notice of proposed rulemaking shall also state the docket number, the location or locations of the docket, and the times it will be open to public inspection. The statement of basis and purpose shall include a summary of—

- (A) the factual data on which the proposed rule is based;

(B) the methodology used in obtaining the data and in analyzing the data; and

(C) the major legal interpretations and policy considerations underlying the proposed rule.

The statement shall also set forth or summarize and provide a reference to any pertinent findings, recommendations, and comments by the Scientific Review Committee established under section 109(d) [42 USCS § 7409(d)] and the National Academy of Sciences, and, if the proposal differs in any important respect from any of these recommendations, an explanation of the reasons for such differences. All data, information, and documents referred to in this paragraph on which the proposed rule relies shall be included in the docket on the date of publication of the proposed rule.

(4)

(A) The rulemaking docket required under paragraph (2) shall be open for inspection by the public at reasonable times specified in the notice of proposed rulemaking. Any person may copy documents contained in the docket. The Administrator shall provide copying facilities which may be used at the expense of the person seeking copies, but the Administrator may waive or reduce such expenses in such instances as the public interest requires. Any person may request copies by mail if the person pays the expenses, including personnel costs to do the copying.

(B)

(i) Promptly upon receipt by the agency, all written comments and documentary information on the proposed rule received from any person for inclusion in the docket during the comment period shall be placed in the docket. The transcript of public hearings, if any, on the proposed rule shall also be included in the docket promptly upon receipt from the person who transcribed such hearings. All documents which become available after the proposed rule has been published and which the Administrator determines are of central relevance to the rulemaking shall be placed in the docket as soon as possible after their availability.

(ii) The drafts of proposed rules submitted by the Administrator to the Office of Management and Budget for any interagency review process prior to proposal of any such rule, all documents accompanying such drafts, and all written comments thereon by other agencies and all written responses to such written comments by the Administrator shall be placed in the docket no later than the date of proposal of the rule. The drafts of the final rule submitted for such review process prior to promulgation and all such written comments thereon, all documents accompanying such drafts, and written responses thereto shall be placed in the docket no later than the date of promulgation.

(5) In promulgating a rule to which this subsection applies (i) the Administrator shall allow any person to submit written comments, data, or documentary information; (ii) the Administrator shall give interested persons an opportunity for the oral presentation of data, views, or arguments, in addition to an opportunity to make written submissions; (iii) a transcript shall be kept of any oral presentation; and (iv) the Administrator shall keep the record of such proceeding open for thirty days after completion of the proceeding to provide an opportunity for submission of rebuttal and supplementary information.

(6)

(A) The promulgated rule shall be accompanied by (i) a statement of basis and purpose like that referred to in paragraph (3) with respect to a proposed rule and (ii) an explanation of the reasons for any major changes in the promulgated rule from the proposed rule.

(B) The promulgated rule shall also be accompanied by a response to each of the significant comments, criticisms, and new data submitted in written or oral presentations during the comment period.

(C) The promulgated rule may not be based (in part or whole) on any information or data which has not been placed in the docket as of the date of such promulgation.

(7)

(A) The record for judicial review shall consist exclusively of the material referred to in paragraph (3), clause (i) of paragraph (4)(B), and subparagraphs (A) and (B) of paragraph (6).

(B) Only an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed. If the Administrator refuses to convene such a proceeding, such person may seek review of such refusal in the United States court of appeals for the appropriate circuit (as provided in subsection (b)). Such reconsideration shall not postpone the effectiveness of the rule. The effectiveness of the rule may be stayed during such reconsideration, however, by the Administrator or the court for a period not to exceed three months.

(8) The sole forum for challenging procedural determinations made by the Administrator under this subsection shall be in the United States court of appeals for the appropriate circuit (as provided in subsection (b)) at the time of the substantive review of the rule. No interlocutory appeals shall be permitted with respect to such procedural determinations. In reviewing alleged procedural errors, the court may invalidate the rule only if the errors were so serious and related to matters of such central relevance to the rule that there is a substantial likelihood that the rule would have been significantly changed if such errors had not been made.

(9) In the case of review of any action of the Administrator to which this subsection applies, the court may reverse any such action found to be—

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; or

(D) without observance of procedure required by law, if (i) such failure to observe such procedure is arbitrary or capricious, (ii) the requirement of paragraph (7)(B) has been met, and (iii) the condition of the last sentence of paragraph (8) is met.

(10) Each statutory deadline for promulgation of rules to which this subsection applies which requires promulgation less than six months after date of proposal may be extended to not more than six months after date of proposal by the Administrator upon a determination that such extension is necessary to afford the public, and the agency, adequate opportunity to carry out the purposes of this subsection.

(11) The requirements of this subsection shall take effect with respect to any rule the proposal of which occurs after ninety days after the date of enactment of the Clean Air Act Amendments of 1977 [enacted Aug. 7, 1977].

(e) Other methods of judicial review not authorized. Nothing in this Act shall be construed to authorize judicial review of regulations or orders of the Administrator under this Act, except as provided in this section.

(f) Costs. In any judicial proceeding under this section, the court may award costs of litigation (including reasonable attorney and expert witness fees) whenever it determines that such award is appropriate.

(g) Stay, injunction, or similar relief in proceedings relating to noncompliance penalties. In any action respecting the promulgation of regulations under section 120 [42 USCS § 7420] or the administration or enforcement of section 120 [42 USCS § 7420] no court shall grant any stay, injunctive, or similar relief before final judgment by such court in such action.

(h) Public Participation. It is the intent of Congress that, consistent with the policy of the Administrative Procedures Act [5 USCS §§ 551 et seq.], the Administrator in promulgating any regulation under this Act, including a regulation subject to a deadline, shall ensure a reasonable period for public participation of at least 30 days, except as otherwise expressly provided in section [sections] 107(d), 172(a), 181(a) and (b), and 186(a) and (b) [42 USCS §§ 7407(d), 7502(a), 7511(a) and (b), 7512(a) and (b)].

History

HISTORY:

July 14, 1955, ch 360, Title III, § 307, as added Dec. 31, 1970, P. L. 91-604, § 12(a), 84 Stat. 1707; Nov. 18, 1971, P. L. 92-157, Title III, § 302(a), 85 Stat. 464; June 22, 1974, P. L. 93-319, § 6(c), 88 Stat. 259; Aug. 7, 1977, P. L. 95-95, Title III, §§ 303(d), 305(a), (c), (f)–(h), 91 Stat. 772, 776, 777; Nov. 16, 1977, P. L. 95-190, § 14(a)(79), (80), 91 Stat. 1404; Nov. 15, 1990, P. L. 101-549, Title I, §§ 108(p), 110(5), Title III, § 302(g), (h), Title VII, §§ 702(c), 703, 706, 707(h), 710(b), 104 Stat. 2469, 2470, 2574, 2681, 2682-2684.

United States Code Service
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End of Document

Attachment 3

Declaration of Lois Bower-Bjorson, Clean Air Council and Earthworks

IN THE UNITED STATES COURT OF APPEALS
DISTRICT OF COLUMBIA CIRCUIT

DECLARATION OF LOIS BOWER-BJORNSON
Submitted In Support of Clean Air Council and
Earthworks

I, Lois Bower-Bjornson, do hereby affirm and state:

1. I am currently a member of Earthworks. I first became aware of Earthworks fifteen years ago, and I have been involved in and tracking its advocacy ever since.

2. I am a member and an employee of Clean Air Council (“Council”). I started working at the Council about eleven years ago as a subcontractor, but I was hired onto the staff in 2019.

3. As the Southwestern Pennsylvania Field Organizer, my job duties at the Council include attending local municipal council meetings, working with communities to establish better oil and gas zoning laws, working with local, state, and federal agencies on their methane and methane emissions policies, educating communities near oil and gas wells, and hosting “Frackland” tours. The “Frackland” tours are educational tours I provide to various elected officials, schools, and other interested organizations.

4. I joined the Council because I am concerned about the impact the oil and gas industry, particularly fracking, has on Pennsylvanians and our environment. As one who is personally impacted everyday by fracking wells, I support the Council's work to protect and improve air quality in Pennsylvania.

5. Clean Air Council is a 501(c)(3) environmental health non-profit organization. The Council started in 1967, and its mission is to protect everyone's right to clean air and a healthy environment. As part of the Council's mission, we conduct outreach programs that aim to educate and engage the public on environmental issues. These educational efforts tie into the Council's commitment to ensure all residents, including lower income communities and communities of color, have a voice in government policies and actions that impact their health, quality of life, and local ecosystems. The Council supports communities in protecting their health and local ecosystem from proposed or existing industrial infrastructure, and it supports the advancement of environmental justice. The Council also works toward holding government agencies accountable when creating and enforcing environmental policies.

6. Through my role as an employee of Clean Air Council, I am aware that the organization has about 5,000 members. Most of whom live in the Pennsylvania area.

7. My job duties consist of coordinating with other nonprofit and community organizations about fracking. I regularly work with nonprofits such as Mountain Watershed Association, MADFACTS, Mothers and Fathers Against Cancer Threat Spikes, and Protect PT. I also network and collaborate with local coalitions such POPCO (People Over Petro Coalition), BCMAC (Beaver County Marcellus Awareness Coalition), the Breathe Project, and the Ohio River Valley Institute.

8. My community education role includes organizing events and distributing information about the impacts of oil and gas production. I also connect interested people to participate in Penn State's ground water research, the University of Pittsburgh's and Pennsylvania Department of Health's study on those living close to oil and gas facilities, Yale University's Leukemia study, and to news outlets.

9. My job was created to address the high emissions of methane and other harmful pollutants from the fracking wells in the area. The Council developed my job role due to the fracking "boom" that took place in the area I live, and it had to find funding to support my role.

10. Through my work with partner organizations and my work at the Council, I learn and keep up-to-date on the air, water, and land pollution the oil and gas industries cause. Specifically, I know about the pollutants fracking wells

emit and the detrimental health impacts these gas wells cause. This knowledge is combined with what I already knew from my personal experience from living in my home that is close to several fracking wells.

11. My family and I live in Washington County, Pennsylvania, which is the most heavily fracked county in the state. There are currently 11,856 active wells in Washington County.¹ Having experienced the effects of the explosive growth in the oil and gas industry in my community firsthand, I support Earthworks' mission to protect our health and environment from the negative effects of the oil and gas industry, including air pollution, impacts on climate, and direct health impacts.

12. Likewise, I joined the Council because I am concerned about the impact the oil and gas industry, particularly fracking, has on Pennsylvanians and our environment. As one who is personally impacted everyday by fracking wells, I support the Council's work to protect and improve air quality in Pennsylvania.

13. I live in Scenery Hill, Washington County, Pennsylvania, with my family. I grew up about 20 minutes away, so my family is still in the area. When my husband and I wanted to grow our family, we moved back to Washington County to buy a home with more indoor and outdoor space for our children to play. We have lived here for twenty years.

¹ See Mirtich Declaration.

14. Many factors attracted me to Scenery Hill, including the idyllic rolling hills and relatively reasonable housing costs.

15. When we bought our home in 2004, there were no fracking wells or facilities in the area. However, not long after we moved in, fracking wells, compressor stations, and pipelines started to appear and encroach upon our home. Endless truck traffic came along with the building of each well pad, pipeline, and compressor station—seven days a week, 24 hours a day there is truck traffic.

16. Today, I live across the street from 4 active well pads and a pipeline traverses my property about 500 feet away from my home. According to the Oil & Gas Threat Map² our home is completely surrounded by well pads, with 34 well pads in a three-mile radius. According to an analysis by Laura Mirtich³, there are 20 active wells within a half mile of my home – 13 of which are considered “existing sources” under EPA’s Oil and Gas Methane Rule, and 7 considered “new sources.” Other forms of oil and gas infrastructure surround me, including a compressor station 1 mile down the road, well pads visible out of every window in my house, and heavy trucking traffic on my road. Well pads and compressor stations, in particular, are prone to leaks and malfunctions resulting in toxic air pollution.

² The Oil & Gas Threat Map, Earthworks & FracTracker Alliance, <https://oilandgasthreatmap.com/about/> (last visited Feb. 8, 2024).

³ See Mirtich Declaration.

17. Just across the street from my home is a well pad that contains multiple wellheads, at least five compressors, and at least two storage tanks. I'm aware that these types of sites with such types of equipment also generally operate process controllers. Just over a mile down the road is another well pad that I am aware has multiple wellheads, at least five storage tanks, and at least six compressors. The emissions from these sites, and the other sites in close proximity to my home, concern me greatly because I know such close and constant exposure to oil and gas emissions puts my health, and the health of my family, at risk everyday.

18. As an active member of my community and as an organizer, I regularly talk to folks who are experiencing health issues as a result of oil and gas pollution, or who are afraid for their health and safety, and the health and safety of their children, in the face of oil and gas pollution.

19. Through my work as an active community member and organizer, I am aware of the effects of oil and gas operations on air quality and health, including emissions of particulate matter ("PM") and soot. Additionally, I am aware that oil and gas operations emit carcinogens such as volatile organic compounds ("VOC") that form ozone and hazardous air pollutants ("HAP").

20. I also know, through my work, experience, and research, that people who live near fracking wells are more likely to have high-risk pregnancies,

premature births, asthma, nasal and sinus issues, skin disorders, heart failure, migraines, and fatigue, at least in part due to the air emissions from the wells.⁴

21. I am also aware of other environmental pollutants produced by oil and gas infrastructure, including benzene. I know multiple people who have been diagnosed with acute myeloid leukemia, which is directly caused by these pollutants. In fact, a friend of mine who lived in my area recently passed from the disease.

22. I am concerned that prolonged exposure to the toxic environmental hazards of oil and gas infrastructure will cause these serious medical illnesses to manifest in my family's and my health in the future.

23. My family has also been directly affected by pollution from oil and gas production. All of my children experienced harmful health impacts linked to pollution from oil and gas production and processing that were more than just normal childhood illnesses. My four children have each experienced some combination of allergies, nosebleeds, rashes, intensified Lyme disease symptoms, cellulitis, respiratory symptoms, and more.

24. In 2019, my entire family participated in a pilot study conducted by Environmental Health News journalist Kristina Marusic, where we wore personal

⁴ *Fractured: Harmful chemicals and unknowns haunt Pennsylvanians surrounded by fracking*, Kristina Marusic, *Environmental Health News* (March 1, 2021), <https://www.ehn.org/fractured-harmful-chemicals-fracking-2650428324.html>.

air monitors, underwent urine tests, and had our water tested for nine weeks.⁵ The 17 urine samples taken from my family over the course of the study showed large amounts of harmful chemicals associated with oil and gas production present in our bodies.

25. The study tested for 40 of the chemicals most commonly found in emissions from oil and gas wells in Western Pennsylvania. These included 1,2,3-trimethylbenzene, 2-heptanone, naphthalene, ethylbenzene, xylenes, styrene, toluene, and benzene.⁶ These chemicals are linked to skin issues, respiratory illness, immune system damage, hormone disruption, and increased cancer risk.

26. The majority of our urine screen results exceeded the 95th percentile for biomarkers of ethylbenzene and styrene, and 41 percent of our tests exceeded the 95th percentile for biomarkers of toluene and benzene.⁷ I know these chemicals are prevalent air emissions from oil and gas operations and are linked to cancer, nervous system damage, liver and kidney damage, and tissue irritation.⁸

⁵ *Id.*

⁶ Chris Holder et al., *Evaluating potential human health risks from modeled inhalation exposures to volatile organic compounds emitted from oil and gas operations*, 69 J. Air & Waste Mgmt. 1503 (2019);

⁷ *Fractured: About our data*, Kristina Marusic (March 1, 2021), <https://www.ehn.org/fractured-series-fracking-data-2650699245.html>.

⁸ *Fractured: Harmful chemicals and unknowns haunt Pennsylvanians surrounded by fracking*, *supra* note 2.

27. Additionally, the personal air monitors captured similar results as the urine screens, and they showed our exposure to higher levels of airborne VOCs and HAPs.

28. Since seeing the results of the study and the articles, I realized there was a correlation between the medical issues my young children suffered and the amount of fracking happening. The study showed high levels of naphthalene (a HAP)⁹, 1,2,3-trimethylbenzene (a VOC)¹⁰, and 2-heptanone (a VOC)¹¹ in our bodies, which I now know can cause the symptoms my children suffered.¹² All my children have lived all of their lives at our current home. And as the fracking wells appeared and operated around our home, my children suffered peculiar rashes, heavy nose bleeds, and lightheadedness.

29. My oldest son, who is currently 24 years old, developed a rash when he was about 11 years old. The rash did not itch, and we deduced that it was not related to an allergy or to the type of laundry detergent we used. The rash was

⁹ A classified HAP under EPA's Substance Registry Services.

<https://cdxapps.epa.gov/oms-substance-registry-services/substance-details/13326>.

¹⁰ A classified VOC under EPA's Substance Registry Services.

<https://cdxapps.epa.gov/oms-substance-registry-services/substance-details/50153>.

¹¹ A classified VOC under EPA's Substance Registry Services.

<https://cdxapps.epa.gov/oms-substance-registry-services/substance-details/25403>.

¹² I know that exposure to naphthalene, 1,2,3-trimethylbenzene, and 2-heptanone is linked to skin, eye, and respiratory issues, gastrointestinal illness, liver problems, neurological issues, immune system and kidney damage, developmental issues, hormone disruption, and increased cancer risk.

bumpy and covered his entire body including his face and ears. When we took him to a dermatologist, the doctors were unable to help us.

30. My second oldest son, who is now 21 years old, developed odd rashes as a child too. Also, when he was between the ages of two and four years old, he would get heavy nose bleeds while in his bed.

31. My youngest son, who is 19 years old, used to have very severe nosebleeds— for a period of years he would often get two to three nose bleeds a day. The bleeding was so heavy that he would cough up large blood clots from his throat, which was terrifying. He still suffers from lightheadedness and becomes pale whenever he is exposed to the outdoor air too much.

32. Finally, my daughter, who is currently 16 years old, used to get recurrent nose bleeds as an infant, which is not normal or common for babies. I remember finding her in the crib with heavy nose bleeds, and it scared me so much. As my daughter got older, she developed eczema.

33. I am very concerned about my own future health and the health of my children given the high exposure to oil and gas pollution we have experienced and will continue experiencing if tighter regulations are not in place.

34. My children want to remain in their community as they move into adulthood, and I want them to have that opportunity. The area we live in is

affordable and their family is here, but the prospect of continued health risks posed by unchecked pollution mean they may not feel safe to remain in their community.

35. The presence of fracking wells and facilities impact my family's enjoyment of our home and property. When my husband and I purchased the property, we loved that we had a historic home that sat on a large piece of property. Additionally, it was in a rural location that was close to our extended family. The property had all the advantages we wanted to raise a family. But the poor outdoor air quality caused by oil and gas operations inhibited our full enjoyment of our property.

36. The air quality at my home is always a major concern that limits our ability to enjoy the property. I check the air quality every day to see if it is safe to be outside. I never did this before the fracking wells appeared in the area. When I check the air quality, I adjust a reminder magnet on the refrigerator that lets all my family know if it is safe to be outside. If tighter regulations were in place to control leaks from fracking equipment, perhaps this precaution wouldn't be necessary.

37. We have to keep all the windows closed at night in order to reduce our exposure to oil and gas pollution. For years, I noticed that if a window is left open, we would suffer from lightheadedness, paleness, or nose bleeds.

38. I cannot always work at my home due to the fracking wells and the pollutants they emit. With my job, I am able to work remotely. However, on bad

air quality days, I leave my house to work somewhere else to avoid inhaling more air pollution.

39. The wells disrupt our enjoyment of our outdoor property. I have always encouraged my children to play and be outside, but even on good air quality days, I worry about what they are breathing. And if it is a poor air quality day, we stay inside. It is upsetting to me that when the weather is beautiful outside, but the air quality is bad, we must stay inside or leave our neighborhood.

40. Contrary to our initial intent to have a home in a safe area, I fear for myself and my family when it comes to the high truck traffic coming and going from the fracking wells. Our home is on State Route 40, so fracking trucks use this as a main route to the wells. The constant truck traffic creates a hazard on the road—not to mention additional toxic exposure to diesel fumes. I am very cautious when driving around these trucks and the volatile materials they carry. I practice and teach my children, who are learning how to drive, to never get stuck behind a fracking well truck.

41. I am also concerned about the impacts fracking operations have on climate change.

42. I am aware that methane is a major pollutant emitted by oil and gas operations, and that methane is a very powerful greenhouse gas that contributes significantly to global climate change.

43. I have observed and experienced the effects of climate change in my own life and community, and I am concerned about the outsized contribution of oil and gas pollution to these changes. In the past, southwestern Pennsylvania consistently experienced snow, allowing for recreational activities like skiing, snowshoeing, and sledding which my family and I enjoy. Now, snow is an incredibly rare occurrence, and we are almost never able to enjoy those wintertime activities.

44. I am concerned that my community will only see more climate-related impacts if oil and gas operations do not comply with regulations as soon as possible.

45. I worry that, without proper, timely regulation and enforcement, oil and gas emissions will continue unchecked and the negative health, aesthetic, and recreational impacts to me and my community will continue to proliferate.

46. I understand that this past summer the U.S. Environmental Protection Agency (“EPA”) issued an interim final rule, without first taking public comment, that delays compliance deadlines for national standards for oil and gas facilities that would control methane and VOC emissions from both new and existing infrastructure. Had the EPA provided an opportunity to comment prior to issuing the interim final rule, I would have commented in my capacity as a member of Earthworks and Clean Air Council.

47. Both Earthworks and Clean Air Council did submit comments as part of EPA's post-finalization comment solicitation on the interim final rule, which closed on October 3rd, 2025. Those comments indicated strong opposition to the finalized delays in compliance deadlines.

48. I am aware that on December 3, 2025, EPA issued an additional final rule re-affirming the deadline extensions present in the interim final rule, and providing additional extensions.

49. I support the EPA's methane standards that were finalized in 2024 for many reasons, but especially because my family, my community, and I will benefit from the pollution reductions that would stem from this rule.

50. I do not support a delay in compliance dates for the rule. Delaying compliance with these standards will only prolong and exacerbate my own and my family's exposure to harmful pollutants.

51. I believe that EPA's oil and gas standards should be implemented and enforced as soon as possible because any delay would negatively affect air quality and health in my area. The sooner the better as full implementation of these regulations are overdue. The previous performance standards for oil and gas operation, finalized many years ago, are sorely insufficient. EPA's standards help to reduce pollutants emitted, and hold oil and gas industries more accountable if they fail to comply. I would not receive the benefits from the rule's reductions to

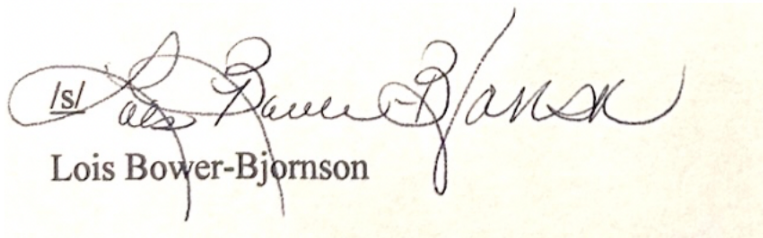
pollution if its full implementation were delayed as will happen as a result of the interim final rule and the new final rule.

52. I understand that the Environmental Protection Agency published its interim final rule establishing an “Extension of Deadlines in standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review Final Rule” (“interim final rule”) on July 31, 2025.

53. I am also aware that the Agency published the additional final rule re-affirming deadline extensions and tacking on more extensions, titled “Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources” (“final rule”) on December 3, 2025.

54. I also understand that Earthworks and Clean Air Council, along with other environmental groups, have challenged the interim final rule and seek to challenge the final rule as well. I support Earthworks and Clean Air Council filing this lawsuit. I also understand, as an employee of the Council, that challenging these rules falls within the Council’s mission to protect everyone’s right to a clean air and a healthy environment.

I declare under penalty of perjury that the foregoing is true to the best of my knowledge, information, and belief.

The image shows a handwritten signature in dark ink on a light-colored, textured background. The signature is written in a cursive style. To the left of the main signature, there is a small, handwritten "ls/". Below the signature, the name "Lois Bower-Bjornson" is printed in a black, sans-serif font.

Lois Bower-Bjornson

Executed on December 19, 2025

Attachment 4

Declaration of Brian Buma, Environmental Defense Fund

DECLARATION OF BRIAN BUMA

I, Brian Buma, declare as follows:

1. I am a Senior Contributing Scientist at the Environmental Defense Fund (“EDF”). I earned a Ph.D. in Ecology from the University of Colorado Boulder, where I studied the impact of climate change and wildfires, windstorms, and other disasters on ecosystems. I have published more than 90 peer-reviewed papers, many on the impacts of climate change on earth system functioning and natural disasters. My curriculum vitae is attached as Exhibit A.

2. I joined EDF in 2022 after leaving my position as an Associate Professor at the University of Colorado Denver. At EDF, I direct the Climate Innovation Initiative. This effort focuses on new technologies and means to measure greenhouse gas emissions, to mitigate emissions from natural and human systems, and to remove carbon from the atmosphere. I specifically aim to accelerate solutions to climate warming over all timescales, both near- and long-term.

3. Methane is a considerable driver of near-term climate change, responsible for more than a quarter of the increased global temperatures we are experiencing today.¹ Atmospheric methane concentrations have doubled since

¹ Buma B, Ocko I, Walkowiak B, Xu Y, Lackner M, Sartzetakis SS, Alpert A, Dhungel S. 2025. Considering sectoral warming and cooling emissions and their

the Industrial Revolution² and emissions are accelerating. The 2020 emission rate was the highest ever recorded (608 Tg) and 12% higher than prior decades.³ Globally, a third of human-emitted methane comes from the oil and gas sector⁴. Current trends suggest that methane from global oil and gas may soon overtake livestock as the largest source from human activities.⁵ Domestically, the EPA recognizes that the oil and gas sector is the largest industrial source of methane emissions in the United States, accounting for nearly one-third of U.S. methane emissions.⁶ However, the actual amount of emissions is almost certainly higher, as studies show the EPA underestimates methane emissions from the oil and natural gas sector by approximately sixty percent.⁷ I have led research teams⁸ to

lifetimes can improve climate change mitigation policies. NPJ Climate and Atmospheric Science. 8:287

² NASA 2024. Vital Signs. <https://climate.nasa.gov/vital-signs/methane>

³ Saunio, M., et al. 2025. Global Methane Budget 2000–2020, Earth Syst. Sci. Data, 17, 1873–1958, <https://doi.org/10.5194/essd-17-1873-2025>.

⁴ *Id.*

⁵ Calculated from data on emissions from livestock from Food and Agriculture Organization (FAO), *available at* <http://www.fao.org/faostat/en/#home>; data on emissions from oil and gas from International Energy Agency World Energy Outlook 2018, *available at* <https://www.iea.org/reports/world-energy-outlook-2018>.

⁶ EPA, *Overview of Greenhouse Gases: Methane Emissions*, <https://www.epa.gov/ghgemissions/methane-emissions>, last accessed 2025).

⁷ Ramon A. Alvarez,, et al, *Assessment of Methane Emissions from the U.S. Oil and Gas Supply Chain*, 361 Science 186, 186 (2018), *available at* <https://science.sciencemag.org/content/361/6398/186> (last accessed Sept. 14, 2020).

⁸ Buma B, Ocko I, Walkowiak B, Xu Y, Lackner M, Sartzetakis SS, Alpert A, Dhungel S. 2025. Considering sectoral warming and cooling emissions and their lifetimes can improve climate change mitigation policies. NPJ Climate and Atmospheric Science. 8:287

quantify the impacts of all major emissions (both warming and cooling species). Overall, methane, through both direct emissions and modifications to its lifespan by other emissions, is currently driving more than a quarter of the increased temperature forcing we are feeling today, about 0.6 degrees C (~1 deg. F). Of all methane sources from human activities, reducing natural gas emissions from oil and gas operations—whether from venting, flaring, or leaking—presents an immediate and important opportunity considering its cost-effectiveness and technological availability. Methane emissions reductions have a powerful and immediate impact on climate because it is both a powerful short-term warmer – much stronger than CO₂ – and has a short lifespan, so reductions in emissions are felt quickly.

4. For the same mass of carbon dioxide (“CO₂”) and methane emissions, methane can trap 100 times more heat than CO₂, both directly from methane as a greenhouse gas and indirectly from the production of further greenhouse gases: tropospheric ozone, stratospheric water vapor, and CO₂.⁹ Over a twenty-year period, this number drops to ~82 as methane dissipates from the atmosphere more quickly than CO₂.¹⁰

⁹ Calculations from IPCC AR6.

https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_FullReport.pdf. See <https://www.edf.org/methane-spotlight-10-scientific-facts-you-should-know>

¹⁰ *Id.*

5. Further, through the creation of tropospheric ozone, methane contributes to ground-level ozone, which is harmful to humans and is linked to short- and long-term negative health effects, including shortness of breath, decreased lung function, and chronic obstructive pulmonary disease (“COPD”). Ozone also aggravates existing cardiovascular and respiratory conditions, such as asthma, emphysema, and bronchitis, with long-term exposure increasing the risk of death from these conditions. As 125 million Americans, around 37% of the population are exposed to harmful levels of ozone,¹¹ reducing methane emissions would directly enhance human health while improving air quality and mitigating climate change.¹²

6. Methane, on average, lasts for approximately a decade in the atmosphere (though its effects can last much longer),¹³ because it is oxidized on average after 9 years, breaking down and forming other chemical species.¹⁴ Methane’s near-term lifespan combined with its potency, *supra* ¶12, mean that

¹¹ American Lung Association: State of the Air
<https://www.lung.org/research/sota/key-findings/ozone-pollution>

¹² *Id.*

¹³ For example, as discussed below, oceans absorb 90% of the excess heat trapped by greenhouse gases. Therefore, even though the methane is gone and no longer trapping additional heat in the atmosphere, the warming that it had caused is now in the oceans, contributing to sea level rise decades to come. Hu, A., Xu, Y., Tebaldi, C., Washington, W.M. and Ramanathan, V., 2013. Mitigation of short-lived climate pollutants slows sea-level rise. *Nature Climate Change*, 3(8), pp.730-734.

¹⁴ Myhre et al. 2013 *supra* note 3.

methane contributes over a quarter of the global temperature increase we are seeing today. Continued emissions therefore have a material detrimental impact on human health. It also means that immediate emission reduction are valuable, since near-term methane reductions can rapidly slow the rate of warming as previously emitted methane has a relatively short lifespan; once we reduce emissions, we will see concentrations of atmospheric methane from anthropogenic sources decline.¹⁵ This is contingent, however, on immediate reductions in emissions. While it is worth noting that methane forms tropospheric ozone when it oxidizes, another strong greenhouse gas, the ozone does not last long in the atmosphere. There are immediate and needed climate benefits from reduced methane emissions.

7. It is crucial to limit both the rate of near-term warming and long-term warming, in order to reduce warming impacts within this generation and for generations to come. Both near-term and long-term warming are associated with specific sets of damages, and all must be reduced. Near-term warming

¹⁵ Shindell, D., Ravishankara, A.R., Kuylenstierna, J.C., Michalopoulou, E., Höglund-Isaksson, L., Zhang, Y., Seltzer, K., Ru, M., Castelino, R., Faluvegi, G. and Naik, V., 2021. *Global methane assessment: Benefits and costs of mitigating methane emissions* (No. Job No: DTI/2352/PA). United Nations Environment Programme.

impacts property and infrastructure,¹⁶ plant and animal species survival rates,¹⁷ extreme events,¹⁸ sea level rise¹⁹, the timing of crossing tipping point thresholds,²⁰ the economy,²¹ and the ability of vulnerable populations to adapt to a changing environment.²² Long-term warming impacts glacial melt, permafrost melt, shifts in biomes, ocean circulation, and more. Carbon dioxide is the main driver of long-term warming because of its long atmospheric lifetime.²³ Methane emissions are an important driver of near-term warming and a powerful lever to reduce temperatures in the short term, and so taking

¹⁶ Tschakert, Petra, et al. "One thousand ways to experience loss: A systematic analysis of climate-related intangible harm from around the world." *Global Environmental Change* 55 (2019): 58-72; US EPA, Multi-Model Framework for Quantitative Sectoral Impacts Analysis: A Technical Report for the Fourth National Climate Assessment, 120 (2017), available at https://cfpub.epa.gov/si/si_public_record_Report.cfm?dirEntryId=335095

¹⁷ Wiens, J.J. and Zelinka, J., 2024. How many species will Earth lose to climate change?. *Global Change Biology*, 30(1), p.e17125.

¹⁸ Fischer, E.M., Sippel, S. & Knutti, R. Increasing probability of record-shattering climate extremes. *Nat. Clim. Chang.* 11, 689–695 (2021). <https://doi.org/10.1038/s41558-021-01092-9>

¹⁹ Tebaldi, C., Ranasinghe, R., Vourdoukas, M., Rasmussen, D.J., Vega-Westhoff, B., Kirezci, E., Kopp, R.E., Srivier, R. and Mentaschi, L., 2021. Extreme sea levels at different global warming levels. *Nature Climate Change*, 11(9), pp.746-751.

²⁰ Armstrong McKay, D.I., Staal, A., Abrams, J.F., Winkelmann, R., Sakschewski, B., Loriani, S., Fetzer, I., Cornell, S.E., Rockström, J. and Lenton, T.M., 2022. Exceeding 1.5 C global warming could trigger multiple climate tipping points. *Science*, 377(6611), p.eabn7950.

²¹ Newman, R. and Noy, I., 2023. The global costs of extreme weather that are attributable to climate change. *Nature Communications*, 14(1), p.6103.

²² Hu et al., *supra* note 13.

²³ Myhre et al., *supra* note 3.

immediate steps to reduce methane emissions can help to immediately lower warming rates.²⁴ Conversely, allowing methane emissions to increase will accelerate this harmful warming.²⁵

8. Warming to date has already negatively impacted every continent and every ocean,²⁶ and can result in tropical island villages relocation,²⁷ Arctic buildings and villages relocating,²⁸ contribute to coral reef dieoffs,²⁹ mosquito seasons growing weeks longer,³⁰ and anthropogenic climate change driven extreme heat events yielding 37% (20.5-76.3%) higher death tolls.³¹ The year

²⁴ Shindell et al., *supra* note 15.

²⁵ *Id.*

²⁶ IPCC, Climate Change 2023: <https://www.ipcc.ch/assessment-report/ar6/>

²⁷ Albert, S., Leon, J.X., Grinham, A.R., Church, J.A., Gibbes, B.R. and Woodroffe, C.D., 2016. Interactions between sea-level rise and wave exposure on reef island dynamics in the Solomon Islands. *Environmental Research Letters*, 11(5), p.054011.

²⁸ Alaska Dept of Community and Regional Affairs, <https://www.commerce.alaska.gov/web/dcra/planninglandmanagement/newtokplanninggroup.aspx>

²⁹ Donovan, M.K., Burkepile, D.E., Kratochwill, C., Shlesinger, T., Sully, S., Oliver, T.A., Hodgson, G., Freiwald, J. and van Woesik, R., 2021. Local conditions magnify coral loss after marine heatwaves. *Science*, 372(6545), pp.977-980.

³⁰ M. Romanello et al., The 2021 report of the *Lancet* Countdown on health and climate change: Code red for a healthy future. *Lancet* 398, 1619–1662 (2021).

³¹ Vicedo-Cabrera, A.M., Scovronick, N., Sera, F., Royé, D., Schneider, R., Tobias, A., Astrom, C., Guo, Y., Honda, Y., Hondula, D.M. and Abrutzky, R., 2021. The burden of heat-related mortality attributable to recent human-induced climate change. *Nature climate change*, 11(6), pp.492-500.

2024 was the warmest year on record.³² Extreme weather events and disasters—such as climate-driven wildfires—are increasingly being driven by climate change.³³ Increasing methane emissions will result in more pronounced impacts in the future.³⁴ Positive feedback loops are emerging that only serve to accelerate warming beyond direct emissions, compounding the challenge.³⁵ Further warming also enhances the risk that the climate surpasses irreversible tipping points that could render long-term climate stabilization difficult or impossible.³⁶ Immediate methane reductions can therefore also mitigate long-term warming and make it easier to stabilize global warming below 1.5 °C.³⁷ This is the key threshold for the international Paris Agreement. But inaction can result in

³² NASA 2025. <https://www.nasa.gov/news-release/temperatures-rising-nasa-confirms-2024-warmest-year-on-record/>

³³ Burton, C, et al. "Global burned area increasingly explained by climate change." *Nature Climate Change* (2024): 1-7.

³⁴ Canadell, J.G., Monteiro, P.M., Costa, M.H., Da Cunha, L.C., Cox, P.M., Eliseev, A.V., Henson, S., Ishii, M., Jaccard, S., Koven, C. and Lohila, A., 2021. Global carbon and other biogeochemical cycles and feedbacks. *IPCC AR6 WGI, final government distribution*, pp.chapter-5.

³⁵ Ripple, William J., et al. "Many risky feedback loops amplify the need for climate action." *One Earth* 6.2 (2023): 86-91.

³⁶ Wunderling, N., von der Heydt, A.S., Aksenov, Y., Barker, S., Bastiaansen, R., Brovkin, V., Brunetti, M., Couplet, V., Kleinen, T., Lear, C.H. and Lohmann, J., 2024. Climate tipping point interactions and cascades: A review. *Earth System Dynamics*, 15(1), pp.41-74.

³⁷ Cain, M., Jenkins, S., Allen, M.R., Lynch, J., Frame, D.J., Macey, A.H. and Peters, G.P., 2022. Methane and the Paris Agreement temperature goals. *Philosophical Transactions of the Royal Society A*, 380(2215), p.20200456.

changes that are not reversible.³⁸

9. Climate impacts are adversely affecting the physical health of people globally and the mental health of people in assessed regions.³⁹ For example, extreme heat can lead to deadly organ failure and conditions that can affect the brain, heart, intestines, kidney and liver⁴⁰ and climate-related disasters like flooding, wildfires, and other health threats including injuries, infections, diseases, and death.⁴¹

10. Reducing emissions of methane will also help to limit sea level

³⁸ Schleussner, C.F., Ganti, G., Lejeune, Q., Zhu, B., Pflleiderer, P., Prütz, R., Ciais, P., Frölicher, T.L., Fuss, S., Gasser, T. and Gidden, M.J., 2024. Overconfidence in climate overshoot. *Nature*, 634(8033), pp.366-373.

³⁹ Romanello, Marina, et al. "The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels." *The Lancet* 400.10363 (2022): 1619-1654; Masson-Delmotte et al., Intergovernmental Panel on Climate Change, Summary for Policymakers in Climate Change 2022: Impacts, Adaptation, and Vulnerability: Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change at 11, B.1.4.

⁴⁰ Ebi, K.L., Capon, A., Berry, P., Broderick, C., de Dear, R., Havenith, G., Honda, Y., Kovats, R.S., Ma, W., Malik, A. and Morris, N.B., 2021. Hot weather and heat extremes: health risks. *The lancet*, 398(10301), pp.698-708; Mora, C., Counsell, C.W., Bielecki, C.R. and Louis, L.V., 2017. Twenty-seven ways a heat wave can kill you: deadly heat in the era of climate change. *Circulation: Cardiovascular Quality and Outcomes*, 10(11), p.e004233

⁴¹ Bell, J.E., Brown, C.L., Conlon, K., Herring, S., Kunkel, K.E., Lawrimore, J., Lubert, G., Schreck, C., Smith, A. and Uejio, C., 2018. Changes in extreme events and the potential impacts on human health. *Journal of the Air & Waste Management Association*, 68(4), pp.265-287; USGCRP [U.S. Global Change Research Program], Climate Science Special Report: Fourth National Climate Assessment, Vol. I (Wuebbles, D.J. et al. eds.) (2017) at 44.

rise. Global average sea level has risen more quickly in the 20th century than any prior century in 3000 years.⁴² While methane only lasts for about a decade in the atmosphere, a substantial fraction of the atmospheric heating that methane causes during this period is absorbed by the oceans, where the warming signal lasts far longer than in the atmosphere. Accordingly, near-term methane emissions can cause sea level rise for decades to come.⁴³

11. I am aware that in 2024, EPA finalized a rule to strengthen standards to reduce methane emissions from oil and gas facilities. Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, 89 Fed. Reg. 16,820 (Mar. 8, 2024) (“2024 Rule”). I am aware that the Environmental Protection Agency (EPA) has now issued an interim final rule that provides an 18-month extension for standards in the 2024 Rule to reduce

⁴² Fox-Kemper, B., H.T. Hewitt, C. Xiao, G. Aðalgeirsdóttir, S.S. Drijfhout, T.L. Edwards, N.R. Golledge, M. Hemer, R.E. Kopp, G. Krinner, A. Mix, D. Notz, S. Nowicki, I.S. Nurhati, L. Ruiz, J.-B. Sallée, A.B.A. Slangen, and Y. Yu, 2021: Ocean, Cryosphere and Sea Level Change. In *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1211–1362, doi: [10.1017/9781009157896.011](https://doi.org/10.1017/9781009157896.011).

⁴³ Hu et al., *supra* note 13.

methane emissions from new, modified and existing sources in the oil and gas sector and to reduce volatile organic compound (VOC) emissions from new and modified sources in the oil and gas sector. “Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review Final Rule” (“Delay Rule”), 90 Fed. Reg. 35,966 (July 31, 2025). I understand that, according to EPA, the Delay Rule will result in increased methane emissions from both new and existing oil and gas sources.⁴⁴ The 2024 standards were estimated to result in 58 million tons of methane emissions reductions between 2024-2038. 89 Fed. Reg. at 16,836. Delaying those emissions reductions will have both short- and long-term impacts on the climate. Methane is currently responsible for over a quarter of the warming we are feeling today. Given its relatively short lifespan in the atmosphere, acting on methane now will meaningfully and materially reduce the warming we feel from methane in the near term.

12. I am also aware that EPA updated the metrics for the social cost of greenhouse gases—including the social cost of methane—in supplementary material for its Regulatory Impact Analysis, and that this analysis was used to

⁴⁴ EPA, *Economic Impact Analysis for the Extension of Deadlines in the NSPS OOOOb and EG OOOOc* (July 31, 2025) 6, Doc ID: EPA-HQ-OAR-2025-0162-0025; *see also* Proville-Mirtich Decl.

estimate the climate benefits of the 2024 Rule.⁴⁵ In its 2023 report updating those estimates, EPA used the best available science to monetize social costs caused by greenhouse gases, including many of the key social costs I've outlined in this declaration. As a foundational step in creating the estimates, EPA adopted a newly calibrated climate module called the Finite amplitude Impulse Response (FaIR) climate model on FaIR version 1.6.2 to generate projections of global mean surface temperature (GMST) change. This climate module is based on reduced complexity climate models, which capture the fundamental physics of climate change and mimic the simulation of more complex global climate models, and are used to estimate global warming due to additional increases in greenhouse gases, including methane. The derived global warming effect is then used to estimate (in combination with sea-level rise models) regional warming and sea level rise, which serve as environmental stressor inputs for the damage module. EPA's climate module is based on the latest science, including the most recent IPCC assessment which reflects consensus from the worldwide scientific community and synthesizes hundreds of recently published climate studies. At the core of EPA's climate module is the latest science on the Equilibrium Climate

⁴⁵ Environmental Protection Agency, Supplementary Material for the Regulatory Impact Analysis for the Final Rulemaking, "Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review" (November 2023) ("SC-GHG Report").

Sensitivity (“ECS”), which is the amount of warming that is expected to result from the doubling of atmospheric carbon dioxide concentrations. The most recent estimate from the 2021 IPCC report, with high confidence, an ECS range from 2.5°C to 4°C, with 3°C as a “best estimate” and considers a lower ECS estimate, such as 1.5°C, to be “very unlikely.” EPA’s chosen climate module uses a median ECS of 2.95°C,⁴⁶ which falls in the middle of the IPCC’s range.

13. I understand that in the Delay Rule EPA declined to monetize climate harms from delaying the standards “due to the uncertainties related to monetization of impacts from changes in GHG emissions.”⁴⁷ EPA states that there “are significant uncertainties related to the monetization of greenhouse gases that include, but are not limited to: the magnitude of the change in climate due to a change in GHG emissions; the relationship between changes in the climate and the economy and therefore, the resulting economic impacts; future economic and population growth which are important for estimating vulnerability, willingness to pay to avoid impacts, and the ability to adapt to future changes; future technological advancements that would reduce vulnerability and impacts; the share of impacts from GHG emissions that affect

⁴⁶ SC-GHG Report, Table 2.2.1.

⁴⁷ EPA, *Economic Impact Analysis for the Extension of Deadlines in the NSPS OOOOb and EG OOOOc* (July 31, 2025) Doc ID: EPA-HQ-OAR-2025-0162-0025

citizens and residents of the United States; and the appropriate discount rates to use when discounting in an intergenerational context.” This runs counter to EPA’s aforementioned 2023 peer-reviewed report on the social cost of greenhouse gases and the evidence therein establishing widely-accepted methodologies for quantifying the impacts of climate change. EPA’s 2023 report applied rigorous economic techniques to thoroughly account for uncertainty and found that, given the data and modeling limitations, its central estimate that methane causes around \$2000 per ton in climate damage is very likely an underestimate. Given the probability distributions for EPA’s 2023 estimates of the social cost of greenhouse gases—which point to large, non-zero estimates of climate damages per ton—it is irrational and inconsistent with best scientific practices for EPA to now assign a value of \$0 to the climate damages caused by methane emissions

14. I declare that the foregoing is true and correct.



Brian Buma

Dated August 12, 2025

Exhibit A**BRIAN BUMA**

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APPOINTMENTS

Senior Climate Scientist, Office of Chief Scientist, Environmental Defense Fund
2022 - *current*

Director: Climate Innovation Initiative

Associate Professor of Research, University of Colorado, Denver
2022 - *current*

Associate Professor, University of Colorado, Denver
2021-2022

Assistant Professor, University of Colorado, Denver
2018 – 2021

Assistant Professor, University of Alaska Southeast
2013 – 2018

EDUCATION

University of Colorado, Boulder- Ph.D. (2013)
Evolutionary Biology

Dept. of Ecology and

Western Washington University- M.A. (2005)
Science Education

Western Washington University- B.S. (2003)
minor in Chemistry

Biology,

PUBLICATIONS

**Student advisee. **Postdoc advisee. †Visiting scholar in Buma lab
In review & revision publications not shown*

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the pattern of biological weathering and soil formation under trees. *Science of The Total Environment*, p.173725.

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Metcalf EC, Schultz C, Miller C, Metcalf AL, **Buma B**, Virapongse A, Kulig JC, Stedman RC, Ratajczak Z, Nelson CR, Kolden C. 2019. Rethinking resilience to wildfire. *Nature Sustainability*. 2:797–804

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29. Krapek J*, Hennon PE, D'Amore DV, **Buma B**. 2017. Despite available habitat, migration of climate-threatened tree appears punctuated with past pulse tied to Little Ice Age climate period. *Diversity and Distributions*. 23(12): 1381-1392.

*Cover story

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21. **Buma B**, Krapek J*, Edwards RT. 2016. Watershed-scale forest biomass distribution in a perhumid temperate rainforest as driven by topographic, soil, and disturbance variables. Canadian Journal of Forest Research. 46(6): 844-854.

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18. Krapek J*, **Buma B**. 2015. Yellow-cedar: Climate change and natural history at odds. Frontiers in Ecology and Environment. 13: 280-281.

17. **Buma B**, Livneh B. 2015. Potential effects of forest disturbances and management on water resources in a warmer climate. Forest Science. 61: 895-903.

16. **Buma B**, Barrett T. 2015. Signs of disturbance disequilibrium and directional change in the world's largest temperate rainforest. *Global Change Biology*. 21: 3445-3454.

15. **Buma B**. 2015. Disturbance interactions: Characterization, prediction, and the potential for cascading effects. *Ecosphere*. 6:art70.

14. Livneh B., J.S. Deems, **B. Buma**, J.J. Barsugli, D. Schneider, N.P. Molotch, K. Wolter, and C.A. Wessman, 2015. Catchment response to bark beetle outbreak in the upper Colorado River basin. *Journal of Hydrology*. 523: 196-210.

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12. **Buma B**, Poore B, Wessman CA. 2014. Disturbances, Their Interactions, and Cumulative Effects on Carbon and Charcoal Stocks in a Forested Ecosystem. *Ecosystems*. 17(6): 947-959.

11. **Buma B**, Hennon PE, Bidlack AL, Baichtal JF, Ager TA, Streveler G. 2014. Correspondence regarding "The problem of conifer species migration lag in the Pacific Northwest region since the last glaciation" by Elias, S.A., 2013, *Quaternary Science Reviews* 77, 53-69.

10. McLauchlan, K.K., P.E. Higuera, D.G. Gavin, S.S. Perakis, M.M. Mack, H. Alexander, J. Battles, F. Biondi, **B. Buma**, D. Colombaroli, S.K. Enders, D.R. Engstrom, F.S. Hu, J. Marlon, J. Marshall, M. McGlone, J. Morris, L. Nave, B.N. Shuman, E.A.H. Smithwick, D. Urrego, D. Wardle, C. Williams, and J.J. Williams. 2014. Reconstructing disturbances and their biogeochemical consequences over multiple timescales. *BioScience*. 64(2): 105-116.

9. **Buma B**. 2014. Nutrient responses to ecosystem disturbances from annual to multi-millennial timescales. *New Phytologist*. 1: 13-15.

8. **Buma B**, Brown C, Donato D, Fontaine J, Johnstone J. 2013. The impacts of changing disturbance regimes on serotinous plant populations and communities. *BioScience* 63(11): 866-876.

7. **Buma B**, Wessman CA. 2013. Forest resilience, climate change, and

opportunities for adaptation: A specific case of a general problem. *Forest Ecology and Management*. 306: 216-225.

6. **Buma B**, Pugh ET, Wessman CA. 2013. Effect of a major insect outbreak on phenological and LAI trends in southern Rocky Mountain forests. *International Journal of Remote Sensing*. 34(20): 7249-7274.

5. **Buma B**. 2013. Don't give up just yet: Maintaining species, services, and systems in a changing world. Invited commentary on: Sandler R. *Climate Change and Ecosystem Management. Ethics, Policy, and Environment*. 16(1): 1-4.

4. **Buma B**, Wessman CA. 2013. Management, science, and disturbances as opportunities for adaptive transformation of forests. *The International Journal of Climate Change*. 4(3): 77-87.

3. **Buma B**, Wessman CA. 2012. Differential species responses to compounded perturbations and implications for landscape heterogeneity and resilience. *Forest Ecology and Management*, 266:25-33.

2. **Buma B**. 2012. Evaluating the utility and seasonality of NDVI values for assessing post-disturbance recovery in a subalpine forest. *Environmental Monitoring and Assessment*. 184(6):3849-3860.

1. **Buma B**, Wessman CA. 2011. Disturbance interactions can impact resilience mechanisms of forests. *Ecosphere*. 2(5):art64.

OTHER PUBLICATIONS AND PRODUCTS

•**Buma B**. 2023. Practical maps. Calafia.

•**Buma B**. 2022. The Bear. *Sierra Club Magazine*

•**Buma B**. 2021-2022. The Edges of (All) Life. Community Science project, ESRI Storymap. Spans 20,000 species on the North American continent.

•**Buma B**. 2021. *An Atlas of a Changing Climate*. Timber Press. 280 pages.

•Constructive Visions contributor, 2021 National Geographic Explorer effort (50+ explorers) web volume. <https://www.constructivevisions.org/>

- Hausle-Johnson N, **Buma B.** 2021. Tile art exhibit: Resilience in the Alaskan boreal. Fairbanks, Alaska.
- Buma B.** 2020. The world's southernmost tree hangs on in one of the windiest places on Earth. The Conversation. <https://theconversation.com/the-worlds-southernmost-tree-hangs-on-in-one-of-the-windiest-places-on-earth-but-climate-change-is-shifting-those-winds-146901>. See also National Geographic Magazine article, June 2021.
- Buma B.** 2020. Notes from the Edge of the World. Earth Island Journal. <https://www.earthisland.org/journal/index.php/magazine/entry/notes-from-the-edge-of-the-world>
- DellaSala D, **Buma B.** 2019. Tongass National Forest roadless areas hold keys to Alaska's climate future. 4 pages.
- DellaSala D, **Buma B.** 2019. Analysis of carbon storage in roadless areas of the Tongass National Forest. Comment on DEIS Roadless Rule Removal, to USFS. 22 pages.
- Buma B.** 2018. The hidden value of paper records. Science. 11(360): 10.1126
- Yellow-cedar salvage logging market characterization. Bidlack AL, Clark C, **Buma B**, Bisbing B, VanderNaald B. 2018. USFS report. 12 pages.
- Buma B.** 2018. Grey on Green: The quiet decline of one tree in Alaska's temperate rainforest. Earth Island Journal. July 23, 2018. <https://tinyurl.com/ybe5d6jf>
- Bidlack, A, **Buma B**, Butman D. 2017. Quantifying coastal rain forest carbon transport. Eos. 98. <https://doi.org/10.1029/2017EO077633>.
- Buma B.** 2015. Field Methods in Forest Ecology Laboratory Manual. University of Alaska Southeast. 80 pages.
- Buma B.** 2013. "It takes two to fill our forests with lichens." Juneau Empire

- Hermanson R, Nufio C, Schmidt B, **Buma B.** 2010. Principles of Ecology Laboratory Manual. University of Colorado. Fountain head Press, Texas. 110 pages.

OTHER APPOINTMENTS (CURRENT)

- Enhanced Weathering: Data Quarry governing board (commercial data to public research): Chair
- CDRAnet official observer
- US GCRP National Nature Assessment (1st annual): Author
- National Geographic Explorer (2016-present)
- Rocky Mountain Hub National Geographic Coordinator
- Explorer's Club: Fellow
- Alaska Climate Adaptation Science Center – Senior Scientist
- Steering Committee, Arctic Migrations Network

FUNDRAISING AND GRANTS

- NSF: Collaborative Research: The past, present, and future of boreal fires. January 2023 – June 2026. **\$1.4 million.** Overall PI. Collaborative proposal with University of Montana and Colorado State University.
- National Geographic: The Future Transect. **\$99,215.** January 2022-December 2022
- NSF. Collaborative Research: GCR: Co-defining climate refugia to inform the management of mountain headwater systems. **\$3.6 million** (Collaborative proposal with PI Keith Musselman, 5 other institutions; **\$444,889** to CU Denver)
- Boulder County, City of Boulder, and Jefferson County. Carbon and fuel treatments – do they work when burned? Investigations into treatments and the Calwood fire. **\$30,000.** Jan 2021-December 2021.
- NSF: Spatial patterning and carbon vulnerability: Does the spatial arrangement of forest management increase susceptibility to climate change and ecosystem disturbances? **\$476,254** January 2021 – December 2023
- USDA. Does vegetation sprouting buffer against climate change, and what is the minimal size for success? **\$27,254.** Sept 2020 – July 2022
- Teaching Enhancement Grant. “Bringing Ecology Lecture Outside.” **\$2,789.**
- Evaluating Flammability of Reburns in the Boreal Forests of Interior Alaska. Joint Fire Science Program (GRIN award to Katherine Hayes, PhD student). 2020-2021. **\$24,717**
- University of Colorado Denver, travel funds: **\$1500**
- US Department of Agriculture, US Forest Service. Trees on the edge. June 2019 – May 2020. **\$29,916.**
- University of Colorado Denver, Large Grant. Ecosystem succession and the longest

running study in the world: Expanding and building on a globally unique ecological research network. May 2019 – August 2020. **\$23,769.**

- NSF Research Experience for Undergraduates. **\$17,525.** January 2019 – May 2020. Supporting two CU Denver undergraduates

- National Geographic Exploration Grant: Documenting and monitoring climate change effects at the edge of the world. **\$44,933.** Chile, July 2018 – June 2019

- NSF: Linking landslide and windstorm exposure to regional carbon stocks and fluxes in the largest US forest carbon reservoir, southeast Alaska. Collaborative proposal with Adam Booth (Portland State University). **\$606,353.** July 2017 – June 2020

- NSF: Regional impacts of increasing fire frequency and climate change on carbon dynamics and species composition in the boreal forest. Collaborative proposal with Melissa Lucash (Portland State University), Jason Vogel (University of Florida), Vladimir Romanovsky (University of Alaska Fairbanks). **\$1.4 million.** January 2018 – December 2020

- USDA Regional Climate Hub: Integrating tribal and governmental management into regional conservation planning: Alaska yellow-cedar decline and silviculture. 2017 to 2019) **\$56,823**

- US Fish & Wildlife: Yellow-cedar decline and recovery: climate modeling and data assimilation. 2017 - 2018 **\$24,346**

- University of Alaska Southeast Faculty Research Award. 2017. **\$1000.**

- Elmer L Andersen Research grant. 2017. **\$1000.**

- USFS/Alaska Dept. of Forestry – Forestry Internship RSA 2017-2020. **\$29,302.**

- USFS/Alaska Dept. of Forestry – Forestry Internship RSA 2016. **\$4,935.**

- NSF Research Coordination Network: Coastal Rainforest Margins Research Network – understanding materials flux in linked terrestrial and marine ecosystems in the face of climate change (2016-2021). With Allison Bidlack (Alaska Coastal Rainforest Center) & David Butman (University of Washington). **\$498,470.**

- National Geographic Exploration Grant. 2016. Rediscovery of original 1916 William Cooper vegetation succession plots in Glacier Bay, Alaska. **\$7,765.**

- BLaST travel grant. 2015. Training for advanced educational/pedagogical techniques. **\$1,954.**

- NASA RID Grant, 2015-2016. “Improving landslide warning systems for local weather forecasts by linking wind exposure, satellite precipitation data, and local weather forecasts. **\$19,309.**

- University of Alaska Southeast Academic Innovation Funds, 2015. **\$2,419.**

- Alaska Yellow Cedar Decline Impact Assessment and Restoration Baseline, 2015. with Allison Bidlack (Alaska Coastal Rainforest Center) **\$30,007**

- Novus professional development grant. 2015. “Fire effects on black carbon and microbial activities.” Linked proposal with Rebecca Barnes (Colorado College)

\$1,500

- NASA EPSCoR RID Grant. 2014 - 2015. “Linking LIDAR and stream organic carbon export: Can aboveground biomass and landscape composition be used to predict the export and biogeochemistry of stream organic carbon?” **\$29,919**
- Alaska Space Grant Program. With Laurie Sowa and Robin Gilchrist (Engineering). 2014-2015. “Biomass Energy of Southeast Alaska: Providing Hands on Technology Projects for STEM Undergraduates.” **\$27,888**
- Work on forest resilience was recognized in a radio interview with Quirks and Quarks, the Canadian Broadcast Companies weekly science show.
- NSF, with Carol Wessman, 2011-2013, “Disturbance Interactions, Management, and Implications for Carbon Sequestration,” Author but not co-PI due to graduate status. DEB 1119819, **\$230,591**
- Western Water Assessment/NOAA. 2011-2013. “Snowmelt Perturbations and Water Supply Forecast Errors Across the Colorado Headwaters.” Author but not co-PI due to graduate status. With Jeff Deems, Noah Molotch, Carol Wessman, Klaus Wolter, Joe Basugli, and Tom Painter. **\$348,000**.
- NASA MSU Professional Enhancement Award, 2013. **\$600**
- ESA Ecovision Award, **\$150**
- Co-Investigator: CIRES Innovative Research Project Grant, 2011, **\$14,719**
- CIRES Graduate Fellowship, 2010, **\$14,719**
- USGA travel grant, 2010, **\$300**
- SPOT Planet Action Award 2009, ~**\$8000** (satellite imagery)

Undergraduate Specific Grants (as faculty mentor)

- URECA grant with H. Evoy, 2014, **\$712**
- URECA grant with K. Elmore, 2014, **\$1061**
- URECA grant with A. Stewart, 2016, **\$2400**

PRESENTATIONS:

*: Postdoctoral Advisee; **: Graduate Student in Buma lab, †: Undergraduate Student in Buma lab

- Musselman KN, Tarasewicz N, Schwebs L, Parsekian A, Bailey K, Parsons C, Kelsey K, **Buma B**, Knowles JF, Hinckley ELS, Parker J, Blanken P. The EcoTram: New measurements permit the study of lateral connectivity of landscapes, energy, and water in the Como Creek watershed, Colorado. AGU 2024.

- Nicolas Tarasewicz, Peter Blanken, Lena Schwebs, Andy Parsekian, Kinzie Bailey, Claire Parsons, Jackson Parker, Connor Greenberg, Katharine Kelsey, **Brian Buma**, John F Knowles, Eve-Lyn S Hinckley, Holly R Barnard, Keith N Musselman. Fine-Scale Observations and LiDAR Raytrace Modeling of Subalpine Canopy Structure on Energy and Water Availability. AGU 2024.
- Wollen B, Schnabel C, Zhang S, Reinhard CT, Suhrhoff TJ, **Buma B**, Planavsky N. Estimating Soil pH on Agricultural Lands as a Constraint on Enhanced Weathering Potential AGU 2024.
- Buma B**, Moore LA, Sartzetakis S, Walkowiak B, Dilling L. Solar Radiation Modification Impacts Research: Existing research, gaps, and priorities moving forward. AGU 2024.
- Frumhoff PC, **Brian Buma**, Brendan M Rogers, Stavroula Sartzetakis, Carly Phillips, Christina Schaedel, Rachael Treharne, Susan Natali, John P Holdren, Alice Alpert, Josep Gili Canadell, Werner A. Kurz, Kate Dooley, Carlos Afonso Nobre, Emily Ury and Steve Hamburg. Limiting Global Temperature Rise Requires Better Accounting for Rising GHG Emissions from Warming Ecosystems. AGU 2024.
- Riaz, A, **Buma B**, Miller CE, Elena Cady-Pereira K, Sun K, Spurr R, Kort EA. Linear sensitivity analysis of N₂O remote sensing by integrating Near- and mid-infrared nitrous oxide bands. AGU 2024.
- Buma B, Gordon D, Oldfield E, Lavallee J, Chave J. Source of uncertainty in nature-based carbon measurements. Invited talk. BIPM CIPM Sectorial Task Group on Climate Change and Environment, Paris, France.
- Lucash M, Vogel J, Link T, Romanovsky V, Nicolsky D, Weiss S, Hayes K**, Marshall A, Shabaga J, Scheller R, Buma B. 2023. Impacts of increasing fire frequency and climate change on species composition and carbon dynamics in the boreal forests of Alaska. Ecological Society of America.
- Booth A, **Buma B**, De Guzman D, Nagorski S, Seibert C, Sifford C, Turchick K, Vascik B. *Landslide-forest interactions governing the post-glacial landscape evolution of southeast Alaska, United States*. Geological Society of America. 2022.
- Hayes K, Lucash M, Hoffman C, Ziegler J, **Buma B**. “*Short-interval reburning changes fuel structure, carbon storage and fire behavior of boreal forests*”, Ecological Society of America. Montreal, CA. August 2022.
- Hayes K, Carter T, Cook P, Twaddell E, **Buma B**. “*Strategies for managing and leading fieldwork successfully as a graduate student*”, Ecological Society of America: Inspire Session. Montreal, CA. August 2022.
- Hayes K, Hoffman C, Ziegler J, **Buma B**. “*Repeat reburning drives changes in fuel structure and fire behavior in black spruce forests*”. Alaska Fire Science Consortium. Webinar. May 2022.

- Hayes K, Lucash M, **Buma B**. “*Repeat short-interval fires put carbon storage in Interior Alaska at risk*”, International Association of Landscape Ecology: North America. Remote. April 2022.
- Hayes K, Carter T, Cook P, Twaddell E, **Buma B**. “*Graduate Field Leadership: Challenges, Successes and Strategies*”, Front Range Student Ecology Symposium. Fort Collins, CO. Feb. 2022.
- Booth A, Vascik B, **Buma B**, Nagorski S. Effects of landslides on terrestrial carbon stocks with a coupled geomorphic-biologic model: southeast Alaska, United States. Goldschmidt Conferences 2022
- Hayes K**, **Buma B**. 2021. Repeat Short-Interval Fires drive Changes in Biomass and Soil Carbon in Interior Alaska, Regardless of Local Site Conditions or Resilience. AGU.
- Buma B**, Hayes K, Weiss S, Lucash M. 2021. Short interval fires increasing in the boreal forest over multi-decadal time periods, especially in drier coniferous forests. AGU.
- Loranty MM, Talucci A, Berner LT, Breen AL, **Buma B**, Delcourt C, Dieleman CM, Douglas TA, Frost Jr GV, Gaglioti B, Gibson C, Hewitt RE, Hollingsworth T, Lara MJ, Mack MC, Manies K, Natali S, O'Donnell JA, Olefeldt D, Paulson AK, Roch AV, Rogers BM, Sistla S, Sizov O, Turetsky MR, Veraverbeke S, Walvoord MA. 2021. A Synthesis of Wildfire Impacts on Permafrost Thaw Depth Across Arctic and Boreal Ecosystems. AGU.
- Buma B**., Bidlack AL, Bisbing S. 2021. At what scale do disturbances matter for terrestrial to marine carbon fluxes? Comparing undisturbed aquatic carbon fluxes to disturbance frequency, extent, and associated carbon export at fine and regional scales. Ecological Society of America.
- Hayes K**, **Buma B**. 2021. Repeat short interval fires drive shifts in biomass and soil carbon in interior Alaska.. North American-International Association for Landscape Ecology (oral presentation)
- Buma B**, Higuera P, Hayes K**, Weiss S, Lucash M. 2021. Melding very short and very long-term records to determine how much fire is too much fire in boreal forests. North American-International Association for Landscape Ecology (oral presentation)
- Buma B**. 2021. Fire frequency, feedbacks and forests. University of New Mexico (invited seminar)
- Buma B**. 2021. Disappearing white: The loss of snow and forest change. University of Victoria (invited seminar)
- Buma B**. 2021. Arctic threats and landscapes: Fire in the boreal. Arctic Winter College (international NSF RCN sponsored).
- Buma B**, Romanovsky V. 2020. Continued short-interval fires drives ongoing and new shifts in forest composition. IARPC Terrestrial Ecosystems and Permafrost

Collaboration Team

- Buma B**, Hayes K**, Weiss S, Lucash M. Looking past reburns – short-interval fires and boreal forests. Bonanza Creek LTER annual symposium.
- Pawlik L, **Buma B**, Samonil P, Kvacek J, Galazka A, Kohout P, Malik I. Biological weathering by the Devonian trees. EGU General Assembly 2020.
- Hayes K**, **Buma B**. Interacting Effects of Herbivory and Short-Interval Reburns on Successional trajectories in Boreal Interior Alaska. North American-International Association of Landscape Ecology. May 2020.
- Buma B**, Hayes K**. Evaluating flammability of reburns in the boreal forests of Interior Alaska. Alaska Fire Science Consortium. April 2020.
- Turchick K**, Vascik B, Booth A, **Buma B**. Drivers of fine-scale carbon/biomass distribution in landslide systems - Disturbances, soil, or slope? AGU. December 2019.
- Booth A, Sifford C, de Guzman D, Siebert C, **Buma B**. Coarse wood inhibits debris flow runout in forested southeast Alaska. AGU. December 2019.
- Buma, B**, K Hayes**, MS Lucash and S Weiss. Rates of short-interval fires increasing across the U.S. West. Oral presentation. Association for Fire Ecology Conference. November 2019.
- Hayes, K** and **B Buma**. Effects of spatial heterogeneity on successional trajectories following repeat disturbances in boreal Interior Alaska. Poster. American Geophysical Union. San Francisco, CA. December 2019
- Olson, K†, **B Buma** and K Hayes**. Fine-scale observations of permafrost after repeat fires in Interior Alaska. Poster. American Geophysical Union. San Francisco, CA. December 2019.
- Kodicherla, V†, JA Shabaga, J Vogel, K Hayes**, and **B Buma**. Soil Respiration in very high frequency boreal wildfires as a function of species. Poster. American Geophysical Union. San Francisco, CA. December 2019.
- Hayes, K**, **B Buma**, MS Lucash and S Weiss. Continued repeat burning in the boreal causes continued ecosystem transformation. Oral presentation. Association for Fire Ecology Conference. November 2019.
- Buma, B**, K Hayes**, S Weiss and MS Lucash. Overlapping and interacting fires, a double whammy: Short-interval burns are becoming more frequent across the US West but pace suggests negative feedbacks and spatial patterning. Oral presentation. American Geophysical Union. San Francisco, CA. December 2019.
- Buma B**. 2019. Forests at the Edge of the World. National Geographic Closer Look Series, Washington DC.
- Buma B**. 2019. When do plants matter? Keynote presentation. European Geosciences Union meeting, Kathmandu, Nepal.
- Buma B**, Holz A, Rozzi R, Diaz I. 2019. The worlds southernmost treeline: Data from a never surveyed before area indicates complex response to climate change. Ecological Society of America.

- Caviness TE, Rozzi R, Squeo FA, **Buma B**. 2019. Evaluation of invasive species presence at America's southernmost forested island: Horn Island, Cape Horn Biosphere Reserve, Chile. Ecological Society of America.
- Buma B**, Batllori E, Bisbing S, Holz A (presenter), Saunders S, Bidlack A, Creutzberg M, DellaSala D, Gregovich D, Hennon PE, Krapek J, Mortiz MA, Zarat K. 2019. Emergent freeze and fire disturbance dynamics in temperate rainforests. Ecological Society of America.
- Vascik B, Booth A, **Buma B**. 2019. Estimating Amount and Fate of Aboveground Biomass and Carbon Mobilized by Mass-wasting Events in SE Alaska. AGU.
- Organized international symposium (2019): Disappearing snow and altered ecosystems. Attracted researchers from Asia, Europe, and North and South America. International Association for Landscape Ecology, Milan, Italy.
- Co-Organized international symposium (2019): Forest disturbances as drivers of tree species range shifts. With Juha Honkaniemi (Finland). International Association for Landscape Ecology, Milan, Italy.
- Buma B**, Bidlack AL, Lader R. 2019. Widespread snow loss driving mass mortality of a forest – but might it be temporary? International Association for Landscape Ecology, Milan, Italy.
- Vascik B, Booth A, **Buma B**. 2019. Predicting debris flow inundation via semi-empirical modeling in SE Alaska. GSA. (poster)
- Buma B**. 2019. Snow loss on the North Pacific coast. Invited Seminar, Colorado State University
- Buma B**, Lucash M, Hayes K**, Weiss S. 2019. The predictable and not so predictable spatial distribution of fires across the US West. US-IALE. (oral)
- Hayes K**, **Buma B**. Landscape Context Mediates the effect of Shortening Fire Intervals in Boreal systems. US-IALE (oral)
- Turchick K**, Buma B. Linking Landslide Disturbance Regimes to Carbon Distribution. US-IALE (poster).
- Buma B**. 2019. The Emerald Edge: Management and change. Environmental Science and Management seminar, University of Texas A&M.
- Buma B**. 2018. Mapping and modeling carbon on the remote north Pacific coast. Geography and Environmental Science seminar, University of Colorado Denver.
- Buma B**. 2018. Emerging drivers of change. Colorado State University, invited seminar.
- Buma B**. 2018. Climate change and emerging disturbance. University of Denver, invited seminar.
- Buma B**, Bisbing S, Bidlack A, Wiles G. 2018. Much ado about nothing? The surprising lack of succession on the longest running primary succession plot network in the world at Glacier Bay, Alaska. Guild of Rocky Mountain Ecologists and

Evolutionary Biologists annual meeting, Nederland, Colorado.

- Buma B**, Hood E. 2018. Climate change in southeast Alaska. University of Alaska Southeast Thursday community lecture series.
- Buma B**, Booth A. 2018. Landslides, wind, and big carbon. Sitka Science Community Series lecture, Sitka, AK.
- Bisbing S, **Buma B**, Oakes L, Krapek J**, Bidlack A, Brousil M. 2018. Multiscale climatic and topographic characteristics of low-snow mortality and regeneration in yellow-cedar suggest directional change in forest composition. US-International Association for Landscape Ecology, Chicago, IL
- Buma B**, Bisbing S, Krapek J**, Wiles G, Bidlack A, Wright G. 2018. Space, stochasticity, succession, and the limits of chronosequence methods. Why 101 year old history matters to primary succession communities and ecosystems. US-International Association for Landscape Ecology, Chicago, IL
- McNicol G*, **Buma B**, Giesbrecht I, Arriola SG, Bidlack A. 2018. Meso-scale drivers and stocks of soil organic carbon in temperate rainforests, and a spatially explicit assessment of carbon across the north Pacific coast. US-International Association for Landscape Ecology, Chicago, IL
- Girard A, Saunders S, Alaback P, Lertzman K, **Buma B**, Klassen H. 2018. A comparative analysis of structural characteristics in old-growth coastal temperate floodplain forests. US-International Association for Landscape Ecology, Chicago, IL
- Buma B**. 2017. The longest running successional study in the world: The ecology of Glacier Bay, Alaska. Mendenhall Winter Lecture Series, Juneau, Alaska.
- Buma B**. Interactions between disturbances: Describing and anticipating complex regimes. Invited talk. IUFRO World Congress 2017, Freiburg, Germany.
- Buma B**, Krapek J**, Bidlack AL, Hennon PE, Oakes LE, Saunders S, Zeglen S. 2017. Current range and decline model of a climate threatened species: Development and current status. Yellow-cedar climate regional summit, Juneau, Alaska.
- Buma B**. 2017. Transitional mortality: An emerging dynamic in climate-boundary ecosystems. Yellow-cedar climate regional summit, Juneau, Alaska.
- Charlton J, Cruz AJ, Lummus MM, Loadholt K, Messerich C, Wiles G, **Buma B**, Krapek J**. 2017. Yellow cedar growth response to decadal climate shifts at Cedar Lake, Juneau, Alaska. Geological Society of America, Seattle, Washington. (poster)
- Buma B**, Bisbing S, Krapek J**, Wright G, Bidlack AL, Wiles G. 2017. 101 years of succession in Glacier Bay. (oral) Ecological Society of America, Portland, Oregon.
- Wolf K, Barnes RT, **Buma B**. 2017. C stocks and fluxes in fire disturbed landscapes of Colorado. (poster). Ecological Society of America, Portland, Oregon.
- Girard A, Saunders S, Alaback P, **Buma B**, Klassen H, Lertzman K. 2017. A comparative analysis of structural characteristics in old growth North Pacific temperate floodplain forests. (poster) North American Forest Ecology Workshop, annual meeting, Edmonton, AB, Canada.

- Buma B.** Long-term successional research, chronosequences, and permanent plots. 2017. Glacier Bay National Park invited talk.
- Buma B.** Emerging disturbances in high latitude forests. 2017. International-US Association for Landscape Ecology (oral). Baltimore, Maryland.
- Wolf K, Barnes R, **Buma B**, Gilbertson A. 2017. C Stocks and Fluxes in Fire-Disturbed Landscapes of Colorado. Gordon Conference (poster).
- Barnes R, Wolf K, Whittinghill K, Gilbertson A, **Buma B.** 2016. Carbon stocks and fluxes in fire disturbed landscapes of Colorado. AGU (oral), San Francisco, California.
- Buma B**, Juday G, Morimoto M. 2016. Repeat photographs and surveys over 100 years of change. (oral) NPS Centennial Science meeting, Fairbanks, Alaska.
- Buma B.** 2016. North Pacific coast forests: Emerging disturbances and overall growth. (oral) Invited Speaker, Evening at Egan lecture series, Juneau, Alaska.
- Buma B**, Juday G. 2016. 100 years of succession on the Cooper succession plots in Glacier Bay, Alaska. (oral) Glacier Bay National Park, Gustavus, Alaska.
- Buma B**, Jacobs A. 2016. Forest landslides in southeast Alaska: Impacts, prediction, and evaluation. (oral) NASA Goddard Space Flight Center, Greenbelt, Maryland.
- Buma B**, Riitters K, Costanza JK. 2016. How big is a complete (disturbance) landscape? US-International Association for Landscape Ecology (oral). Asheville, North Carolina.
- Bisbing S, **Buma B**, Krapek J**. 2016. Microclimate drivers of decline and forest compositional shifts in yellow cedar forests of southeast Alaska. US-International Association for Landscape Ecology (oral). Asheville, North Carolina.
- Riitters K, Costanza JK, **Buma B.** 2016. Modeling North America tree cover disturbance at multiple scales. US-International Association for Landscape Ecology (oral). Asheville, North Carolina.
- Buma B.** 2016. The shifting North Pacific temperate rainforests: From individual trees to the regional biome. Invited speaker, Western Washington University. Bellingham, Washington.
- Buma B**, Bisbing S, Bidlack A, VanderNaald B, Clark C. 2015. Alaska yellow cedar: Harvest and restoration baseline. USFS Regional Meeting (oral), Juneau, Alaska.
- Buma B.**, Livneh B. 2015. Quantifying the sensitivity of water yield to forest disturbances across a diverse set of unmanaged watersheds throughout the continental United States. AGU (oral), San Francisco, CA.
- Livneh B., Deems J., **Buma B.**, Barsugli J., Schneider D., Molotch N., Wessman C., Wolter K. 2015. Hydrologic impacts of land cover disturbances in the Upper Colorado River Basin. AGU (oral), San Francisco, CA.
- Barnes B, **Buma B**, Wolf K, Fehsenfeld T, Kehlenbeck M. 2015. After the Burn:

Forest carbon stocks and fluxes across fire disturbed landscapes in Colorado, USA. AGU (poster), San Francisco, CA.

•Hennon P, Zeglen S, Trubilowisz J, Sunders S, Floyd B, Harrington C, D'Amore D, **Buma B**, Bidlack A. 2015. A range wide climate vulnerability assessment of yellow-cedar along a 20 degree latitudinal span of the Pacific Coast temperate rainforest. International Association for Landscape Ecology World Congress (oral), Portland, Oregon.

•Saunders S, Klassen H, **Buma B**, Hennon P, Alaback P, MacKinnon A. 2015. Implications of projected climate change for relative roles of disturbance, climate, and site drivers on stand level dynamics across a plot network of the perhumid coastal temperate rainforest. International Association for Landscape Ecology World Congress (oral), Portland, Oregon.

•Krapek J**, **Buma B**, Verbyla D, D'Amore D, Hennon P. 2015. Establishment patterns of yellow-cedar at a current range edge: A climate-threatened tree's migration north and east, and implications for conservation planning. International Association for Landscape Ecology World Congress (oral), Portland, Oregon.

•**Buma B**, Barrett T. 2015. Regional scale disequilibrium in the perhumid North Pacific temperate rainforest. International Association for Landscape Ecology World Congress (oral), Portland, Oregon.

•**Buma B**, Fellman J, Edwards RT, Hood E. 2014. Linking forest and aquatic carbon in Berners Bay, Alaska EPSCoR annual conference (poster).

•Johnson A*, Kruger L, **Buma B**, Schrader B. 2014. Geomorphology and sustainable indigenous populations. American Water Resources Association Meeting (oral) Juneau, Alaska.

•**Buma B**. 2014. Disturbance research in Alaska and Colorado. Novus network: Linking disturbance ecology across temporal scales (oral). Estes Park, Colorado.

•Johnson A*, Kruger L, **Buma B**, Schrader B. 2014. Geomorphology and indigenous populations of Southeast Alaska. AWRA National Meeting (oral), Virginia.

•**Buma B**, Brown CD, Johnstone JF, Fontaine JB, Donato DC. 2014. Serotiny and resilience to fire: Who are the winners and losers? Ecological Society of America (oral), Sacramento, CA.

•Downes Z, Wiles G, Lawson D, Wiesenberger N, Connor CL, **Buma B**, Barclay D, Frank DC, Nelson W. 2014. Dating glacial history of the first millennium CE in Muir Inlet, Glacier Bay National Park and Preserve, southeast Alaska. Geological Society of America (oral), Vancouver BC.

•**Buma B**, Johnson AC*. 2014. Wind and landslide interactions in southeast Alaskan temperate rainforests. International Association for Landscape Ecology (oral), Anchorage, Alaska.

•**Buma B**, Livneh B. 2014. Responding to forest disturbances: Policy Implications. Invited Presentation, International Association for Landscape Ecology (oral),

Anchorage, Alaska.

- Buma B**, Livneh B, Wessman CA. 2014. Forest disturbances, management actions, and a changing climates implications for water supplies. Invited Presentation (oral), Global Land Project Open Science Meeting, Berlin, Germany.
- Buma B**, Beaudreau A, Bidlack AL, Tallmon D, VanderNaald B, Pyare S. 2013. A new resource for integrated temperate rainforest ecosystem research: The Berners Bay glacier-to-estuary research area. Pacific Northwest Climate Science Conference (poster), Seattle.
- Poore R, Wessman CA, **Buma B**. 2013. The effects of fire severity on black carbon additions to forest soils – 10 years post fire. AGU (poster).
- Livneh B, Deems JS, **Buma B**, Barsugli JJ. 2013. Using quasi-dynamic land cover to investigate hydrologic disturbance from beetle-kill and dust in the Upper Colorado river basin. AGU (oral).
- Buma B**, Poore R, Wessman CA. 2013. Compound disturbances and their impact on post-fire carbon and charcoal pools. International Association for Landscape Ecology (oral), Austin TX.
- Livneh, B, Deems JS, and **Buma B**. 2013. National Centers for Atmospheric Research (NCAR) Seminar, Boulder (oral), CO. Deciphering the impacts of competing hydrologic disturbance factors in the Upper Colorado River Basin.
- Buma B**, Wessman CA. 2012. Fire catalyzed regime shifts, carbon sequestration, and climate change: A case for active management? 5th International Fire Ecology and Management Congress (oral). Portland, OR.
- Livneh, B., J.S. Deems, **B. Buma**, J.J. Barsugli, D. Schneider, N. Molotch, and C. Wessman. 2012. Interpreting changes to Upper Colorado River Basin hydrologic response via alternate climatic and land-cover scenarios (oral), AGU
- Livneh, B., J.S. Deems, **B. Buma**, J.J. Barsugli, D. Schneider, and C. Wessman. 2012. Upper Colorado River Basin Water Conference. Modeling Hydrologic Impacts of Bark Beetles and Desert Dust on Tributary Catchments of the Upper Colorado River Basin (oral). EGU
- Buma B.**, Wessman CA 2012. Ecosystem services may outlast their ecosystems: Regional carbon stocks minimally affected by multiple disturbances and coniferous-to-deciduous regime change (oral). Ecological Society of America.
- Buma B**, Wessman CA. 2012. Ecosystems and ecosystem services may have differing resilience to increasing disturbance rates and disturbance interactions. 4th International Conference on Climate Change (invited oral). Seattle WA.
- Buma, B**, Wessman CA. 2012. Resistance and resilience mediate disturbance interactions: A review and modeling exercise. International Association of Landscape Ecology (poster), Newport.
- Wessman, CA, Muller, **B. Buma**, B, Bagher, M, Flohr, T, Heris M. 2012. Assessing the benefits of green infrastructure. International Association of Landscape Ecology

(oral), Newport, RI.

•**Buma, B.** Flohr, T, Wessman CA, Muller, B, Bagher, M, Heris M. 2012. Urban phenology and ecosystem services. Front Range ecology forum (oral), Ft. Collins, CO.

•**Buma, B.** Wessman CA. 2011. Compounding disturbances and their impact on regeneration of subalpine tree species. Ecological Society of America (oral).

•**Buma, B.** Wessman CA. 2011. Multiple disturbances in a subalpine forest, impact on resilience mechanisms, and implications for ecosystem recovery. International Association of Landscape Ecology (oral).

•**Buma B.** 2011. Multiple disturbances and subalpine forest regeneration. CIRES Graduate Student Association (oral).

•**Buma, B.** Pelz, K. 2011. MPB, fuel loadings, and the loss of forest resilience? Western Water Assessment Symposium (invited oral), Boulder CO.

• **Buma B.** Multiple disturbances can reduce coniferous forest resilience. CIRES Rendezvous (poster), Boulder CO.

•**Buma B.** 2011. Disturbance interactions and forest resilience mechanisms. Front Range ecology forum (oral), Ft. Collins, CO.

• **Buma B.** 2010. Compounding disturbances and their impact on subalpine forest and landscape structure. International Association of Wildland Fire (poster), Spokane, WA.

Attachment 5

Declaration of Elizabeth DelBuono, Environmental Law & Policy Center

**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

ENVIRONMENTAL DEFENSE FUND,)
et al.,)

Petitioners)

v.)

No. 25-1275

LEE ZELDIN, *et al.*,)

Respondents)

DECLARATION OF ELIZABETH ANN DELBUONO, MD

I, Elizabeth Ann DelBuono, MD, do hereby affirm and state:

1. I am the Founder and a full-time volunteer operating in the capacity of Board Chair for Michigan Clinicians for Climate Action (MiCCA). I am a current member of the Environmental Law and Policy Center (“ELPC”).

2. MiCCA is a coalition of approximately 450 Michigan health professionals working to reduce the health effects of climate change through education and advocacy. MiCCA’s vision is to cultivate a climate in which the health and wellbeing of all people can thrive.

3. I founded MiCCA in 2020, served as a full-time volunteer Executive Director for about 3 years, and currently serve as Board Chair and continue to work as a full-time volunteer to support the new Executive Director.

4. While we have members from throughout the lower peninsula of Michigan, and one from Houghton, several of our members work and practice, or have practiced, in Grand Traverse County, Michigan which overlies the Antral Shale Formation, known for its natural gas production.

5. Personally, I am a retired physician (diagnostic pathologist) who trained and practiced medicine for approximately 30 years in Michigan, most of the time (20 years) in Traverse City which serves an area in Northern Michigan that overlies the Antral Shale Formation, known for its natural gas production.

6. I have lived in Traverse City, Michigan for 25 years.

7. MiCCA has worked in coalition with other national, state, and local organizations to educate legislators, the general public and our peers about the health risks of fossil fuel combustion including:

- i. Submitting an amicus brief regarding the use of “exception days” by the U.S. Environmental Protection Agency (“EPA”) for ground level ozone. Brief of Amici Curiae Michigan Clinicians for Climate Action and MI Air MI Health in Support of Petitioner in *Sierra Club v. United States Environmental Protection Agency*, 60 F.4th 1008 (6th Cir. 2024) (No. 23-3581); and
- ii. Producing organizational statements, press releases, and member testimony to the EPA on a variety of rules including the EPA’s

methane rules and greenhouse gas emissions from power plant rules, among others.

8. I personally have written comments to the EPA regarding the National Ambient Air Quality Standards (“NAAQS”) for Particulate Matter pollution. *See* Comment Submitted by Elizabeth DelBuono, Review of the National Ambient Air Quality Standards for Particulate Matter, May 2, 2023, Comment ID: EPA-HQ-OAR-2015-0072-4411, available at <https://www.regulations.gov/comment/EPA-HQ-OAR-2015-0072-4411>. I also have written comments to the EPA regarding greenhouse gas emissions guidelines for power plants. *See* Comment Submitted by Elizabeth DelBuono, New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units: Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule, Comment ID: EPA-HQ-OAR-2023-0072-4724, available at <https://www.regulations.gov/comment/EPA-HQ-OAR-2023-0072-4724>.

9. I have acted as a declarant on behalf of ELPC in connection with ELPC’s motion to intervene as a respondent to defend the EPA’s rule entitled “Waste Emissions Charge for Petroleum and Natural Gas Systems: Procedures for Facilitating Compliance, Including Netting and exemptions,” 89 Fed. Reg. 91,094 (November 18, 2024) in *Independent Petroleum Association of America, et al. v.*

U.S. Environmental Protection Agency, et al. in the United States Court of Appeals for the District of Columbia Circuit. *See* Declaration of Elizabeth Ann DelBuono, MD, Case Docket No. 25-1021, Document No. 2100941.

10. I also have provided testimony on the adverse health impacts of methane to the Office of Management and Budget (“OMB”) to oppose the EPA’s extension of compliance deadlines for the final rule entitled “Standards of Performance for New Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review,” 89 Fed. Reg. 16,820 (March 8, 2024) (hereafter “2024 Rule”), which posted to the OMB Pending EO 12866 Regulatory Review Page on June 5, 2025, RIN:2060-AW61. I provided my testimony on July 10, 2025, and a record of such meeting can be found at

<https://www.reginfo.gov/public/do/viewEO12866Meeting?viewRule=true&rin=2060-AW61&meetingId=994023&acronym=2060-EPA/OAR>.

11. I understand that ELPC is a petitioner with some other organizations in the above-captioned lawsuit challenging a final rule issued by the EPA that will extend the deadlines for oil and gas producers to comply with the 2024 Rule. This final rule was issued by EPA on December 3, 2025, and is entitled “Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions

Guidelines for Existing Sources." 90 Fed. Reg. 55,671 (December 3, 2025)

("Delay Rule"). If the petition by ELPC and the organizations is successful, it will benefit me, as well as MiCCA members and Michiganders, because we will be exposed to less methane emissions and the associated adverse health and climate impacts.

12. The Medical Society Consortium on Climate and Health ("MSCCH"), a coalition of 100 medical and health associations representing over 1 million physicians and health professionals in the U.S., has provided important public statements quoted below regarding the impacts to public health from methane extraction and production in reference to the EPA's Supplemental Proposal to Reduce Methane and Other Pollutants From the Oil and Gas Industry "Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review," 87 Fed. Reg. 74,702 (December 6, 2022) ("Supplemental Proposal"). MiCCA is one of 29 state network groups under the parent organization of MSCCH. MSCCH's statements are as follows:

- i. "The science is clear that methane is a potent greenhouse gas and oil and natural gas operations are the nation's largest industrial source of that methane." MSCCH Statement on the EPA Supplemental Proposal to Reduce Methane and Other Pollutants

from the Oil and Gas Industry, available at

<https://medsocietiesforclimatehealth.org/statements/consortium-statements/consortium-statement-epa-supplemental-proposal-reduce-methane-pollutants-oil-gas-industry/>.

- ii. “Health impacts of pollutants emitted during the extraction and production of methane—most notably volatile organic compounds (VOCs) that increase ground-level ozone (smog)—which worsens asthma and respiratory disease, causes nervous system and developmental harms, and causes cancer. Children are especially vulnerable to the health impacts of VOCs and smog.” *Id.*
- iii. “Climate change is a health emergency: Our member physicians are seeing the health impacts of climate change in their patients and communities every day. These impacts disproportionately harm our most vulnerable patients, including children, pregnant individuals, the elderly, people of color, and communities living in poverty, and these impacts are worsening with every increment of increased warming. To avoid catastrophic climate change, we must reduce methane and other climate pollutant emissions as quickly as possible. Methane is a potent greenhouse gas; oil and natural gas operations are the nation’s largest industrial source of

methane.” *Id.*

13. The EPA’s own Regulatory Impact Analysis for the 2024 Rule found that “[m]ethane is... a potent greenhouse gas (GHG) that... contributes to increased global warming and continuing climate change.” EPA-452/R-23-013 at pg. 3-4. That same analysis found that methane contributes to “increased air and ocean temperatures, changes in precipitation patterns... severe weather events, such as hurricanes of greater intensity, and sea level rise, among other impacts.” *Id.* The EPA also recognizes that “extreme weather events” caused by climate change include wildfires. *See Id.* at pg. 3-23.

14. My son was two when we moved to Traverse City, and while no one else in the family has ever suffered from asthma, he experiences intermittent mild exercise-induced asthma, a condition that can be exacerbated by elevated levels of ground level ozone produced from a combination of nitrogen oxides and VOCs.

15. On several occasions over the last few summers, and occurring at an increasing frequency, we are experiencing wildfire smoke from Canada which worsens air quality to dangerous levels, especially for those like my son with asthma. This past summer, 2025, there have been several days in which wildfire smoke from Canada has worsened the air quality and altered my son's plans to run outdoors. For example, on July 31, 2025, the air quality was unhealthy even for those not within a sensitive population like my son. *See* EPA, AirNow Interactive

Map of Air Quality, July 31, 2025, available at

<https://gispub.epa.gov/airnow/index.html?tab=3&showlegend=yes&xmin=-9689390.73455211&xmax=-9397095.538389483&ymin=5544856.058450451&ymax=5670212.784838188&archivedates=07/31/2025>. Given this already vulnerable air quality situation, it is

imperative that the EPA promptly implement the 2024 Rule to reduce pollutants like VOCs which contribute to asthma in people like my son.

16. The wildfires and accompanying impaired air quality have negatively impacted my life as well. The smoke and smog have blocked my view across the lake, which is typically clear and beautiful. I am also concerned for my health when walking outside on hazardous air quality days caused by wildfires. This is even more concerning given that these types of days are continuing to grow in frequency and will do so in the future as climate change continues to progress. *See EPA, Science Matters Articles Related to Wildfires*, available at <https://www.epa.gov/sciencematters/science-matters-articles-related-wildfires> (where EPA notes that “[f]ires are increasing in frequency, size and intensity partly due to climate change.”)

17. One of MiCCA’s campaigns initiated in 2023 and still ongoing is to collect first-hand accounts from Michigan health professionals and community members that are consistent with the health impacts described in peer-reviewed

literature that can result from, but are not specifically attributed to, the combustion and extraction of fossil fuels, including methane. Health impacts recounted by Michigan practitioners and/or community members in connection with our MiCCA collection of first-hand accounts include those I describe in Paragraphs 18 to 28 below, which are consistent with the human health impacts that our parent organization, MSCCH, identified in their Statement on the EPA Supplemental Proposal to Reduce Methane and Other Pollutants from the Oil and Gas Industry. I also described these first-hand accounts that MiCCA has gathered during my testimony to OMB, referenced above, on July 10, 2025. Many of the first-hand accounts shared with me and others at MiCCA that I describe below can be found at <https://www.michigancca.com/blank>.

18. Exacerbation of pre-existing conditions by extreme weather conditions, for example:

- i. Repeated floods in Detroit (e.g., an elderly patient experienced a heart attack while trying to carry furniture up the stairs on a hot/humid day while basement filled with contaminated water);
- ii. Displacement of large numbers of people in Midland, Michigan when dam broke after extreme rain event during “lockdown”, pre-vaccination phase of COVID pandemic; and
- iii. Power outages during extreme cold resulting in a surge of patients

to the Emergency Department from carbon monoxide poisoning.

19. A MiCCA hospital emergency department practitioner who lives and works in Detroit recounted a time, during one of the coldest winter days she could remember, the power went out. Shortly thereafter, the emergency department became so overwhelmed with patients suffering from carbon monoxide poisoning from trying to stay warm by unsafe methods, like grills and generators, that they had to set up a separate hazmat tent outside to handle all the patients. As she described it, “[t]hat tent became the dedicated area for treating CO poisoning patients, keeping them separate from the rest of the emergency cases to avoid overwhelming the main ER. The tent was a lifesaving necessity but also a sobering reminder of how quickly emergencies can escalate during extreme weather events.” Available at <https://www.michigancca.com/blank>.

20. Extreme heat exacerbating unsafe conditions for homeless and mentally ill whose medications are often less effective when temperatures rise. For example, a University of Michigan medical student recounted the time that a veteran with PTSD missed an appointment during extreme heat and ultimately required hospitalization. The combination of extreme heat and his medication becoming less effective in the heat were likely the cause of confusion.

21. Extreme rain events lead to flooding often contaminated by industrial chemicals (including carcinogens), agricultural waste, or sewage (frequently

leading to increased incidence of gastrointestinal illness in children).

22. Repeated flood events lead to mold within the home which in turn triggers or exacerbates asthma attacks and chronic pulmonary disease, and leads to localized or systemic infection in immunosuppressed patients.

23. Exposure to wildfire smoke resulting in over 100 deaths in Michigan the summer of 2023: *See*, https://planetdetroit.org/2024/08/wildfire-smoke-led-to-169-deaths-in-michigan/?utm_source=Planet+Detroit&utm_campaign=37afe32324-Oct-13-2023.

These wildfires trigger and exacerbate asthma, other chronic respiratory and cardiovascular conditions, and contribute to mental health impacts. For example, one Wayne student described how “the combination of hot summer temperatures coupled with the wildfire smoke and need to wear masks, resulted in her feeling trapped.” Available at <https://www.michigancca.com/blank>. A second Wayne State public health major described the need to change her plans so that she could stay indoors because of the poor air quality associated with wildfire smoke coming down from Canada in the summer of 2023.

24. Climate change can also extend the length and severity of allergy seasons and increase the incidence of vector borne diseases such as West Nile Virus, La Crosse Encephalitis, and Equine Encephalitis. *See, e.g.*, <https://www.bridgemi.com/michigan-environment-watch/warming-great-lakes->

[region-water-heat-can-be-unhealthy-combination](#) and

<https://www.bridgemi.com/michigan-health-watch/mosquito-borne-viruses-and-mystery-emerge-michigan-summer-ends>.

25. Climate change also contributes to broader mental health impacts. For example, post-traumatic stress disorder can occur in individuals after extreme weather events, and children are especially vulnerable when families have been displaced by such events.

26. Furthermore, general “climate anxiety” in all populations, especially young adults, is increasing due to climate change. One mental health practitioner described counseling several teens and young adults who expressed concern about their future on this planet. There have been times where an entire session or more is dedicated to processing their feelings of distress, anxiety, and anger. Combined with anxiety is a growing sense of helplessness or powerlessness as is evidenced in questions like, “[h]ow am I supposed to live through this if things don't get better?” and “[w]hy aren't leaders/older generations doing anything?” Available at <https://www.michigancca.com/blank>.

27. The same practitioner described that one of her adult therapy clients is considering starting a family with their long-term partner and they are feeling increasingly worried about the quality of life their child would have if climate change progresses as it is projected to in the coming years without drastic

interventions, and this is weighing heavily in their decision-making process.

28. As discussed above, climate induced wildfire smoke is also causing many health issues. One of MiCCA's active members, a nurse practitioner from the Traverse City area, has developed intractable coughing spells over the summer as the wildfire smoke has worsened air quality. This has forced her indoors when the Air Quality Index is high, which has been most of the summer. She has had to resort to wearing a mask when she ventures outside and is exposed to areas of hazy and smoky air.

29. It is important to note that these sorts of adverse health outcomes are even more likely to happen to children. As I know from my professional experience and training, the lungs and nervous systems in children are still developing, they often play outdoors, and their respiratory rates are higher than those of adults meaning their rate of breathing can bring ground level ozone created from nitrous oxides, VOCs, and other pollutants into their system more quickly.

30. As a health care practitioner, I have observed real world impacts from the type of pollution the 2024 Rule seeks to prevent. I truly hope the EPA changes course to ensure these health benefits are realized and adverse health outcomes like asthma attacks and cancer are avoided.

31. From my association with ELPC, MiCCA is aware and applauds

EPA's 2024 Rule which became effective on March 8, 2024.

32. I have reviewed the newly issued Delay Rule which delays the compliance deadlines for some of the key emissions control provisions and monitoring requirements of the 2024 Rule. This unnecessary delay of these emission controls and monitoring requirements will forestall health and climate benefits and, therefore, will harm myself, my community, and is antithetical to MiCCA's mission.

33. According to the EPA, the 2024 Rule is expected to result in significant emissions reductions, including an estimated 130 million metric tons of methane and 1.3 million short tons of VOCs between 2024 and 2029. *See* EPA-452/R-23-013, pg. 3-4. I strongly support these emissions reductions.

34. These emissions reductions from the 2024 Rule, if implemented without the delays set forth in the Delay Rule, will accrue throughout the country and will have especially important impacts in Michigan given the significant presence of the oil and natural gas industry in our state. For example, according to data compiled by the Environmental Defense Fund, in Grand Traverse County alone where I have practiced and spent much of my lifetime, there are 1747 active oil and natural gas wells producing methane emissions. I understand that this data will be described more fully in the Declaration of Jeremy Proville and Laura Mirtich to be filed in the above captioned matter (hereafter "Proville-Mirtich

Decl.”). One of these wells is within 5 miles of my home. *See* Proville-Mirtich Decl.

35. As noted above, ozone pollution associated with methane emissions is of great interest and concern for MiCCA. EPA’s 2024 Rule Regulatory Impact Analysis shows that by 2028 ozone pollution would decrease significantly in parts of Michigan and throughout the Midwest, if the deadlines in the 2024 Rule are enforced. *See* EPA-452/R-23-013, pg. 3-30, figure 3-2. This will in turn produce significant health benefits to my family and other Michiganders, including many avoided ozone-related premature respiratory mortalities and illnesses. *See* EPA-452/R-23-013, pg. 3-47, table 3-8.

36. As an organization comprised of health professionals who are focused on mitigating the adverse health impacts of pollution and climate change, these health benefits of the 2024 Rule are crucial to advancing MiCCA’s mission.

37. ELPC’s participation as a petitioner to challenge the EPA’s Delay Rule, which will forestall the compliance deadlines for the technology controls and monitoring requirements in the 2024 Rule are directly relevant to MiCCA’s mission to “cultivate a climate in which the health of all people can thrive” as we are committed to ensuring these health benefits are realized and the adverse climate impacts are avoided. *See* Michigan Clinicians for Climate Action (“MiCCA”), About Page, available at <https://www.michigancca.com/about>.

38. MiCCA supports ELPC's efforts to challenge the EPA's new Delay Rule as a petitioner in the above-captioned lawsuit entitled *Environmental Defense Fund et al. v. Lee Zeldin et al.*, Case No. 25-1275.

39. I, Elizabeth Ann DelBuono, MD, declare under penalty of perjury that the foregoing is true to the best of my knowledge, information, and belief.

A handwritten signature in black ink that reads "Elizabeth A. DelBuono MD". The signature is written in a cursive style and is positioned above a horizontal line.

Elizabeth Ann DelBuono, MD

Executed on December 17, 2025

Attachment 6

Declaration of Lisa Deville, Fort Berthold POWER

IN THE UNITED STATES COURT OF APPEALS
DISTRICT OF COLUMBIA CIRCUIT

DECLARATION OF LISA DEVILLE
Submitted In Support of Fort Berthold POWER

I, Lisa Deville, declare as follows:

1. I am an enrolled member of the Mandan, Hidatsa, Arikara (MHA) Nation, also known as the Three Affiliated Tribes (TAT). I am also a co-creator and the Vice President of Fort Berthold Protectors of Water and Earth Rights (Fort Berthold POWER), which is a member organization of the Dakota Resource Council, which in turn is a member organization of the Western Organization of Resource Councils. I am also a former board member of the Western Organization of Resource Councils. I currently serve in North Dakota's House of Representatives, where I represent the people of District 4A on the Fort Berthold Reservation.

2. I live with my husband, five children and eight grandchildren. We have lived our whole lives in Mandaree, North Dakota, the most extracted community on the Fort Berthold Reservation. Mandaree and the Fort Berthold Reservation are special to me because this is where I was raised and where I choose to raise my family.

3. My family and my ancestors are buried here along the shores

of Lake Sakakawea. Being Native American/Indigenous, this is the only land that we have left that is our own. We were relocated several times in our history as a people. When my ancestors were intentionally infected with smallpox, we were forced to move from our ancestral lands along the Missouri River. And a second time, we were forced to move when much of Fort Berthold Reservation was flooded to build the Garrison Dam as part of the Pick Sloan project.

4. We are connected to the Earth. We are taught in the story of our creation that we are created from the Earth. We are taught that the Earth is our Mother, so we must protect it. As Indigenous women, we are taught that Water is Life! The babies females carry are held in water throughout pregnancy. We need clean water to drink. We need clean soil to grow food. We need clean air to breathe.

5. We have been living with oil and gas for roughly fifteen years now, and we did not know that there would be so much environmental destruction with fracking. There are thousands of oil and gas wells on the Fort Berthold Reservation.

6. I have Masters Degrees in Management and Business Administration, and I also have a degree in environmental science. I am trained in using Geographic Information System (GIS) technology. I have

worked with Professor Tanya Driver at the Nueta, Hidatsa, Sahnish College to create a map of the oil and gas wells on the Fort Berthold Reservation.

7. For the past 10+ years I have witnessed the increase of oil and gas industrialization along with the environmental impacts. We are very much affected by the light and noise pollution from flares. Every direction you look there are gas flares that sound like a roaring jet plane that rumbles the ground like a train passing by. I can feel the earth rumble at night time when everything is quiet. So do other members of my family. At night the sky is lit up like it is still day. Our land once was lush with natural grasses, wildlife, June berries and plum trees. Our way of life has been changed because of the interruption by the oil industry.

8. Oil and gas operations on Reservation land threaten our drinking water supply, wetlands, and native plants and animals. There have been thousands of fracking brine spills throughout our lands, leaving behind heavy metals that may never biodegrade. Companies have also illegally destroyed the fragile wetlands along the Little Missouri River to try and sell water to fracking operations. And the pipelines that now criss-cross the Reservation, running under Lake Sakakawea and over the National Grasslands, have destroyed thousands of acres of plant and animal habitat, threatening species that are already struggling to survive.

9. Several years ago, I helped gather snow samples from around flares on the Fort Berthold Reservation that was used in a scientific study to investigate the composition of flare gases and their potential health risks. Based on the study's results, I am concerned about my exposure and the exposure of members of my family to harmful hydrocarbons.

10. In August of 2017, both my husband, Walter, and I got ill from respiratory infections. We first went to Indian Health Service where we received medication but did not get any better for several weeks. We then went to the McKenzie County Clinic, where a physician told us that we had the same symptoms as oil field workers who had come to the clinic—this is commonly called the “Bakken Cough.” Walter was given a steroid shot, but I took medication again. It took about 8 weeks for Walter and me to fully heal from the infection. Asthma and respiratory infections are on the rise on the Fort Berthold Reservation. I am very concerned about the air pollution from oil and gas near my home, because I worry that it will impact my health and my family's health.

11. We can constantly smell hydrocarbons in the air, a pungent smell of rotten eggs of sulfur. Every direction you look there is flaring. Air pollution is visible in all directions on the Reservation.

12. Because of all the impacts that oil and gas production has on

our air, our health, our ecosystems and wildlife, members of Fort Berthold POWER, including myself, have worked to secure protections. I helped create Fort Berthold POWER in 2015 to counteract the devastating environmental, social, and cultural impacts of hydraulic fracturing on the federal trust lands of allottees and the tribal government. In order to protect my community, I have participated in activism and litigation (as a declarant) relating to changes in the Council on Environmental Quality's NEPA regulations, which impact so many aspects of our lives, including gravesites, endangered species, water, and air. I have also participated in efforts to oppose the Dakota Access Pipeline, rulemaking regarding the definition of "Waters of the United States" under the Clean Water Act, and have provided comments on hydraulic fracturing, among other topics.

13. I have fought for better regulations on oil and gas operations in my community. For four years, members of Fort Berthold POWER and I worked to secure the protections of the Bureau of Land Management's (BLM) Waste Prevention Rule, which requires reductions in methane and other harmful emissions by limiting leaking, venting, and flaring of natural gas. In 2015, my husband Walter and I traveled to Washington, D.C., to meet with our delegates and attended public hearings, meetings, and briefings to gain support of the Waste Prevention Rule. I also authored op-

ed pieces, testified in front of Congress, and participated in litigation to stop the Trump Administration from rescinding the necessary protections of the Waste Prevention Rule.

14. I and other members of Fort Berthold POWER have also worked to secure the benefits that EPA's newest New Source Performance Standards will provide. In 2016, EPA issued the first ever methane regulations for new and modified emission sources in the oil and gas industry. EPA then tried to eliminate those vital protections with two new rules in 2018. Walter and I testified against those rollbacks at multiple public hearings in 2018 and 2019, and I provided testimony in June of 2020 to the Office of Information and Regulatory Affairs about the dangers associated with methane emissions from the huge amounts of oil and gas development around my community. When EPA nonetheless finalized the rules, I participated in litigation to prevent EPA from eliminating the vital protections contained in the EPA 2016 New Source Performance Standards (2016 NSPS).

15. Now EPA has finalized a new rule that will better protect communities from the harms of oil and gas development. We submitted comments on EPA's first and supplemental proposals for the new NSPS, urging EPA to strengthen its proposals. The final rule, published March 8,

2024, and titled Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review (new NSPS), adopted some of our recommendations, including, for example, banning routine flaring at new wells.

16. The protections in EPA's new NSPS are necessary to protect the health and welfare of my community. In its new NSPS, EPA issued regulations for new and modified emission sources in the oil and gas industry, and emission guidelines for existing sources. The rules restrict oil and gas operators' flaring, require installation of zero-emitting pneumatic devices, and require operators to periodically monitor equipment and repair emission leaks in the leak detection and repair (LDAR) program.

17. There are numerous oil and gas wells surrounding my home. In fact, according to analysis provided to me by Environmental Defense Fund analyst Laura Mirtich (*see* Proville-Mirtich Declaration), there are currently 17 producing wells within ½ mile of my home. There are also well over 6,000 producing oil and gas wells in McKenzie County alone, including nearly 5,500 that were drilled prior to December 2022 and 623 drilled after December 2022. And drilling is ongoing, there are 9 drill rigs active in the county.

18. EPA's issuing of rules to regulate methane from the thousands of oil and gas wells surrounding my home and community will help address the impacts of climate change and prevent continued emissions of harmful pollutants, like volatile organic compounds (VOCs) and hazardous pollutants (including carcinogens like benzene).

19. There are also gathering and boosting compressor stations in the area right around my home. The Station 8 compressor station and the TAT-Blue Buttes compressor station are just 8.8 miles and 10 miles from my house, respectively. There is also a transmission compressor station, the Elkhorn Creek compressor station, near Mandaree that is about 30 miles from my home. The station began operating in 2022. EPA's new NSPS rule strengthens the LDAR requirements for compressor stations, which will reduce the methane, VOC, and hazardous pollutants from these sources that plague myself and my family.

20. I am very concerned about the physical effects of oil and gas development, including flaring and venting. My children and grandchildren breathe in this air. How is this going to affect our health? We need the rules in place NOW to prevent further illness. The impacts from the oil and gas boom has changed our way of life and our quality of life.

21. Creating and strictly enforcing environmental laws and

policies to regulate oil and gas development is very important. Otherwise, we risk the unrepairable consequences of the environmental damage. We need monitoring, research, testing, and studies that show the environmental and human health impacts of exposure. Our health and the health of our children and mother Earth should not continue to be sacrificed.

22. Through my education in environmental science, I have learned that methane is the second largest contributor to human-caused global warming after carbon dioxide. It has a global warming potential that is 86 times greater than carbon dioxide.

23. I am very worried about the impacts of global warming on my way of life. We depend on chokeberries, and plums—this is what we live on. And we use juneberries in our traditional ceremonies. But last summer, my husband and I went outside and noticed that all of the juneberries and chokeberries were shriveled up. They were dying from the heat and lack of water. I understand that global warming can cause issues with rain. Without rain, and with the warming, the plants just aren't growing. We rely on the trees and we rely on Mother Earth for everything, and climate change is affecting us. My people have always been people of natural agriculture. We are ceremonial people. We teach our children to sing songs to the garden. It is hard to watch everything about who we are as Native Americans

disappear.

24. In addition to methane, natural gas leaked and vented from oil and gas development also contains VOCs and hazardous air pollutants such as benzene, a known carcinogen. Long term exposure to these emissions result in health impacts, such as: asthma, cancer, neurological damage, pulmonary reduction, coronary problems, endocrine disruption, and headaches. The impact can be devastating if we're breathing in carcinogenic material that is a result of oil and gas production.

25. Fort Berthold POWER members, including myself, worked with Earthworks to study the flaring and emissions coming off well locations using infrared imaging. Specifically, my husband Walter and I collaborated with Dakota Resource Council and Earthworks to examine the Buffalo wellpad on the Fort Berthold Reservation using an infrared camera (FLIR). In 2016, Walter and I participated in a fly-in to Washington, D.C., where we presented the Buffalo wellpad case study to executive branch staff. During July 2017, Walter and I collaborated again with Dakota Resource Council and Earthworks to examine existing wellpads on the Fort Berthold Reservation using an infrared camera. Some of the results of this

investigation are available in YouTube videos.¹ The investigation documented visible and concerning emissions at five sites. Finally, in September 2018, Earthworks and Fort Berthold POWER members, including my husband Walter and I, once again used a FLIR camera to view leaks from wells located on the Fort Berthold Reservation. Some of the results of this investigation are available in YouTube videos, which again show visible and concerning emissions at multiple sites on the Fort Berthold Reservation.² Several of the videos document flares failing to burn off all the gases properly. Other videos show emissions from tank vapors and other sources. The emitted gases include methane, hydrocarbons, and VOCs.

¹ HRC Operating Fort Berthold 1H Well Site:

<https://youtu.be/cY3mfnZEd6o?si=74rNg8j5gZuNWQgX>; HRC Operating Fort Berthold 8-12H Well Site:

<https://youtu.be/UEpah9g2JDc?si=ZvGYrQxzuVf2AnS6>; HRC Operating Fort

Berthold 13H Well Site: <https://www.youtube.com/watch?v=753IojkdVD0>; Statoil & Gas LP Loughheed 2-11 XE #1TFH Well Site:

<https://www.youtube.com/watch?v=o6ayGWltHCo>; Zavanna LLC Arrowhead 10-

3 Well Site: <https://www.youtube.com/watch?v=bLT8CBytwAM>

² Enerplus Hidasta Hills Well Site: <https://www.youtube.com/watch?v=Gfq7J7-BKkw>; WPX Energy Skunk Creek 23-14HC Well Site:

<https://www.youtube.com/watch?v=XDL6uBVnfvI>; Rimrock Oil & Gas Two Shields Butte 1-24-12-1H & Skunk Creek 2-24-25-15H Well Site:

<https://www.youtube.com/watch?v=uXua5mchHK8>; XTO Energy Yellowwolf 21X-10 & Ironwoman 21X-10 Well Site:

<https://www.youtube.com/watch?v=Iq8FbFxKhhY>; Enerplus Cactus Well Pad:

<https://www.youtube.com/watch?v=5kI6cKP5Hb8>; XTO Energy FBIR Big &

FBIR Stephen Well Pad: <https://www.youtube.com/watch?v=rRN87yLs7RM>.

26. In August 2017, Fort Berthold POWER members, including myself, worked with Dakota Resource Council to publish a report titled Oil and Gas Pollution's Impacts on North Dakota's Families. The report is available at this link: <https://drcinfo.org/wp-content/uploads/2017/08/ND-Methane-Report-DRC.pdf>. The report describes the health risks my family and other Fort Berthold Reservation residents face from air pollution from the oil and gas sector. The report also describes the importance of federal oil and gas air quality regulations issued by EPA and BLM.

27. Federal protections against dangerous emissions that pollute our air, like the new NSPS, are especially important because, in my opinion, the industry has much too much influence with our tribal and state government decisions makers. I do not trust the state of North Dakota in regulating oil and gas. We have seen that the state puts profit before people. We have oil and gas industry propaganda in the school system, so our kids are wrongly learning that fracking and all harmful practices are safe.

28. I am very familiar with the concept of environmental justice. I served on EPA's National Environmental Justice Advisory Committee (NEJAC) for three years. The NEJAC is a Federal Advisory Committee formed in 1993 to provide advice and recommendations to the EPA Administrator and her or his staff about broad, cross-cutting issues related

to environmental justice, from all stakeholders involved in the environmental justice dialogue. The NEJAC also provides a valuable forum for discussions about integrating environmental justice with other EPA priorities and initiatives.

29. I understand that the impacts of oil and gas development on the Fort Berthold Reservation disproportionately harm indigenous people, many of whom are low-income, which is a classic environmental justice problem. I have reviewed a Clean Air Task Force study that studies the data and reaches this conclusion.³ The study found that on tribal lands alone, oil and gas companies waste (i.e. emit) 18.4 billion cubic feet of methane each year, which would be worth \$100 million if it was captured and sold on the market. The study showed that people living on the Fort Berthold Reservation were twice as likely to live within 0.5 miles of an oil and gas facility compared to the average North Dakota resident. Four percent of Native American people in North Dakota who live on tribal lands live within 0.5 miles of an oil or gas well, compared to two percent of the total state population of North Dakota. This is an environmental justice crisis because, in addition to the people who are disproportionately exposed to

³ https://cdn.catf.us/wp-content/uploads/2018/05/21094517/Tribal_Communities_At_Risk.pdf

pollution from oil and gas being indigenous, Native American people in North Dakota also tend to be low income. The study reported that twenty-eight percent North Dakota's Native American population on tribal land lives below the poverty line, compared to just eleven percent of the state population as a whole.

30. I am also familiar with another Clean Air Task Force study that shows that North Dakotans, especially people like me who live in the western part of the state, bear much higher health risks from oil and gas pollution than people in other parts of the United States.⁴ McKenzie County, where I live, exceeds EPA's cancer risk threshold by the highest possible margin.

31. I support EPA's attempts to strengthen the NSPS because every year the oil and gas industry releases millions of tons of methane into the air. Between 2009 and 2014, oil and gas producers on public and tribal lands vented, flared, and leaked about 375 billion cubic feet of natural gas. That's enough to supply over 5 million homes for one year. I am aware that EPA's new NSPS rule will reduce methane emissions by 58 million tons over the next 14 years, as well as preventing the release of 16 million tons

⁴ https://www.catf.us/wp-content/uploads/2017/02/CATF_FactSheet_HealthEffects_ND.pdf

of VOCs and 590,000 tons of air toxics. These reductions will improve the air quality on the Reservation and help protect me and my family from the health impacts of oil and gas development, and from the impacts of climate change.

32. I am aware that the Trump administration has announced that it will reconsider the NSPS rule and that, on July 31, 2025, the EPA issued a final rule that extended many of the compliance deadlines for the rules without even providing an opportunity for public comment from the people most impacted by these changes. Later, on December 3, 2025, the EPA issued a final rule that reaffirmed those deadline extensions and included new deadline extensions. According to EPA's own fact sheet for the rules, emission reductions that I was counting on for my community will no longer occur between 2028 and 2038, including 3.8 million tons of methane emission reductions, 960,000 tons of VOC emission reductions, and 36,000 tons of toxic emission reductions. These delays affect the important provisions in the rule like leak detection and pneumatic controller replacements that would have reduced air emissions in my community and improved our quality of life, as well as compliance assurance measures that ensure that air pollution controls are working as they are supposed to work.

33. By rejecting attempts to undermine and delay EPA's new NSPS rules, the Court can prevent the severe, immediate, and irreversible harms that would fall on me, my family, and my community if these rules were not implemented.

34. We choose to live on our ancestral lands, but we cannot choose to not breathe polluted air. I worry that without the EPA's new NSPS rules, I will continue to have respiratory problems from the pollution.

35. I live with oil and gas. I see the health and environmental impacts every day. Mandaree is the biggest producing oil and gas community on Fort Berthold Reservation. I live here, and will continue to live here, so I have no choice but to deal with the impacts of oil and gas development. I do not plan to move, this is the only land we have left.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information, and belief.

Signed December 22, 2025, in Mandaree, North Dakota.

A handwritten signature in blue ink that reads "Lisa Deville". The signature is written in a cursive, flowing style.

LISA DEVILLE

Attachment 7

Declaration of Gillian Graber, Sierra Club

DECLARATION OF GILLIAN GRABER

I, Gillian Graber, state as follows:

1. I live with my husband and our two teenaged children in Trafford Borough in Westmoreland County, Pennsylvania, which is about seven-and-a-half miles east of Pittsburgh. I have spent most of my life in Pennsylvania and have lived in the Pittsburgh metro area for 25 years. We moved here to Trafford 12 years ago with the intention of raising our children in a healthy environment and neighborhood.
2. We chose Trafford because it is still a close drive to Pittsburgh but is more of a residential suburban community with great schools, parks, a quaint ice cream shop on the corner, and a semi-private road where my kids could learn how to ride their bikes safely. This working-class community fits our needs perfectly as it is also close to my in-laws, who are our source of child care. When looking for a home we intentionally steered clear of other locations like Plum Borough in Allegheny County because it was upwind from the Cheswick Power Plant. Having previously lived on a busy road, we were concerned about the air our children breathe and wanted to ensure their access to clean air.
3. I am a Sierra Club member, and first joined the organization in 2021. I support the Sierra Club's mission and goals to encourage the public to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystem and resources; to educate and enlist humanity to protect and restore the quality of the natural environment; and to use all lawful means to carry out these objectives.
4. I also serve as the Executive Director of Protect PT (Penn-Trafford). I founded the organization, along with other Penn-Trafford community members, in December 2014 to fight a fracking well pad that was proposed in the community less than a half-mile from

my home. My husband and I were particularly concerned about air quality living near unconventional gas development. The more we learned about fracking, and the health impacts and detriment to our community that it poses, the more we wanted to fight this proposed well pad. Additionally, this well pad was the closest we had ever seen to such a densely populated suburban neighborhood like ours. This means that hundreds of children would be exposed to this pollution in addition to our children. As a mother and homeowner, I worried that this idyllic neighborhood would soon become an industrial zone. While the operator is still attempting to move the project forward, until now we have successfully stopped that well pad from being constructed.

5. However, there is still a huge number of wells scattered across my community. This includes both actively producing wells and wells that are legally abandoned, but are not plugged. Based on the Pennsylvania Department of Environmental Protection's ("DEP") Oil and Gas Mapping tool, I understand that as of August 2025, there were 132 active conventional gas wells within 2.5 miles of my house, as well as 50 wells that DEP has listed as abandoned but not plugged. In addition, I work in Harrison City, a few towns away from Trafford. Within a 2.5-mile radius of my office, I understand that the DEP's Oil and Gas Mapping tool showed that as of August 2025, 86 active conventional gas wells and at least 14 active unconventional gas wells. According to data compiled by environmental groups, I understand that there were a total of 4,828 active gas or oil wells in Westmoreland County as of August 2025. Of this total, I understand that 4,733 were drilled or modified before December 6, 2022, while 85 were drilled or modified after that date.

6. In addition to wells themselves, there are also large quantities of other oil and gas infrastructure in our area. For instance, I understand that FracTracker Alliance's PA Shale Viewer tool shows that, as of 2019, there were at least two dozen gas compressor stations in Westmoreland County, including at least seven within 10 miles of my home. I understand that as of 2024, data collected by the Department of Homeland Security's Geospatial Management Office showed that there were at least nine compressor stations located on gas transmission lines within 10 miles of my office in Harrison City. I am aware that, like wells, compressor stations emit large quantities of methane, smog- and soot-forming compounds, and dangerous air toxins.
7. I did not realize the extent to which the oil and gas equipment in my community is impacting the health of my family until we participated in a study with Environmental Health News ("EHN") in 2019. Because we do not live extremely close to any fracked wells, my family was supposed to be part of the control group that did not have contact with toxins associated with fracked wells. EHN analyzed the pollutants we had been exposed to against people who live closer to fracked wells. However, our reports showed an alarming amount of dangerous pollutants in our bodies. My daughter particularly had a very high rate of dangerous pollutants in her body.
8. We were tested three times, and each time every member of my family had levels of mandelic acid (a metabolite of ethylbenzene and styrene) detected in our urine that exceeded the 95th percentile for the general U.S. population. Ethylbenzene and styrene can cause liver, kidney, or circulatory system problems and increase the risk of cancer. We also all had levels of hippuric acid (a metabolite of toluene and cinnamaldehyde), 2-Methylhippuric acid (a metabolite of xylene), phenylglyoxylic acid (a metabolite of

ethylbenzene and styrene), and trans, trans-muconic acid (a metabolite of benzene) above the U.S. median. We often far exceeded the U.S. median for these chemicals. In several instances we even exceeded the 95th percentile for these chemicals in at least one family members' urine sample. Every person in my family exceeded the 95th percentile for mandelic acid in all three urine tests. My daughter, who was 9 years old at the time of testing, also exceeded the 95th percentile for phenylglyoxylic acid and trans-muconic acid in all three tests, and in two of the tests she exceeded the 95th percentile for 2-Methylhippuric acid. Her samples showed the highest level of 3-Methylhippuric acid, a metabolite for Xylene, detected in anyone in the study. These chemicals can cause health effects such as nervous system damage, kidney damage, nausea, circulatory system problems, anemia, and an increased risk of cancer.

9. Additionally, as part of this study we wore air sampling monitors for periods of six to eight hours. We wore these monitors on two separate occasions. The air monitor results indicated that we were all exposed to benzene, ethylbenzene, and naphthalene levels that are above the risk limit set by the California Office of Environmental Health Hazard Assessment, indicating an increased cancer risk of at least one in a million. At high enough exposures, these chemicals can also cause conditions such as anemia, liver and kidney problems, neurological damage, and eye damage.
10. I believe a lot of this pollution comes from the conventional wells, both abandoned and actively producing, all around us. Many of these wells are very old and have limited reserves left, so the owners have fracked the wells to stimulate production. It is known that the pollutants that were found in our bodies are carcinogenic and are associated with oil and gas drilling.

11. The operators of these wells also store the condensate from drilling in storage tanks that vent pollutants into the atmosphere, and these tanks are often not properly maintained. For instance, the Pennsylvania Department of Environmental Protection charged an operator near my office with multiple violations because they kept a storage tank on the well pad for years and did not maintain it. As a result, the condensate overflowed and spilled into a nearby stream.
12. Due to the heavy oil and gas infrastructure in our area, my family and I are exposed to large amounts of methane, volatile organic compounds, benzene, toluene, and other pollutants. Methane is a powerful greenhouse gas; volatile organic compounds can turn into ozone and fine particulate matter, which damage the heart and lungs; benzene can cause anemia, increase cancer risk, and can have significant harmful developmental effects in children; and toluene can cause nervous system or liver problems and increase cancer risk.
13. I am incredibly worried about how the pollution my family and I have been exposed to will impact our long-term health. My fear is that I'm going to get cancer and that my kids are going to get cancer. It is shocking how often we hear about kids and adults that have been diagnosed with cancer in our area. It is the same types of cancer too—types of leukemias, Ewing's sarcomas, and osteosarcomas that are usually very rare. For example, one of my friend's grandmothers died several years ago from a very rare form of leukemia. Another friend that knows the kind of work I do has contacted me on two separate occasions to tell me that someone they grew up with in this area was either diagnosed with cancer or that their child was. Several years ago, he even sent me a

picture of a fundraising poster for a third grader in Norwin School District that was diagnosed with cancer.

14. It is hard to overstate the fear you are forced to live with when you and your family are exposed to these kinds of chemicals every day that you know are incredibly dangerous, and that you see are already sickening your friends and neighbors. It takes an incredible mental toll. No one should have to fear exposing their children to an increased risk of cancer just because of the place they choose to live. No mother should have to go through this, but so many are and no one is doing anything about it.
15. These concerns hinder my family's ability to enjoy the natural environment. For instance, there is a well in a stream next to a nearby park, for example. I cannot walk in the woods near my home without seeing a gas well. I often wonder, "Am I being exposed just by walking along this path?" I get out in nature to avoid pollution, but that's where many of these wells are. Outdoor activities are such an important part of our family's lifestyle, but it is difficult to enjoy our quality time together when I am in constant fear that the air we are breathing is causing irreparable harm to our bodies.
16. In addition to the direct impacts that oil and gas pollution is having on our health, I am also greatly worried about climate change. I understand that oil and gas operation emit huge quantities of methane, which is a very powerful greenhouse gas that warms the planet much more than carbon dioxide.
17. Climate change is having a huge impact on my family's life. For instance, we've been seeing much more erratic weather recently than we'd seen in the past. There has been so little snow in the recent winters that my children haven't been able to build a snowman in years. Droughts have also become a major problem. Beaver Run Reservoir, which

provides drinking water for Westmoreland County, has been losing a lot of water; you can see in photos that my husband has taken of Beaver Run that the water level is much lower than it used to be. This worries me a lot, especially since all the hydrofracking operations Southwestern Pennsylvania already take so much water out of our water table.

18. We've also had more extreme weather events in recent years. Even while droughts have caused overall water levels to go down, when it does rain, it is often extremely heavy, and there's a huge risk of floods. We have been seeing more and more of these heavy rains that cause massive stormwater problems. The storm sewers are just overwhelmed, and that stormwater gets into the other waterway channels. This has all caused stormwater management costs to skyrocket: our sewage bill is now about \$300 per quarter, compared to around \$100 when we first moved here. This is affecting our entire region, and everyone is very upset about it.

19. When we first moved into house our house over 10 years ago, we didn't have a many large rainstorms, but now flooding seems to happen on a yearly basis. There are river tributaries in this area that, after big rains, have washed out people's driveways. These sorts of weather-related impacts are causing homeowners' insurance rates to go up. This affects everyone: even those whose homes are more protected than others will have to pay more because the overall level of risk has increased due to climate change and extreme weather. So as homeowners, and people who use insurance, we're offsetting cost of those folks that have same insurance that are seeing even greater destruction.

20. The heat waves have also been more intense recently. The summers are hotter than they used to be, and we just don't go outside as much as we used to because of it. I'm worried about heat stroke during these kinds of episode. My body can't tolerate that kind of heat;

it makes me feel dizzy, and I try to avoid it. This is really unfortunate because my family loves being outdoors in our yard when the weather allows it: we love swimming in our backyard pool and we often set up a big outdoor screen and projector to host movie nights with our friends and neighbors. We also like to spend time doing yard work and home maintenance, playing ball with the dog, and gardening. The problem is that lately, the weather and climate won't allow us to enjoy these kinds of outdoor activities nearly as much as we used to.

21. These climate-related impacts—heat, droughts, floods, extreme weather—negatively impact my family's recreational opportunities away from home. My husband and I are really into kayaking, but we haven't been able to do it as much recently; the weather just wouldn't permit it. We also love to fish, particularly at the local reservoirs that allow it, but this has been more difficult as well due to bad weather and droughts. The family also enjoys bike riding. We live less than a quarter a mile from the Westmoreland Heritage Trail, which is great biking, but we haven't been able to do it much recently during the summer mostly because of the heat; we just can't tolerate it.
22. We've also been negatively affected by smoke from the terrible wildfires that have been happening around the country and in Canada. As people in the Pittsburgh area, we've long had to deal with elevated levels of smog and soot. In fact, I understand that Allegheny County is currently out of compliance with EPA's ambient air quality standards for both ozone and fine particulate matter—problems that are made worse by the volatile organic compounds emitted by oil and gas equipment. To add smoke from wildfires to this mix is just terrible for our health.

23. I'm deeply worried about the affect that climate change is having on our entire society and planet. I worry kids that the world my children will live in will have worse air, depleted watersheds, intolerably hot summers, animals going extinct, a greater spread of disease, a lack of natural resources, and feedback loops where ice cover melts and releases even greater quantities of methane trapped below. And when my children are the age I am now, they will have to be worrying about what the future holds for *their* children. It makes me very sad to think about it.
24. I am aware that in 2024, EPA finalized stringent new pollution standards for the oil and gas industry in 2024 that will substantially reduce emissions of climate-disrupting methane, smog-producing compounds, and cancer-causing air toxics. I understand that this rule strengthens requirements for new equipment that were put in place in 2016 and establishes the first-ever requirements for existing equipment. This rule will provide real benefits for my family and me, since it will cut the emissions that are driving climate change while also reducing the smog, soot, and air toxics that harm us.
25. I understand that EPA has now issued a final rule that extends the compliance deadlines for the 2024 standards so that the companies don't have to meet their emission limits until later. I strongly oppose the deadline delay action, since it will allow oil and gas companies to continue avoiding the 2024 rule's badly needed emission limits, which will benefit people like me and my family.
26. I understand that Sierra Club has filed a lawsuit in court in an effort to stop EPA from delaying the 2024 methane rule's compliance deadlines . If the lawsuits succeed, it will benefit my family and me, since it will require oil and gas companies to reduce their

emissions according to the 2024 rule's original deadlines . Therefore, I strongly support Sierra Club's decision to bring this lawsuit.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed in Trafford, PA on December 12, 2025.



Gillian Graber

Attachment 8

Declaration of Jonathan Levenshus, Sierra Club

DECLARATION OF JONATHAN LEVENSHUS

I, Jonathan Levenshus, declare as follows:

1. I am the Director of Federal Energy Campaigns for Sierra Club. I have worked with Sierra Club since April 2013, and have been in my current role since February 2022.

2. The Sierra Club is a non-profit membership organization incorporated under the laws of the State of California, with its principal place of business in Oakland, CA.

3. The Sierra Club was founded in 1892, and is the nation's oldest grassroots environmental organization.

4. In my role as Director of Federal Energy Campaigns, I am responsible for developing and driving the overall federal strategy for the Sierra Club's Energy Campaigns Unit. Among other things, I help lead the Club's coordinated efforts to use grassroots organizing, legal advocacy, and political strategies to protect our families, communities, and the broader public from the harmful pollution emitted by the oil and gas industry.

6. Sierra Club's members are deeply concerned about the harm caused by air pollution associated with oil and gas extraction, production, processing, transmission, storage, and distribution. Many members of our members who live near oil and gas infrastructure suffer from adverse health impacts related to

emissions caused by this industry, and many members are experiencing ongoing negative impacts from climate change, to which oil and gas methane emissions are a major contributor. Many of these members are regular participants in programs and advocacy efforts that are geared toward reducing these emissions.

7. In order to protect our members and the broader public, Sierra Club has for many years worked tirelessly to combat pollution stemming from oil and gas development across the United States. Over the course of the past decade, Sierra Club has actively participated in many federal regulatory processes centered on this topic, submitting over a dozen sets of comprehensive technical and legal comments in EPA rulemaking dockets concerning oil and gas emissions. During that time, the Club also initiated or intervened in at least ten separate legal proceedings in federal court regarding these rulemakings, with the ultimate goal of protecting our members and the general public from oil and gas pollution.

7. When an individual becomes a member of Sierra Club, his/her/their current residential address is recorded in Sierra Club's membership database. This database is regularly updated each business day to add new members, reflect address changes, and change membership status for those who are no longer active members.

8. According to data updated in April 2026, Sierra Club currently has nearly 600,000 members in the United States. These include members living in

states that have significant oil and gas production activities. For example, Sierra Club currently has 23,668 members in Pennsylvania, 19,272 members in Texas, 7,485 members in New Mexico, 4,031 members in Utah, 2,889 members in Oklahoma, 2,543 members in Louisiana, and 893 members in North Dakota. These members have a strong interest in protecting human health and the environment from air pollution from oil and gas sites, which are at stake in this EPA litigation.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief. Executed on June 1, 2026.

A handwritten signature in dark ink, reading "Jonathan Levenshus", written in a cursive style.

Jonathan Levenshus

Attachment 9

Declaration of Paul Jeffrey, Natural Resources Defense Council

DECLARATION OF PAUL JEFFREY

I, Paul Jeffrey, declare as follows:

1. I am a “Friend” and member of the Natural Resources Defense Council (NRDC). I have been a member for over twenty years. I joined NRDC for many reasons – a Superfund site near my home, for one – but the main reason is my love for the outdoors. I come from a family that has always enjoyed the outdoors – my father climbed the Matterhorn – and we have raised our children to be very active in outdoor activities and sports. I believe somebody, if not everybody, needs to do something to preserve our natural resources, which is why I support NRDC.

2. While I’ve been concerned about climate change for some time, my concerns have increased based on the latest projections about sea level rise. One publication after another documents the fact sea levels are rising. It concerns me deeply that sea level rise and associated flooding are going to render whole portions of the U.S. east coast unlivable. Perhaps worst of all will be the impact of climate change on the Atlantic coast of New Jersey, where I live.

3. I live in Ortley Beach, New Jersey, a community on a coastal barrier island, which is part of Toms River Township. My wife and I have

owned property here for over twenty years and lived here for over ten. We made Ortley Beach our permanent residence just months before October 29, 2012, when Superstorm Sandy destroyed our town.

4. Superstorm Sandy damaged over 99 percent of the homes in Ortley Beach. The intensity and devastation from that storm, which climate change likely contributed to, made us recognize that the future survival of our town was likely to depend on our actions to incorporate future storm resilience into how we rebuilt. That is when I decided to get involved in the Ortley Beach Voters and Taxpayers Association. Soon after that, I was elected to serve as President. I'm now the Vice President of this Association, a nonprofit whose mission is to improve the quality of life in Ortley Beach. For example, we obtained a \$1 million grant for pedestrian lighting in the business district. We have also done grassroots advocacy for a new dunes barrier system to protect residents and homeowners on the ocean side of the town from another storm like Superstorm Sandy. We were instrumental in negotiating the sale of 2.5 acres of private beachfront property to the state of New Jersey and Toms River Township to be preserved forever as dunes and beach instead of the planned 24

condominium development. Our association's number one priority was pleading with the US Army Corps of Engineers to return to replenish our rapidly deteriorating dune system. Thank goodness that project was completed this year and the dunes have been replenished. While the dune system came with a 50-year promise to revisit and replenish the dunes every 5 to 10 years, Congress just failed to provide further funding in the "Big Beautiful Bill". Not so beautiful for southern New Jersey and Delaware where their replenishment projects for this and next year were just cancelled.

5. Ortley Beach was "ground zero" for Superstorm Sandy due to the level of damage the storm wrought here. The land elevation in Ortley Beach is low, only about two to four feet above sea level, so the ocean storm surge formed more like a tsunami than a hurricane and inundated our community. Ortley Beach sustained more damage than any other municipality in New Jersey. About 25 percent of the homes in Ortley Beach were considered "substantially damaged" under Federal Emergency Management Agency (FEMA) standards, which means that the cost to repair the home was equal to or greater than fifty percent of the home's

market value before the flood. Very few people received full payments from their flood insurance carriers. Many community members who had full flood insurance coverage of \$250,000, as required by their mortgage banks, received less than \$100,000 from their insurance.

6. Compared to others in our community, my wife and I were very lucky: we were some of the very few who did not get water inside our home. We live on the bay side of the island, which saw the least amount of flooding, and our house is elevated on pilings with breakaway walls. We did, however, lose everything in our garage, our two cars, our deck, pool, and landscaping. There was three feet of water in our garage, sand in the streets, and debris everywhere; for example, a mattress and someone's fireplace mantle crashed through our garage door. In addition, because the storm struck at the end of October, as winter was approaching, it made recovery difficult with no electricity, no natural gas, no water, and no sewer. All utility infrastructure was destroyed. We could not re-enter our community for over a month because roads were either washed away or covered with feet of sand. Downed power lines and natural gas leaks were everywhere. We could not live in our home for about three months until

the conditions were safe and utilities were restored. Even then, recovery was slow as there were restrictions on entry, and contractors, plumbers, and electricians were all in very short supply.

7. I estimate the full cost of repairing our home after Superstorm Sandy was more than \$150,000. Flood insurance covered part of this cost, and we received additional aid from FEMA. Nevertheless, we paid more than \$75,000 out-of-pocket from our retirement funds to repair our home.

8. The financial impacts of Sandy go far beyond these initial repair costs and continue to this day. Our flood insurance premiums have increased 18% per year, but only because our house is above the base flood elevation and this is our primary residence. Secondary homeowners in the area have a \$250 surcharge on their annual flood insurance premiums and their premiums can rise 25 percent per year under current federal legislation. All new homes must be built elevated high on pilings which protects them from flooding, but comes with immense increased cost. In addition, following superstorm Sandy all New Jersey insurance companies added a new "hurricane deductible." The deductible, which is triggered if a hurricane makes landfall anywhere in the state of New Jersey, is five

percent of the amount for which our home is insured. Our insurance company requires us to insure for full replacement cost, or just over \$1,300,000, so our “hurricane deductible” is now over \$65,000.

9. Hurricane Sandy also affected the makeup of my community. Unfortunately, some of our barrier island residents have still not returned after evacuating for Superstorm Sandy over eleven years ago. Many of the homes destroyed by Sandy were cottages that had been passed down from generation to generation. Sadly, many of those families are gone now. As an officer of the Voters and Taxpayers Association, I have received letters that said, “I love Ortley Beach, but my home was destroyed by Sandy, and I can never afford to return.” Some properties damaged by the storm still sit with damaged, unrepaired homes. These abandoned houses remain a blight in our neighborhood.

10. Superstorm Sandy badly damaged many of the Township’s streets and roadways. These effects occurred in many coastal towns near Ortley Beach, as reported by the New York Times.¹ Fortunately, a grant

¹ Nick Corasaniti, *Jersey Shore Towns Scramble for Revenue as Sandy Aid Dries Up*, NYTimes (July 30, 2017), <https://www.nytimes.com/2017/07/30/nyregion/hurricanesandy-jersey-shore-towns.html>.

from FEMA enabled the Township to repave most of our badly damaged streets.

11. I believe that superstorm Sandy was such a strong, devastating storm because of climate change. It is obvious that our environment is changing, and I believe that humans are accelerating the change. I was trained as an organic chemist at Carnegie Mellon University and MIT. Although mostly retired, I still read articles from scientific journals including Science, the New England Journal of Medicine, and the MIT Technology Review. I see a clear, negative impact from human-produced greenhouse gas emissions on the climate. I therefore support government efforts to reduce greenhouse gas emissions to slow and ultimately prevent these impacts.

12. Sandy was an extreme storm; it resulted in the lowest barometric pressure ever recorded in New Jersey. But such extremes are becoming more frequent as climate change progresses, as evidenced by multiple storms over the past decade that have continued to batter and damage our protective sand dune system. As I continue to see frequent

storms roll up the New Jersey shore, I'm more convinced than ever that climate change is real and is progressing at an increasingly rapid rate.

13. I am very concerned about the future effects of climate change. I've said to my kids, partly in jest, "Enjoy our house here, but don't count on it being livable in the future when you are my age." I'm worried that, if the sea level keeps rising, flooding during storms and high tides will eventually make our community uninhabitable.

14. Low-lying streets in Ortley Beach now more frequently flood during minimal storms or seasonal high tides. This increased flooding isn't associated with powerful storms; it's associated with seasonal high tides that are generating higher water levels than they have in the past. We are seeing more and more "sunny day" high tides. Just this past year we had two minimal winter storms that resulted in our local streets becoming impassable. We could not leave our home because the water in the roadways was a foot deep. The nearby state highway was closed in both directions due to high tide waters. The tide rose to within one foot of my garage doors - the highest it has ever been since superstorm Sandy. More and more frequently I cannot walk my dog to the bay. People who live on

the flooded streets have to drive through 3-6 inches of salt water to get to their homes, if they can get there at all. I've seen some projections that say that within the next decade, there will be twenty days per year when you cannot get down the street to your home in my town. We are reminded of the rising sea levels more and more frequently. Frankly it's scary.

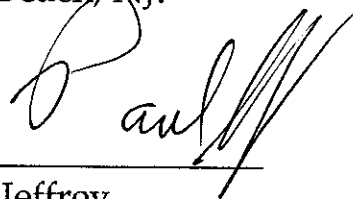
15. I worry that this type of flooding will only get worse if the climate continues to warm and seas continue to rise. In fact, if sea levels rise another foot, many of the local roads will flood so much during high tides that some homes will become simply inaccessible. Our Township continues to obtain state grants that allow the elevation of other nearby roads that continue to frequently flood, but it is immensely expensive. It is unlikely that the funding necessary to fully address anticipated sea-level rise over the next 25 years will be available. And we can't elevate all the roads! If the state and Township did not have to spend so much money on these mitigation efforts, there are many things that the money could go toward that would improve the lives of residents, such as public transportation.

16. I'm familiar with the Environmental Protection Agency's (EPA's) 2024 rule that regulates methane emitted from oil and gas operations. I understand that methane is a powerful greenhouse gas with a climate impact as much as 30 times that of CO₂ over 100 years, and that these regulations are anticipated to reduce greenhouse gas emissions by an estimated 1.5 billion metric tons of CO₂ equivalent by 2038, thereby slowing climate change.

17. I am also familiar with EPA's recent rule delaying compliance with these important standards and understand that this will result in an increase of 3.8 million tons of methane. I also understand that NRDC has filed a lawsuit to challenge that delay. I believe EPA should protect our communities from the harmful effects of climate change, including by limiting greenhouse gas emissions. I therefore support NRDC's lawsuit aimed at defending these methane-reduction rules.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 10, 2025, in Ortley Beach, NJ.

A handwritten signature in black ink, appearing to read "Paul Jeffrey", is written over a horizontal line.

Paul Jeffrey

Attachment 10

Declaration of Mitch Jones, Food & Water Watch

IN THE UNITED STATES COURT OF APPEALS
DISTRICT OF COLUMBIA CIRCUIT

DECLARATION OF MITCH JONES
Submitted In Support of Food & Water Watch

I, Mitch Jones, declare and state as follows:

1. I am the Managing Director of Policy & Litigation at Food & Water Watch (“FWW”). I have worked for FWW since 2008 and have held several positions within the Water, Fish, Common Resources, Climate & Energy, and Policy departments of FWW. I have been a Managing Director since December 2021 and have held my current position since January 2023. Given my past and present duties, I am intimately familiar with FWW’s mission, membership, activities, and operations.

2. FWW is a national non-profit membership organization headquartered in Washington, D.C., with approximately 1.4 million members nationwide. It was founded in 2005 to ensure access to clean drinking water, safe and sustainable food, and a livable climate. FWW uses grassroots organizing, policy advocacy, research, communications, and litigation to further this mission.

3. FWW advocates extensively on issues related to the fossil fuel industry and regulation of that industry. FWW’s activities include, among other things, intervening in Federal Energy Regulatory Commission proceedings for natural gas infrastructure projects and challenging the Commission’s decisions

where appropriate, opposing fossil fuel leasing and extraction on federal lands, and advocating for strong state and local regulation of fossil fuel extraction, processing, and related activities. FWW's work to influence policy related to the fossil fuel industry includes opposing the allocation of public funding and incentives that prop up and extend fossil fuel use, submitting comments to improve regulatory oversight of the industry, and advocating for legislation necessary to ensure a livable climate for all. Ultimately, FWW recognizes that ending fossil fuel use is necessary due to the industry's impacts on the climate, the environment, public health, and local communities.

4. FWW's long history of advocacy related to the fossil fuel industry includes opposing hydraulic fracturing ("fracking") for oil and gas. FWW was the first national organization to call for a ban on fracking and has spent more than a decade campaigning to hold the federal government accountable for its failures to adequately protect public health from fracking, mitigate climate change, and regulate fossil fuel interests.

5. FWW has significant expertise on the climate, environmental, and public health harms of the fossil fuel industry. FWW regularly educates our members, supporters, and the public about the negative impacts of fossil fuels by maintaining informational websites; producing news articles, press releases, fact sheets, issue briefs, and reports; and sending out action alerts notifying our

members and supporters about how they can engage with government decisionmakers to address the harmful consequences of fossil fuel use. FWW's publications related to the fossil fuel industry include a 2022 report "Averting Climate Catastrophe: Fossil Fuels Must End While Renewables Take Over," a 2021 fact sheet "Dangerously Deep: Fracking's Threat to Human Health," a 2020 report "Fracking's Bridge to Climate Chaos," and a 2019 report "The Fracking Endgame: Locked Into Plastics, Pollution and Climate Chaos."

6. On March 8, 2024, the Environmental Protection Agency ("EPA") published a final rule revising the new source performance standards ("NSPS") for new, reconstructed, and modified oil and natural gas sources and setting final emissions guidelines for existing oil and gas sources. Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, 89 Fed. Reg. 16,820 (Mar. 8, 2024) (the "2024 Rule").

7. The 2024 Rule reduces emissions from oil and gas production through equipment and performance requirements including more frequent monitoring and prompt repair of equipment leaks across all well sites, limiting flaring of natural gas, requiring operators to submit closure plans before wells become orphaned, tightening requirements for pneumatic controllers, tanks, and compressor stations, and increasing monitoring of large release ("super-emitter") events from facilities.

8. FWW participated in the rulemaking process for the 2024 Rule by joining comments on EPA's proposed rule, Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, 86 Fed. Reg. 63,110 (Nov. 15, 2021), and EPA's supplemental proposed rule. Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, 87 Fed. Reg. 74702 (Dec. 6, 2022).

9. On July 31, 2025, EPA finalized a rule ("Delay Rule") that extended many of the 2024's compliance deadlines. EPA did so without providing public notice or taking public comment. If EPA had allowed for prior notice and comment, FWW would have submitted comments opposing the delays. In fact, FWW submitted comments opposing the delays in the subsequent notice and comment period. FWW is concerned about the effects of the Delay Rule because, according to EPA, the Delay Rule means that an additional 3.8 million tons of methane pollution, 960,000 tons of harmful volatile organic compounds, and 36,000 tons of toxic air pollution will pollute the air between 2028 and 2038.

10. On December 3, 2025, EPA finalized a second rule ("Final Delay Rule") that reaffirmed the deadline extensions in the Delay Rule with two changes:

the Final Delay Rule further extended one deadline, and created a new deadline extension of one year for all operator compliance reports.

11. Advocating for increased regulatory oversight and significant reductions in emissions from the oil and gas sector is central to FWW's mission. FWW believes it is vitally important that the federal government act to protect our climate, the environment, public health, and local communities from the harm of pollution from oil and gas extraction, processing, transmission, and storage.

12. As a membership organization that also partners with community groups and frontline residents to confront the harms of the oil and gas industry and works to inform the public about fossil fuel pollution, FWW is directly and adversely impacted by the Delay Rule and the Final Delay Rule. First, some of the emissions addressed by the 2024 Rule will continue unabated, harming FWW's members and supporters, local communities, public health, the environment, and the climate. Second, FWW will have to divert resources to advocate for policy solutions to address those emissions, rather than dedicating those resources to other work to address the climate crisis. Third, FWW did not have the opportunity to influence EPA's initial decision to delay implementation of the rule through public comment.

13. If the Delay Rule and Final Delay Rule remain in effect, FWW's members and supporters, local communities, public health, the environment, and the climate will be less protected from the oil and gas sector's harmful pollution.

I declare under penalty of perjury that, to the best of my knowledge, the foregoing is true and correct.

Executed by:



Mitch Jones

Dated:

December 16, 2025

Attachment 11

Declaration of Kathleen Kemper, Earthworks

IN THE UNITED STATES COURT OF APPEALS
DISTRICT OF COLUMBIA CIRCUIT

DECLARATION OF KATHLEEN KEMPER
Submitted In Support of Earthworks

I, Kathleen Kemper, do hereby affirm and state:

1. I am currently a member of Earthworks. I first became aware of Earthworks over two years ago, and I have been involved in and tracking its advocacy ever since.

2. I am sixty-nine years old and have been living at my residence in Longmont, Colorado for eleven years.

3. In 1981, I moved to Colorado, drawn by the landscape and natural features.

4. I grew up in and around the steel mills of Chicago and am very familiar with the negative repercussions of living in proximity to heavy industrial infrastructure. Those experiences are what led my husband and I to move to our current home in Longmont, which was peaceful and undisturbed when we bought it.

5. In 2021, the Knight Wellpad moved in next door. The wellpad hosts 12 wellheads and is located 450ft from my property.

6. In September of 2021, I started working with the League of Oil and Gas Impacted Coloradans, where I met Andrew Forkes-Gudmundson who now manages State Policy work at Earthworks. It was through Andrew that I became a member of and started working with Earthworks.

7. Through my research and personal experience, I am aware that pollutants emitted from oil and gas infrastructure, including volatile organic compounds like benzene, cause serious health harms affecting the nervous, respiratory, and reproductive systems, among others.

8. I am also aware that oil and gas wells emit significant quantities of methane, a powerful greenhouse gas that contributes intensely to near term warming and climate change.

9. Having experienced the detrimental effects of oil and gas pollution personally, I support Earthworks' mission to protect our health and environment from the negative effects of the oil and gas industry, including air pollution, impacts on climate, and direct health impacts.

10. Once the Knight Wellpad moved in, I found myself getting a crash course in oil and gas pollution. From gasses being spewed from the well itself, to near constant truck traffic, my once tranquil home has been transformed into a messy, smelly, noisy, toxic vortex.

11. There have been days when the sound is so loud my husband and I cannot carry on a conversation while outside our home and nights where it is nearly impossible to sleep due to the noise.

12. The noise combined with the drilling activity itself has physically altered my property. Often, the noise is so loud that the pictures on my walls will rattle, or items will fall off of shelves. My basement slab has shifted significantly, at one point moving 1/3 of an inch over a period of 90 days.

13. As the air quality at my home has declined as a result of the operations of the Knight wellpad, my husband and I have had to avoid going outside and enjoying our property.

14. In 2021, the Colorado Department of Public Health and Environment detected benzene emissions from the Knight Wells exceeding state public health guidelines which prompted further monitoring and a public report.¹

15. Both my husband and I have experienced negative health impacts from being constantly exposed to air pollution from the Knight Well.

¹ Colorado Department of Public Health & Environment, *State health department releases findings of investigation into elevated benzene reading near oil and gas site*, <https://cdphe.colorado.gov/press-release/state-health-department-releases-findings-of-investigation-into-elevated-benzene> (March 10, 2022).

16. Once the well moved in and began the drilling process, we started experiencing persistent headaches and nosebleeds, which we had not previously experienced. All of our neighbors also started experiencing persistent nosebleeds.

17. I have also seen firsthand the effects of climate change at my home, which are directly related to the methane emissions produced by the Knight wellpad and other sites like it. For example, this past March was the first March since 1981 where I haven't seen any snow. Our summers now are overrun with grasshoppers, and I've been forced to water the trees through the winter because there isn't enough precipitation. In addition to seeing a rise in plant pathogens like pine wilt nematode, I've also experienced an increase in severe weather events like hail storms. Two summers ago we had five hail storms in six weeks. I know that better controlling methane emissions from oil and gas operations will help prevent even further damage to the climate.

18. EPA's regulations finalized in March 2024 offer tangible benefits to me, my husband, and my property. Any extension of the compliance dates in EPA's new source standards and existing source guidelines for oil and gas sources will result in lost pollution reduction benefits for me and my greater community.

19. There are many pieces of emitting equipment at the Knight wellpad that are subject to regulation by EPA's March 2024 rule. In addition to the twelve wellheads installed in 2021, there are multiple separators, produced water storage

tanks, vapor recovery units, a reciprocating compressor, enclosed combustors (flares), emergency oil tanks, a natural gas-driven generator, and pneumatic controllers. There are also necessarily components that produce fugitive emissions like piping connections and valves.

20. I am very concerned about the health risks of prolonged exposure to oil and gas emissions, both from the Knight wellpad and from other operations in my area. I am aware that this type of exposure has been linked to cancer risk and other serious health issues.

21. According to analysis by Laura Mirtich, there are 23 active permits for wells within a half mile of my home.²

22. I am concerned that my community will only see more climate-related impacts if oil and gas operations do not comply with regulations as soon as possible.

23. I worry that, without proper, timely regulation and enforcement, oil and gas emissions will continue unchecked and the negative health, aesthetic, and recreational impacts to me and my neighborhood will continue to proliferate.

24. I understand that this summer, the U.S. Environmental Protection Agency (“EPA”) issued an interim final rule without first taking public comment, that delays compliance deadlines for national standards for oil and gas facilities

² See Mirtich Declaration.

that would control methane and VOC emissions from both new and existing infrastructure. Had the EPA provided an opportunity to comment prior to issuing the interim final rule, I would have commented in my capacity as a member of Earthworks.

25. Earthworks did submit comments as part of EPA's post-finalization comment solicitation on the interim final rule, which closed on October 3, 2025. Those comments indicated strong opposition to the finalized delays in compliance deadlines.

26. I am aware that on December 3, 2025, EPA issued an additional final rule re-affirming the deadline extensions present in the interim final rule and providing additional extensions.

27. I support the EPA's methane standards that were finalized in March 2024 for many reasons, but especially because my family, my community, and I will benefit from the pollution reductions that the rule will produce if implemented fully.

28. I do not support a delay in the compliance requirements of the March 2024 rule. Delaying compliance with these standards will only expose me and my family to more harmful pollutants over a longer period of time.

29. I believe that EPA's oil and gas standards should be fully implemented and enforced as soon as possible because any delay would negatively

affect air quality and the climate around my home and in my community. The March 2024 rule helps reduce pollutants emitted. If the compliance deadlines for the March 2024 rule are extended, I would not receive the full benefits from the rule because emissions in my community and around my home will continue that otherwise would have been controlled.

30. I understand that the Environmental Protection Agency published its interim final rule establishing an “Extension of Deadlines in standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review Final Rule (“interim final rule”) on July 31, 2025.

31. I am also aware that the Agency published the additional final rule re-affirming deadline extensions and tacking on more extensions, titled “Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources” (“final rule”) on December 3, 2025.

32. I also understand that Earthworks, along with other environmental groups, have challenged the interim final rule and seek to challenge the additional final rule as well. I support Earthworks filing this lawsuit.

I declare under penalty of perjury that the foregoing is true to the best of my knowledge, information, and belief.

A handwritten signature in blue ink that reads "Kathleen Kemper". The signature is written in a cursive style with a large initial 'K'.

Kathleen Kemper

Signed December 19, 2025

Attachment 12

Declaration of Carol Kuehn, Food & Water Watch

IN THE UNITED STATES COURT OF APPEALS
DISTRICT OF COLUMBIA CIRCUIT

DECLARATION OF CAROL KUEHN
Submitted In Support of Food & Water Watch

I, Carol Kuehn, declare as follows:

1. I am currently a member of Food & Water Watch. I joined because I consider myself quite active on a whole host of issues, including environmental and climate change issues which are central to the organization's overarching mission. I share Food & Water Watch's goals, particularly its aim to guarantee a livable climate for future generations through the cessation of societal reliance upon fossil fuels and to ensure clean air for our communities.

2. I reside at 4291 Route 27 in Princeton, New Jersey, 08540, where I have been a resident for 46 years. Construction of a compressor station ("Compressor Station 206") as part of the Northeast Supply Enhancement ("NESE") project, developed by Williams subsidiary Transcontinental Gas Pipe Line Company ("Transco"), has been proposed next to my home. As proposed, the construction of Compressor Station 206 would occur roughly 1,700 feet from my house, on the land directly adjacent to my property, which would connect to the Transcontinental pipeline that already runs through my property.

3. I have personally and publicly opposed Transco's construction of the new NESE Compressor Station 206, as well as other gas infrastructure projects. This includes attending initial NESE project scoping meetings and further informational meetings. Following those meetings, I joined other residents to request local Franklin Township, New Jersey, council members to form a task force on pipeline issues and have been actively involved in this task force ever since. I have also engaged in outreach with concerned residents in the local community by organizing opposition to the NESE project, going door to door, and providing informational meetings for community members. I have attended numerous meetings and hearings about the NESE project at the state and local levels, oftentimes speaking at those engagements. Furthermore, I intervened in the Federal Energy Regulatory Commission ("FERC") proceedings on the NESE project and have provided significant commentary to FERC and the New Jersey Department of Environmental Protection ("NJDEP") concerning the project.

4. In response to the proposed NESE project, I worked with environmental consultants to determine the environmental appropriateness of this area for barred owl nesting, after having reported barred owl call observances to NJDEP in 2019. In 2019, the New Jersey Department of Environmental Protection confirmed the suitability of my property and other

adjoining properties for threatened barred owl habitat. Further, the wetlands in this area were reclassified to “exceptional resource value” and vernal pools, which are critical habitat for flora and/or fauna, were also identified in this area.

5. In addition to proposed Compressor Station 206, I live within twenty miles of five existing compressor stations.

6. I understand compressor stations to be sources covered by the U.S. Environmental Protection Agency’s (“EPA”) final rule revising the new source performance standards (“NSPS”) for new, reconstructed, and modified oil and natural gas sources and setting final emissions guidelines for existing oil and gas sources. Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, 89 Fed. Reg. 16,820 (Mar. 8, 2024) (the “Final Rule”).

7. I understand that the Final Rule will reduce air emissions from oil and natural gas operations. In particular, I am aware that the Final Rule requires monthly audible, visual and olfactory (“AVO”) surveys and quarterly optical gas imaging (“OGI”) monitoring, with corresponding timelines for repair, to address fugitive emissions from compressor stations like those near my property.

8. I am aware that the Trump administration has announced that it will reconsider the Final Rule and, on July 31, 2025, EPA issued an interim delay

rule, effective immediately, extending many of the compliance deadlines. EPA did not provide an opportunity for public comment before extending the deadlines. I am aware that on December 3, 2025, EPA issued a final delay rule that largely reaffirmed the deadline extensions in the interim delay rule and also further delayed one of the deadlines, and finalized a new year-long extension of all operators' compliance reports.

9. According to the fact sheet for these delay rules, emissions reductions that I was counting on will be delayed or no longer occur. Nationally, this includes 3.8 million tons of methane, 960,000 tons of volatile organic compounds (VOCs), and 36,000 tons of toxic air pollution.

10. I have been impacted and will continue to be impacted by the EPA's failure to adequately regulate methane and other air pollutants from natural gas infrastructure, like the existing and proposed compressor stations near my property, including by the delay of compliance deadlines in the Final Rule. I am concerned that air emissions from the existing and proposed compressor stations near my house that would be addressed under the Final Rule will be worse if it is not implemented on the original timeline, further degrading the air quality surrounding my property. I am also concerned that such emissions could seriously impact the ecological quality of my property and the surrounding area.

11. Furthermore, if the Final Rule does not go into effect in accordance with the original deadlines, it will exacerbate my growing concern related to climate change impacts resulting from expanded fossil fuel gas infrastructure and the inadequate regulation of that infrastructure's emissions of potent greenhouse gasses, particularly methane. I understand that climate change will bring more insect-borne diseases, drought, flooding, saltwater intrusion, and decreased snowfall to New Jersey, which would deprive me of the enjoyment of my property, prevent me from recreating in local parks, and increase the risk of harm to my home and health.

I declare under penalty of perjury that, to the best of my knowledge, the foregoing is true and correct.

Executed by:



Carol Kuehn

Dated:

December 16, 2025

Attachment 13

Declaration of Paula Leach, Environmental Law & Policy Center

**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

ENVIRONMENTAL DEFENSE FUND,	)	
<i>et al.</i> ,	)	
	)	
<i>Petitioners</i>	)	
	)	
v.	)	No. 25-1275
	)	
LEE ZELDIN, <i>et. al.</i> ,	)	
	)	
<i>Respondents</i>	)	
	)	

DECLARATION OF PAULA LEACH

I, Paula Leach, do hereby affirm and state:

1. I am currently a member of the Environmental Law and Policy Center (“ELPC”). I am also a landowner in Antrim County, Michigan, where I have owned a lake house on Torch Lake for more than a decade. This property serves as a personal refuge for our family which includes my husband and our adult daughter, her husband, their two-year-old child and their new baby. My second grandchild was born in July, 2025, and I am growing increasingly concerned about my family’s health and well-being, particularly in relation to air pollution from active oil and natural gas wells that pepper the landscape near our property.

2. Our family are avid outdoor recreation enthusiasts. During the summer, we swim, bike, kayak, and boat in the Torch Lake watershed, and we

cherish the pristine environment that makes these activities so special. In fact, each summer I train and pride myself on participating in an annual 63-mile bike race around Torch Lake. We also love taking our older grandchild to Providence Farm up the road, so she can pet the animals and pick wildflowers, and, of course, expect to continue to do the same now with both our grandchildren. In the wintertime, our family cross country skis, snowshoes, and we enjoy gazing at the starry night sky around a cozy campfire. This lake is one of the most beautiful in the region, if not the world, and we feel privileged to be stewards of this land. Beyond its sentimental and recreational value, my property is also an investment for my retirement, and I do not want to see it devalued due to toxic emissions in the region.

3. I understand that in March of 2024, the U.S. Environmental Protection Agency (“EPA”) issued a final rule entitled “Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review,” 89 Fed. Reg. 16,820 (March 8, 2024) (“2024 Rule”).

4. I also understand that EPA has issued a new final rule entitled “Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources.” 90 Fed. Reg. 55,671 (December 3, 2025)

(“Delay Rule”). This Delay Rule postpones the compliance deadlines for emissions control and monitoring provisions contained in the 2024 Rule. Any delay of these crucial emissions control standards and monitoring requirements will negatively impact my health, the health of my family, and the climate.

5. The EPA itself recognizes these harms. The agency found that this Delay Rule will produce “climate damages from increasing methane emissions by 1,300,000 short tons, lost value of PM_{2.5} and ozone-related health benefits from increasing VOC emissions by 350,000 short tons, and lost value of benefits from increasing HAP emissions by 13,000 short tons.” 90 Fed. Reg. 35,980.

6. The EPA’s Regulatory Impact Analysis (“RIA”) found that the 2024 Rule is expected to result in significant emissions reductions, including an estimated 130 million metric tons of methane, 1.3 million short tons of volatile organic compounds (“VOCs”), and 49 thousand short tons of hazardous air pollutants (“HAPs”) between 2024 and 2029. *See* EPA-452/R-23-013, pg. 3-4. These emissions reductions would personally benefit me and my family. For example, ozone is a HAP and ozone emissions would decrease significantly in Michigan near our property because of the technology control and monitoring requirements of the 2024 Rule. *See* EPA-452/R-23-013, pg. 3-30, Figure 3-2. Therefore, this Delay Rule would impair the air quality my family and I would

have otherwise enjoyed by forestalling these reductions in emissions of methane, VOC and HAPs through a delay in compliance deadlines of the 2024 Rule.

7. I strongly support these reductions of emissions of methane, VOCs and HAPs because they will lead to improved local air quality in places like Antrim County and will help mitigate climate change impacts that threaten the natural beauty and livability of my community and many other communities across this country and the globe. For example, the EPA's RIA found that the 2024 Rule would avoid significant climate harm and would result in a quantified benefit of \$27 billion. *See* EPA-452/R-23-013, pg. 3-25.

8. The protections provided by the 2024 Rule are important to my family because, according to an analysis by the Environmental Defense Fund ("EDF"), there are 2787 active oil and natural gas wells in Antrim County where we own property and reside in our lake house. I understand that this EDF data will be described more fully in the Declaration of Jeremy Proville and Laura Mirtich to be filed in the above-captioned matter (hereafter "Proville-Mirtich Decl."). More specifically, I understand that EDF identified that there are 70 new active wells, meaning wells built after December 2022, within 5 miles of my home. *See* Proville-Mirtich Decl. But for this Delay Rule postponing the compliance deadlines of the 2024 Rule, those 70 active wells would have had to comply with the technology control and monitoring requirements by the dates set in the 2024

Rule. *See* 2024 Rule at 16,830-16,833, Table-3 (summarizing the applicable requirements that would have been implemented absent the Delay Rule). This would have in turn decreased methane emissions from those wells and reduced my and my family's exposure to dangerous pollutants, including VOCs. *See Id, e.g.,* at 16,830, Table 3 (which indicates process controllers would have had a zero emissions rate for VOCs.); *see also* 90 Fed. Reg. at 35, 972-79 (where the Delay Rule delays requirements to ensure combustion devices and flares are functioning, to inspect closed vent systems such that they are operating with "No Identifiable Emissions," to repair gas plant equipment leaks, to determine whether the storage vessel standard applies to their sources, and to install zero-emitting process controllers).

9. Additionally, I understand that the same EDF analysis found that there are 140 existing active wells, meaning wells constructed before December 2022, located within 5 miles of my home. *See* Proville-Mirtich Decl. The Delay Rule postpones the date by which states must submit implementation plans to ensure those 140 wells comply with requirements for existing sources. *See* 90 Fed. Reg. at 35,977. These requirements include, for example, "[b]est management practices to minimize or eliminate methane and VOC emissions to the maximum extent possible" and "zero emission process controllers." *See* 2024 Rule at 16,830-16,834, Table-4. Delaying the date by which states must issue a state

implementation plan is likely to delay the implementation of these requirements. This will prolong the period wherein dangerous pollutants like VOCs are emitted at elevated rates from existing sources. This will in turn impair my air quality in a manner which would have been avoided had the original compliance deadlines been enforced against states.

10. These oil and natural gas wells produce significant amounts of air pollution including carbon dioxide, VOCs, and HAPs including benzene, toluene, ethylbenzene, and xylene, according to the EPA. *See* EPA-452/R-23-013, pg. 2-24. These gases are often vented directly to the atmosphere or flared. *See Id.* Additionally, these gases can leak from equipment at oil and gas wells via fugitive emissions. *See Id.* at 2-18. For example, this can occur when connection points are not strong enough or mechanical stress places too much pressure on the equipment. *See Id.* The 2024 Rule provides protection from such pollutants by imposing monitoring and technology control requirements on this equipment to reduce emissions. *See Id.* at pg. 2-25, Table 2-1. Given the high concentration of oil and natural gas wells near me and my family, I have a significant interest in seeing that the requirements in the 2024 Rule are implemented promptly and that the deadlines set forth in the 2024 Rule are not extended. Not doing so, as the EPA's new Delay Rule effectuates, will impair the air quality we breathe.

11. In addition to these direct adverse health impacts, the oil and natural gas industry contributes significantly to climate change which is producing myriad other impacts that affect my life negatively. For example, the recent wildfires in Canada have significantly impaired the air quality I breathe. The EPA's own analysis found that "[m]ethane is... a potent greenhouse gas (GHG) that... contributes to increased global warming and continuing climate change." *Id.* at pg. 3-4. That same analysis found that methane contributes to "increased air and ocean temperatures, changes in precipitation patterns... severe weather events, such as hurricanes of greater intensity, and sea level rise, among other impacts." *Id.* While the EPA did not quantify the harms of wildfires, the agency did recognize that these "extreme weather events" caused by climate change include wildfires. *See Id.* at pg. 3-23. On July 30, 2025, these climate-induced wildfires have reduced the air quality around me to unhealthy levels. *See* <https://gispub.epa.gov/airnow/index.html?tab=3&archivedates=07%2F30%2F2025&showlegend=yes&xmin=-9689390.73455211&xmax=-9397095.538389483&ymin=5544856.058450451&ymax=5670212.784838188>. This air quality is unequivocally caused by the Canadian wildfires and the National Weather Service has issued significant warnings for the area I live in. *See* <https://www.newsweek.com/canadian-wildfires-map-shows-three-us-states-warned-about-air-quality-2106726>.

12. Simply being outside on July 30, 2025, gave me a sore throat. I have included some pictures I took from that day showing the poor visibility, as well as a picture I took on August 1, 2025, which was a relatively clear day, for comparison.

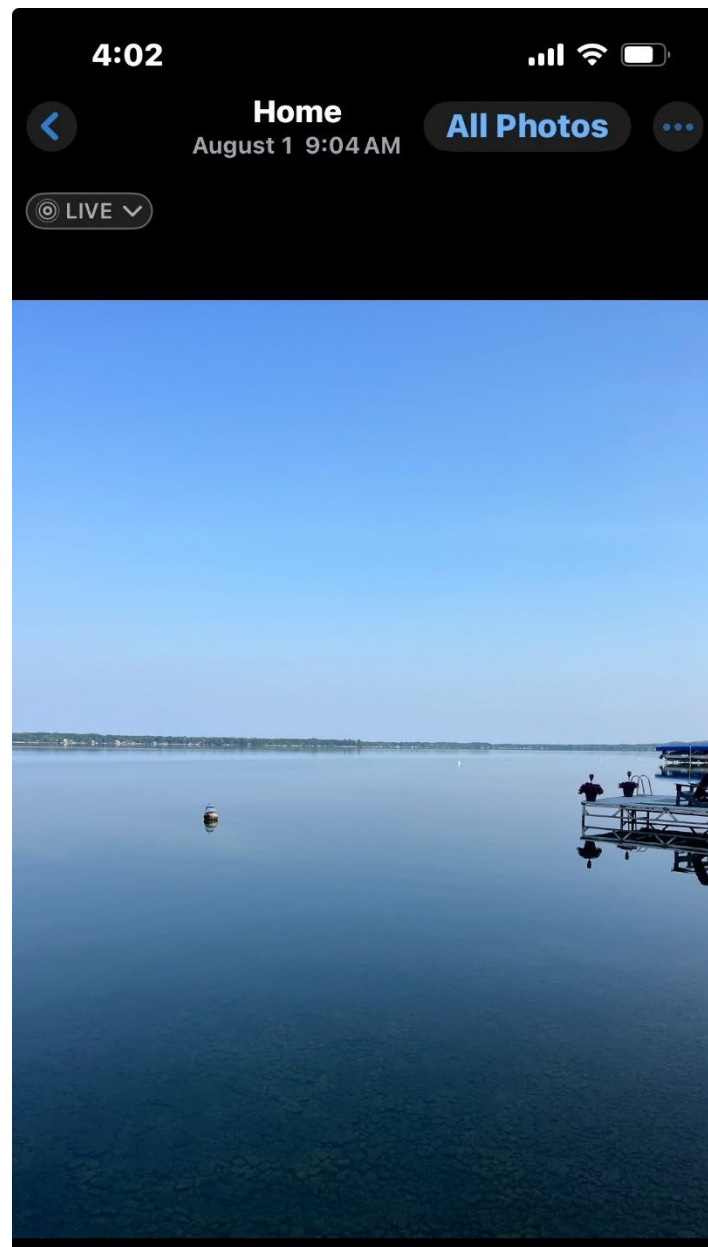
Poor Air Quality Day (July 30, 2025):



Poor Air Quality Day (July 30, 2025):



Clear Day (August 1, 2025):



13. I am becoming increasingly worried about my young grandchildren visiting me considering the deteriorating air quality. They visit me in my home on Torch Lake for most major holidays and various other weekends and will continue to do so in the future.

14. Without proper emissions controls, the oil and gas industry has continued to release excessive methane and other harmful pollutants into the air. I support the timely implementation of the 2024 Rule, including enforcement of the deadlines it contains, to ensure that emissions reductions are realized sooner and the health risks to me and my family can be minimized now and in the future.

15. I have spent considerable personal resources and time in engaging on these issues personally – from travelling to Washington, D.C. for the People’s Climate March, to calling my congressional representatives and state lawmakers to ensure that this polluting industry is held to account. I participated as a declarant on behalf of ELPC in its motion to intervene to a challenge made by the oil and gas industry to the Waste Emissions Charge Rule in *Independent Petroleum Association of America, et al. v. U.S. Environmental Protection Agency*, Case No. 25-1021, Appendix to the Motion to Intervene, Doc. No. 2100941, pgs. A008-A0012. I engage civically through petitions, attend climate summits, and volunteer for and offer financial support to many partner organizations including ELPC, the Michigan Sierra Club, Groundwork Center for Resilient Communities, the Oil and Water Don’t Mix Coalition, the National Wildlife Federation, Earthjustice and many more. I believe that the climate crisis is the most pressing issue of our time and I am personally committed to doing all I can to mitigate the damage for my child’s future and those of my grandchildren.

16. The basis for this Delay Rule has also bypassed important public participation opportunities. When issuing the Interim Final Rule entitled “Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review,” EPA did not provide an opportunity for public comment before making the rule effective immediately. *See* 90 Fed. Reg. 35,966 (July 31, 2025) (“Interim Delay Rule”). As a member of ELPC, I would have strongly supported the opportunity for ELPC to provide public comments to inform the EPA of the health and environmental consequences of the Interim Delay Rule. By issuing the Interim Delay Rule without first allowing public comment, the EPA deprived ELPC and myself the procedural right to public participation.

17. I am disappointed by the EPA’s decision to issue its Delay Rule which forestalls the compliance deadlines for crucial emissions control and monitoring provisions of the 2024 Rule. I believe the compliance deadlines as set forth in the 2024 Rule are critical for protecting my family, my property value, this incredibly special place, and the tourist community that exists because of this world class resource. The EPA’s 2024 Rule is a crucial step toward reducing harmful pollution and safeguarding the environment for future generations. This EPA Delay Rule is a big step backwards to achieving these goals.

18. My family's investment in our property starting in 2012 is not just financial—it is deeply personal. I have built a lifetime of memories at Torch Lake and in Antrim County, and I want my grandchildren to be able to do the same without fear of exposure to harmful air pollution.

19. I support ELPC's effort to challenge the EPA's new Delay Rule as a petitioner in the above-captioned lawsuit entitled *Environmental Defense Fund et al. v. Lee Zeldin et al.*, Case No. 25-1275.

20. I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

A handwritten signature in cursive script that reads "Paula Leach". The signature is written in dark ink and is positioned above the printed name.

Paula Leach

Executed on December 17, 2025

Attachment 14

Declaration of John MacFarlane, Sierra Club

DECLARATION OF JOHN MACFARLANE

I, John MacFarlane, declare as follows:

1. My name is John MacFarlane, and I am of legal age and competent to give this declaration. All information provided herein is based on my own personal knowledge unless otherwise indicated.
2. I am 55 years old and live in Fort Worth, Texas with my wife and two children, ages 13 and 16. I was born and raised here in Fort Worth, and have lived in my current home for 13 years.
3. I have a bachelor's degree in environmental science from Stephen F. Austin State University, and currently work as an environmental protection specialist for the Federal Aviation Administration.
4. I am a dues-paying member of Sierra Club. I initially joined the Club in 2011 because I am a long-time environmental advocate and naturalist, and it felt like the natural thing to do. I am very active with the Club's Lone Star Chapter; I now serve as the Conservation chair of the Chapter's Greater Fort Worth Group. In that capacity, I help direct the Group's activities, provide advocacy information to members, organize volunteers, draft and distribute public communications on behalf of the Group, comment on new rules by the Texas Commission on Environmental Quality, and deliver public testimony on environmental issues and proposals.

5. I am very concerned about climate change and the problems it poses for our world and society. I actively study climate change and regularly educate myself about the science behind it and the various effects it is having on society.
6. Climate change is negatively affecting my life in numerous ways. For instance, coastal erosion due to climate change is one of the impacts in Texas. I regularly visit areas along Texas' Gulf Coast, including Corpus Christi, Galveston, and North and South Padre Islands. I have joined a group of volunteers at Padre Island National Seashore to release critically endangered Kemp's ridley sea turtles on the beach, where they nest and lay eggs. In recent years, it has become startling clear that Padre Island and nearby areas are rapidly losing sand dunes and beach area due to sea-level rise. I am very worried that this loss of habitat will make it impossible for the Kemp's ridleys to survive. In addition, the sex of the turtle is determined by the ambient temperature while the eggs are buried in the sand. In general, if the temperature is greater than 87.8 degrees Fahrenheit, the entire clutch will be female. Thus, as temperatures rise as a result of climate change, all turtles will be female, leading to the eventual extinction of the species, along with all sea turtle species.

7. Coastal erosion and sea level rise have diminished other recreational opportunities for me in these areas. In the past, for instance, there were several hundred yards of beach and dune area at high tide. Now, there are only five yards or so at high tide. Furthermore, there are a number of restaurants near the shore at Corpus Christi and North Padre that I enjoy visiting. In past years, these restaurants have been some ways out from the water at high tide, and offer a very nice view of the Gulf. Now, the water comes almost up to the restaurants themselves at high tide, and I worry that they might not be able to survive much longer.
8. Closer to home, my family and I have enjoyed participating in outdoor activities. We regularly go hiking at local parks, such as Fort Worth Nature Center and Refuge, which is located in the northwest corner of the city, and Tandy Hills Natural Area, which is located in central Fort Worth. We also enjoy hiking along the trail system that follows the Trinity River, which runs through Fort Worth. However, in recent years, we've had to reduce our outdoor activities from June through about mid-September due to extreme heat and extreme air pollution. Both my daughter and I suffer from allergies. We are now experiencing longer summers, hotter weather, more droughts, and less precipitation than we did in previous years.

9. My family also enjoys camping at various locations near Fort Worth. These areas include Cleburne State Park, Dinosaur Valley State Park, and Mineral Wells State Park, all of which are part of the Dallas-Fort Worth Metroplex. We used to be able to camp from May through September or October, but we now can't do much camping at all anymore during the summer months; it's just too hot.
10. The increasingly hot climate is also contributing to another environmental problem in our area: poor air quality. Hotter weather leads to additional formation of ozone, an air pollutant that causes serious lung and heart problems when inhaled. Tarrant County, which includes most of Fort Worth, has unlawfully high levels of ozone, as do the neighboring counties of Parker, Wise, Denton, Ellis, Johnson, and Dallas. Each of these counties is in "severe" nonattainment of EPA's 2008 national ambient air quality standard for ozone standard, and is in "serious" nonattainment of the agency's 2015 ozone standard.
11. I would like to take my family hiking and camping more often during the summer. As a naturalist, I would also like to take my children outdoors in the summer to study ecology and biodiversity, and to learn how to identify plants and animals. Unfortunately, I often avoid these activities because of both excessive heat and air pollution, specifically on high ozone days. In

addition, I suffer from chronic sinus infections. My daughter also experiences very bad allergies. She has been on children's Allegra for most of her life, and often coughs at night. I worry that taking her outdoors, especially on high ozone days, will harm both her and my respiratory health.

12. There is a tremendous amount of oil and gas development in the Dallas-Fort Worth area. Oil and gas equipment, including wells, emit large amounts of pollution in the atmosphere. These pollutants include methane—a very powerful greenhouse gas—volatile organic compounds, which form ozone. All the oil and gas development in our area is therefore contributing both to climate change and to the local air pollution problems we are experiencing; this is a major concern. I also understand that oil and gas wells emit significant amounts of air toxins like formaldehyde and benzene, known human carcinogens.
13. I understand that according to Texas Railroad Commission's Public GIS tool, there were over 40 active gas surface wells at over a dozen different well sites located within 2.5 miles of my home as of August 2025. In addition, as of that same time, there were over 60 surface gas wells within that same 2.5 mile-radius of my house that have been permitted but not yet drilled.

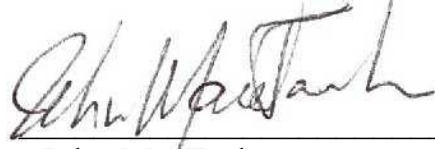
14. Drilling continues to expand in and around our area. In recent years, the French energy conglomerate Total sought and received approval to drill dozens of new wells in Fort Worth, the neighboring city of Arlington, and two adjacent suburbs. And despite fierce opposition from the local community, the City Council of Arlington approved the creation of a new zone for drilling and fracking, which is located just 600 feet from the nearest home and 2,000 feet from the nearest school.
15. In 2022, I helped organize Fort Worth Environmental Coalition of Communities, which unifies local environmental and racial justice groups in an effort to oppose the industrialization of east and north Fort Worth, preserve and improve the area's air quality and to oppose the increasing prevalence of gas drilling in east Fort Worth, Arlington, and the surrounding areas. This coalition is particularly focused on fighting for underserved neighborhoods and communities of color, where much of the gas drilling in our area occurs.
16. As a father of two children that attended a school just 700 feet from an active gas pad site, I am very concerned about their health and safety and the health and safety of the 500 other neighborhood children that attend the school. These children attend classes and play outside in the playground area that is so close to an active gas well site, and they are exposed to methane,

volatile organic compounds, and air toxins emitted by these wells. I know that children are more vulnerable to air pollution because of their physiology, and these airborne contaminants could lead to chronic health issues, such as cardiovascular, respiratory, neurological, and oncological issues, including leukemia.

17. I understand that in 2024, EPA finalized a rule that included more protective Clean Air Act requirements for newly constructed or modified oil and gas equipment compared to the regulations that were already in place. I understand that, among other things, the rule includes strengthened leak detection and repair requirements for well sites, requires certain non-emitting equipment and practices to replace emitting ones, ensures that storage tank batteries are properly controlled, and include standards for previously unregulated operations like liquids unloading events.
18. I also understand that in the 2024 rule, EPA finalized the first-ever federal emission guidelines for existing oil and gas equipment. I understand that, according to data compiled by environmental groups, there were 3,610 active oil and gas wells across Tarrant County as of August 2025. Of these, I understand that 3,552 were drilled or modified before December 6, 2022, while 58 were drilled or modified after that date.

19. I believe that EPA's final rule provides significant benefits to me, my family, and my community by reducing both climate-disrupting methane emissions from oil and gas operations and conventional pollution like volatile organic compounds and air toxins. Unlike a number of other states, Texas has no state-level emission standards for oil and gas operations, so EPA's federal standards are particularly important here.
20. I understand that EPA recently issued a final rule that delays the implementation deadlines for the 2024 rule. These delays will harm my family and me, since they will require us to wait longer before the rule's full set of emission reduction benefits are achieved.
21. I understand that Sierra Club has initiated a lawsuit challenging EPA's final action delaying the 2024 rule's compliance deadlines. If this lawsuit is successful, it will benefit me, since it will mean that the 2024 rule's emission reductions will be achieved sooner than they would be if the deadline delays go through. For these reasons, I support Sierra Club's participation in this lawsuit.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed in Fort Worth, Texas, on December 12, 2025.

A handwritten signature in black ink, appearing to read "John MacFarlane", written over a horizontal line.

John MacFarlane

Attachment 15

Declaration of Mark Magaña, GreenLatinos

IN THE UNITED STATES COURT OF APPEALS
DISTRICT OF COLUMBIA CIRCUIT

**DECLARATION OF MARK MAGAÑA Submitted in Support of
GreenLatinos**

I, Mark Magaña, declare as follows:

1. I am the Founding President & Chief Executive Officer of GreenLatinos. I have served in this capacity since the organization's inception and have 30 years of experience working in Washington, D.C., including in senior positions in both the White House and Congressional leadership. I was the first Latino to serve as senior staff at both, as a special assistant to President Clinton for White House Legislative Affairs and as Senior Policy Advisor to the House Democratic Caucus.

2. GreenLatinos is an active comunidad of Latino/a/e leaders, emboldened by the power and wisdom of our culture, united to demand equity and dismantle racism. In my role at GreenLatinos, I am familiar with the organization's vision, which is a healthy and equitable society where communities of color are liberated from disproportionate environmental burdens, free to breathe fresh air, drink pure water, access clean transportation, and enjoy our majestic public lands, oceans, and waters.

3. GreenLatinos is a membership organization incorporated under the laws of the District of Columbia. It is recognized as a not-for-profit corporation under section 501(c)(3) of the United States Internal Revenue Code. GreenLatinos' network consists of approximately 12 thousand members residing in 39 states, Puerto Rico, and the District of Columbia.

4. One of GreenLatinos' core priorities is Climate Justice and Clean Air. The climate crisis is already impacting Latino communities across the country. GreenLatinos supports the Intergovernmental Panel on Climate Change's recommended goal of deep carbon cuts by 2030 and net zero emissions by 2050 in order to prevent global average temperatures from rising by 1.5 degrees Celsius.

5. I am aware that an overwhelming majority of Latinos—78 percent—say they have personally experienced the effects of climate change. The majority of Latinos in the U.S. live in four states and territories that have already been devastated by natural disasters that were made more extreme because of climate change: from wildfires in California, to hurricanes in Texas and Puerto Rico, and flooding in Florida. GreenLatinos members also live in these states and territories.

6. I also know that methane is an especially potent greenhouse gas that contributes significantly to global warming, and that oil and gas

production is a major source of methane emissions.

7. Latino communities often bear disproportionate impacts of air pollution from fossil fuel sources, including oil and gas production facilities. As a result of my work at GreenLatinos, I am aware that 1.8 million Latinos in the U.S. live within a half-mile of an oil and gas facility. I also know that this proximity increases the odds of a host of health problems including respiratory illnesses, cardiovascular disease, anxiety, depression, preterm birth, and impaired fetal growth. In addition, Latino children in the U.S. are twice as likely as non-Latino whites to die from asthma attacks. Latinos are more likely to lack access to health insurance and are therefore less able to treat health ailments exacerbated by exposure to poor air quality.

8. As a result of my work at GreenLatinos, I am aware that some of our members live, work, or recreate in areas where oil and gas production occurs. According to data updated in January 2024, GreenLatinos currently has 11,974 members in the United States. These include members living in states that have significant oil and gas production activities. For example, GreenLatinos currently has 2,348 members in California, 790 members in Texas, and 1,054 members in Colorado. These members have a strong interest in protecting human health and the environment from air pollution

from oil and natural gas sites, which are at stake in this EPA litigation. GreenLatinos' Climate Justice and Clean Air Collective has over 450 active members that engage in regular communications and opportunities for advocacy on topics related to oil and gas production. The Collective holds quarterly webinars on topics related to oil and gas and communicates with membership via quarterly newsletters.

9. I am aware that on March 8, 2024, the Environmental Protection Agency ("EPA") promulgated new source performance standards for methane and volatile organic compound ("VOC") emissions from the oil and natural gas sector ("the 2024 Rule"). I understand that the Rule also reduces emissions of hazardous air pollutants ("HAPs").

10. GreenLatinos has a strong organizational interest, and a strong interest that is based in its members recreational, aesthetic, public health, environmental, and economic interests, in ensuring that the Rule's standards are fully realized and not weakened or rescinded.

11. GreenLatinos is a leading member of the Methane Partners Campaign, which works to protect communities by ensuring that the EPA passes strong methane rules that address climate and health. GreenLatinos participated as a stakeholder during the public comment period for the

Rule, filing comments on the proposed rule.¹ GreenLatinos also provided comments and public testimony during the original draft of the methane rule, released in 2021.² In addition, via the state work performed in Colorado, GreenLatinos engages on oil and gas work for upstream, downstream and midstream emissions, focusing on community advocacy to minimize pollution experienced within frontline communities.

12. I am aware that the Trump administration has announced that it will reconsider the 2024 Rule. And, on July 31, 2025, EPA issued an interim final rule, effective immediately, extending many of the compliance deadlines (“Interim Delay Rule”). Then, on December 3, 2025, EPA issued a final rule that adopted the same compliance deadline extensions, extended one deadline even further, and delayed all operators’ reporting deadline by a year (“Final Delay Rule”). According to EPA’s fact sheet for the Interim Delay Rule, this will result in 3.8 million tons of additional methane pollution, 960,000 tons of volatile organic compounds that contribute to

¹ Supplemental Comments of Joint Environmental Justice Commenters on Standards of Performance for New, Reconstructed, and Modified Sources and Emission Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review (Feb. 13, 2023), EPA Docket No. EPA-HQ-OAR-2021-0317-2392.

² See, e.g., Comment submitted by Astrid Najarro on Standards of Performance for New, Reconstructed, and Modified Sources and Emission Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review (Sept 21, 2022), EPA Docket No. EPA-HQ-OAR-2021-0317-1453.

ozone pollution, and 36,000 tons of toxic air pollution between 2028 and 2038. Had EPA provided an opportunity to comment prior to issuing the Interim Delay Rule, GreenLatinos would have submitted comments opposing this move. In fact, GreenLatinos submitted comments opposing the extensions during the comment period for the Final Delay Rule.

13. It is my understanding and concern that as a result of the Interim Delay Rule and the Final Delay Rule, GreenLatinos' members will be subjected to unnecessary and harmful levels of air pollution that they otherwise would not be subject to.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information, and belief.

Signed December 19, 2025.

A handwritten signature in black ink, appearing to read 'Mark Magaña', with a stylized, cursive script.

MARK MAGAÑA

Attachment 16

Declaration of Ryan Maher, Center for Biological Diversity

DECLARATION OF RYAN MAHER

I, Ryan Maher, declare as follows:

1. The facts set forth in this declaration are based on my personal knowledge. If called as a witness in these proceedings, I could and would testify competently to these facts.
2. I currently reside in Portland, Maine.
3. I am an employee of the Center for Biological Diversity (“Center”) and have been since February 2022. I am also a member of the Center and have been since March of 2022.
4. The Center is a non-profit, membership organization founded in 1989 with more than 93,000 members in total, with thousands of members in the western and southwestern United States, including more than nine thousand members in Texas, Colorado, Wyoming, and New Mexico. The Center has offices across the nation.
5. The mission of the Center is to ensure the preservation, protection, and restoration of biodiversity, native species, ecosystems, public lands and water, and public health through science, policy, and environmental law. Based on an understanding that the health and welfare of human societies are closely linked to the condition of the natural environment, the Center works to protect natural resources like air, water, and land and to secure a future for animals and plants hovering on the brink of extinction. It works to protect the ecosystems imperiled species need to survive, and for the people that interact with, depend on, and cherish these natural resources.
6. As a Staff Attorney at the Center, I work in the Center’s Environmental Health program to protect biodiversity and human health from toxic substances, reduce air pollution (including methane and other volatile organic compounds, as well as ground-level ozone, sulfur dioxide, and hazardous air pollutants), protect clean air, safeguard communities, and enforce pollution prevention laws. In this role I am involved in strategic litigation and setting policy

priorities for the work that the Center does to reduce the threats to the environment, ecosystems, and public health from air pollution, including greenhouse gases like methane. I primarily do so by engaging in Clean Air Act advocacy and litigation, with a particular focus on reducing air pollution, including methane, volatile organic compounds, ozone, and sulfur dioxide, from oil and gas production operations all over the country, both on- and off-shore, including in Colorado, New Mexico, Texas, Utah, California, Wyoming, North Dakota, Pennsylvania, and Alaska.

7. The Center has longstanding programs and campaigns to address climate change and greenhouse gas emissions through the Center's Climate Law Institute, public lands program, oceans program, environmental health program, and endangered species program. One of the Center's top priorities is the full implementation of existing environmental laws to reduce climate change impacts to communities, endangered species, and fragile ecosystems. The Center has long advocated for the rapid phase out of fossil fuel use, as well as the abatement of greenhouse gas emissions from new, modified, and existing sources, including emissions of methane and other volatile organic compounds, ozone, and sulfur dioxide from upstream and midstream oil and gas infrastructure.

8. The Center has regularly commented on the EPA's prior rulemaking proposals seeking to limit methane and other air pollutant emissions from the oil and gas sector under the Clean Air Act. The Center has also resorted to litigation to challenge EPA actions that harm air quality by allowing illegal excess pollution from the upstream and midstream oil and gas industry, as well as to protect EPA's beneficial actions from industry challenge. *See, e.g., Center for Biological Diversity v. EPA, et al.*, 22-9546 (10th Cir.); *Center for Biological Diversity v. EPA, et al.*, 23-9503 (10th Cir.); *Center for Biological Diversity, et al. v. EPA, et al.*, 23-9565 (10th Cir.); *State of Colorado v. EPA, et al.*, 23-9566 (10th Cir.); *Board of County Commissioners*

of Weld County, Colorado v. EPA, et al., 21-1263 (D.C. Cir.); *Sierra Club, et al. v. Zinke*, 3:18-cv-5984 (N.D. Cal); *Center for Biological Diversity, et al., v. EPA*, 4:25-cv-6568 (N.D. Cal.); *Texas, et al., v. EPA, et al.*, 24-1054 (D.C. Cir.); *Am. Free Enterprise Chamber of Commerce, et al. c. Zeldin, et al.*, 1:25-cv-67 (W.D. Mich.). Most recently, the Center challenged the EPA's 2025 Interim Final Rule entitled "Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review Final Rule," 90 Fed. Reg. 35,966 (July 31, 2025) (hereinafter "Interim Final Rule"). See *Center for Biological Diversity v. EPA*, 25-1164 (D.C. Cir.).

9. The Center's Environmental Health program has long worked to reduce emissions of methane and other volatile organic compounds, ozone, and sulfur dioxide from upstream and midstream oil and gas (i.e., production and transmission), both of which are required to reduce emissions of methane, other volatile organic compounds, and sulfur dioxide under EPA's 2024 Final Rule, "Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review," 89 Fed. Reg. 16820 (March 8, 2024) (hereinafter "2024 Final Rule").

10. For example, we have worked to improve flare efficiency at oil and gas well pads, compressor stations, and gas processing plants, to ensure that flares are working as they are required to destroy, via combustion, methane that would otherwise be emitted into the atmosphere. We have worked on this in state rulemakings, state permit comments proceedings, state litigation, and through Title V petitions to object submitted to EPA. We have worked on improving permits for off-shore oil and gas platforms off the coast of California to, at a

minimum, prevent illegal emissions, including methane and other volatile organic compound emissions.

11. Our program has also focused on ensuring that emissions from drilling and hydraulic fracturing (“fracking”) at well pads is included in permitting, which would reduce emissions of several pollutants including methane and other volatile organic compounds. *See, e.g., Center for Biological Diversity v. EPA*, 22-9546 (10th Cir.); *Center for Biological Diversity v. EPA, et al.*, 23-9503 (10th Cir.). We have an Administrative Procedure Act petition for rulemaking pending before EPA, in which we are advocating for the removal of EPA’s exception of methane from volatile organic compounds, which would result in methane properly being treated as the ozone precursor it is under the framework of the Clean Air Act.

12. We also work on enforcement actions to ensure that oil and gas facilities are complying with permit and Clean Air Act requirements. As part of that enforcement work, we have begun evaluating which oil and gas facilities would be subject to the requirements of the 2024 Final Rule, to ensure that the Clean Air Act and EPA’s implementing regulations are fully enforced to the benefit of public health, species, their habitats, and ecosystems.

13. The Center and its members are harmed by continued emissions of methane and other volatile organic compounds, as well as sulfur dioxide, from the oil and gas sector and are further injured by the EPA’s delay of implementation of many provisions of the Final 2024 Rule reducing these emissions from the oil and gas sector, made permanent in the EPA’s Final Rule entitled “Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources,” (“Final Rule”) published in the Federal Register at 90 Fed. Reg. 55,671 (Dec. 3, 2025). Delaying implementation of the 2024 Final Rule will also result in delays that harm the

Center and its members by postponing many of the emissions reductions the rule is meant to achieve, with the potential for irreversible consequences because of the harm done by climate change (i.e., heat waves), volatile organic compounds, including hazardous air pollutants, sulfur dioxide, and ozone, which can cause premature death.

14. For example, postponing compliance deadlines for implementation of the 2024 Final Rule's OOOOb standards for equipment leak repair requirements, zero-emissions process controllers, and 95% emissions reductions for methane and VOCs for storage vessels will result in marked and measurable additional emissions that would not have otherwise occurred under the 2024 Final Rule's compliance deadlines. The EPA itself estimates that delays first authorized in its Interim Final Rule and made permanent in the Final Rule are projected to

- a. result in 1,300,000 short tons of "total additional emissions" methane emissions as compared to the 2024 Final Rule;¹
- b. "increase emissions of volatile organic compounds (VOC), which are a precursor to ozone, by 350,000 short tons relative to the 2024 Final Rule over the 2028–2039 analysis horizon";²
- c. "result in increases of emissions of VOC, which are a precursor to PM2.5, relative to the 2024 Final Rule, thus increasing human exposure to PM2.5 and the incidence of PM2.5-related health effects";³ and
- d. "increase HAP [hazardous air pollutant] emissions by 13,000 tons" through 2039.⁴

¹ U.S. Environmental Protection Agency, *Economic Impact Analysis for the Extension of Deadlines in the NSPS OOOOb and EG OOOOc* at 6 (July 23, 2025), https://www.epa.gov/system/files/documents/2025-07/oil_and_gas_eia_extension_of_deadlines_07-2025.pdf.

² *Id.*

³ *Id.* at 7.

⁴ *Id.*

15. The increased methane and accompanying PM2.5, VOC and hazardous air pollutant emissions from the Final Rule harm the Center's and its members' interests by contributing to climate change, harming public health, and damaging the environment, including by precipitating the creation of ground-level ozone, which in turn adversely affects public health, species and their habitats, and ecosystems.

16. By imposing requirements to eliminate, limit or significantly reduce such methane, VOC, sulfur dioxide, PM2.5 and HAP emissions, EPA's 2024 Final Rule significantly limited emissions in oil and gas extraction and production processes, thereby alleviating harms to the Center's organizational interests. However, by extending the compliance deadlines in the Final Rule, the Center's members and its organizational interests are significantly adversely affected by the additional and increased emissions that would not have occurred under the 2024 Final Rule.

17. Further, the Center and its members are harmed by the EPA's failure to follow proper Administrative Procedure Act and Clean Air Act procedures requiring public notice and comment on rulemakings. Here, the Interim Final Rule took effect on the day it was published, giving the public no time to weigh in on the significant air pollution harms that would flow from the rule before being subject to those harms. However, the Center has a long history of providing substantive feedback on EPA proposals concerning the regulation of methane, VOCs, hazardous air pollutants, PM2.5 and other air pollution from oil and gas operations, including commenting multiple times on the 2024 Final Rule. In fact, neither the Interim Final Rule nor the Final Rule, which relies on the flawed notice and comment period for the Interim Final Rule, satisfy Administrative Procedure Act and Clean Air Act procedures for public notice and comment on rulemakings.

18. Effective implementation and enforcement of our administrative and environmental laws, such as the Administrative Procedure Act and Clean Air Act, is essential to protecting the public and ecosystems from the detrimental air quality impacts of super pollutants like methane, and to the Center's organizational interest in the full implementation of our environmental laws to protect health, wildlife, ecosystems, and the environment.

19. A ruling finding the EPA acted unlawfully in issuing the Final Rule would redress the harms that the Center and its members would otherwise experience from the deprivation of their procedural right to comment on the agency's activities and rulemakings *prior* to them taking effect, as well as the significant increase in methane and other pollution acknowledged by EPA that would occur because of delays to compliance deadlines for the air pollution regulations, and therefore the harms to the Center's interest in protecting the environment, communities, species, and ecosystems from the detrimental effects of air pollutants and climate change.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

December 18, 2025

/s/ Ryan Maher

Ryan Maher

Attachment 17

Declaration of Shirley (Sug) J. McNall, Sierra Club

DECLARATION OF SHIRLEY (SUG) J. MCNALL

I, Sug J. McNall, declare as follows:

1. My name is Sug J. McNall, and I am 81 years old and competent to give this declaration. All information herein is based on my own personal knowledge unless otherwise indicated.
2. My address is 840 Navajo Dam Road, Aztec, New Mexico, 87410. Aztec is in San Juan County, and my first husband and I moved here in 1976. I was born and raised in 1944 in Farmington, New Mexico, also in San Juan County. I am currently retired.
3. I am a dues-paying member of Sierra Club. I first joined in 1996 because I love the great outdoors, and the Club is interested in protecting the environment and the beauty of the land in the U.S.A.
4. I live with my husband in Aztec. My daughter lives within six miles of us, and my granddaughter and two great-grandchildren live within two miles of us. My husband and I enjoy taking walks out in the desert and birding and looking for wildlife. Unfortunately, we have an ozone problem in the San Juan Basin. When you drive or fly into our area, there is a big brown cloud of smog over our basin. We have to be careful about being outside when it is hot and the ozone levels are really high. In 2001, the Environmental Protection Agency (EPA) came in and told us how bad our ozone problems

here are. We have three ozone monitoring stations sponsored by the state of New Mexico and EPA, and I look at the reports.

5. Our entire population here is impacted by the fossil fuel industry. I understand that as of August 2025, there were over 120 active gas wells within the city limits. According to data compiled by environmental groups, as of August 2025, San Juan County had 11,667 active and producing gas and oil wells. I understand that, of these totals, 11,595 were drilled or modified before December 6, 2022, while 77 were drilled or modified after December 6, 2022.
6. I understand that as of August 2025, the mapping tools on the New Mexico Oil Conservation Division's website showed that there were approximately 200 active gas wells within two and a half miles of our house. One old, leaky well—which is still producing gas—is located on our property, within about 600 feet of our house, and another six within about 2,000 feet. There are also two active gas wells within about 1,000 feet of McCoy Elementary School, where my grandchildren attended.
7. This past week, the Aztec City Commission approved the drilling of two new gas wells near Aztec High School. Although I could not attend the Commission meeting in person, I subsequently watched it on video. The new wells will be drilled on one large pad approximately 1,080 feet from the

school, although it is not clear if the footage is from the property boundary or actual school buildings. To the best of my knowledge, the school was not contacted beforehand, and the New Mexico Oil Conservation Division has approved the new wells.

8. There are also many gas compressor stations in our area. I understand that as of August 2025, the New Mexico Environment Department's website showed that there were there were close to 90 compressor stations in San Juan County and in the neighboring Rio Arriba County. These stations leak pollutants into the atmosphere that worsen our air quality, harm our communities, and cause climate change. One compressor station, North Crandell, is just 1.3 miles from my home.
9. I understand that oil and gas wells and gas compressor stations emit harmful air pollutants, including methane—a powerful greenhouse gas—smog- and soot-forming volatile organic compounds, and hazardous air pollutants like benzene and hydrogen sulfide.
10. I am aware that methane is a major driver of climate change. We are under the Four Corners methane hot spot that was discovered by NASA and NOAA. They came in and did a lot of testing. I live in the high desert and have serious concerns about climate change.

11. In our area, temperatures are rising, and we depend on the local river and snowpack for water. The temperature this time of year is usually in the mid-90s Fahrenheit, but has recently been running in the low-100s Fahrenheit. We have also experienced severe droughts in recent years, which may have been part of a one-thousand-year drought. The droughts mean that we have been in constant danger of wildfires. We have had several wildfires in our area, including one a few years back in our neighborhood. Forty miles away in the desert, there was a huge wildfire started by lightning around that time. It went from ten acres to over 100 in one afternoon, and some of my family members were first responders.
12. We have also had to deal with wildfire smoke coming in from Colorado and California, which has made our air quality unhealthy and has caused my daughters and others to have difficulty breathing. This has led to extreme restrictions on open fires in San Juan County. In the past, we used to make campfires and burn brush outside, but we really haven't been able to do in several years.
13. As an avid birder and viewer of wildlife, I also see the impact that climate change is having on species and my outdoor recreational activities. Bird counts are down in our area, and I have personally seen fewer birds in recent years. Nearby forests are dying from the combination of drought and

invasive bark beetles. There has been a rise in bark beetle populations as temperatures have continued to increase. The bark beetles target pinyon juniper trees, which are foundational to our Four Corners forest ecosystems and are already dying because of the drought. We must protect future generations and the planet by combating climate change, not contributing to it. Otherwise, we are going to be in deep, deep trouble.

14. I am also very concerned about the negative impacts of smog, which is mostly composed of ozone. I have been a part of the Four Corners Ozone Task Force, which has done extensive studies on ozone and the effects that it has on asthmatics, the elderly, and children. According to the New Mexico Department of Health, the three hospitals in the area have noted that high ozone has resulted in a direct increase in visits by asthmatics, children, and the elderly with respiratory distress. Our Four Corners area has high asthma and respiratory distress rates. My daughter is 58 years old, and in the last decade or so has had severe asthma; I worry very much for her health.
15. In addition, to human health concerns, I know that members of the Navajo Tribe have reported that ozone is killing the vegetation in their reservations, which make up almost two-thirds of the land in San Juan County.
16. I am also concerned about hazardous air pollutants from oil and gas development in our area. We did a project in 2010 called the Bucket

Brigade, where a group came in and trained us to take air samples. One well, BP Storey BLS #004 (API No. 3004509624), which is close to our house, was emitting high levels of benzene. This really worried me because benzene is a known human carcinogen. This well is still active and producing gas, too.

17. Hydrogen sulfide is another hazardous air pollutant that leaks from wells.

We received a document from the Bureau of Land Management in the past informing us that wells in our area leak high levels of hydrogen sulfide. In 2005, I had a strong negative reaction to the hydrogen sulfide levels near my home, and I was worried that it would kill me.

18. I was also involved in a program with Earthworks where we did a Toxic

Tour of Hell that showed how we have to survive around gas facilities. We did Forward Looking Infrared (FLIR) camera work, which detects emissions. We took film footage near the top of the tank at the well near my grandchildren's former school. The pollution comes out of the well and drifts over the playground at the school. It was clear from the footage how much these wells pollute our communities.

19. I am aware that in 2024, EPA finalized a rule that requires greater emission reductions from new oil and gas equipment, and that will include the first-ever emission reduction requirements for existing equipment. I understand

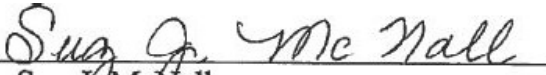
that this rule provides considerable climate and health benefits to me, my family, and my community through a number of ways, including strengthened leak detection requirements for wells and compressor stations, the installation of zero-emitting technology, restrictions on flaring at oil wells, and emission standards for storage tanks. I understand that these technologies and practices will reduce emissions of methane, smog-forming volatile organic compounds, and toxic air pollutants like benzene and hydrogen sulfide. My family and I will benefit from that outcome, because it means fewer emissions of pollutants that drive climate change, worsen our air quality, and harm our health and the health of others in our community.

20. I understand that EPA has now issued a final rule delaying the deadlines that oil and gas companies must meet to achieve the 2024 rule's emission reductions. These delays will harm me, my family, and my community, since they will postpone the emission reductions that will result from the 2024 rule.

21. I understand that Sierra Club has filed a lawsuit challenging EPA's delays of the 2024 rule's compliance deadlines. If this lawsuit is successful, it will ensure that the rule's original schedule will remain in place, and that there will be no delays in the air pollution reductions it will provide. This would be a positive outcome for my family and me, since it would mean we receive

the benefits of reduced climate pollution and cleaner air sooner than we would with the final delay rule in place. For these reasons, I support Sierra Club in this lawsuit.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed on December 17, 2025.


Sug J. McNall

Attachment 18

Declaration of Robert Michaels, Environmental Law & Policy Center

**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

ENVIRONMENTAL DEFENSE FUND,	)	
<i>et al.</i> ,	)	
	)	
<i>Petitioners</i>	)	
	)	
v.	)	No. 25-1275
	)	
LEE ZELDIN et.al.,	)	
	)	
<i>Respondents</i>	)	
	)	

**DECLARATION OF ROBERT MICHAELS
MANAGING ATTORNEY, ENVIRONMENTAL LAW & POLICY
CENTER**

I, Robert Michaels, do hereby affirm and state:

1. I am employed as a Managing Attorney at the Environmental Law & Policy Center (“ELPC”), which is headquartered in Chicago and where I reside. I am also a member of ELPC.

2. ELPC is a public interest legal and policy advocacy organization focused on environmental issues in the Midwest with a long history of working to protect air quality and the climate. ELPC advocates for healthy clean air, safe clean water, and protections for vital natural resources and wild and natural places, all within the Great Lakes and the Midwest region. ELPC also works to advance climate change solutions in the Midwest through clean renewable

energy and clean transportation. ELPC is a not-for-profit organization under section 501(c)(3) of the United States Internal Revenue Code and is incorporated in the State of Illinois.

3. ELPC has offices and staff located in Illinois, Iowa, Michigan, Ohio, and Washington, D.C. ELPC dues-paying members reside in rural, urban, and suburban areas throughout the Midwest, including in the Great Lakes states, as well as in Iowa, Nebraska, North Dakota, and South Dakota.

4. As a Managing Attorney at ELPC, I am responsible for leading the Clean Air and Clean Water Program Areas. As part of my job responsibilities, I keep current on rulemaking by the U.S. Environmental Protection Agency (“EPA”) regarding proposed rules that are promulgated pursuant to the Clean Air Act, Clean Water Act and related federal statutes. I am involved in our decision-making at ELPC regarding ELPC’s advocacy with respect to such EPA rulemaking, and ELPC has a long history of advocating for clean air and, specifically, for reductions in methane emissions.

5. ELPC has been a party to, and involved with, rulemaking and litigation on the issue of air quality generally and methane emissions specifically, including before federal and state courts and regulatory agencies. For example, ELPC was a petitioner and presented oral argument before the D.C. Circuit in *Clean Wisconsin v. U.S. EPA*, 964 F.3d 1145 (D.C. Cir. 2020), a matter involving

the EPA's National Ambient Air Quality Standards in ozone non-attainment areas in Illinois and Indiana.

6. Additionally, ELPC has been, and continues to be, engaged in litigation regarding the Bureau of Land Management (“BLM”) Waste Prevention Rule. BLM promulgated this final rule in 2016 to reduce the waste of natural gas in the form of venting, flaring and leaking of methane from oil and gas operations on federal and tribal land. The BLM’s original Waste Prevention Rule was challenged in the United States District Court for Wyoming in *Wyoming v. U.S. Dep’t of the Interior*, No. 2:16-CV-00285. *See* Order Granting Motion to Intervene as Respondents, Dec. 8, 2016, ECF No. 56. That litigation concluded in August 2024 when the Tenth Circuit granted a motion to vacate filed by the EPA and by ELPC and other environmental groups. *See Wyoming v. U.S. Dep’t of the Interior*, Order and Judgment, Aug. 13, 2024, App. Case 20:8072, Doc. No. 010111093851. Litigation regarding a subsequent version of the Waste Prevention Rule continues in the Ninth Circuit in which ELPC is an intervenor. *See California v. U.S. Bureau of Land Mgmt.*, No. 17-1745, and *California Air Res. Bd. v. Wyoming*, No. 20-16794; *see also* Defs. Notice of Appeal, Dec. 4, 207, *California v. U.S. Bureau of Land Mgmt.*, No. 3:17-cv-03804-EDL (N.D. Cal.), Doc. 98.

7. ELPC also filed a motion to intervene in the United States Court of

Appeals for the D.C. Circuit to defend the EPA’s final rule entitled: “Waste Emissions Charge for Petroleum and Natural Gas Systems: Procedures for Facilitating Compliance, Including Netting and Exemptions,” 89 Fed. Reg. 91,094 (Nov. 18, 2024). *See, e.g.*, Motion of Environmental Law and Policy Center to Intervene in Support of Respondents, February 14, 2025. Doc. No. 2100941, *Indep. Petroleum Ass’n of Am. v. EPA*, No. 25-1021 and consolidated cases. That matter was dismissed on mootness grounds on May 23, 2025. *See* Order Granting Voluntarily Dismissal, Doc No. 2117259.

8. Furthermore, ELPC is an intervenor in litigation relating to the EPA rule on New Source Performance Standards (NSPS), originally promulgated in 2016 to limit methane emissions from the oil and gas industry. ELPC intervened in the United States Court of Appeals for the D.C. Circuit to support the EPA’s newest iteration of that rule which is entitled “Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review,” 89 Fed. Reg. 16,820 (March 8, 2024) (“2024 Rule”). *See, e.g.*, Order Granting Motions to Intervene, April 19, 2024, Order, Doc. No. 2050337, *Texas v. EPA*, No. 24-1054. This matter remains pending and is in abeyance. *See Id.*, Order Granting Motion to Govern Further Proceedings, June 24, 2025, Doc No. 2122177. ELPC is committed to defending the climate and health benefits of the 2024 Rule.

9. I am aware of EPA's final rule entitled: "Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources." 90 Fed. Reg. 55,671 (December 3, 2025) ("Delay Rule"). This Delay Rule extends the compliance deadlines for the technology control and monitoring provisions of the 2024 Rule, which, in turn, will forestall the myriad climate and health benefits associated with the 2024 Rule to the detriment of ELPC and its members.

10. According to the EPA's own Regulatory Impact Analysis ("RIA"), the 2024 Rule is expected to result in significant emissions reductions, including an estimated 130 million metric tons of methane, 1.3 million short tons of Volatile Organic Compounds ("VOCs"), and 49 thousand short tons of Hazardous Air Pollutants ("HAPs") between 2024 and 2029. *See* EPA-452/R-23-013, pg. 3-4.

11. Foregoing these emissions reductions will have significant adverse health impacts, including on ELPC members in the Midwest.

12. The EPA's RIA recognized that oil and natural gas operations produce ozone, a byproduct of VOCs and nitrogen oxides. *See* EPA-452/R-23-013, pg. 3-26. It also recognized that ozone is associated with many adverse health effects including respiratory morbidity and premature respiratory mortality. *See Id.* at pg. 3-25. In addition, the RIA concluded that: (a) short term exposure to

ozone is causally related to respiratory effects and is likely to be causal for metabolic effects; and (b) long-term exposure to ozone pollution is likely to be causal for respiratory effects including respiratory mortality. *Id.* at 3-31.

13. The EPA geographically mapped the reductions in ozone that would accrue as a result of the 2024 Rule. *Id.* at 3-30, Figure 3-2. The mapping showed significant reductions in ozone concentrations across the Midwest by 2028 in states where ELPC members reside. These states include Illinois, Iowa, Michigan, Minnesota, Ohio, Wisconsin, Indiana, Iowa, Minnesota, Nebraska, North Dakota, and South Dakota. *Id.*

14. The EPA's Delay Rule will adversely impact the health of ELPC members because the projected reductions in VOCs, and by extension reductions in ozone pollution, attained through implementation of the 2024 Rule would be unnecessarily forestalled. Those adverse health impacts will not be avoided and instead endured by ELPC members throughout the Midwest.

15. The EPA's RIA also found that the 2024 Rule is expected to reduce Particulate Matter 2.5 ("PM2.5") emissions, which would in turn decrease human exposure to PM2.5 and PM2.5-related adverse health effects, including respiratory morbidity and mortality. *Id.* at 3-54-55. The RIA also found that PM2.5 pollution is associated with "asthma development and aggravation, decreased lung function, and increased respiratory symptoms, such as irritation of the airways, coughing, or

difficulty breathing.” *Id.* at 3-55. The EPA’s Delay Rule will forestall reduction of PM_{2.5} pollution and will therefore ensure the adverse health impacts mentioned above will be endured throughout the country, including the states in which ELPC has members.

16. Lastly, the EPA’s RIA found “that several different [hazardous air pollutants (“HAPs”)] are emitted from oil and natural gas operations.” *Id.* at 3-56. Eight of these HAPs are especially prevalent in emissions from oil and natural gas operations. *Id.* at 3-57. These include toluene, hexane, benzene, xylenes (mixed), ethylene glycol, methanol, ethyl benzene, and 2,2,4- trimethylpentane. *Id.* The health impacts associated with these HAPs are extensive. For example, benzene, the highest volume pollutant, is a known carcinogen; the EPA has concluded there is “a causal relationship between benzene exposure and acute lymphocytic leukemia.” *Id.* at 3-58. Benzene is also associated with “arrested development of blood cells, anemia, leukopenia, thrombocytopenia, and aplastic anemia.” *Id.*

17. The 2024 Rule would avoid 49 thousand short tons of HAPs between 2024 and 2029. *Id.* at 3-4. The EPA’s Delay Rule will forestall those reductions; therefore, the adverse health impacts from HAPs will not be avoided but instead

endured by Americans throughout the country, including the states in which ELPC has members.

18. ELPC has members throughout the Midwest who live or recreate near oil and gas operations impacted by the Delay Rule. Three of those ELPC members have submitted declarations in this case. These declarants are Joseph A. Satrom, Paula Leach, and Elizabeth Ann DelBuono, MD.

19. Furthermore, the basis for this Delay Rule has also bypassed important public participation opportunities. When issuing the Interim Final Rule entitled “Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review,” EPA did not provide an opportunity for public comment before making the rule effective immediately. *See* 90 Fed. Reg. 35,966 (July 31, 2025) (“Interim Delay Rule”). By issuing the Interim Delay Rule without first allowing for public comment, the EPA deprived ELPC of its procedural right to meaningfully comment guaranteed by the Administrative Procedure Act. *See* 42 U.S.C. § 7607(d)(5), (6)(B).

20. ELPC’s purpose and goal to defend environmental well-being and protect public health within the Midwest is threatened by the EPA’s Delay Rule. The Delay Rule will forestall much needed reductions in pollutants that adversely

impact the health of ELPC members by delaying the compliance deadlines for the technology control and monitoring provisions of the 2024 Rule.

21. The interests of ELPC and its members are threatened by the Delay Rule.

I declare that the foregoing is true and correct to the best of my knowledge.

Executed on December 17, 2025


Robert Michaels

Attachment 19

Declaration of Jeremy Nichols, Center for Biological Diversity

DECLARATION OF JEREMY NICHOLS

I, Jeremy Nichols, declare as follows:

1. The facts set forth in this declaration are based on my personal knowledge. If called as a witness in these proceedings, I could and would testify competently to these facts.

2. I currently reside in Lakewood, Colorado.

3. I am an employee of the Center for Biological Diversity (“Center”) and have been since November 2023. I am also a member of the Center and have been since 2011.

4. The Center is a non-profit, membership organization with more than 93,000 members in total and offices across the nation, with thousands of members in western and southwestern United States, including more than nine thousand members in Texas, Colorado, Wyoming and New Mexico.

5. The mission of the Center is to ensure the preservation, protection, and restoration of biodiversity, native species, ecosystems, public lands and water, and public health through science, policy, and environmental law. Based on an understanding that the health and welfare of human societies are closely linked to the condition of the natural environment, the Center works to protect natural resources like air, water, and land and to secure a future for animals and plants hovering on the brink of extinction. It works to protect the ecosystems imperiled species need to survive, and for the people that interact with, depend on, and cherish these natural resources.

6. In my role at the Center as a Senior Advocate, I work in the Center’s Environmental Health, Southwest, and Southern Rockies programs to protect clean air, safeguard communities, and enforce pollution prevention laws. In this role I work to reduce the threats to the environment and public health from air pollution, including greenhouse gases like methane.

7. As a member of the Center, I rely on the Center to represent my interests in conserving native species and their habitats, protecting our air quality and our environment by gathering and disseminating information about air pollution, advocating for the remediation of that pollution, and enforcing our environmental laws in the courts. I support its efforts to secure a future for all species, great or small, and to prevent development, pollution, and climate change from driving species extinct. Many of the species we work to protect rely on a stable climate to survive and ultimately achieve recovery.

8. To that end, the Center has longstanding programs and campaigns to address climate change and greenhouse gas emissions through the Center's Climate Law Institute, public lands program, oceans program, environmental health program, and endangered species program. One of the Center's top priorities is the full implementation of existing environmental laws to reduce climate change impacts to communities, endangered species and fragile ecosystems. We also aim to address climate change and help spur the transition from a fossil fuel dependent society to a clean energy future.

9. The Center has a longstanding campaign advocating for the rapid phase out of fossil fuel use as well as the abatement of greenhouse gas emissions from existing sources, including methane emissions. The Center's Climate Law Institute seeks to protect wildlife, ecosystems and communities from the catastrophic dangers and damages of climate disruption by using existing environmental laws (like the Clean Air Act) to slash greenhouse pollution and promote the just transition from a fossil fuel economy to 100 percent clean, renewable energy.

10. The Center has engaged in EPA's prior rulemaking proceedings to limit methane and other air pollutant emissions from the oil and gas sector under the Clean Air Act, providing multiple rounds of comments on the agency's proposals. The Center has also resorted to

litigation to prevent the rescission of methane regulations requiring oil and gas companies operating on public lands to take reasonable measures to prevent the waste of publicly owned natural gas, measures which significantly reduce pollution from methane. *See Sierra Club, et al. v. Zinke*, 3:18-cv-5984 (N.D. Cal). Additionally, the Center intervened in support of EPA's regulations implementing Clean Air Act Section 111 to control methane pollution from the oil and natural gas sectors in the face of attack by industry. *See Texas, et al., v. EPA, et al.*, 24-1054 (D.C. Circuit).

11. Furthermore, the Center petitioned EPA in 2021 to remove methane from its “negligibly reactive” volatile organic compounds (“VOC”) list, whereby it has been exempted from regulation in state implementation plans under the Clean Air Act, as a significant precursor to ground-level ozone.¹ Ozone pollution significantly adversely affects public health, causing asthma attacks and even death.

12. The science is overwhelmingly clear that climate change represents a stark threat to the future of biodiversity both within the United States and around the world. Species extinction risk will accelerate with continued greenhouse gas pollution. One million animal and plant species are now threatened with extinction, with climate change as a primary driver. The recent United Nations Global Methane Assessment demonstrates that slashing emissions from methane, including from the fossil fuel industry, is far more critical than previously thought to avoid the worst effects of climate change.

13. The impacts of methane emissions on our climate are particularly alarming. Immediate, deep reductions in methane emissions are critical for lowering the rate of global warming in the near-term, preventing the crossing of irreversible planetary tipping points, and

¹ See https://www.biologicaldiversity.org/programs/environmental_health/pdfs/Methane-Ethane-Petition.pdf.

avoiding harms to species and ecosystems from methane's intensive near-term heating effects and ground-level ozone production. Methane is a super-pollutant 87 times more powerful than CO₂ at warming the atmosphere over a 20-year period, and is second only to CO₂ in driving climate change during the industrial era.

14. Because methane is so climate-damaging but also comparatively short-lived (with an atmospheric lifetime of roughly a decade), cutting methane has a relatively immediate effect in slowing the rate of temperature rise in the near-term. Critically, deep cuts in methane emissions of ~45% by 2030 would avoid 0.3°C of warming by 2040 and are considered necessary to achieve the Paris Agreement's 1.5°C climate limit and prevent the worst damages from the climate crisis. Deep cuts in methane emissions that reduce near-term temperature rise are also critical for avoiding the crossing of planetary tipping points—abrupt and irreversible changes in Earth systems to states wholly outside human experience, resulting in severe physical, ecological and socioeconomic harms.

15. Methane also leads to the formation of ground-level ozone, a dangerous air pollutant, that harms ecosystems and species by suppressing plant growth and reducing plant productivity and carbon uptake. Methane emissions also directly affect public health in communities polluted by ground-level ozone, triggering a variety of health problems including bronchitis, emphysema, and asthma. Ozone also can reduce lung function and repeated exposure may permanently scar lung tissue.

16. The Center and its members are harmed by the increase in methane emissions from the oil and gas sector which will occur because of the EPA's Final Rule entitled "Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources"

published in the Federal Register at 90 Fed. Reg. 55,671 (Dec. 3, 2025) (“Final Rule”), which delays compliance deadlines for many of EPA’s 2024 Final Rule regulations reducing methane emissions from the oil and gas sector entitled “Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review,” 89 Fed. Reg. 16820 (March 8, 2024) (“2024 Final Rule”). This Final Rule makes permanent and adds additional extensions to deadlines first announced in its Interim Final Rule entitled “Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review Final Rule,” 90 Fed. Reg. 35,966 (July 31, 2025) (“Interim Final Rule”).

17. Methane emissions harm the Center’s members’ interests by contributing to climate change and precipitating the creation of ground-level ozone, which in turn adversely affect species and their habitats, public health, and ecosystems. In fact, EPA acknowledged that its Interim Final Rule will result in *more* emissions than would’ve otherwise occurred under the 2024 Final Rule—total additional emissions of 1,300,000 short tons of methane, 350,000 short tons of volatile organic compounds (VOCs), and 13,000 short tons of hazardous air pollutants through 2039.²

18. If not for the Final Rule delaying compliance deadline requirements, EPA’s 2024 Final Rule would significantly limit methane emissions in oil and gas extraction and production processes, thereby alleviating some of the harms to the Center’s organizational interest and members. By extending compliance deadlines for 18 months in most cases in for certain OOOOb

² U.S. Env’tl Protection Agency, *Economic Impact Analysis for the Extension of Deadlines in the NSPS OOOOb and EG OOOOc* at 6 (July 23, 2025), https://www.epa.gov/system/files/documents/2025-07/oil_and_gas_eia_extension_of_deadlines_07-2025.pdf.

emissions guidelines and for OOOOc state plan submittal deadlines, EPA's Final Rule will result in additional significant methane pollution that harms me, the Center's members, and the Center's organizational interests in reducing such pollution.

19. I understand the Final Rule makes permanent deadline delays for states like Colorado (where I live and recreate) to submit state implementation plans. I understand that Colorado has already adopted OOOOc-compliant process controller regulations.³ And I understand that Colorado's environmental agency has released draft rule language to align with OOOOc requirements, with plans to adopt a final rule by January, 2026.⁴ I am concerned that the Final Rule's permanent extension for state plan deadlines will delay the progress Colorado is making.

20. I am a long-time avid outdoor recreationist and regularly enjoy traveling throughout the western and southwestern United States to explore the region's public lands (primarily federally managed public lands) through hiking, biking, and camping, to view wildlife (in particular, birds), to float rivers with my raft, and enjoy iconic scenery. In my travels outdoors in the western and southwestern United States, I frequently happen upon areas of public lands that have experienced intensive oil and gas extraction. These areas include the Upper Green River Basin of western Wyoming, the Red Desert of southern Wyoming, the Thunder Basin National Grassland of northeast Wyoming, the Pawnee National Grassland in northeastern Colorado, the Powder River Basin of southeastern Montana, the Uinta Basin of northeast Utah,

³ 5 Colo. Code Regs § 1001-9:B.III; *see* Colo. Dep't Health & Env't, Colorado takes action to further reduce methane emissions from oil and gas operations (Feb. 21, 2025) ("This timeline requires operators to complete the phase out [of process controllers] sooner than the March 9, 2029 deadline under new federal requirements.") <https://cdphe.colorado.gov/press-release/colorado-takes-action-to-further-reduce-methane-emissions-from-oil-and-gas-operations>.

⁴ <https://oitco.hylandcloud.com/cdphermipop/docpop/docpop.aspx?docid=47493274> (draft rule language); <https://oitco.hylandcloud.com/cdphermipop/docpop/docpop.aspx?docid=47402380> (explanation of draft rule language); <https://drive.google.com/file/d/177DKpD432tymFITJS8TEKMRC3seTWahu/view> (rulemaking scheduled for January 14-16, 2026, to address OOOOc requirements).

and the Greater Chaco region of northwest New Mexico, southwest Colorado, and southeast Utah.

21. I also regularly recreate in Barr Lake State Park northeast of Denver and the Pawnee National Grassland northeast of Greeley, CO. Also, in July of this year, I was out in western Colorado, including the Garfield Creek State Wildlife Area and lands on the White River National Forest south of Rifle, Colorado.

22. When I am enjoying the outdoors and public lands in the western and southwestern United States and come across oil and gas extraction activity, this activity has detracted from my enjoyment of the outdoors. In many parts of the Rocky Mountain region of the United States, it is almost impossible to recreate without coming across oil and gas extraction activity, including wells, tanks, pipelines, trucks, and processing facilities. Visually, the sight of oil and gas development is deeply offensive to me and detracts significantly from my enjoyment of the natural beauty of the outdoors and public lands. This development doesn't just include oil and gas well sites, but also includes tanks, pipelines, processing facilities, heavy trucks and equipment, and drilling rigs that are drilling new wells or working over existing wells. When near oil and gas activity, I have smelled gases emanating from wells, tanks, and pipelines. These smells always have a solvent-like or diesel-like smell indicating they are VOC emissions, but also include methane. I've also heard the sound of gas leaking from equipment. These leaks are of methane and VOCs.

23. I recently recreated on the Pawnee National Grassland north of Denver in October 2024. During this visit, I visited an iconic scenic area called the Pawnee Buttes, I hiked, birdwatched, and searched for other wildlife. I enjoyed my visit, but the presence of oil and gas development was very prevalent, with drilling rigs on the landscape, wells, tanks, trucks, and

other equipment. In a visit to a portion of the Pawnee National Grassland, there was a drilling rig in operation and I could smell the solvent-like fumes coming from the site even though I was at least a quarter mile away.

24. During a visit in early mid-August 2024 to public lands that are part of the Thunder Basin National Grassland in northeast Wyoming, I hiked and watched for birds on a portion of the Grassland between Douglas, Wyoming and Gillette, Wyoming. During my visit, I observed several oil and gas wells that were being drilled and several wells that were already “in production.” I also observed flaring occurring at several well pads.

25. I routinely visit public lands that are part of the Thunder Basin to hike, camp, and view wildlife around once a year and have since 2010. Before my visit in mid-August 2024, I last visited the Thunder Basin in May 2023, mid-February 2023 and in early November 2021. I intend to visit again in June of 2025, and I intend to continue to regularly visit the Thunder Basin National Grassland throughout the foreseeable future.

26. In my visits to the Thunder Basin National Grassland, I have heard, smelled, and seen air pollution from wells pads, tanks, drilling rigs, and other oil and gas extraction activities. These sounds, smells, and sights have detracted from my recreational enjoyment of public lands in the region. Much of this harm stems from the failure of companies to utilize effective controls to limit methane emissions. When companies are required to utilize better controls to limit methane emissions and reduce other pollutant emissions, as required under the 2024 Final Rule, this would reduce the harms I would otherwise experience related to the sounds, smells, and sights of air pollution from oil and gas extraction activities on the Thunder Basin National Grassland.

27. In addition to the Thunder Basin National Grassland, I regularly recreate on public lands that are located on the Pawnee National Grassland, which is located north of Denver in northeastern Colorado. I most recently recreated on public lands that are part of the Pawnee National Grassland in mid-October 2024. During that visit, I hiked and watched for birds on the eastern unit of the Grassland located northwest of the small town of Raymer. During my visit, I observed many oil and gas wells that were being drilled and several wells that were already “in production.” I also observed flaring occurring at several well pads, heard gas venting, and smelled fumes from a drilling rig site.

28. I visit public lands that are part of the Pawnee to hike, camp, and view wildlife around once a year and have since 2010. Before my last visit in October 2024, I last visited the Pawnee in May 2024, September 2022, March 2021 and June of 2020. I intend to visit again in fall of 2025, and I intend to continue to regularly visit the Pawnee National Grassland throughout the foreseeable future.

29. In my visits to the Pawnee National Grassland, I have heard, smelled, and seen air pollution from wells pads, tanks, drilling rigs, and other oil and gas extraction activities. These sounds, smells, and sights have detracted from my recreational enjoyment of public lands in the region. Much of this harm stems from the failure of companies to utilize effective controls to limit methane emissions, which is required by the 2024 Final Rule—but many of which are delayed by the EPA’s Final Rule. If companies utilized better controls to limit methane emissions because of the imposition of fees by EPA for such methane emissions, it would reduce the harms I would otherwise experience related to the sounds, smells, and sights of air pollution from oil and gas extraction activities on the Pawnee National Grassland.

30. In my recent July 2025 visit to western Colorado, I went hiking in areas with many oil and gas wells, including the Garfield Creek State Wildlife Area and lands on the White River National Forest south of Rifle, Colorado. There are numerous oil and gas wells in these areas, as well as associated infrastructure including pipelines, tanks, and other equipment.

31. I regularly recreate in Adams and Jefferson Counties in Colorado. Adams County has a total of 5,085 active oil and gas wells, with at least one drilling rig/well currently under construction and Jefferson County has 91 total active oil and gas wells. *See Proville-Mirtich Decl*, (Doc. No. 2130555, Attach. 20).

32. The compliance delays authorized in the 2025 Interim Final Rule directly affect the compliance deadlines for these wells, resulting in increased emissions (as compared to the 2024 Final Rule) in the areas where I recreate. For example, postponing compliance deadlines for implementation of the 2024 Final Rule's OOOOb standards for equipment leak repair requirements, zero-emissions process controllers, and 95% emissions reductions for methane and VOCs for storage vessels will result in marked and measurable additional emissions that would not have otherwise occurred under the 2024 Final Rule's compliance deadlines.

33. In Barr Lake State Park, where I recently hiked in June of this year, there are 49 active permits for new wells since December of 2022 within 1.5 miles of the midpoint of the park, *see Proville-Mirtich Decl.*—all of which are now subject to permanent extension of compliance deadlines for part OOOOb under the Final Rule. This means that the wells I see and smell while recreating in Barr State Park will pollute the air with more methane and other pollutants and harm my enjoyment of the area because of the EPA's actions in the Final Rule than would have otherwise occurred under the 2024 Final Rule.

34. Similarly, there are 33 active well permits for existing wells (prior to December of 2022) within 1.5 miles of the midpoint of the Barr State Park which are subject to the Final Rule's permanent extension of state plan submittal deadlines for under subpart OOOOc. *See* Proville-Mirtich Decl. So too will these wells, that I see and smell while recreating in Barr State Park, pollute the air with more methane and other pollutants and harm my enjoyment of the area because of the EPA's actions in the Final Rule than would have otherwise occurred under the 2024 Final Rule.

35. I have visited many other parts of the western United States and experienced diminished enjoyment of my outdoor recreation as a result of the sights, sounds, and smells of oil and gas extraction activities, and their excess methane emissions venting and flaring. I intend to continue visiting, exploring, and attempting to enjoy public lands in the western United States, particularly in the Rocky Mountain region, for the foreseeable future. While oil and gas extraction activities may diminish my enjoyment, my enjoyment would not be as diminished if companies limited their emissions of methane, as required by EPA's 2024 Final Rule. However, the EPA's Final Rule permanently delaying compliance deadlines for such requirements prevent many of the emissions reductions that would reduce the harms I feel from oil and gas operations. By permanently delaying compliance deadlines, the Final Rule harms me and diminishes my enjoyment by allowing emissions that would otherwise not occur under the 2024 Final Rule.

36. In addition to recreating outdoors, where I live in Colorado, in Lakewood outside of Denver, I experience unhealthy levels of ozone pollution every summer. Ozone is a poisonous gas that even at low concentrations, can cause respiratory irritation, trigger asthma attacks, worsen lung disease, and even cause premature death. On high ozone days, I avoid outdoor recreation. The region's ozone is tied to unchecked oil and gas extraction (and concomitant

methane flaring and venting) occurring north and east of Denver. Oil and gas extraction releases large amounts of VOCs, which react with sunlight to form ozone. VOCs are released along with methane. If the oil and gas industry better controlled its methane emissions, as is required under EPA's 2024 Final Rule, it would help to reduce VOCs in the Denver Metro area and help to curtail the region's summertime ozone pollution problems. This would enable me to be able to recreate outdoors more often. I intend to continue living in Lakewood for the foreseeable future. Less methane pollution from the oil and gas industry means less VOCs, which means less ozone, which means my life where I live will be happier and healthier.

37. I am further injured by the EPA's failure to follow proper Administrative Procedure Act and Clean Air Act procedures requiring public notice and comment on rulemakings when issuing its Interim Final Rule and Final Rule. When the Interim Final Rule took effect on the day it was published, the Center and the broader public were given no time to weigh in on the significant air pollution harms that would flow from the Interim Final Rule before it took effect and they were immediately subject to those harms. In fact, neither the Interim Final Rule nor the Final Rule, which relies on comments accepted on the flawed Interim Final Rule, satisfy Administrative Procedure Act and Clean Air Act procedures requiring public notice and comment on rulemakings.

38. Center has a long history of providing substantive feedback on EPA proposals concerning the regulation of methane, VOCs, hazardous air pollutants, PM_{2.5} and other air pollution from oil and gas operations, including commenting multiple times on the 2024 Final Rule and filing litigation challenging the Interim Final Rule. *See Center for Biological Diversity v. EPA*, (D.C. Cir.) Case No. 25-1168. I and other Center members, as well as members of the public, rely on the procedural right to comment on such regulatory rulemakings to ensure the

government takes into account and responds to our comments highlighting the significant air quality and pollution impacts.

39. Effective implementation and enforcement of our administrative and environmental laws, such as the Administrative Procedure Act and Clean Air Act, is essential to protecting the public, Center members (including me) and ecosystems from the detrimental air quality impacts of super pollutants like methane, and to the Center's organizational interest in the full implementation of our environmental laws to protect health, wildlife, ecosystems, and the environment.

40. I believe that effective implementation and enforcement of our environmental and administrative laws, such as the Clean Air Act and Administrative Procedure Act, is essential to protecting the public and ecosystems against the detrimental air quality impacts of super pollutants like methane. A Court order finding EPA acted unlawfully in issuing the Final Rule and reinstating the compliance deadlines in the 2024 Final Rule would alleviate some of the impacts of methane emissions felt by me, communities, wildlife, and ecosystems. Such a ruling would redress the harms that I and the Center's members will experience from the Final Rule and therefore the harms to the Center's interest in protecting the environment, communities, species and ecosystems from the detrimental effects of climate change.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

December 18, 2025

/s/ Jeremy Nichols

Jeremy Nichols

Attachment 20

Declaration of Lauren Pagel, Earthworks

IN THE UNITED STATES COURT OF APPEALS
DISTRICT OF COLUMBIA CIRCUIT

DECLARATION OF LAUREN PAGEL
Submitted In Support of Earthworks

I, Lauren Pagel, do hereby affirm and state:

1. I am the Policy Director for Earthworks. I have worked for Earthworks for 22 years.
2. Earthworks is a nonprofit organization that, since 1988, has helped communities secure protections of their health, land, water, and air from extractive industries. Earthworks is the only national organization in the United States to focus exclusively on preventing the destructive impacts of the extraction of oil, gas, and minerals. Earthworks stands with frontline communities opposing dirty fossil fuels and dirty mining while advocating for a clean energy transition. Earthworks aims to reduce the immediate harms of oil, gas, and mining upon communities, including reducing methane emissions from fossil fuel operations to slow climate change.
3. In my capacity as a staff member of Earthworks, I am familiar with the nonprofit organization's mission.

4. Earthworks is comprised of members who are on the organization's email list and have taken at least one action in the past year. Earthworks currently has over 90,000 members, and Earthworks has members in all fifty states.

5. As policy director, I am Earthworks's lead staff person on all policy issues, and I lead a policy team whose remit includes approving reports, blogs, and other Earthworks publications that provide information and education on oil and gas issued, among others.

6. I am also Earthworks's lead staff person on methane emissions. A key part of my role in that capacity is to work on reducing methane emissions at the federal and state policy levels.

7. On behalf of Earthworks, I have worked on EPA rulemakings on methane emissions since 2014.

8. I also work in coalition with other national, state, and local groups about reducing air pollution, including from methane. In addition to advocating for strong methane regulations from EPA, we work with members of Congress on instituting methane emissions limits, including by bringing community members directly impacted by oil and gas to D.C. to bring their voices to elected officials.

9. As a result of my work at Earthworks, I am aware of the harms of methane emissions. I have heard directly from community members on the

ground who have a lot of the same stories about the impacts to their health
from living

next to oil and gas, including persistent headaches and nosebleeds. The science is clear that living near oil and gas emissions increases cancer risk.

10. As a result of my work at Earthworks, I am aware that methane is an ozone precursor. I am also aware that oil and gas emissions are associated with toxics, such as benzene and toluene, that are known carcinogens.

11. As a result of my work at Earthworks, I am aware that methane emissions impact everyone because methane is a climate forcing pollutant. Methane is a climate forcer because of its twelve-year atmospheric lifespan.

12. I am concerned about the health and climate impacts of methane and other pollutants emitted by the oil and gas sector.

13. I understand that in March 2024, U.S. EPA finalized a rule titled “Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review.” 89 Fed. Reg. 16,820 (Mar. 8, 2024). Earthworks supports the full and timely implementation of this March 2024 rule because it will reduce emissions of methane and other harmful pollutants.

14. Due to my work with Earthworks, I understand that this past summer the U.S. Environmental Protection Agency (“EPA”) issued an interim final rule, without first taking public comment, that delays compliance deadlines for national standards for oil and gas facilities that

would control methane and VOC

emissions from both new and existing infrastructure. Had the EPA provided an opportunity to comment prior to issuing the interim final rule, Earthworks would have provided comment outlining the substantive and legal deficiencies with such an approach.

15. Earthworks did submit comments as part of EPA's post-finalization comment solicitation on the interim final rule, which closed on October 3, 2025. Our comments indicated strong opposition to the finalized delays.

16. I am aware that shortly after the conclusion of that comment period, EPA issued an additional final rule re-affirming the deadline extensions present in the interim final rule and providing additional extensions.

17. I understand that the Environmental Protection Agency published its interim final rule establishing an "Extension of Deadlines in standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review Final Rule ("interim final rule") on July 31, 2025.

18. I am also aware that the Agency published the additional final rule re-affirming deadline extensions and tacking on more extensions, titled "Oil and Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources" ("final rule") on December 3, 2025.

19. If this final rule stands, it will negatively impact Earthworks'

members who live, work, and recreate in and around oil and gas infrastructure.

20. I understand that Earthworks challenged the interim final rule and now also seeks to challenge the additional final rule.

21. I support Earthworks' efforts to challenge this rule. Earthworks' efforts to challenge this rule are directly relevant to Earthworks' mission and consistent with the organization's policy work on methane.

I declare under penalty of perjury that the foregoing is true to the best of my knowledge, information, and belief.

December 18, 2025



Lauren Pagel

Attachment 21

Declaration of Virginia Palacios, Environmental Defense Fund

DECLARATION OF VIRGINIA PALACIOS

I, Virginia Palacios, declare as follows:

1. I am currently a member of the Environmental Defense Fund (“EDF”). I am a landowner in Webb County, four miles south of Encinal, Texas. I own Atalaya Ranch (“Ranch”) on 146.22 deeded acres in Webb County. My family has lived in Webb County for nine generations, and we are descendants of Bartolome Garcia, the great-great grandchild of Don Tomas Sanchez, the founder of Laredo, Texas. The Ranch has been in my family for four generations. I named the ranch “Atalaya” after the name of the one-room schoolhouse my grandmother taught at on the Ranch from 1927 to 1943.

2. My ranch is located in the Eagle Ford Shale in the southwestern part of Texas, one of the most active areas in the country for oil and gas production, and in Webb County, which was the highest natural gas producing county in Texas in August 2023. There are currently approximately 9 active or permitted gas wells on or within a one-mile radius of the Ranch. Additionally, my house is approximately 2.5 miles south of the Enterprise Products Partners Gas Gathering plant on the Martineña Road near Encinal.

3. From 1922 to 2011, my family used the ranch to raise and slaughter cattle, to then sell it on the market. Before my father inherited the Ranch in 1995, the Ranch belonged to my great uncle, Juan L. Salinas (“Tío Juan”), who had

inherited it from his father, Antonio Salinas. Cattle ranching was Tío Juan's primary source of income until he passed away in 1995 at the age of 94. Tío Juan was a rodeo athlete who competed in the national rodeo circuit and made it to the Championship Rodeo in Madison Square Garden for ten consecutive years from 1936 to 1946.¹ In 1991 he was inducted into the Rodeo Hall of Fame of the National Cowboy and Western Heritage Museum. From the time I was a child, my father helped manage Tío Juan's cattle, and he inherited full responsibility for the cattle in 1995 after Tío Juan passed away. Cattle ranching was not my father's primary source of income, but the cattle provided a helpful service in maintaining grasslands on the ranch and the revenue from their sale also helped to pay for ranch maintenance. In 2011, my family stopped ranching cattle when a historic drought in Texas made ranching uneconomic. During the drought, temperatures of 115 degrees Fahrenheit multiple days in a row were not uncommon and the grass became crunchy, brown, and dead – insufficient to sustain the herd. Without grass, my father had to purchase hay, which was more expensive during a drought. Because my father could no longer afford to feed the cattle as a result of these changes, he decided to sell all of our cattle. My father passed away in 2018.

4. In the years that followed my father's death my brothers and I thought

¹ Palacios, Ricardo D. 2007. *Tio Cowboy: Juan Salinas, Rodeo Roper & Horseman*. Texas A&M University Press College Station.

about getting back into cattle ranching. Ranching is an important part of our heritage. I grew up watching my father and brothers work cattle on our land. Ranching on this land is not only a part of our family history, but also our regional culture. Further, maintaining a ranch is expensive, even without cattle, and my brothers and I were interested in making use of the land's resources to help offset the cost of ranch maintenance. However, after talking to neighbors and relatives carrying on this tradition, we learned that cattle ranching is no longer profitable. Raising cattle isn't a reliable business option on our land anymore because it doesn't rain consistently like it used to. Several ranchers in the area have remarked that while our area used to get rain throughout the year, which kept the grass growing year-round for the cattle, there are now just a few torrential downpours throughout the year without the consistency needed to keep plants growing. Because of these changes in rainfall and the economic uncertainty, my brothers and I decided to forgo cattle ranching. We are the first generation in our family to do so.

5. The impacts of climate change caused by greenhouse gases such as methane are evident on the Ranch. Aside from drought impacting plant growth and the ability to use our land to raise cattle, the temperatures on the ranch are so extreme they impede my ability to safely work on the ranch many days out of the year. The past couple of summers have been some of the worst. There have been

strings of days – adding up to about three months straight of 110-degree or higher days. At the same time as the drought, we have also experienced extreme winds several times this year. The Ranch is about 130 miles from the Gulf Coast, as the crow flies, and southeasterly Gulf winds are common and stronger during hurricane season. Both the drought and the extreme freezes we had in 2021 and 2022 weakened the trees, and every time we experienced high winds this year, many trees would shed large branches. Because of this, I had to spend a considerable amount of time trimming trees and clearing branches around the property. Moving branches to and from the truck bed is a relatively easy to moderate physical task for a physically able person in her thirties but became more challenging for me in triple-digit weather. The period of day when working is unsafe has become longer. Traditionally, the hours between 3 pm and 5 pm are the hottest parts of the day and are not recommended for outdoor work. Now I often find that I can only do activities like this for a few hours in the morning or the evening, and I needed to take a break from about 1 pm to 5 pm, when the heat made me the slowest. Sometimes, after a few hours of work, I have noticed my heart racing after doing an easy activity like cutting grass with a weed eater. This is a sign of heat stress that can lead to heat stroke. At one point in the summer, I started paying a friend to help me on the Ranch. After one of our first days working together, he told me he had been feeling dizzy just before we stopped

working at 1 pm. Later in the season, he decided it would be safer to come help me in the evenings from about 5 pm to 9 pm, once the sun started to set.

6. Since 2021 I have only seen one bluebonnet (the state flower of Texas) on our ranch, when we used to see fields of them blooming every year from about February to April. As a child, one of my hobbies was flower pressing, and bluebonnets were so plentiful, beautiful, and iconic that they were one of my favorite flowers to press. They are dying off. Bluebonnets are important for the soil as they fix nitrogen, which is essential to plant growth, turning it into a nitrogen compound that plants can use.

7. Since cattle ranching seems to no longer be a viable profit- making venture, I have been hoping to establish an ecotourism business on the Ranch which is located on a major migratory corridor for birds. The Ranch is also at the northernmost range for some tropical bird species such as the Green Jay and the Black-bellied Whistling Duck, which cannot be seen in most other parts of the United States outside of South Texas. But climate change is threatening bird life in South Texas and potentially my ability to establish a birding business on the Ranch. This past summer, I noticed numerous birds on our property panting with their mouths open because of extreme heat, some dead birds, and occasionally bees falling to the ground right out of the air. These observations are not typical. While it is common to have 110-degree days during a Webb County summer, I have

never experienced so many 110-degree days in a row.

8. I have personally been exposed to air emissions associated with venting, flaring, and leaking wells near the Ranch. There have been several flares surrounding my property that have been improperly operating. I know that when flares are orange and slightly marbled with smoke, the flare is working, but that when the flare has too much oxygen assistance the emissions are clear and translucent, without a flame. This can indicate that pollutants like methane, volatile organic compounds (“VOCs”), and hazardous air pollutants (“HAPs”) are escaping uncombusted and directly into the atmosphere. Alternatively, if the flare is smoking too much, then it isn’t getting enough oxygen and is also not fully combusting pollutants but may also be forming additional pollutants like black carbon. I have periodically seen flares surrounding my property to be in some form of poor operation, whether smoking too much or too little. I periodically see flared gas coming from the Enterprise Products Partners Gas Gathering plant. When the facility appears to me to be smoking too much or if the flare is flickering out, I call the Texas Commission on Environmental Quality (TCEQ) to report it, and they often don’t respond or arrive at the scene for 3 to 4 weeks.² Winds from the facility sometimes blow in the direction of the Ranch. Although the prevailing wind tends

² See TCEQ Investigation numbers 1553408 (Jan 30, 2019), 1699829 (Jan. 28, 2021), and 1775185 (Jan 12, 2022).

to be from the southeast, sometimes when I've noticed the flares smoking there has been a northern wind blowing toward the Ranch. I have reported emissions from the gathering facility to TCEQ on several occasions. After one complaint, a TCEQ investigator visited the Ranch and brought out several measurement instruments including an optical gas imaging (OGI) camera, but because the investigator arrived at a much later date than when I had initially reported the smoking flare at the gathering facility, they were not able to detect emissions at the facility from the vantage point of my Ranch the day they conducted the inspection.³

9. There is an active gas well on the surface of my Ranch. A TCEQ inspector has observed some emissions (presumably VOCs) using the OGI camera coming from the condensate tank at the well pad on my Ranch, but the inspector told me that these appeared to be unreportable or not in violation.

10. There is a gathering line on the properties next to mine (my brothers' properties). The gathering line goes through the back of their ranches and was built between 2011-2012. There are also condensate and produced water tanks on my property and on my neighbor's property.

11. I see at least 4 drilling rigs on my way to work every day (between Encinal and Laredo) and see several flares from gas wells next to my property. I

³ Investigation No.: 1699829. Incident No.: 348445. Investigation Report dated January 28, 2021.

have seen big flares on another one of my neighbor's property, about 2,500 feet from our fence line.

12. I am concerned that we are breathing harmful hydrocarbons, such as benzene, toluene, ethylbenzene, and xylenes (BTEX). I also worry about the aggregate effect of oil and gas operations in our region on the total level of these toxics (also referred to as HAPs) in the ambient air we breathe.

13. I am aware that oil and natural gas facilities emit significant amounts of harmful air pollution, both through designed releases and unintentionally leaking equipment. I understand that these pollutants include methane, VOCs, carcinogenic air toxics (HAPs) such as benzene and toluene, and other harmful air pollutants. I understand that methane is a highly potent greenhouse gas, capable of warming the climate at a rate over 80 times that of carbon dioxide over a 20-year period. I also understand that VOCs contribute to the formation of ground-level ozone, or smog, which is hazardous to human health and can cause respiratory disease and premature death. NOx and VOC emissions from oil and gas operations in the Eagle Ford Shale contribute to elevated smog levels in San Antonio Texas.⁴ There is one ozone monitor in Laredo, Texas, which is positioned to capture urban

⁴ Alamo Area Council of Governments. 2014. Oil and Gas Emission Inventory, Eagle Ford Shale, <https://library.ctr.utexas.edu/Presto/content/Detail.aspx?ctID=UHVibGljYXRpb25fMTE2MTA%3D&rID=MjQ1MTY%3D&ssid=c2NyZWVuSURfMjEzMjI%3D&bmdc=MQ%3D%3D>.

ozone formation associated with traffic on an international bridge between Mexico and the United States.⁵ There are no air quality monitors within 35 miles of Encinal, Texas, but EPA's 2017 National Emissions Inventory Models have estimated that over 70% of NOx emissions in Webb County come from the oil and gas sector.⁶ I am aware that the best practices that reduce methane and VOC emissions also help mitigate other harmful air pollutants from oil and gas development.

14. I am aware that studies show that close proximity to oil and gas development can cause negative health impacts. Southerland-Weisner Decl. I am concerned that living on the Ranch for many years will negatively impact my health. I suffer from increased allergies whenever I am on the Ranch as compared to times when I'm away from the Ranch. Aside from a runny nose, this gives me headaches, makes me feel lethargic, and sometimes clouds my focus. There have been times since living on the Ranch the past five years that I considered having children. A study published in 2020 found that Hispanic women who live next to high rates of flaring in the Eagle Ford Shale region faced 50% higher odds of

⁵ EPA Site Number: 484790016. Laredo College.

⁶ US EPA. (2020, April). 2017 National Emissions Inventory (NEI) Data. Retrieved May 3, 2020, from <https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data> cited in Palacios and Mireles. (Sep. 2020). Money-wise Trucking Guide. Rio Grande International Study Center. <https://rgisc.org/wp-content/uploads/2020/10/Money-wise-Trucking-Guide.pdf>.

preterm birth.⁷ This awareness caused me stress as I considered whether to pursue starting a family, which I have not. In 2018, my father died from a heart attack. For as long as I can remember, my dad always had hypertension and high blood pressure. I am aware that exposure to air pollutants associated with oil and gas development, including flaring, results in increased risk of cardiopulmonary disease. Southerland-Weisner Decl. I was always worried about him living and working on the Ranch and oil and gas emissions making his condition worse. In September of 2018, he suffered a heart attack while visiting Austin, shortly after giving a lecture at the Bob Bullock Texas State History Museum. That first heart attack did not kill him, but caused him to significantly lose cognitive function, among other ailments. The doctors who treated him said he would never give a lecture like that again. After two and a half months of recovery in Austin, my brothers and I chose to bring him back home to the Ranch. At the time, I worried that the air pollution caused by oil and gas development would make his condition worse. A couple of weeks later he had heart surgery in Laredo, but suffered another heart attack while in recovery and passed away. I am concerned I could at some point in my life suffer from similar illnesses as my father if I continue to breathe

⁷ Cushing, L. J., Vavra-Musser, K., Chau, K., Franklin, M., & Johnston, J. E. (2020). Flaring from Unconventional Oil and Gas Development and Birth Outcomes in the Eagle Ford Shale in South Texas. *Environmental Health Perspectives*, 128(7), 77003. <https://doi.org/10.1289/EHP6394>.

the air in this region.

15. In 2011, when I returned home from graduate school, I became aware of the oil and gas development that was booming in the Eagle Ford Shale. I witnessed spills from open-top dump trucks and heard concerns from landowners that had no warning that pits full of chemicals would be dug into their soil. As a result of this increasing awareness, I began helping to plan town halls and presentations to educate the public about potential groundwater contamination and air pollution from oil and gas development.

16. After graduate school I also became a research analyst at Environmental Defense Fund, on its oil and gas team. There I created a program to educate people in rural and predominantly Spanish-speaking counties of the Eagle Ford Shale region about which agencies to call in the event of an oil and gas incident.

17. In 2021, I started the non-profit organization Commission Shift and have been serving as its Executive Director since. Commission Shift is building public support to hold the Railroad Commission of Texas, our state oil and gas agency, accountable to its mission in a shifting energy landscape. We do this by educating the public about what the Commission does, advocating for improvements to the Commission's structure, recommending policy changes that will ensure operators maintain a clean environment, and ensuring that Texans

understand the role the Railroad Commission plays in setting gas and electric utility rates.

18. Because there are oil and gas operations on and near my property, and because of my state oil and gas work at Commission Shift and the impact federal regulations can have at the state level, I closely follow regulatory developments concerning federal oil and gas regulations, including through communications that I receive from EDF.

19. I am aware that EPA updated and strengthened new source performance standards for new, reconstructed, and modified oil and natural gas sources and created emissions guidelines for existing oil and gas sources to address methane and volatile organic compound (“VOC”) emissions (“the 2024 Rule”). *Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review*, 89 Fed. Reg. 16820 (March 8, 2024). These standards will ensure reductions in emissions from oil and gas production through equipment and performance requirements including more periodic monitoring and prompt repair of equipment leaks across all well sites, the installation of zero-emitting process controllers, limitations on flaring of natural gas, controls on storage tanks and compressor stations, and increasing monitoring of super-emitter events from facilities. I am aware that the 2024 Rule will reduce methane and VOC emissions

by 58 million and 16 million short tons, respectively, 89 Fed. Reg at 16836, and that it will reduce 572,000 tons per year of VOC emissions in my home state of Texas by 2028. EPA, *Regulatory Impact Analysis of the Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector* (2023) (“EPA RIA”) at 3-28. I am aware that the 2024 Rule will improve the air that my family and I breathe and mitigate climate change in the near-term by reducing short-lived methane emissions.

20. I am aware that Texas’s regulations on the oil and gas industry are far weaker than those finalized by EPA’s standards and which oil and gas operators in Texas would be required to implement. For example, while EPA’s regulation would require Texas operators on and near my property to generally stop flaring at new sites and improve control technologies when operators do flare under temporary circumstances, Texas’s regulations do not. The Railroad Commission also generously grants flaring and venting rule exception requests.⁸ Research compiled by Commission Shift shows that oil and gas operators in Webb County reported flaring volumes that were four times less than what satellites observed,

⁸ See Wheat, A. Sep. 2024. <https://commissionshift.org/wp-content/uploads/2024/09/Permission-Granted-Texas-Oil-and-Gas-Regulators-On-Track-to-Allow-More-Flaring-Waste-Than-Ever.pdf>; Commission Shift, <https://commissionshift.org/resources/reports/#flaring>.

indicating that state-issued permits are failing to significantly restrict flaring.⁹

Thus, without EPA's standards I would continue to experience significant flaring and venting from gas wells and gas gathering facilities near my property. I am aware that EPA estimates that by 2028, the Rule will eliminate 572,000 tons per year of VOCs in the state of Texas, the greatest amount of VOC reductions for a state from the 2024 Rule.¹⁰

21. I am aware that on July 31, EPA issued an interim final rule (effective immediately) that provides an 18-month extension for standards in the 2024 Rule to reduce methane emissions from new, modified and existing sources in the oil and gas sector and to reduce volatile organic compound (VOC) emissions from new and modified sources in the oil and gas sector. *Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review Final Rule*, 90 Fed. Reg. 35966 (July 31, 2025). In particular, it extends the compliance deadlines for storage tanks, process controllers, the super-emitter program (which aims to reduce leaks), combustion devices, flares, and closed vent systems. It

⁹ Railroad Commission of Texas and National Oceanic and Atmospheric Administration data cited in Commission Shift. Mar. 27, 2025. New Texas Flaring Website and Report Flags Regulatory Lapses that Hurt Texans' Health and Wealth. <https://commissionshift.org/news/new-texas-flaring-website-and-report-flags-regulatory-lapses-that-hurt-texans-health-and-wealth/>.

¹⁰ EPA RIA at 3-28.

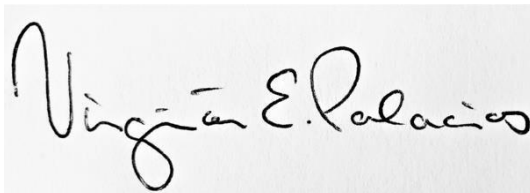
also extends the deadline for state plan submissions. I am also aware that on December 3, EPA issued a rule affirming the interim final rule's extensions. *Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources* ("Final Delay Rule"), 90 Fed. Reg. 55671 (Dec. 3, 2025). In addition to affirming all of the extensions in the interim final rule, the Final Delay Rule also extends the compliance deadlines for net heating value monitoring and the annual compliance report deadline.

22. I am aware that Environmental Defense Fund analyst Laura Mirtich conducted an evaluation of new and existing wells in my county and within a half-mile of my home. There are a total of 12,288 wells in Webb County drilled prior to December 2022 ("existing sources" under the 2024 Rule) and a total of 10,728 wells drilled after December 2022 ("new source" wells under the 2024 Rule). There are also 9 drilling rigs currently being constructed in Webb County, indicating those wells will soon be active and producing and would be subject to the 2024 Rule had the Final Delay Rule not taken effect. Additionally, the Enverus database shows there is at least one new well (built post December 2022) and one existing well (built prior to December 2022) within a half-mile of my home, see Proville-Mirtich Decl.

23. I am concerned that an 18-month delay of the 2024 Rule would

prevent me from seeing the benefits of the 2024 Rule in the near-term and cause ongoing harmful air pollution near my home and in the county where my family and I live, work, and recreate. I am concerned that affected sources in the oil and gas sector near my property – including the storage tanks on my Ranch and those on my neighbors' land, emissions from oil wells and flares on my ranch, neighbors property, and the surrounding area, as well as the Enterprise Products gathering facility nearby – will increase harmful pollution and that the resulting emissions from the oil and gas operations near my home will threaten my health and well-being and that of my family, as well as worsen climate change impacts on my property for years to come.

24. I declare that the foregoing is true and correct.

A handwritten signature in black ink that reads "Virginia E. Palacios". The signature is written in a cursive style with a large initial 'V'.

Virginia E. Palacios

December 18, 2025

Attachment 22

Declaration of Jeremy Proville and Laura Mirtich, Environmental Defense Fund

DECLARATION OF JEREMY PROVILLE & LAURA MIRTICH

I, Jeremy Proville, declare as follows:

1. I am a Senior Director in the Economics department at the Environmental Defense Fund (EDF). I have worked as an economic and geospatial analyst for EDF for over 13 years. I hold a Master of Science and a Bachelor of Commerce from McGill University.
2. My duties at EDF include performing demographic and spatial analyses, including assessing how EDF's membership and broader populations are impacted by pollution and affected by environmental policies. My work requires me to be familiar with EDF's policy positions, analytical methods, scientific research, and membership database. I have published works on the impacts of air pollution and other environmental externalities on people and vulnerable communities.¹

¹ Proville et al., *The demographic characteristics of populations living near oil and gas wells in the USA*, 44 *Population & Env't* 1 (2022), <https://link.springer.com/article/10.1007/s11111-022-00403-2>; Spiller et al., *Mortality Risk from PM 2.5: A Comparison of Modeling Approaches to Identify Disparities across Racial/Ethnic Groups in Policy Outcomes*, 129 *Envtl. Health Perspectives* 127004 (2021), <https://ehp.niehs.nih.gov/doi/full/10.1289/EHP9001>; Environmental Defense Fund, *Federal Methane Map* (2021), <https://www.edf.org/federalmethanemap/>; EDF, *New Mexico Oil & Gas Data* (2021), <https://www.edf.org/nm-oil-gas/map/>; Kritee et al., *High nitrous oxide fluxes from rice indicate the need to manage water for both long-and short-term climate impacts*, 115 *Proceedings of the Nat'l Acad. of Sci.* 9720 (2018), <https://www.pnas.org/doi/10.1073/pnas.1809276115>; Proville et al., *Night-time lights: A global, long term look at links to socio-economic trends*, 12 *PLoS ONE*. e0174610 (2017), <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0174610>.

I, Laura Mirtich, declare as follows:

3. I am a Senior Analyst at EDF, where I have worked since March 2024. I hold a Master of Public Policy and Bachelor of Science from Arizona State University.
4. My work at EDF involves generating state, regional, and national methane emissions estimates, focused on the oil and gas sector, as well as quantifying the impacts of methane reduction strategies at the state, county, and company levels. To do this, I use various modeling approaches, including those described later in this declaration.

We declare as follows:

5. EDF is a membership organization incorporated under the laws of the State of New York. It is recognized as a not-for-profit corporation under section 501(c)(3) of the United States Internal Revenue Code.
6. EDF's mission is to secure a vital Earth for everyone. For more than 50 years, EDF has been a pioneer in working to make the environment safer and healthier for us all. Guided by science and economics, EDF finds practical and lasting solutions to the most serious environmental problems. EDF employs hundreds of scientists, economists, engineers, business school graduates, lawyers, and other professionals to help solve environmental problems in a scientifically sound, cost-effective, and pragmatic way.

7. EDF's work covers climate, air pollution, and energy, as well as ecosystems, public health, and resilience. Since these topics are intertwined, we take a multidisciplinary, solutions-based approach, working alongside other organizations—as well as with businesses, governments, and communities.
8. EDF's energy and climate teams seek to bend the curve on global greenhouse gas emissions from fossil fuel production and use by 2030, cleanly and equitably. We do this through a defined set of strategies targeted at 1) reducing emissions from fossil fuel production, delivery, and use, and 2) decarbonizing power generation, transportation, buildings, and industry. EDF's clean air and health teams focus on protecting both people and the environment from pollution and toxic chemicals. We do this through cutting-edge research and advocacy, wide-ranging partnerships, and a focus on strengthening laws and policies that protect health, air, water, and make food and household products safer.
9. Reducing methane from the oil and gas sector is one of EDF's top organizational priorities. EDF seeks to achieve this by leveraging scientific data and economic analysis to support policy actions that reduce methane pollution. EDF scientists have studied methane emissions from oil and gas for over a decade, publishing more than

sixteen peer-reviewed scientific papers on the topic. In 2023, EDF scientists measured total oil and gas methane emissions across the United States, creating new data that EDF leverages in policy advocacy.

10. We are aware that on March 8, 2024, EPA adopted a final rule that strengthened new source performance standards for the oil and gas source category and established emission guidelines for state plans to limit emissions from existing sources. 89 Fed. Reg. 16820, 16826-27 (March 8, 2024) (“2024 Rule”). We are further aware that EPA recently published a final action entitled *Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review Final Rule* (“Delay Rule”), 90 Fed. Reg. 35966 (July 31, 2025) which extends many of the compliance dates under the 2024 Rule. We are likewise aware that EPA published a final rule entitled *Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources* (“Final Delay Rule”), 90 Fed. Reg. 55671 (Dec. 3, 2025).

11. EDF has a strong organizational interest, and a strong interest based in its members' recreational, aesthetic, professional, educational, public, health, environmental, consumer, and economic interests, in policies that help to reduce harmful pollution from oil and gas operations, including the 2024 Rule.
12. EDF participated as a stakeholder throughout the rulemaking process for the 2024 Rule and in earlier litigation involving the 2024 Rule. EDF has also extensively advocated for EPA standards to reduce methane from the oil and gas sector throughout multiple past rulemakings, dating back more than a decade.²

Impacts of Oil and Gas Air Pollution

13. Oil and gas facilities emit harmful air pollution, including methane, a potent greenhouse gas with over eighty times the near-term global warming power

² See Comments of Environmental and Public Health Organizations in response to EPA's Proposed Revisions to New Source Performance Standards for the Oil and Gas Sector (Nov. 30, 2011), Docket ID Nos. EPA-HQ-OAR-2010-0505-4189, EPA-HQ-OAR-2010-0505-4240, & EPA-HQ-OAR-2010-0505-4275; Comments of Environmental and Public Health Organizations in response to EPA's Proposed Emission Standards for New and Modified Oil and Natural Gas Sources (Dec. 4, 2015), Docket ID Nos. EPA-HQ-OAR-2010-0505-6934, EPA-HQ-OAR-2010-0505-6984, & EPA-HQ-OAR-2010-0505-6994; Comments of Environmental and Public Health Organizations on Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources for Review (Dec. 4, 2019), EPA Docket No. EPA-HQ-OAR-2017-0757-2134; Comments of Environmental and Public Health Organizations on Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Reconsideration (Dec. 13, 2019), EPA Docket No. EPA-HQ-OAR-2017-0483-2041.

of carbon dioxide. Atmospheric methane concentrations are at an all-time high and have been steadily rising since about 2007, coinciding with an increase in U.S. oil and gas production. At least 25% of today's warming is driven by methane from human actions, with the oil and gas sector as one of the largest sources. These emissions primarily result from leakage along the supply chain, including from oil and gas wells, production sites, and compressor stations. Reducing oil and gas methane emissions is critical for avoiding the worst effects of climate change.³ Leaks and operational processes at oil and gas facilities release significant volumes of methane, and standards to address those emissions will mitigate harmful climate change. Moreover, many mitigation measures result in cost and energy supply savings from capturing gas that would otherwise be wasted.

14. We know that climate change, which is made worse by methane emissions, is a serious and existential threat that affects both the environment and human health and wellbeing. The negative impacts of climate change are projected to become greater, more frequent, and more intense with every additional increment of global warming. Because climate change is an incremental problem, every additional ton of greenhouse gases emitted into

³ Ocko et al., *Acting rapidly to deploy readily available methane mitigation measures by sector can immediately slow global warming*, 16 Env. Research Letters 054042 (2021), <https://iopscience.iop.org/article/10.1088/1748-9326/abf9c8>.

the atmosphere is important; each one contributes to greater warming, making the impacts that much worse. These impacts include longer and more intense hurricane seasons, prolonged drought, larger and more intense wildfires, rising sea-levels, increased flooding, and widespread extreme weather events. Climate change is also a serious threat to human health. For example, climate change is projected to increase ozone pollution across broad swaths of the U.S., cause worsening and deadly heat waves, and driving increases in vector-borne diseases.

15. We are also aware of the significant direct health impacts of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) that are released alongside methane in emissions from oil and gas production. Living in close proximity to oil and gas sites exposes people to negative impacts from the air pollution caused by these leaks and intentional emissions. The threat radius for HAPs is generally considered to be a half mile—meaning that those within a half mile of an oil and gas site are at high risk of exposure to these toxic pollutants. Exposure to VOCs and HAPs can lead to a wide range of negative health impacts, including respiratory and skin irritation, neurological problems, dizziness, and headaches. VOCs also contribute to the formation of ground-level ozone or smog which negatively impacts human health and can lead to decreases in lung function, respiratory-related

emergency room visits, and premature death. Ozone pollution is particularly harmful for vulnerable populations, such as children, people with respiratory diseases or asthma, older adults, and people who are active outdoors, especially outdoor workers. Those living near oil and gas sites are exposed to increased risk of these negative health impacts.

EDF Members Are Affected by Oil and Gas Operations and Are Harmed by the Delay Rules

16. As of August 2025, EDF has more than 315,000 members in the United States, and we have members in all 50 states and the District of Columbia. These members have a strong interest in protecting human health and the environment from air pollution, as well as combatting the negative impacts of climate change.
17. EDF members are among those directly affected by pollution caused by oil and gas production and associated operations. EDF has conducted an analysis of where our members live across the U.S. to determine how many reside within a half mile, one mile, and ten miles of an oil and gas facility. The half-mile radius is a conservative estimate of the area within which elevated levels of harmful and hazardous pollution are seen, and the distance within which health impacts have most clearly been correlated with the presence of oil and gas facilities. But we anticipate that this estimate

understates the full impact of oil and gas pollution on our members. That is because independent research and analysis indicates oil and gas operations have been linked to air pollution at distances much greater than a half-mile.⁴ Therefore, we also analyzed members within one mile and ten miles of an active oil and gas facility.

18. We understand from our membership department that when an individual becomes a member of EDF, their current residential address is recorded in our membership database. The database entry reflecting the member's residential address is verified or updated as needed. The database is maintained in the regular course of business, and each entry reflecting a member's residential address and membership status is promptly updated to reflect changes. We obtained the information about our membership discussed below from our membership database.
19. We performed our analysis using this EDF membership data and geographic information systems (GIS) to assess the proximity of the geographic coordinates of members' addresses to oil and gas production sites and compressor stations. The dataset for oil and gas facilities was obtained from

⁴ Tavella et al., *A Review of Air Pollution from Petroleum Refining and Petrochemical Industrial Complexes: Sources, Key Pollutants, Health Impacts, and Challenges*, 9 (1) ChemEngineering 13 (2025).

the Enverus Prism database, which is an established database relied on by industry and other oil and gas stakeholders. We selected all onshore wells in the U.S., filtering to include only wells with active production in order to exclude abandoned and shut-in wells. We also obtained data for compressor stations from Enverus Prism, filtering to U.S. “In Service” compressor stations to determine the operational sites.

20. Our analysis determined that EDF has over 4,000 members who live within a half-mile of an oil and gas production site or compressor station. It also showed that 9,000 members live within one mile of an active oil or gas production site or compressor station, and 93,000 live within 10 miles. This analysis is relevant to understanding the benefits of the 2024 Rule and harms of the Delay Rules. As a result of the Delay Rules, up to 93,000 of our members living within 10 miles of an active facility would be subject to elevated levels of pollution. EPA’s Delay Rules will harm our members.

Declarant Proximity Analysis Methodology

21. We also analyzed on a more granular level the oil and gas facilities and sources subject to the 2024 Rule that exist in counties where EDF member declarants live, as well as members from other environmental and health organizations joining EDF in litigation over the Delay Rules. To do this, we

obtained well and rig counts from Enverus datasets during July 21-31, 2025.⁵

For total well counts, the most recent drilling/modification date was determined using the “Completion Date” field in the Enverus dataset. Well counts are provided for all wells with currently active permits and separately for all wells with currently active permits *and* a “completed” or “producing” status in Enverus (this excludes wells with statuses that indicate inactivity, abandonment, etc.). For total rig counts, only *active* rigs were counted.

22. According to EPA’s Technical Support Document (TSD) for the 2024 Rule, a typical production well has four storage tanks and will experience two large pollution releases on average.⁶ Pollution control devices are the required mitigation method for well completions (a process that occurs at all wells) and they are the regulatory standard for controlling storage tank emissions (of which wells have an average of four). Closed-vent systems must also be used whenever a control device is used. Additionally, EPA estimates wells have anywhere from 112 to 620 fugitive equipment components that would be repaired under the 2024 Rule and EPA estimates that at least 50% of wells have 1 to 3 pneumatic controllers.⁷

⁵ Enverus Prism, Wells Dataset and Active Rigs Dataset, <https://www.enverus.com> (EDF subscribes to and uses Enverus’ proprietary data explorer).

⁶ EPA, Background Technical Support Document (TSD) for the Final New Source Performance Standards (NSPS) and Emissions Guidelines (EG), at B-14 (Nov. 2023).

⁷ *See id.*

23. Based on these assumptions, we were able to generate granular estimates of different types of oil and gas wells that would be impacted by the Delay Rules on a county basis and within a certain distance of declarants' residences. The categories of wells we analyzed are defined below. Except where otherwise noted, wells and rigs near a declarant's address were totaled within a half-mile radius of that address.

24. **Categories of Wells – County Counts**

- *County Total (all active permits)*: All active permits for wells in the specified county (wells were included regardless of status).
- *County wells drilled/modified prior to December 2022 (all active permits)*: Same as above but for wells which have a completion date before December 6, 2022.
- *County wells drilled/modified post December 2022 (all active permits)*: Same as above but for wells which have a completion date after December 6, 2022.
- *County Total Active Wells (completed, producing)*: All active permits for wells in the specified county, only including wells which are listed with a “completed” or “producing” status in Enverus (this excludes wells with statuses that indicate inactivity, abandonment, etc.).
- *County Wells Drilled/Modified prior to December 2022 (completed,*

producing): Same as above but for wells which have a completion date before December 6, 2022.

- *County Wells Drilled post December 2022 (completed, producing)*: Same as above but for wells which have a completion date after December 6, 2022.
- *Drilling Rigs/Wells being constructed*: All active drilling rigs within the county. This serves as a proxy for wells that will be producing in the near future because the primary use of rigs is the creation of new wells.

25. **Categories of Wells – Within Specific Distance**

- *Existing Wells (prior to December 2022) within a certain distance of member's provided address (all active permits)*: All active permits for wells in the specified area with a completion date before December 6, 2022 (wells are included regardless of status).
- *New wells (post December 2022) within a certain distance of member's provided address (all active permits)*: All active permits for wells in the specified area with a completion date after December 6, 2022 (wells are included regardless of status).
- *Existing Wells (prior to December 2022) within a certain distance of member's provided address (completed, producing)*: All active permits for wells in the specified area with a completion date before December 6,

2022, only including wells which are listed with a “completed” or “producing” status in Enverus (this excludes wells with statuses that indicate inactivity, abandonment, etc.).

- *New wells (post December 2022) within a certain distance of member’s provided address (completed, producing):* All active permits for wells in the specified area with a completion date after December 6, 2022, only including wells which are listed with a “completed” or “producing” status in Enverus (this excludes wells with statuses that indicate inactivity, abandonment, etc.).
- *Rigs being constructed:* indicates a well will produce imminently.

26. The specific results of the analyses based on the above-described methodology are presented in the individual member declarations for which they were conducted, and we attest to the results described therein.

EDF Members in Areas with Elevated Ozone Pollution

27. We further analyzed the number of EDF members living in areas that are not meeting EPA ozone standards (nonattainment areas) with oil and gas facilities. These 130,000 members are already breathing unsafe levels of ozone, which VOCs from oil and gas operations are a major contributor to. The 2024 Rule is projected to greatly reduce VOCs, benefiting our members by helping to reduce harmful ground-level ozone. The Delay Rules would

cause EDF members to be harmed by higher levels of VOCs from oil and gas operations that contribute to dangerous levels of ozone pollution.

Forgone Emission Reductions Caused by the Final Delay Rule

28. EPA estimates that the Delay Rules will result in additional emissions of 1,300,000 tons of methane (equivalent to the annual climate pollution of 28 coal-fired power plants or 25 million passenger vehicles), 350,000 tons of VOCs, and 13,000 tons of HAPs between 2028-2039.⁸ However, these estimates appear to only include delaying standards for existing sources starting in 2028 (when the existing source standards take effect).

Nonetheless, EPA's action to delay requirements and standards for new sources will also result in increased pollution. EPA has previously estimated that the new source standards would have reduced 490,000 tons of methane, 150,000 tons of VOCs, and 5,600 tons of HAPs in 2025 alone.⁹ In 2026 alone, EPA estimated the new source standards would reduce 700,000 tons of methane, 210,000 tons of VOCs, and 5,600 tons of HAPs. While the Delay Rules do not impact all of the new source standards, they do weaken

⁸ EPA, Economic Impact Analysis for the Extension of Deadlines in the NSPS OOOOb and EG OOOOc, Page 6, Table 3 (July 23, 2025), https://www.epa.gov/system/files/documents/2025-07/oil_and_gas_eia_extension_of_deadlines_07-2025.pdf.

⁹ EPA, Regulatory Impact Analysis of the Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, 2-57, Table 2-9 (Dec. 2023).

or delay certain standards, which will result in additional pollution. Below we provide estimates of this additional pollution that EPA did not quantify in the Delay Rules, as well as an updated analysis of additional pollution from the delay of the state plan submission deadline.

Methodology

29. We updated our analysis based on EPA's Response to Comments document which provides EPA's reasoning for not quantifying the impacts of delaying portions of the New Source Performance Standards (NSPS) for OOOOb. Based on that same information, we also updated our analysis of foregone reductions from the delay of state plan deadline under the Emissions Guidelines (EG) for OOOOc.
30. To estimate the forgone emissions reductions of the Delay Rules, we first created a "No Regulations" methane emissions inventory scenario using a combination of EPA Greenhouse Gas Reporting Program data and previously published measurement studies, as reported in Alvarez et al. (2018). From this "no regulations" starting point, various regulatory scenarios and their resulting methane emissions and reductions can be modeled.
31. To model emissions reductions with and without the Delay Rules, we followed EPA's method of projecting emissions by dividing sources into

four “vintage” bins: the first vintage (V1) is sources constructed prior to promulgation of the 2012 NSPS OOOO, the second vintage (V2) is sources constructed after 2012 NSPS OOOO but before 2016 NSPS OOOOa, the third vintage (V3) is sources constructed after 2016 NSPS OOOOa but before 2024 NSPS OOOOb, and the fourth vintage (V4) is sources constructed after the 2024 NSPS OOOOb. Existing sources in each vintage bin decline in the model using a state-specific retirement rate, and new sources in each vintage bin are modeled as the difference between total projected emissions and the declining existing source emissions.

32. EPA’s 2012 NSPS OOOO and 2016 NSPS OOOOa regulations were applied to the appropriate vintage bins (NSPS OOOO applies to vintages V2 through V4, and NSPS OOOOa applies to vintages V3 through V4). Next, all relevant finalized state regulations were applied to vintage bins corresponding with the effective dates of each regulation. Emission reductions estimates for regulations are based on supporting documentation (such as Technical Supporting Documents), emissions modeling, and engineering judgement.
33. To model foregone emissions reductions due to the Delay Rules, we begin by constructing a baseline scenario of annual emissions estimates under the original timeline under the 2024 Rule (assuming NSPS OOOOb provisions

are effective in 2024, and EG OOOOc provisions effective in 2028). To develop the Delay Rules scenario, we made the following assumptions. In 2024 and the first half of 2025, we assumed all of NSPS OOOOb was effective because the Delay Rules had not yet taken effect.¹⁰ In the second half of 2025, after the July IFR, we assumed that the 2024 Rule's leak monitoring, liquids unloading, pumps, associated gas flaring, and reciprocating compressor standards were effective because the Delay Rules do not change these compliance deadlines. However, we assumed that process controller standards,¹¹ tank standards,¹² and multiple standards

¹⁰ Our model does not include partial years, so to model half effectiveness, we model a year of effectiveness for the entire year, and a year of no effectiveness, and then average them.

¹¹ While these standards are not in force, we estimate a 95% reduction in emissions from high-bleed pneumatic controllers in order to capture the requirement that the standard for sites without access to electricity in Alaska is met during this time. *See* 89 Fed. Reg. 16882, Table 12 (explaining that the standard for process controllers in Alaska is “95 percent emissions control”). This is because EPA has clarified that during the time in which the Delay Rule takes effect, this weaker interim standard is in place. 90 Fed. Reg. 55677.

¹² EPA delayed the deadline by which sources must calculate potential to emit (PTE) *using the 30-day period of production*, which was *the* only method specified in the 2024 Rule for determining applicability, without providing any alternative interim method for making that determination. *See* 89 Fed. Reg. 17045 (“The potential for VOC and methane emissions must be calculated . . . based on the maximum average daily throughput to the tank battery determined for a 30-day period of production”). The rule therefore leaves no enforceable standard for determining storage vessel applicability during the delay period. More specifically, although EPA nominally did not remove the requirement to determine PTE within 30 days after *startup*, it delayed or eliminated every substantive element that the 2024 Rule had determined made that determination meaningful and enforceable. *See* 89 Fed. Reg. 16897. The 2024 Rule required that the PTE be calculated using generally accepted models based on the maximum average daily throughput during a 30-day period of production—a requirement designed to capture peak production conditions and maximum emissions. *Id.* at 16979. The delay removes both the specified production period and the required calculation methodology, without identifying any alternative standards. As a result, operators may select less productive time horizons or methods that systematically understate potential emissions to avoid applicability. EPA also delayed the legally and practicably enforceable (LPE) criteria, 90

allowing or requiring combustion devices (well completions, centrifugal compressors, other flaring requirements)¹³ were not effective because the IFR delayed compliance assurance deadlines for combustion devices, and because EPA's emissions reduction modeling for the 2024 Rule assumed combustion devices were effective for these standards.¹⁴

34. For 2026, we made the same assumptions as the second half of 2025. In 2027, we assumed NSPS OOOOb was fully effective because the IFR only

Fed. Reg. 35975, while asserting that sources may establish emissions limits without those criteria, an unexplained reversal of EPA's prior determination in the 2024 Rule of what enforceability requires. 89 Fed. Reg. 16974-75. In effect, EPA has delayed the 2024 rule's guardrails for determining the applicability tank standards. Because EPA has delayed the requirements that made the storage tank standards enforceable, we assume the sources will continue to emit.

¹³ The well completions standard required combustion devices, the storage vessel standard made combustion devices the BSER, and the wet seal centrifugal compressor standard required combustion devices. 89 Fed. Reg. 16830-31, Table 3. Because we assume the tanks standard is delayed completely for the reasons stated in note 12, we only assume the delay in combustion device requirements renders the well completion standard and centrifugal compression standards ineffective. EPA asserts that impacts of delaying the combustion device standard is minimal and not worth quantifying because, "[e]ven with the IFR changes in place," another provision "currently serves the function of assisting with ensuring that combustion devices are achieving the applicable standard of 95% reduction." Response to Comments at 24. That assertion is misleading because that provision, Method 22, is a visible emissions observation method; it does not measure destruction efficiency, confirm that combustion is occurring, verify pilot flame presence, or assess whether gas has sufficient net heating value to combust, all things EPA had found were essential for assuring emissions reductions in the 2024 Rule. 89 Fed. Reg. 16894. EPA simultaneously delayed the requirements that would verify combustion – pilot flame monitoring and net heating value testing – without adopting any interim requirement that ensures that these devices actually achieve the 95% control efficiency that EPA assumed in the 2024 Rule. Without any interim standard to assure these devices achieve 95% control, emissions will necessarily increase as a result of the delay of these compliance assurance requirements.

¹⁴ 89 Fed. Reg. 16984 ("This numeric standard reflects the emission reduction from capturing and routing the affected/designated facility's emissions through a CVS to a control device with a 95 percent control efficiency, which the EPA has identified as either the BSER or a control option for these affected/designated facilities.").

extends deadlines up to this point. In 2028 and 2029, we assumed NSPS OOOOb is fully effective and EG OOOOc is not effective (it should have been effective but was delayed by the IFR by two years). In 2030, we assume both NSPS OOOOb and EG OOOOc are effective.

Results

Table 1: Foregone Emissions Reductions Summary (Comparing 2024 Rule to Delay Rules)

Year	Estimated emissions under delay scenario (metric tons CH ₄)	Estimated emissions under baseline scenario (metric tons CH ₄)	Estimated foregone emissions reductions (metric tons CH ₄)	Estimated foregone emissions reductions (metric tons VOCs) ¹⁵	Estimated foregone emissions reductions (metric tons HAPs)
2024	14,300,000	14,300,000	0	0	0
2025	14,200,000	14,100,000	100,000	35,000	2,400
2026	14,400,000	14,200,000	200,000	130,000	9,200
2027	14,200,000	14,200,000	0	0	0
2028	14,300,000	10,200,000	4,100,000	2,200,000	150,000
2029	14,100,000	10,200,000	3,900,000	2,100,000	150,000
2030	10,300,000	10,300,000	0	0	0
Total	95,800,000	87,500,000	8,300,000	4,500,000	310,000

35. Table 1 presents topline emissions totals for all oil and gas sources under both the baseline and the delay scenarios. NSPS OOOOb applies only to

¹⁵ Ratios of methane to VOCs and HAPs are derived from EPA's 2020 Nonpoint Oil and Gas Emissions Estimation Tool (v. 1.3). This tool estimates emissions of 40 pollutants from oil and gas exploration and production across various geographies, with counties as the most granular geographic level. We use data from this tool to estimate the ratio of emissions between methane and other pollutants of interest, then apply these ratios to a methane emissions total to produce estimates of associated VOC and HAP emissions. Within the oil and gas sector, the 2020 Nonpoint Oil and Gas Emissions Estimation Tool provides source-specific emissions, which we sum to produce estimates for the entire exploration and production segment.

new sources (i.e., sources built or modified after December 6, 2022). For NSPS OOOOb, approximately 74% of the foregone emissions reductions in 2025 and 2026 are attributable to the process controller standards delay, approximately 19% of the foregone emissions reductions are attributable to the storage tank standards delay, and approximately 6-7% of the foregone emissions reductions are attributable to the combustion standards delay.¹⁶ This is a relatively small number of sources; under the baseline scenario, new sources in 2025 and 2026 account for an estimated 900,000 metric tons and 1,300,000 metric tons, respectively. The foregone emissions reductions from the Delay Rules' modifications to NSPS OOOOb represents an estimated 14% increase in emissions from sources subject to OOOOb relative to the baseline scenario.

36. A similar exercise can be performed for EG OOOOc. The delay of this rule is expected to result in 8,000,000 metric tons of foregone emissions reductions in 2028 and 2029. Under the baseline scenario, emissions from existing sources in these years total an estimated 16,000,000 metric tons.

¹⁶ Because closed-vent systems and combustion devices function together as an integrated control system, and EPA's assumed emissions reductions depend on both closed-vent system integrity and combustion efficiency, emissions results from delayed closed-vent system requirements overlap with emissions resulting from delayed combustion device requirements. *See* 89 Fed. Reg. 16986. The analysis therefore treats closed-vent system impacts as part of the same foregone emissions reductions associated with delayed combustion compliance.

Foregone emissions reductions under the delay scenario therefore represent an estimated 51% increase in emissions from sources subject to EG OOOOc, relative to the baseline scenario

37. To contextualize the forgone emission reductions that the Delay Rules will cause, we highlight the estimated cost, climate impact, and wasted natural gas associated with foregone emissions reductions. For example, the emissions resulting from the delay of NSPS OOOOb in 2025 through 2026 have the equivalent climate impact of over six million gasoline-powered passenger cars driven for a year. These emissions similarly correspond to \$40 million worth of waste natural gas¹⁷ and could meet the residential gas needs (heating and cooking) of 280,000 households. The emissions resulting from the delay of EG OOOOc in 2028 through 2029 have the equivalent climate impact of over one hundred and fifty million gasoline-powered passenger cars driven for a year. These emissions similarly correspond to \$1.1 billion worth of waste natural gas and could meet the residential gas needs (heating and cooking) of seven million households. Foregone emissions reductions from new sources (in 2025 and 2026) and from existing sources (in 2028 and 2029) are equivalent to nearly 9 million and

¹⁷ Using the average 2024 Henry Hub spot price for natural gas.

over 238 million metric tons CO₂¹⁸, and impose a social cost of over \$600 million and over \$18 billion in 2020 dollars¹⁹, respectively.

38. The Delay Rules extend deadlines to comply with these standards and will result in increased pollution from these sources. These additional emissions put our members at increased risk of the pollution impacts of the oil and gas sites, including smog-forming VOCs and toxic air pollution. The Delay Rules also put our members at increased risk from the dangers of climate change—including more severe wildfires, increased risk of flooding, sea-level rise, heat waves, and drought—which would be mitigated by reduced emissions of methane. The longer the Delay Rules are in effect, the greater these harms will be.
39. EDF’s members, and EDF as an organization, have a strong interest in ensuring the Delay Rules are vacated and the 2024 Rule remains in full effect and is timely implemented so that the pollution reductions are realized.

¹⁸ CO₂ equivalencies are calculated using the AR6 100-year GWP for fossil methane. For existing sources, this breaks down to 122 million and 116 million metric tons CO₂ in 2025 and 2026, respectively. *See* Exhibit A.

¹⁹ Social costs are calculated using the values presented in Table A.5.1 of EPA’s Supplementary Material for the Regulatory Impact Analysis for the Final Rulemaking, “Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review.” A near-term Ramsey discount rate of 2.0% is selected.

We declare that the foregoing is true and correct.



Jeremy Proville



Laura Mirtich

Executed on May 28, 2026.

Exhibit A
Proville-Mirtich Declaration
Analysis Workbook

Year	Type of source covered	Emissions (metric tons CH4)	Cost in 2020 \$	CO2eq (20-year)	CO2eq (100-year)
2025	New	100,000	\$ 202,500,000.00	8250000	2980000
2026	New	200,000	\$ 420,200,000.00	16500000	5960000
2028	Existing	4,100,000	\$ 9,233,200,000.00	338250000	122180000
2029	Existing	3,900,000	\$ 9,075,300,000.00	321750000	116220000
All years	New	300,000	\$ 622,700,000.00	24750000	8940000
All years	Existing	8,000,000	\$ 18,308,500,000.00	660000000	238400000
All years	All sources	8,300,000	\$ 18,931,200,000.00	684750000	247340000

Methodological notes

All calculations use a near-term discount rate of 2%

Cost calculated using SCM from EPA's Supplementary Material for the Regulatory Impact Analysis for the Final Rulemaking, "Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review"

CO2eq calculations based on AR6 GWP values

Attachment 23

Declaration of Maricruz Ramirez, GreenLatinos

IN THE UNITED STATES COURT OF APPEALS
DISTRICT OF COLUMBIA CIRCUIT

DECLARATION OF MARICRUZ RAMIREZ
Submitted In Support of GreenLatinos

I, Maricruz Ramirez, declare as follows:

1. I was born and raised in Bakersfield, which is in Kern County, California. I joined GreenLatinos in 2022 to contribute to organizing and advocacy work to improve air quality and end oil and gas drilling in Kern County.

2. As a lifelong resident of Bakersfield, I have been surrounded by oil and gas infrastructure for as long as I can remember. Oil and gas wells are so ubiquitous in the region that when I was growing up, their presence seemed normal—it was part of everyday life. The Bakersfield High School mascot is even the “Drillers.” It also seemed normal that so many people I knew growing up had breathing problems, like asthma, or nosebleeds. It was only later that I learned about the harms of pollution from oil and gas drilling and how the breathing problems and nosebleeds are connected to the oil and gas drilling.

3. I am aware that Kern County produces roughly 70% of

California's oil and more than 75% of California's natural gas. I am also aware that more than 75% of California's active wells are located in Kern County.

4. I have witnessed detrimental health impacts associated with oil and gas development throughout my lifetime. So many people that I know have suffered from respiratory issues. My father and all three of my siblings have variations of asthma or bronchitis. My father and my sister use an inhaler to help them breathe. I remember that when I was young, every winter my father would get a frightening cough. My brothers also had terrible coughs and have been prone to bronchitis and other upper respiratory infections. Seeing my family members struggle with something as simple as breathing has been very scary and disheartening. My sister would also frequently suffer from nosebleeds. I am aware that these health impacts are associated with breathing in pollutants emitted at oil and gas well sites.

5. I attended Sequoia Middle School as a child and remember seeing oil and gas wells within walking distance of my classrooms. I remember that kids at school were frequently sick with symptoms associated with proximity to oil and gas infrastructure, including asthma, bronchitis, and bloody noses.

6. I am worried that children that attend Sequoia Middle School today will experience the same health impacts that I witnessed due to the continued presence of the oil and gas industry in the immediate vicinity of the campus. I am aware that currently, according to the California Department of Conservation Well Finder, within 2,100 feet of Sequoia Middle School there are: 11 plugged, 3 active, 2 new, and 3 idle oil and gas wells. The nearest well is less than 500 feet away.

7. I earned my Bachelor's Degree in Sociology from California State University. After I graduated from college, I became involved in organizing and advocacy for environmental justice. In 2020 I joined a local chapter of the Sunrise Movement where I contributed to efforts to end the drilling of new oil and gas wells in Kern County. This experience opened my eyes to how bad things are in Bakersfield with respect to oil and gas production. I realized that the air quality and health issues that we experience in Bakersfield are not normal, and that people in other places don't have to deal with the health impacts associated with this industry. I realized that poor air quality is not something that my community has to accept, and that we can fight to improve it.

8. I currently work as a Community Organizer with the Center on Race, Poverty, and the Environment in Bakersfield. In this position I

support advocacy to end oil and gas drilling in Kern County. I help educate the community about the issues that Kern County faces, and help empower people to give public comment and share their voices. Part of my job is being here to support the community members who are suffering the most from pollution from oil and gas production. I have met many people across Kern County that experience the same health impacts associated with oil and gas development that I have experienced and witnessed. I have met individuals who have been faced with cancer, cardiovascular disease, and who have lost loved ones. I think that some of these health impacts could have been avoided if we had stronger regulations on oil and gas operations. These experiences and relationships motivate me to continue working to improve the air quality in my community and the health of my neighbors.

9. I understand that wells leak methane as well as other pollutants, including hazardous air pollutants (HAPs) and volatile organic compounds (VOCs). VOCs have been shown to cause birth defects and contribute to ozone formation, which is also harmful to health. I personally know one woman in Bakersfield who lived near an oil well that was found to be leaking methane, and who eventually gave birth to a child with a birth defect.

10. I like to visit Panorama Park, in northern Bakersfield. The

park is located on a hill overlooking the valley below. Looking north from Panorama Park a large field with oil and gas wells is visible, and there is often a pungent odor that I associate with oil and gas wells. This is very disheartening because Panorama Park should be a beautiful location, but all you see is the wells and then you smell the odor. I know that breathing in the toxins that I can smell is harmful to my health, so I avoid going to this park. If the air quality were better, I would visit the park more.

11. Oil and gas wells are so common in Bakersfield that they are difficult to avoid. When I was a child, these wells simply were a part of the background. Now that I am aware of the detrimental health impacts associated with oil and gas wells, I frequently notice them around town. For example, there is a well near a health clinic that my community visits. I also know of one walking path that crosses through Bakersfield with wells mere feet away from the path. You can walk from the park at River Walk all the way to Yokuts Park along that path. I would like to use that path more, but I worry about pollution when I walk there.

12. The American Lung Association has assigned Kern County with a “F” grade for air quality when considering both ozone overall and the number of high ozone days. The San Joaquin Valley, which includes Bakersfield where I live, is in extreme nonattainment with the federal

ozone standards from both 2008 and 2015. And the eastern portion of Kern County, just east of Bakersfield, is also in nonattainment with the ozone standards. I understand that this means that ozone levels where I live are regularly above the levels that the Environmental Protection Agency has deemed safe. I also understand that newer studies have concluded that even lower levels of ozone are still unsafe and unhealthy. I understand that VOCs emitted by oil and gas wells contribute to the formation of ozone, so I am concerned that this problem is exacerbated by pollutants emitted at oil and gas wells in and around Bakersfield and across the county.

13. I know that breathing in ozone can harm people by causing coughing, asthma, wheezing or shortness of breath, and higher rates of illness. I understand that air polluted with ozone can also cause heart attacks and even premature death. Because of this, on days with poor air quality I feel especially vulnerable. I often stay inside and cancel plans to go out. You have to ask yourself, is it worth the risk of getting sick? This is very heavy to live with. I want to be able to not have to look at the weather app on my phone to check air quality before deciding whether I should go outside. I want to not have to hear stories from my family members and community members about the health effects they're experiencing. I want to live a more relaxed life with clean air where I can walk down the path in

Bakersfield without worrying about the pollution that I'm breathing in. For my own health and for our future generations, I want clean air for Bakersfield.

14. Through my profession and personal experience I have developed a thorough understanding of the adverse health impacts associated with proximity to oil and gas infrastructure. I understand that, due to the extensive oil and gas operations in the area, residents of Kern County are at a heightened risk of experiencing these health impacts. For this reason I am worried about my own health, the health of my middle school aged stepson, my infant niece, and the rest of my family and community. I do not want the next generation to live with the same air quality issues that I grew up with.

15. I understand that the Biden Administration's publication on March 8, 2024, of the Standards for Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review (NSPS rules), if fully implemented, will protect the health of my community. The NSPS rules will improve air quality in Bakersfield by requiring companies to replace their old, polluting pneumatic controllers with non-emitting technology. The rule will also limit flaring, which is a polluting practice. I know that

the rule also has comprehensive leak monitoring requirements that subject all sites to regular inspections. The rule will also allow for the use of advanced methane detection technologies onsite, and empower certified third parties to monitor, identify, and report large emissions directly to the Environmental Protection Agency. This is important to me because I'm concerned about the monitoring that oil and gas operators do themselves, and want to have more monitoring by external groups to make sure that leaks are fixed.

16. I understand that this rule was supposed to result in the reduction of approximately 58 million tons of methane, 16 million tons of VOCs, and 590,000 tons of HAPs. I believe that the NSPS rule, if fully implemented, will have a tangible and lasting positive impact on the health and wellbeing of myself, my family, and my community.

17. I am aware that the Trump administration has announced that it will reconsider the NSPS rule. As a first step, on July 31, 2025, EPA issued an interim final rule, effective immediately, extending many of the compliance deadlines. According to the fact sheet for the rule, emissions reductions that I was counting on for my community will no longer occur. Nationally, this includes 3.8 million tons of methane, 960,000 tons of volatile organic compounds (VOCs), and 36,000 tons of toxic air pollution.

On December 3, 2025, EPA issued a final delay rule confirming the interim rule's deadline extensions, further extending one deadline, and extending operators' reporting deadline by one year.

18. According to analysis provided to me by Environmental Defense Fund analyst Laura Mirtich (*see* Proville-Mirtich Declaration), there are currently more than 36,000 producing oil and gas wells in Kern County where I live. More than 35,000 of these wells were completed prior to December 2022 and would be subject to the existing source standards once adopted by California, and 222 of these wells were drilled after December 2022 and would be subject to the new source standards, many of which have been delayed. There are currently 2 active drill rigs operating in the county.

19. According to the Mirtich analysis, there are also at least 2 new wells and 1,924 existing wells that would be subject to the 2024 Rules within 2 miles of the area I visit in Panorama Park.

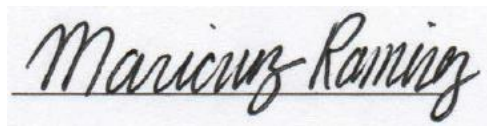
20. By delaying compliance with the rules, the Trump administration has delayed important protections for me and my community. The fact that these rules will delay emission reductions in VOCs is particularly concerning to me because I live in an extreme ozone nonattainment area and I was counting on this rule to help with our ozone

pollution. I also worry about toxic air pollution from wells near the areas where I recreate.

21. I am concerned that if the NSPS rule does not go into effect as originally adopted by the Biden Administration, the continuing high levels of pollution from oil and gas production will harm the health of myself, my family, my community, and future generations. The Court can prevent this impact by striking down the deadline extensions.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information, and belief.

Signed December 19, 2025, in Bakersfield, California.

A handwritten signature in black ink that reads "Maricruz Ramirez". The signature is written in a cursive style and is positioned above a thin horizontal line.

MARICRUZ RAMIREZ

Attachment 24

Declaration of Todd Richardson, Sierra Club and Natural Resources Defense Council

DECLARATION OF TODD RICHARDSON

I, Todd Richardson, declare as follows:

1. My name is Todd Richardson. I am 57 years old and competent to give this declaration. All information herein is based on my own personal knowledge unless otherwise indicated.
2. My address is 11 Hialeah Circle, Odessa, Texas, 79761. My home is in Ector County, and I am located about two miles east of the border with Midland County. I have lived in Odessa since 2003. I am an English professor at the University of Texas Permian Basin (UTPB).
3. I am a dues-paying member of Sierra Club. I first joined the Club in 2003 because it is one of the best-known environmental groups and has its roots in getting people into nature, which has always appealed to me.
4. Additionally, one of the main missions of Sierra Club is to reacquaint people with the wild, which is an idea that has its roots in 19th Century transcendental literature and culture. As an English professor, much of my teaching and research focuses on American Transcendentalist writers from the 19th century. Emerson, Thoreau, and others, through inspiring the likes of John Muir and Teddy Roosevelt, helped make wilderness preservation an important American value and one that I hold personally.

5. About 16 years ago, I started a Permian Basin committee with Sierra Club's Lone Star Chapter to resist a proposed nuclear waste site and proposed nuclear power facility. In recent years, I have worked with the chapter to fight pollution related to oil and gas development in my area.
6. In addition to Sierra Club, I have also been a dues-paying member of Natural Resources Defense Council (NRDC) since 2016 and of Environmental Defense Fund since 2020. I appreciate that each of these environmental organizations is on the cutting edge of keeping the Earth safe and clean.
7. Around 2008-2009, a huge hydrofracking boom began in this part of the country, as oil and gas operators starting drilling more and more wells. Since that time, flaring, methane leaks, and emissions of other nasty pollutants have been serious issues impacting my area. All of this pollution needs to stop, and I am happy to work with Sierra Club, NRDC, and EDF to make that happen.
8. There are a tremendous number of oil and gas wells in my area. Based on data compiled by environmental groups, I understand that as of August 2025, Ector and Midland Counties together had 15,089 active wells producing oil, gas, or both. Of these, I understand that 13,286 were drilled or modified before December 6, 2022, while 1,803 were drilled or modified

after December 6, 2022. I also understand that, according to Texas's oil and gas mapping software, there are at least three actively producing well heads within 2.5 miles of my house and over a dozen more that have been permitted for drilling.

9. In addition to wells, there is a huge amount of other oil and gas equipment near where I live. For instance, I understand that there are dozens of gas compressor stations in Midland and Ector counties, including at least 20 located within approximately 20 miles of my house. I know that wells, compressor stations, and other oil and gas infrastructure emit large quantities of climate-disrupting methane, smog- and soot-forming volatile organic compounds, and air toxins like benzene and hydrogen sulfide into the atmosphere.
10. In addition to oil and gas production equipment, that there is substantial quantity of gas transmission equipment in my area as well. For instance, I understand that as of 2024, data collected by the Department of Homeland Security's Geospatial Management Office showed that there were several large transmission compressor stations located along pipelines in the counties immediately surrounding Ector, including one just a few miles south of Guadalupe Mountains National Park, a place I enjoy visiting and hiking in.

11. The combination of air pollution from compressor stations, oil and gas wells, gas flaring, and other oil and gas operations in my area is awful. The sky is often hazy, much more so than it was when I first moved here in 2003. There is a lot of hydrogen sulfide pollution, which I can smell almost all the time, even at night in my home. I and other community members have noticed that the air quality in our area has gotten drastically worse in recent years. The pastor of my church has complained of headaches that she believes are related to environmental pollutants related to fossil fuel extraction. I experience some lung congestion, I can't breathe as freely as I once did, and I cough more often and harder than in the past. I am absolutely concerned that excess emissions from the oil and gas industry are harming our air and endangering my health.
12. I am an avid runner and hiker. I hike and enjoy viewing wildlife in the Guadalupe Mountains, the Davis Mountains, the Midland I-20 Wildlife Preserve, and the Sibley Nature Center in the nearby city of Midland. Yet the air pollution and haze that we have in this part of Texas is aesthetically displeasing and diminishes my experience of being out in nature. Every time it gets dark while I'm hiking in the Guadalupe Mountains, the scenery looks like something out of a *Lord of the Rings* movie because of the abundance of haze, flaring, and fossil fuel infrastructure. Perry Como's song "Deep in the

Heart of Texas” says that “The stars at night are big and bright, deep in the heart of Texas.” However, the haze and pollution that tarnish the air in my slice of Texas prevents me from enjoying the stars and the general aesthetic beauty of this region.

13. I am aware that methane is a major driver of climate change. I can say with no doubt in my mind that climate change is the biggest threat to humanity, and it’s having a major impact on West Texas. This area has always been a hot and dry place, but it has been undeniably hotter and drier here in recent years. The summer of 2025 was incredibly dry, until we got hit with rainstorms in July that led to devastating floods in other parts of Texas (which were themselves almost certainly related to climate change). The small playa lake at the I-20 Wildlife Preserve has been completely dry for most of 2025. I have been learning about birding, so I visit the I-20 Wildlife Preserve often—it’s usually a birders’ paradise. On my most recent trip to the preserve, there were no birds at all.
14. I am seriously concerned about the impact of climate change on my and my family’s wellbeing. I like to run, and I now have to run as late as 10 p.m. to avoid the extreme heat, and even then it can be above 90 degrees outside. This past summer, it was difficult to run at all. I also worry about increase in extreme storms and the negative impacts they could have on my mother,

who is in her 80s and lives in Newark, Delaware. Similarly, my sister lives in Virginia Beach. I worry that the increased frequency and severity of hurricanes hitting the Virginia coast will harm her and her family.

15. I am also concerned about climate change and the world that future generations, including my students, are inheriting. It is completely unjust and utterly unfair that the younger generation—who are good people that just want to get started in life and have a decent environment to live in—have to worry about climate change dropping on their heads. I work with my students to awaken them to these issues and guide them to adjust to living in a world with climate change.
16. I am aware that EPA finalized a rule in 2024 that will greatly reduce emissions of methane, volatile organic compounds, and hazardous air pollutants from the oil and gas industry. I understand that this rule not only strengthens standards that were in place since 2016 for new and modified oil and gas equipment, but includes the first-ever emission reduction obligations for existing equipment. I understand that, among other things, this rule requires increased leak detection and repair inspections at wells and compressor stations, reduces flaring, requires zero-emitting technology for certain sources, and establishes emission limitations for certain operations that were never previously regulated, such as liquids unloading events. By

including these and other requirements, EPA's rule substantially benefits me and my community by reducing climate-harming emission and improving the quality of our air

17. I understand that EPA recently issued a final rule delaying the deadlines by which owners and operators of oil and gas equipment must meet the emission limitations established by the 2024 rule. This will harm me and my community, since it means we will have to wait longer before we can benefit from the emission reductions that the rule will achieve.
18. I understand that Sierra Club, EDF, and NRDC have filed a lawsuit to challenge EPA's final action delaying the 2024 rule's deadlines. If this lawsuit is successful, it will be beneficial to me and my community, since it means we will have access to emission reductions sooner. I therefore support Sierra Club, EDF, and NRDC in this litigation.
19. At heart of it, I was drawn to teach about the Transcendentalists because they offer a valuable message to my students. These writers wanted to challenge their readers, and I similarly want to challenge my students to see the truth about what's happening in world around them. However, I want them to know that there is a basis for hope and optimism. If you dig deeply enough, you will find a solution, no matter how bleak and how bad a problem appears to be. I want them to not only have the strength to confront

the truth, but also the strength to find those latent resources deep within themselves to squarely address climate change and overcome it. We have to find the courage to hope.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed in Odessa, TX, on December 15, 2025.



Todd Richardson

Attachment 25

Declaration of Joseph A. Satrom, Environmental Law & Policy Center

**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

ENVIRONMENTAL DEFENSE FUND,)

et al.,)

Petitioners)

v.)

No. 25-1275

LEE ZELDIN, *et al.*,)

Respondents)

DECLARATION OF JOSEPH A. SATROM

I, Joseph A. Satrom, do hereby affirm and state:

1. I am a lifelong resident of North Dakota. I am currently a member of the Environmental Law and Policy Center (“ELPC”).

2. I reside in Bismarck, North Dakota. I grew up on my family’s farm in the Red River Valley in North Dakota near the Minnesota border. I attended North Dakota State University and received a Bachelor of Science degree in agricultural education.

3. I am retired now. Prior to retiring, during my career, I worked in a number of leadership and management positions in state government and business, including cofounding a forty-year-old tour and travel company. For ten years I was elected and served in the North Dakota State Senate where I represented my

community and state on a wide diversity of issues. For much of my career I also worked as an administrator and manager in habitat conservation for Ducks Unlimited and the Nature Conservancy, where I managed land conservation programs and the responsible management and stewardship of North Dakota's natural resources.

4. I have long been interested in environmental issues in my community, state and nation. My family and I know the local environment here in North Dakota very well. We enjoy virtually all aspects of the outdoors. Whenever I have time, I enjoy fishing on Lake Sakakawea, and hiking and birding outings in the Bakken region which includes the Little Missouri National Grasslands and western areas around Lake Sakakawea in the western part of the State.

5. As an ELPC member, I previously prepared a declaration that is included in the Appendix to the Motion of Environmental and Public Health Organizations to Intervene in Support of Respondents filed by ELPC and other organizations to intervene in the lawsuit *State of Texas v. U.S. Environmental Protection Agency, et al.*, No. 24-1054, filed on March 12, 2024, at pgs. 176 to 181 of the Appendix, Doc. No. 2044639. In that matter, ELPC intervened to support a final rule issued by the U.S. Environmental Protection Agency ("EPA") entitled "Standards of Performance for New Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate

Review,” 89 Fed. Reg. 16,820 (March 8, 2024) (“2024 Rule”), which revised the New Source Performance Standards for methane and volatile organic compounds (“VOCs”) in the crude oil and natural gas source category. I wanted to get involved as part of ELPC’s effort to support the 2024 Rule because I believe it will significantly reduce methane, VOCs, and hazardous air pollutant (“HAP”) emissions.

6. I understand that on December 3, 2025, EPA issued a Final Rule entitled: “Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources.” 90 Fed. Reg. 55,671 (December 3, 2025) (“Delay Rule”). This Delay Rule will postpone compliance deadlines for technology control and monitoring requirements of the previously mentioned 2024 Rule. A delay of these emissions controls would forestall climate and health benefits which in turn would adversely impact my local environment, my health and the health and enjoyment of my guests who I have taken and will continue to regularly take on hiking and birding outings in these extraordinary natural areas of North Dakota.

7. When issuing the Interim Final Rule entitled “Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate

Review,” EPA found that this Delay Rule will produce “climate damages from increasing methane emissions by 1,300,000 short tons, lost value of PM_{2.5} and ozone-related health benefits from increasing VOC emissions by 350,000 short tons, and lost value of benefits from increasing HAP emissions by 13,000 short tons.” 90 Fed. Reg. 35,980 (July 31, 2025) (“Interim Delay Rule”).

8. According to the EPA’s Regulatory Impact Analysis (“RIA”), the 2024 Rule was expected to result in significant emissions reductions, including an estimated 130 million metric tons of methane, 1.3 million short tons of VOCs, and 49 thousand short tons of HAPs between 2024 and 2029. *See* EPA-452/R-23-013, pg. 3-4. I strongly support these emissions reductions, but the Delay Rule unnecessarily forestalls them.

9. The RIA identifies the Bakken region of North Dakota as an “Oil and Natural Gas Intensive Community,” meaning the region is in the top 20% of all Public Use Microdata Areas (“PUMAs”) for oil and natural gas workers. *See* EPA-452/R-23-013, pg. 4-58. North Dakota’s Bakken region also is identified by the EPA as having increased cancer risks associated with HAP pollution from the oil and gas sector. *See* EPA-452/R-23-013, pg. 4-55, figure 4-6. Significant reductions in ozone pollution would also accrue because of the requirements of the 2024 Rule. EPA’s RIA found that by 2028 ozone pollution would decrease significantly in North Dakota, especially in the Bakken region, if the compliance

deadlines in the 2024 Rule are enforced. *See* EPA-452/R-23-013, pg. 3-30, figure 3-2.

10. The Bakken region is especially important to me because I often recreate there, and spend time there with my family, friends and out-of-state and international guests who ask me to introduce them to western North Dakota. These requests from friends and guests to visit the Bakken region with me are the result of my prior involvement and recent retirement from a 40-year old ecotourism business. For many years I used my conservation experiences to guide tourists to the Bakken region's tremendous natural areas and birding spots. In my retirement years, I continue to take several trips each year into the Bakken oil and gas development region of North Dakota for birding and outdoor recreation, and I plan to continue to do so. I visited the Bakken region from September 3-7, 2025, with guests from Iowa, Massachusetts and Utah. During this trip, on September 4, 2025, we visited Dickinson, South Heart, and Belfield. On September 5, we traveled to Medora and Theodore Roosevelt National Park (South Unit), as well as to the North Dakota Badlands and Little Missouri National Grasslands in Billings County. On September 6, we traveled to Theodore Roosevelt National Park (Elkhorn Ranch site), Fairfield, Grassy Butte, Killdeer, and Medora.

11. Over the years, and especially recently, I have been able to witness how oil and gas operations have boomed in the intensively productive Bakken

region. These days, while out birding and hiking in the Bakken, I regularly see the continued operation of oil and gas wells. I know that these operations emit pollutants into the air that are harmful to those exposed, and these pollutant emissions diminish the local ecosystems that I enjoy personally. An analysis conducted by the Environmental Defense Fund (“EDF”) has confirmed my observations. I understand that this EDF data analysis will be described more fully in the Declaration of Jeremy Proville and Laura Mirtich to be filed in the above-captioned matter (hereafter “Proville-Mirtich Decl.”). I understand that EDF’s analysis has found that there are 828 active wells in Stark County, where I visited Dickinson, South Heart, and Belfield on September 4, 2025; 1,985 active wells in Billings County, where I visited Medora, the North Dakota Badlands and Little Missouri National Grasslands on September 5, 2025; 10,768 active wells in McKenzie County, where I visited on September 6, 2025; and 5,107 active wells in Dunn County, where I visited Killdeer on September 6, 2025. *See* Proville-Mirtich Decl.

12. I have extensive experience planning and leading ecotourism trips in North and South Dakota, including birding in the areas of the Little Missouri River Valley, Lostwood, Des Lacs, Audubon National Wildlife Refuges, and Theodore Roosevelt National Park in North Dakota. While hiking around Theodore Roosevelt National Park, I have encountered oil and natural gas drilling and

transport in close proximity to the Little Missouri River and its delicate tributaries. These are fragile ecological areas and scenic areas that I regularly enjoy visiting, but the oil and natural gas operations impair my aesthetic enjoyment of the landscape and pose a threat to my health. These outdoor activities have been an important part of my entire life, and they remain important to me in my retirement.

13. The timely enforcement of compliance deadlines in the 2024 Rule is crucial in realizing improvements in air quality and avoiding adverse health impacts throughout North Dakota and the Bakken region. *See* EPA-452/R-23-013, pg. 3-47, table 3-8. This concrete data showing avoidance of adverse health impacts from adherence to the deadlines in the 2024 Rule makes me far less worried for my health and the health of my friends when traveling to the Bakken Region; however, the EPA's Delay Rule will unnecessarily forestall those benefits and harm the health of myself, my family and my friends.

14. When I worked for the Nature Conservancy, I built relationships with people all across both North and South Dakota, including landowners, people in local government and a diverse group of conservationists and birders that helped me lead various conservation efforts and later to create my own nature-based tourism business. The Dakotas provide critical habitat for many species of migratory waterfowl and grassland nesting birds and are wonderful spots for observing birds and ducks in their primary habitats. The EPA's RIA notes that a

form of HAP known as polycyclic aromatic hydrocarbons (“PAHs”), which are released as a result of oil and natural gas operations, can accumulate in the food chain and pose a threat to many species including migratory birds. *See* EPA-452/R-23-013, pg. 3-56. The timely implementation of the technology control and monitoring requirements in the 2024 Rule will decrease these types of pollutants. *See* EPA-452/R-23-013, pg. 3-4, Table 3-2. EPA’s Delay Rule will forestall these reductions and therefore negatively impact the health of these species I care deeply about and which form the basis of my recreational enjoyment.

15. As a former North Dakota State Senator, I remember attending public hearings where local citizens and taxpayers complained of health concerns and property damage to their farms and ranches from well pollution they did not anticipate when oil and natural gas development first came to their agricultural land and their communities.

16. The basis for this Delay Rule has also bypassed important public participation opportunities. When issuing the Interim Final Rule entitled “Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review,” EPA did not provide an opportunity for public comment before making the rule effective immediately. *See* 90 Fed. Reg. 35,966 (July 31, 2025) (“Interim Delay Rule”). By issuing the Interim Delay Rule without

first allowing for public comment, EPA deprived ELPC and myself of our procedural right to meaningfully comment guaranteed by the Administrative Procedure Act. *See* 42 U.S.C. § 7607(d)(5), (6)(B). As a member of ELPC, I would have strongly supported the opportunity for ELPC to provide public comments to inform the EPA of the health and environmental consequences of its Delay Rule before EPA issued the Interim Delay Rule.

17. More pollution control is needed to protect these places and the health of myself and my family. The 2024 Rule is instrumental to achieving this goal and I believe EPA's decision to forestall the compliance deadlines in the 2024 Rule for the crucial technology control and monitoring requirements is a huge step in the wrong direction.

18. I wonder if we cannot do better when it comes to managing environmentally damaging air pollution from these operations. Knowing that environmentally harmful air pollution from these operations was better regulated would certainly increase my enjoyment of these places, improve my visits, better secure the health of the ecosystems I rely on for fishing, hiking and birding, and lessen the health risks associated with my regular trips.

19. I believe myself, my family, my friends and guests who join us on trips to the Bakken region all would benefit from the associated climate and health benefits of the originally promulgated implementation timeline of the 2024 Rule.

Any delay of such emissions control provisions would cause unnecessary adverse climate and health impacts to myself, my community, and the natural places that I recreate and that I take my family, friends and guests to visit and enjoy.

20. I fully support ELPC's efforts to challenge the EPA's new Delay Rule as a petitioner in the above-captioned lawsuit entitled *Environmental Defense Fund et al. v. Lee Zeldin et al.*, Case No. 25-1275.

21. I declare under penalty of perjury that the foregoing is true and correct.

/s/ Joseph A. Satrom
Joseph A. Satrom

Executed on December 17, 2025

Attachment 26

Declaration of Don Schreiber, Environmental Defense Fund

DECLARATION OF FRANCIS DON SCHREIBER

I, Francis Don Schreiber, declare as follows:

1. I am currently a member of the Environmental Defense Fund (“EDF”). I am a rancher and landowner in Gobernador, New Mexico. My wife, Jane, and I own the Devil’s Spring Ranch (“Ranch”) on 480 deeded acres in Rio Arriba County, and have a permit to graze cattle, sheep and horses for approximately 2,800 additional acres of land adjacent to the Ranch. We graze our own horses and raise chickens on the Ranch. We previously ran cattle but stopped in 2015 to focus our resources on mitigating oil and gas impacts on our property. We currently lease some of our grazing rights to other ranchers, who run cattle on the land.

2. My ranch is located in the San Juan Basin in northwestern New Mexico. The San Juan Basin is at times one of the most active areas in the country for oil and gas production with 20,000 active oil and gas wells. The Ranch is subject to a split estate—I own the surface rights to my land, and the mineral rights are owned by the federal government. There are currently about 122 oil and gas wells on and immediately adjacent to the Ranch emitting harmful pollution. Because there are oil and gas operations on and near my property, I closely follow regulatory developments concerning federal oil and gas regulations,¹ including

¹ <https://www.justice.gov/opa/pr/natural-gas-producer-agrees-settlement-reduce->

through communications that I receive from EDF. I have advocated for the adoption of measures in New Mexico and federally that would reduce waste and limit emissions from oil and gas development.

3. Jane and I bought our land in 1999, with the goal of developing a model for sustainable agriculture with cattle and passing the Ranch down to our children and grandchildren. At that time there were about 75 wells operating or in construction on the land. We have since curtailed our ranching activities. Though we continually work on rangeland improvements, including developing and improving water supply, wildlife- friendly fencing, invasive and noxious plant control, and erosion control, these activities are primarily done to mitigate the impacts of oil and gas activity. While we used to run cattle, we stopped in 2015 because ConocoPhillips, which had paid for the use of our cattle to restore lands damaged by the company, withdrew financial support, and because we needed to devote more time to defending the Ranch against oil and gas impacts. This left Jane with increasing responsibility for ranch work. Eventually, we could not do both and decided that working to hold the oil and gas industry accountable for the damage they were causing to our land, water, and air was more important.

4. Since 2018, we have been aware of recompletion activities (which bring existing wells back into production and which are a “modification” that

emissions-new-mexico.

triggers EPA's new source performance standards) on and around our Ranch as an important part of the business plan of the largest gas producer in New Mexico. In 2018, and again in 2019, we protested recompletions here on the Ranch for failure to capture methane during the recompletion process. In February 2020, we were notified by the operator that it planned to undertake 22 recompletions in our area. The operator owns thousands of wells in the San Juan Basin that are eligible for recompletion. I saw a well undergo recompletion in July 2021 within a mile from my home.

5. The impacts to the physical properties of our land and resources from oil and gas development have been significant. I see and hear semi-trucks passing by my property, hauling pipe for construction of another well. Roads and pipeline construction have interrupted natural water, soil, and vegetation patterns on our land. This has not only changed what we can grow but has also impacted the natural barriers that we use for grazing permits in and around the Ranch.

6. I am aware that oil and natural gas facilities emit significant amounts of harmful air pollution, both through designed releases and unintentionally leaking equipment. I understand that these pollutants include methane, VOCs, carcinogenic HAPs such as benzene and toluene, and other dangerous air pollutants. I understand that methane is a highly potent greenhouse gas, capable of warming the climate at a rate over 80 times that of carbon dioxide over a 20-year

period. I also understand that VOCs contribute to the formation of ground-level ozone, or smog, which is hazardous to human health and can cause respiratory disease and premature death. I am aware that the best practices that reduce methane and VOC emissions also help mitigate other harmful air pollutants.

7. I have personally experienced air emissions associated with venting, flaring, process controllers, and leaking wells on the Ranch. I've seen flaring and venting hundreds of times since 1999 and within 1-5 miles of the Ranch. Well construction or maintenance, which can cause flaring and venting, happens every 2-3 months near my property. In June 2023, I caught a recompletion flare occurring about 5 miles from my home on camera (see Exhibit A) and I witnessed a separator fire on October 25, 2022 (see Exhibit B). So many people called in about the flare that the fire department responded. We hear venting daily from wells close by. We know that sound represents harmful and potentially toxic emissions escaping directly into the atmosphere, and into the air we breathe as we live and work here at the Ranch. These emissions endanger not only us, but our livestock and wildlife that we have pledged to protect. Often, we cannot identify exactly where the venting is coming from, but in these canyon lands, the sound can travel for miles.

8. As I ride, walk and drive around the Ranch, I can often see vapors escaping from leaking wells distorting the air and creating shadows. There is a

group of several wells on the Ranch located less than a third of a mile from our house. On five separate occasions over the last several years, we have visited these wells with Optical Gas Imaging (“OGI”) cameras. On all five occasions, we observed and recorded leaks at these wells.² When we observe leaking wells we report them to the well operator. For example, when using an OGI camera several years ago on a well that we can see from our home, we discovered a large methane leak. An OGI image of that leak is below. I also recorded a valve box leak on May 11, 2023, a screenshot of which is below. There are two low-producing wells within a quarter mile of our home producing less than 60 thousand cubic feet per day, and we witness leaks from those wells all of the time. This happens repeatedly, but we do not have the resources or ability to monitor all of the wells on the Ranch.

² OGI video from one of these observations is available at <https://www.youtube.com/watch?v=SYE6K58sY1w&feature=youtu.be>.



9. Most noticeable is the near-constant smell from leaking wells, which can be extremely strong when we are driving, riding, and walking around areas with oil and gas development. These odors make breathing uncomfortable and often cause us to leave affected areas as quickly as possible, as I am concerned that we are breathing harmful hydrocarbons, such as benzene, toluene, ethylbenzene, and xylenes (these toxic components of natural gas are sometimes referred to as BTEX). I also worry about the aggregate effect of oil and gas operations in our region on the total level of these toxins in the ambient air we breathe.

10. Jane and I have devoted considerable resources – including time and

retirement money – to defend our land from the impacts of oil and gas activity. We have travelled to Santa Fe and Washington, D.C., for example, to tell our story and advocate for more stringent regulations on the industry. Recently, my wife and I created the Open Space Pilot Project (OSPP), which brings federal agencies, energy companies, and landowners in the region together to reduce oil and gas impacts on the land, water, and soil. We also conduct regular air and water testing and pay an analyst to understand oil and gas impacts to our Ranch that we can then bring to regulators. The resources going into these projects would have gone into developing a sustainable agricultural farm on our Ranch, familial support, or retirement.

11. VOC emissions from oil and gas operations in the San Juan Basin contribute to elevated smog levels in the Four Corners region, including in our part of northwestern New Mexico. While the Four Corners is a sparsely populated rural region, we have similar ozone levels to urban areas, like Washington, D.C. I am aware that people with cardiovascular disease are at higher risk from breathing ozone. In 2014, I had open heart surgery for congestive heart failure, and have post-operative residual congestive heart failure. I am constantly concerned about the impact of the air quality on my heart condition. I worry that ozone levels in my county will cause respiratory or cardiovascular problems for myself and my family.

12. Jane and I have five grown children, and ten grandchildren. Although we had hoped the Ranch would be a place we would share with our grandkids, the oil and gas operations in our area limit our ability to enjoy it with them. We worry about their exposure to air pollutants from oil and gas development in the region, and always are careful to keep them away from wells and above-ground pipeline equipment. I am aware that scientific studies have found that proximity to oil and gas operations has negative impacts on health, particularly for children and pregnant women.³ Protecting our grandchildren from the negative health effects of oil and gas emissions is a constant concern when they come to visit us.

13. The impacts of climate change caused by greenhouse gases such as methane are evident on the Ranch. We have experienced monsoons and an increase in torrential downpours that have resulted in unprecedented runoff. At the same time, our property has experienced extreme drought. Our land is getting drier and

³ See Stacy, et al., *Perinatal Outcomes and Unconventional Natural Gas Operations in Southwest Pennsylvania*, PLoS ONE (June 3, 2015) available at <https://doi.org/10.1371/journal.pone.0126425>; Casey et al., *Unconventional Natural Gas Development and Birth Outcomes in Pennsylvania, USA*, *Epidemiology* (March 2016) available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4738074/>; McKenzie et. al., *Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado*, *Envtl. Health Perspectives* (Jan. 28, 2014) available at <https://ehp.niehs.nih.gov/1306722/>; Currie, Janet, et al., *Hydraulic Fracturing and Infant Health: New Evidence from Pennsylvania*, *Science Advances*, American Association for the Advancement of Science (Dec. 1, 2017) available at advances.sciencemag.org/content/3/12/e1603021.

dustier each year. I have noticed tree death, including the death of pinions and junipers, which I did not witness when we first moved to the Ranch. Weeds flourish in the warmer weather and inhibit the growth of essential native grasses. Changes in temperature and weather patterns, including drought, increased wind, severity of rainstorms, and increased erosion, have required a shift in the timing of ranch operations, such as when cows should be bred. Other conventional wisdom that has informed practices for generations is no longer applicable. For example, when I first started ranching in 1999, my neighbor, whose family has been ranching in Rio Arriba County for nearly a century, taught me that on September 28th of each year, I would need to begin checking for ice on our cows' water sources in the mornings. Otherwise, the water would freeze deeply and the cows would not be able to drink. However, this date, passed down for decades, has become obsolete—in recent years, we have not had to break ice until much later in the season. These past several years, we did not have to begin to break ice until mid-December. This past January, much water remained open.

14. I am aware that in 2024, EPA finalized a rule to strengthen standards to reduce methane emissions from oil and gas facilities. Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, 89 Fed. Reg. 16,820 (Mar. 8, 2024) (“2024 Rule”). During my time on the Ranch, I’ve seen both

leaking and intentionally emitting equipment, venting and flaring, and emissions from recompletions, storage tanks and process controllers. The 2024 Rule's standards will reduce harmful pollution from these sources.

15. I am aware that on July 31, EPA issued an interim final rule (effective immediately) that provides an 18-month extension for standards subject to the 2024 Rule to reduce methane emissions from new, modified and existing sources in the oil and gas sector and to reduce volatile organic compound (VOC) emissions from new and modified sources in the oil and gas sector. *Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review Final Rule*, 90 Fed. Reg. 35966 (July 31, 2025). In particular, it extends the compliance deadlines for storage tanks, process controllers, the super-emitter program (which aims to reduce leaks), combustion devices, flares, and closed vent systems. It also extends the deadline for state plan submissions. I am also aware that on December 3, EPA issued a rule affirming the interim final rule's extensions. *Oil and Natural Gas Sector Climate Review: Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources* ("Final Delay Rule"), 90 Fed. Reg. 55671 (Dec. 3, 2025). In addition to affirming all of the extensions in the interim final rule, the Final Delay Rule also extends the compliance deadlines for net heating value

monitoring and the annual compliance report deadline.

16. While living on and working on my ranch, I have been subject to pollution sources that the Final Delay Rule applies to. Since February, 2025, my wife and I have been working at the southern end of our ranch in Encierro Canyon, which is part of our BLM grazing permit land, and which we access through our private land. We started running cattle there on August 1st and have been there daily for months to prepare. The route there, approximately 7 miles, is covered with active well sites, and the canyon, which is over 2 miles long, has numerous active wells, some of which we must drive through on our way back and forth to get to Encierro Canyon, or work near for 5 or 6 hours per day. Along the route and right by where we work in the canyon, there are wells that were built prior to December, 2022, and which would be subject to the 2024 Rule's existing source standards, as well as new wells built after December, 2022 that would be subject to the new source standards. In July, there was a tremendous release of methane and fracking waste at a well that was drilled very recently about a mile and half from our home; it was so loud that we heard it from our inside our house. On July 20, at 7:30 AM there was a recompletion of a well that occurred resulting in major venting and leaks. See Exhibit C. On July 30th when working in the Canyon, I saw two wells that bi-sect the road emitting methane that caused me nausea. See Exhibit D.

17. I am aware that an analyst at Environmental Defense Fund evaluated the number of wells near my ranch and in my county. Rio Arriba County currently has 14,669 active wells. The county has 8,087 wells that were drilled prior to December, 2022 and that would be subject to the 2024 Rule's existing source standards. There are also 33 wells in my county that were drilled after December, 2022 and would thus be subject to the 2024 Rule's new source standards. And there is at least 1 rig being constructed in my county which indicates that infrastructure is being built to begin well production shortly. Additionally, EDF analyzed the number and type of wells that are in close proximity to my ranch and found the following number of wells at various distances from my ranch:

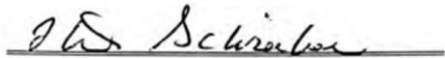
Buffer around ranch boundary	Number of wells identified	Number of new source wells identified
4 miles	1,030	2
4.5 miles	1,204	2
5 miles	1,377	2

18. I am aware that the 2024 Rule's standards for process controllers, storage tanks, combustion devices, closed vent systems, leaks, and the super emitter program, would apply to both new and existing wells near my ranch and in my county, and that the Final Delay Rule's extension for compliance deadlines for these sources is allowing them to forgo pollution mitigation the 2024 Rule would have provided.

19. Because of the Final Delay Rule, I am concerned that nearby fossil fuel emissions will continue to threaten my health and well-being and that of my family, our workers, and the livestock and wildlife on the Ranch.

I declare the foregoing is true and correct.

Francis Don Schreiber

A handwritten signature in black ink, reading "F. D. Schreiber", is written over a horizontal line.

Dated: December 18, 2025

Exhibit A



Exhibit B



Exhibit C



Exhibit D



Attachment 27

Declaration of Veronica Southerland and Meagan Weisner, Environmental
Defense Fund

**DECLARATION OF DR. VERONICA SOUTHERLAND AND
DR. MEAGAN WEISNER**

We, Dr. Veronica Southerland and Dr. Meagan Weisner, declare:

1. I, Dr. Southerland, am a Scientist at Environmental Defense Fund (EDF), a non-profit organization focused on protecting human health and the environment from airborne contaminants by using sound science. I received a Ph.D. in Environmental Health from the Milken Institute School of Public Health at George Washington University, where I also received my Master of Public Health in Environmental Health Science and Policy. At EDF, I conduct risk assessments aimed to estimate the health impacts of air pollution. Prior to joining EDF, I contributed to proposed regulations to prevent the release of hazardous substances under the Clean Air Act and the Clean Water Act in the U.S. Environmental Protection Agency's Office of Land and Emergency Management. I have also worked in environmental and chemical policy at the U.S. Chemical Safety Board, the U.S. Department of Homeland Security and U.S. Department of Defense. My research and scholarship concerning air pollution health risks have been published in several journals, including *Lancet Planetary Health*, *GeoHealth*, *Environmental Research Letters*, *Nature Communications*, and *Environmental Health Perspectives*. My curriculum vitae is attached as Exhibit A.

2. I, Dr. Meagan L. Weisner, am a Senior Health Scientist at EDF. I completed my Ph.D. in Geosciences from Florida Atlantic University, as well as an Advanced GIS certificate and Master's degree in Anthropology from the same university, and hold a Bachelor's degree in Anthropology from Oregon State University. In 2021, I received a special appointment as an assistant professor in the School of Public Health at the University of Colorado, where I advise graduate students and serve on theses and dissertation committees related to oil and gas and health impacts research. Additionally in 2024, I was selected by the Colorado Department of Public Health and Environment to serve on the scientific community technical working group for Colorado House Bill 22-1244, Public Protections from Toxic Air Contaminants. I have testified as an expert witness in numerous Colorado state rulemakings and provided technical and scientific expertise related to air pollution from oil and gas development, health impacts, and air monitoring systems. I have published scholarly works in peer-reviewed journals including *Environmental Health Perspectives*, *International Journal of Environmental Research and Public Health*, *Sustainable Production and Consumption*, and others.

VOCs Form Ground-Level Ozone that Harms Human Health

3. Ozone forms when VOCs and oxides of nitrogen (NO_x) react in the presence of sunlight. This process becomes more pronounced in the summertime.

4. A longstanding body of scientific research, including numerous EPA assessments, demonstrates that exposure to ground-level ozone harms human health. In its 2013 Integrated Science Assessment for Ozone (2013 ISA), EPA concluded that “a very large amount of evidence spanning several decades supports a relationship between exposure to [ozone] and a broad range of respiratory effects.”¹ These effects range from decreases in lung function among healthy adults to increases in respiratory-related hospital admissions and emergency room visits, to premature death.²

5. Multiple studies across various states (California, Georgia, North Carolina), counties (Maricopa County, AZ; Erie County, NY) and cities (Seattle, New York, Newark, Atlanta, Houston, Dallas, San Antonio, Austin, Indianapolis, St. Louis) have found that changes in ozone concentrations were associated with higher asthma emergency room visits, most at concentrations below the current standard.³ In studies with average daily maximum ozone concentrations between 31 and 54 parts per billion (ppb)—well below EPA’s current ozone standard of 70 ppb—these effects were strongest among children between 5 and 18 years old.⁴ It

¹ U.S. EPA, EPA/600/R-10/076F, *Integrated Science Assessment (ISA) of Ozone and Related Photochemical Oxidants*, at 1-6 (2013), available at <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=247492> (“2013 ISA”).

² *Id.* at 6-131 to 6-158, 6-162 to -163.

³ Stephanie Holm, John Balmes, Ananya Roy, *Human Health Effects of Ozone: The State of Evidence Since EPA’s Last Integrated Science Assessment*, EDF 2018.

⁴ US EPA, EPA/600/R-20/012, *Integrated Science Assessment (ISA) for Ozone and*

is estimated that up to 11% of all asthma emergency room visits in the United States are attributed to ozone.⁵ According to the Centers for Disease Control and Prevention (CDC), 24 million Americans currently have asthma.⁶ Of these, 5.5 million are children and over half have uncontrolled asthma.⁷ Asthma results in 1.6 million emergency room visits, 9.8 million visits to the physician,⁸ and 188 thousand hospitalizations.⁹ Asthma costs the U.S. economy more than \$80 billion annually in medical expenses, missed work and school days, and deaths.¹⁰

6. Ozone pollution is particularly harmful for vulnerable populations, such as school-aged children, people with respiratory diseases or asthma, older adults, and people who are active outdoors, especially outdoor

Related Photochemical Oxidants, at IS-26 tbl.IS-4 (2020), available at <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=348522> (“2020 ISA”) (summarizing evidence from epidemiologic, controlled human exposure, and animal toxicological studies on the respiratory effects of short-term exposure to ozone).

⁵ Susan C. Anenberg et al., *Estimates of the Global Burden of Ambient PM_{2.5}, Ozone, and NO₂ on Asthma Incidence and Emergency Room Visits*, Environmental Health Perspectives, 2018; 126 (10): 107004.

⁶ CDC, *Fast Stats: Asthma*, <https://www.cdc.gov/nchs/fastats/asthma.htm> (last visited Sept. 8, 2020).

⁷ *Id.*

⁸ *Id.*

⁹ CDC, *Most Recent National Asthma Data*, https://www.cdc.gov/asthma/most_recent_data.htm (last visited Aug. 26, 2020).

¹⁰ Tursynbek Nurmagambetov, Robin Kuwahara, Paul Garbe, *The Economic Burden of Asthma in the United States, 2008 -2013*, Annals of the American Thoracic Society, 2018.

workers.¹¹ Children with asthma also face heightened risks from ozone exposure. Many studies have demonstrated that children with asthma experience decrements in lung function and increases in respiratory symptoms when exposed to ozone pollution.¹²

7. EPA has concluded that there is a causal relationship or likely causal relationship between both short- and long-term ozone exposure and a broad range of harmful respiratory effects in humans.¹³ Short-term exposure is defined as hours, days, or weeks, and long-term exposure is measured in months to years.¹⁴

8. Short-term exposure to ozone can have critical health implications.¹⁵ For instance, short durations of exposure (e.g. up to three hours in duration and also at the daily level) have been associated with an increased risk of out-of-hospital cardiac arrest, with the highest risk estimates for those that are aged >65 years, male, or Black.¹⁶ Other studies indicate higher rates of stroke in populations following higher exposures to ozone. A study in Allegheny County, Pennsylvania found that exposures to ozone on the current day increased the risk

¹¹ 2013 *ISA* at 1-8.

¹² K. Mortimer et al., *The Effect of Air Pollution on Inner-City Children with Asthma*, 19 *EUR. RESPIRATORY J.* 699 (2002), 2013 *ISA*, 6-120-21, 6-160.

¹³ 2013 *ISA* at 1-5 to 1-8 & tbl. 1-1.

¹⁴ *Id.* at 1-4.

¹⁵ Katherine B. Ensor et al., *A Case-Crossover Analysis of Out-of-Hospital Cardiac Arrest and Air Pollution*, 127 *CIRCULATION* 1192 (2013), <https://pubmed.ncbi.nlm.nih.gov/23406673/>.

¹⁶ *Id.*

of total stroke hospitalization.¹⁷ Another study in Nueces County, Texas found elevated risk of having a first stroke with higher ozone concentrations in the preceding 2 days.¹⁸ Additional analyses support these conclusions.¹⁹

9. This evidence augments the long-standing body of literature demonstrating the serious impacts from short-term exposure to ozone pollution, including the increased risk of premature death.²⁰ EPA has recognized that positive associations have been reported between “short-term [ozone] exposures and respiratory mortality, particularly during the summer months.”²¹

10. Long-term exposure likewise has critical health implications. EPA has concluded that there is “likely to be a causal relationship between long-term exposure to [ozone] and respiratory effects.”²² A recent study of 5,780 adults followed for a decade across six U.S. metropolitan regions found that long-term

¹⁷ Xu X, Sun Y, Ha S, Talbott EO, Lissaker CT, *Association between ozone exposure and onset of stroke in Allegheny County, Pennsylvania, USA, 1994-2000*, *Neuroepidemiology*, 2013, 41(1):2-6.

¹⁸ Wing JJ, Adar SD, Sánchez BN, Morgenstern LB, Smith MA, Lisabeth LD, *Short-term exposures to ambient air pollution and risk of recurrent ischemic stroke*, *Environmental Research*, Jan. 2017, 152:304-7.

¹⁹ Shah, Anoop SV, et al., *Short term exposure to air pollution and stroke: systematic review and meta-analysis*, *BMJ* 350 (2015): h1295; Yang, Wan-Shui, et al., *An evidence-based appraisal of global association between air pollution and risk of stroke*, *International Journal of Cardiology* 175.2 (2014): 307-313.

²⁰ 2013 ISA at 1-14 (concluding that there is “likely to be a causal relationship between short-term exposures to [ozone] and total mortality”).

²¹ EPA, *National Ambient Air Quality Standards for Ozone*, 80 Fed. Reg. 65,292, 65,307 (Oct. 26, 2015); *see also* 2013 ISA 6-220 to 6-221.

²² 2013 ISA at 1-8.

ozone exposure was significantly associated with development of emphysema.

This was equal to that of 29 pack-years of smoking or 3 years of aging.²³

Additionally, in a study of 11 million Medicare enrollees in the southeastern United States, long-term ozone exposure was associated with increased risk of first hospital admission for stroke, chronic obstructive pulmonary disease, myocardial infarction, lung cancer, and heart failure.²⁴

11. Similarly, EPA notes that “recent evidence is suggestive of a causal relationship between long-term [ozone] exposures and total mortality.”²⁵ Some longitudinal studies have further demonstrated that “long-term [ozone] exposure influences the risk of asthma development in children.”²⁶

12. A recent study of almost 61 million Medicare patients conducted nationwide indicates a significant association between short- and long-term ozone exposure and all-cause mortality, with effects strongest in minorities and those of low socio-economic status. These effects were seen at ozone concentrations well below the current standard of 70 ppb.²⁷ In fact, the majority of deaths occurred

²³ Wang, Meng, et al., *Association between long-term exposure to ambient air pollution and change in quantitatively assessed emphysema and lung function*, JAMA 322.6 (2019): 546-556.

²⁴ Yazdi, Mahdih Danesh, et al., *Long-term exposure to PM2. 5 and ozone and hospital admissions of Medicare participants in the Southeast USA*, Environment International 130 (2019): 104879.

²⁵ 2013 ISA at 1-8.

²⁶ 2013 ISA at 7-2.

²⁷ Di et al., *Air Pollution and Mortality in the Medicare Population*, NEW

when ozone levels were below 60 ppb, and throughout the whole study period, mean ozone levels were 38 ppb.²⁸

13. Health effects other than cardiovascular or respiratory effects are also likely. A 2017 study suggests that ozone exposure may be linked to approximately 8,000 stillbirths per year.²⁹ Studies carried out in California and Florida of over 4,000 births each found that elevated exposure to ozone during pregnancy was associated with higher risk of pre-term birth.³⁰ Prolonged exposure to ozone may also accelerate cognitive decline in the early stages of dementia.³¹ There is now accumulating evidence that suggests that ozone exposure during pregnancy can result in Autism Spectrum Disorders among children.³² A review of epidemiological research found age has the strongest

ENGLAND J. OF MEDICINE (June 29, 2017); Di et al., *Association of short-term exposure to air pollution with mortality in older adults*, JAMA (Dec. 26, 2017) 318(24):2446-56.

²⁸ *Id.*

²⁹ Mendola et al., *Chronic and Acute Ozone Exposure in the Week Prior to Delivery is Associated with the Risk of Stillbirth*, 14 INT'L J. ENV'T'L RESEARCH AND PUB. HEALTH 731 (2017).

³⁰ Laurent O, Hu J, Li L, et al., *A statewide nested case-control study of preterm birth and air pollution by source and composition: California, 2001-2008*, Environ Health Perspect. 2016;124(9):1479-1486; Ha S, Hu H, Roussos-Ross D, Haidong K, Roth J, Xu X, *The effects of air pollution on adverse birth outcomes*, Environ Res. 2014;134:198-204.

³¹ Galkina Cleary et al., *Association of Low-Level Ozone with Cognitive Decline in Older Adults*, 61 J. ALZHEIMERS DISEASE 1, 67-78 (2018).

³² Becerra, Tracy Ann et al., *Ambient air pollution and autism in Los Angeles County, California*, Environmental Health Perspectives 121.3 (2012) 380- 386; Volk HE, Lurmann F, Penfold B, Hertz-Picciotto I, McConnell R, *Traffic- related*

influence on ozone sensitivity, with risks increasing as individuals get older.³³

Short-term exposure to ozone has been associated with adverse neural effects in the elderly, even at lower than recommended concentrations.³⁴

14. In 2015, EPA strengthened the national health-based standard for ground-level ozone, lowering the standard from 75 ppb to 70 ppb.³⁵ The record for that rulemaking, however, along with subsequent scientific studies, demonstrates that health effects can occur at much lower levels, especially in sensitive populations. For that reason, EPA's independent scientific advisors recommended that the agency establish the standard in the range of 60–70 ppb. Many health and medical associations suggested that lower standards may be appropriate.³⁶

15. EPA has issued designations for counties that are not meeting the 2015 ozone standards, referred to as “ozone non-attainment areas.”³⁷ According

air pollution, particulate matter, and autism, JAMA Psychiatry (Jan. 1, 2013) 70(1):71-7.

³³ Bell, Michelle L, Antonella Zanobetti, and Francesca Dominici. “Who Is More Affected by Ozone Pollution? A Systematic Review and Meta-Analysis.” *American journal of epidemiology* 180.1 (2014): 15–28. Web.

³⁴ Qu, Rongrong et al. “Short-Term Ozone Exposure and Serum Neural Damage Biomarkers in Healthy Elderly Adults: Evidence from a Panel Study.” *The Science of the total environment* 905 (2023): 167209–167209. Web.

³⁵ EPA, *National Ambient Air Quality Standards for Ozone*, 80 Fed. Reg. 65,292 (Oct. 26, 2015).

³⁶ *Id.* at 65,321–23, 65,355.

³⁷ EPA, *Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards*, 82 Fed. Reg. 54,232 (Nov. 16, 2017); EPA, *Additional Air Quality*

to EPA calculations, there are over 120 million people living in ozone non-attainment areas in the United States.³⁸ These individuals are at risk of acute respiratory illness and other damaging health outcomes due to unhealthy levels of ozone air quality. Additionally, given the evidence of adverse health effects even at levels below EPA's standard for ground-level ozone, the millions of Americans living outside of ozone nonattainment areas may also be at risk of experiencing the negative health effects of ozone exposure.

The Oil and Natural Gas Sector Is a Substantial Source of Smog-Forming Emissions

16. The oil and natural gas sector is a substantial source of smog-forming emissions. According to EPA's most recent National Emissions Inventory (NEI), "Oil and Gas Production" is the largest source of human-caused VOCs nationally and a major contributor to NO_x emissions.³⁹ Regional analyses likewise underscore the significant ozone-forming emissions from these

Designations for the 2015 Ozone National Ambient Air Quality Standards, 83 Fed. Reg. 25,776 (June 4, 2018); EPA, *Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards-San Antonio, Texas Area*, 83 Fed. Reg. 35, 136 (July 25, 2018).

³⁸ EPA, *Summary Nonattainment Area Population Exposure Report*, <https://www3.epa.gov/airquality/greenbook/popexp.html> (last updated July 31, 2020).

³⁹ Calculation based on EPA, *National Emissions Inventory (NEI) Sector Data*, available at <https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data>.

sources, including work in the Uinta Basin in Utah,⁴⁰ the Barnett Shale in Texas,⁴¹ the Upper Green River Basin in Wyoming,⁴² and in Colorado.⁴³ Another recent study published in California assessed data from the U.S. EPA Air Quality System from 2006 to 2019 and documented higher concentrations of air pollutants including PM_{2.5}, nitrogen dioxide (NO₂), VOCs, and ozone (O₃) as far away as 4 kilometers (13,123 feet) from oil and gas well sites, including in the

⁴⁰ Warneke, C. et al., *Volatile organic compound emissions from the oil and natural gas industry in the Uintah Basin, Utah: oil and gas well pad emissions compared to ambient air composition*, 14 Atmos. Chem. Phys., 10977-10988 (2014), available at www.atmos-chem-phys.net/14/10977/2014/; ENVIRON, *Final Report: 2013 Uinta Basin Winter Ozone Study* (Mar. 2014), available at https://deq.utah.gov/locations/U/uintahbasin/ozone/docs/2014/06Jun/UBOS2013FinalReport/Title_Content_UBOS_2013.pdf.

⁴¹ David T. Allen, *Atmospheric Emissions and Air Quality Impacts from Natural Gas Production and Use*, Annu. Rev. Chem. Biomol. Eng. 5:55-75 (2014), available at <https://www.annualreviews.org/doi/abs/10.1146/annurev-chembioeng-060713-035938>.

⁴² See B. Rappengliick et al., *Strong wintertime ozone events in the Upper Green River basin, Wyoming*, Atmos. Chem. Phys. (2014), available at <https://doi.org/10.5194/acp-14-4909-2014>.

⁴³ Helmig, D., *Air quality impacts from oil and natural gas development in Colorado*, 8,4 Elem Sci. Anth. (2020), available at <https://doi.org/10.1525/elementa.398>; Brantley et al., *Assessment of volatile organic compound and hazardous air pollutant emissions from oil and natural gas well pads using mobile remote and onsite direct measurements*, Journal of the Air & Waste Management Association 1096-2247 (Print) 2162- 2906 (Online) (2015); Petron, G. et al., *A new look at methane and non-methane hydrocarbon emissions from oil and natural gas operations in the Colorado Denver-Julesburg Basin*, 119 J. Geophys. Res. Atmos., 6836-6852 (2014), available at <http://onlinelibrary.wiley.com/doi/10.1002/2013JD021272/full>

San Joaquin Valley.⁴⁴ Bakersfield, CA in particular attributes 22 percent of all anthropogenic emissions during the spring and summer months to petroleum operations, and 8 percent of all total potential ozone precursors.⁴⁵

17. Studies and analyses have linked ozone formation to emissions from oil and gas development. For example, a recent study by NOAA scientists at the Cooperative Institute for Research in Environmental Sciences (CIRES) found that, on high ozone days on Colorado's Northern Front Range, oil and gas operations contribute roughly 50% to regional VOC reactivity and that these activities are responsible for approximately 20% of ozone produced locally in the nonattainment area.⁴⁶ This CIRES study was one of many that was included in a

⁴⁴ D.J. Gonzalez et al. (2022). *Upstream Oil and Gas Production and Ambient Air Pollution in California*, Science of The Total Environment, 806, 150298, available at: <https://doi.org/10.1016/j.scitotenv.2021.150298>.

⁴⁵ Gentner et al. (2014). Emissions of Organic Carbon and Methane from Petroleum and Dairy Operations in California's San Joaquin Valley. *Atmos. Chem. Phys.*, 14, 4955–4978, at 4971, available at: <https://doi.org/10.5194/acp-14-4955-2014>.

⁴⁶ McDuffie, E. E., et al. (2016), *Influence of oil and gas emissions on summertime ozone in the Colorado Northern Front Range*, J. Geophys. Res. Atmos., 121, 8712–8729, doi:10.1002/2016JD025265, available at <http://onlinelibrary.wiley.com/doi/10.1002/2016JD025265/abstract>; see also Gilman, J. B., B. M. Lerner, W. C. Kuster, and J. A. de Gouw (2013), *Source signature of volatile organic compounds from oil and natural gas operations in northeastern Colorado*, Environ. Sci. Technol., 47(3), 1297–1305, available at <http://pubs.acs.org/doi/abs/10.1021/es304119a> (finding 55% of VOC reactivity in the metro-Denver area is due to nearby oil and natural gas operations and calling these emissions a “significant source of ozone precursors”); Cheadle, LC et al., *Surface ozone in the Colorado northern Front Range and the influence of oil and gas development during FRAPPE/DISCOVER-AQ in summer 2014*, Elementa

review published this year documenting over a decade's worth of research demonstrating multiple lines of evidence that link regional production of ozone with emissions from oil and gas operations in the Colorado Front Range. Another study analyzing ozone impacts associated with unconventional natural gas development in Pennsylvania concluded that "natural gas emissions may affect compliance with federal ozone standards."⁴⁷

18. Recent studies have documented high levels of wintertime ozone in locations with oil and gas production such as the Upper Green River Basin in Wyoming and the Uinta Basin in Utah.⁴⁸ VOC emissions from oil and natural gas operations are a critical factor driving wintertime ozone formation in these regions.⁴⁹ When combined with specific meteorological conditions, including

(2017), available at <http://doi.org/10.1525/elementa.254> (finding on "individual days, oil and gas O₃ precursors can contribute in excess of 30 ppb to O₃ growth and can lead to exceedances" of the EPA ozone standards).

⁴⁷ Swarthout, R. F. et al., *Impact of Marcellus Shale natural gas development in southwest Pennsylvania on volatile organic compound emissions and regional air quality*, Environ. Sci. Technol., 49(5), 3175-3184 (2015), doi:10.1021/es504315f, available at <https://www.ncbi.nlm.nih.gov/pubmed/25594231>.

⁴⁸ See S.J. Oltmans et al., *O₃, CH₄, CO₂, CO, NO₂ and NMHC aircraft measurements in the Uinta Basin oil and gas region under low and high ozone conditions in winter 2012 and 2013*, Elementa (2016), available at <http://doi.org/10.12952/journal.elementa.000132>; B. Rappenglück et al., *Strong wintertime ozone events in the Upper Green River basin, Wyoming*, Atmos. Chem. Phys. (2014), available at <https://doi.org/10.5194/acp-14-4909-2014>.

⁴⁹ R. Ahmadov et al., *Understanding high wintertime ozone pollution events in an oil-natural gas-producing region of the western US*, Atmos. Chem. Phys. (2015), available at <https://doi.org/10.5194/acp-15-411-2015>.

snow cover and temperature inversions, VOC emissions can produce winter ozone concentrations of nearly twice the EPA ozone standard.⁵⁰ The contribution of unconventional oil and natural gas development on ozone formation has been quantified in North Texas, where mean values of all meteorologically adjusted ozone was 8% higher at monitoring sites located within the shale gas region than in the non-shale gas region.⁵¹ Directional analysis found that when winds were from areas with high shale gas activities, higher ozone downwind occurred.

Oil and Natural Gas Operations Emit Hazardous Air Pollutants like Benzene, a Known Human Carcinogen

19. Oil and natural gas operations also emit several different hazardous air pollutants (HAPs) from equipment leaks, processing, compressing, transmission and distribution, and storage tanks. HAPs emitted from oil and gas operations include benzene, a known carcinogen. When issuing the 2024 Rule, EPA recognized the negative health and welfare consequences of HAPs emitted from oil and gas extraction and the health benefits the New Source Rule would provide by reducing HAP emissions in addition to methane and VOC

⁵⁰ ENVIRON, *Final Report: 2013 Uinta Basin Winter Ozone Study* (Mar. 2014), available at <https://deq.utah.gov/air-quality/2013-uinta-basin-winter-ozone-study-final-report>.

⁵¹ Ahmadi, M., and K. John. 2015. Statistical evaluation of the impact of shale gas activities on ozone pollution in North Texas. *Sci. Total Environ.* 536:457–67. doi:10.1016/j.scitotenv.2015.06.114.

emissions.⁵²

20. HAP emissions from oil and gas extraction sites often occur as short-term, yet significant releases, especially during the pre-production phase.⁵³ Short-term exposure to benzene (typically 14 days or less) through inhalation may cause acute health impacts such as drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness.⁵⁴ Studies have linked increases in air pollution from oil and gas sites with increased acute health risks⁵⁵ and epidemiological research finds significant increases in reporting of acute health symptoms from populations living near oil and gas development sites.⁵⁶

⁵² EPA, Regulatory Impact Analysis of the Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review (Dec. 2023)

⁵³ Ku et al., *Atmospheric Environment, Air quality impacts from the development of unconventional oil and gas well pads: Air toxics and other volatile organic compounds*, 317 (Jan 2024), 120187, <https://doi.org/10.1016/j.atmosenv.2023.120187>.

⁵⁴ United States Environmental Protection Agency, *Benzene* (1992), <https://www.epa.gov/sites/default/files/2016-09/documents/benzene.pdf>.

⁵⁵ McKenzie et al., *Ambient Nonmethane Hydrocarbon Levels Along Colorado's Northern Front Range: Acute and Chronic Health Risks*, *Environ. Sci. Technol.* 2018, 52, 8, 4514–4525 (March 2018), <https://doi.org/10.1021/acs.est.7b05983>; Holder et al., *Evaluating potential human health risks from modeled inhalation exposures to volatile organic compounds emitted from oil and gas operations*, *J Air Waste Manag Assoc.* 2019 Dec;69(12):1503-1524, <https://pubmed.ncbi.nlm.nih.gov/31621516/>.

⁵⁶ Weisner et al., *Health Symptoms and Proximity to Active Multi-Well Unconventional Oil and Gas Development Sites in the City and County of Broomfield, Colorado*, *Int J Environ Res Public Health.* 2023 Feb 1;20(3):2634,

21. There is no safe level of human exposure to many of the toxic pollutants released as a result of oil and gas extraction. Exposure to HAPs can cause cancer and seriously impair the human neurological system. For example, benzene, found naturally in oil and gas, is linked with various forms of leukemia⁵⁷ and is a known human carcinogen.⁵⁸ Exposure to benzene is associated with chronic non-cancer health effects, including immunotoxicity and hematotoxicity.⁵⁹ Additionally, maternal exposure to benzene has been associated with birth defects like spina bifida,⁶⁰ decreased fetal weight, and other

<https://pubmed.ncbi.nlm.nih.gov/36767999/>.

⁵⁷ ATSDR (Agency for Toxic Substances and Disease Registry). 2024.

ToxFAQs™ for

Benzene, <https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=38&toxid=14>;

Glass DC, Gray CN, Jolley DJ, Gibbons C, Sim MR, Fritschi L, et al. 2003,

Leukemia risk associated with low-level benzene exposure, *Epidemiology*

14(5):569–577, PMID: 14501272, 10.1097/01.ede.0000082001.05563.e0. [[DOI](#)]

[[PubMed](#)] [[Google Scholar](#)]; Snyder R. 2012, *Leukemia and benzene*, *Int J Environ*

Res Public Health 9(8):2875–2893, PMID: 23066403,

10.3390/ijerph9082875. [10.3390/ijerph9082875"[DOI](#)] [[PMC free article](#)]

[[PubMed](#)] [[Google Scholar](#)]

⁵⁸ IARC, *Benzene: IARC Monographs on the Evaluation of Carcinogenic Risks to Humans* (2018),

<https://publications.iarc.who.int/Book-And-Report-Series/Iarc-Monographs-On-The-Identification-Of-Carcinogenic-Hazards-To-Humans/Benzene-2018>

⁵⁹ US EPA. 2002. Toxicological review of benzene, non cancer. IRIS: Benzene

CASRN 71-43-2. https://iris.epa.gov/ChemicalLanding/&substance_nmbr=276

⁶⁰ Lupo PJ, Symanski E, Waller DK, Chan W, Langlois PH, Canfield MA,

Mitchell LE. Maternal exposure to ambient levels of benzene and neural tube

defects among offspring: Texas, 1999-2004. *Environ Health Perspect.* 2011

Mar;119(3):397-402. doi: 10.1289/ehp.1002212. Epub 2010 Oct 5. PMID:

20923742; PMCID: PMC3060005.

neurodevelopmental effects.⁶¹

22. EPA has recognized the harmful effects of other specific air toxics emitted from oil and gas operations, including ethylbenzene, n-hexane, and other air toxics.⁶² Each of these hazardous pollutants is harmful to human health and may cause cancer or other serious health effects. For example, the effects of toluene range from impacts to the brain and nervous system, as well as harmful effects to the liver, kidneys, lungs, and impaired immune function.⁶³

Recent Studies Suggest Proximity to Oil and Gas Development Is Associated with Adverse Health Outcomes

23. Recent studies document associations between proximity to nonconventional oil and gas development and human health effects. While some of these studies do not evaluate concentrations of specific air pollutants, they document health effects that are consistent with exposure to smog and HAPs.

24. There is an extensive body of scientific research that has identified health impacts associated with living in proximity to oil and gas wells at various distances. For example, a study in Colorado estimated health risks from exposures to oil and gas air emissions and found cumulative cancer

⁶¹ *Supra* note 55.

⁶² <https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-operations/basic-information-about-oil-and-natural>

⁶³ *Supra* note 55.

risks were 10 in a million and 6 in a million for residents living $\leq \frac{1}{2}$ mile and $> \frac{1}{2}$ mile from wells, respectively, with benzene as the major contributor to the risk.⁶⁴ Additional human health risk assessments of benzene and other toxic air contaminants from oil and gas have been measured at levels that exceed lifetime cancer risks of 1 in a million for nearby communities.⁶⁵ Weisner et al. (2025)⁶⁶ analyzed concentrations of pollutants emitted from oil and gas operations and found that communities 1,000 ft from an unconventional oil and gas pad in Colorado were exposed to concentrations of air toxics at levels that may pose risks to health. Specifically, this risk assessment found that EPA acute thresholds for respiratory, immunological, and developmental health endpoints during the production phase were surpassed.

⁶⁴ McKenzie, Lisa M. et al., Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources, *The Science of the Total Environment*, Vol. 424 (2012): 79-87, doi:10.1016/j.scitotenv.2012.02.018.

⁶⁵ McKenzie, Lisa M. et al., Ambient Nonmethane Hydrocarbon Levels Along Colorado's Northern Front Range: Acute and Chronic Health Risks, *Environmental Science & Technology*, Vol. 52,8 (2018): 4514-4525. doi:10.1021/acs.est.7b05983; Weisner, Meagan L. et al., Cumulative Human Health Risk Assessment of Regional Ozone and Volatile Organic Compounds from Unconventional Oil and Gas Sites in Colorado's Front Range, *Environmental Health Perspectives*, Vol. 133,5 (2025): 57025. doi:10.1289/EHP16272.

⁶⁶ Weisner, Meagan L. et al., Cumulative Human Health Risk Assessment of Regional Ozone and Volatile Organic Compounds from Unconventional Oil and Gas Sites in Colorado's Front Range, *Environmental Health Perspectives*, Vol. 133,5 (2025): 57025. doi:10.1289/EHP16272.

25. A scoping review of epidemiological research found that 25 out of 29 studies reported at least one statistically significant link between unconventional oil and gas development exposure and adverse health outcomes, such as hospitalizations, negative birth outcomes, cancer, and asthma exacerbations.⁶⁷ A recent study found that children ages 2-9 who live within 13 km (8 miles) of oil and gas sites are at increased risk for acute lymphoblastic leukemia, and children within 5 km are at greatest risk (McKenzie et al., 2025).⁶⁸ Furthermore, individuals living within 1 kilometer of an oil and gas site in Pennsylvania have reported higher rates of skin problems and upper respiratory symptoms compared to those living farther away.⁶⁹ Another study in Colorado finds that respiratory and acute health symptoms (e.g. nosebleeds, nausea, cough, throat irritation) were reported at

⁶⁷ Deziel N.C., Brokovich E., Grotto I., Clark C., Barnett-Itzhaki Z., Broday D., Agay-Shay K. Unconventional oil and gas development and health outcomes: A scoping review of the epidemiological research. *Environ. Res.* 2020;182:109124. doi: 10.1016/j.envres.2020.109124. [DOI] [PubMed]

⁶⁸ Exposures from Oil and Gas Development and Childhood Leukemia Risk in Colorado: A Population-Based Case–Control Study | Cancer Epidemiology, Biomarkers & Prevention | American Association for Cancer Research, <https://aacrjournals.org/cebp/article/34/5/658/762044/Exposures-from-Oil-and-Gas-Development-and?searchresult=1>.

⁶⁹ Rabinowitz P.M., Slizovskiy I.B., Lamers V., Trufan S.J., Holford T.R., Dziura J.D., Peduzzi P.N., Kane M.J., Reif J.S., Weiss T.R., et al. Proximity to Natural Gas Wells and Reported Health Status: Results of a Household Survey in Washington County, Pennsylvania. *Environ. Health Perspect.* 2015;123:21–26. doi: 10.1289/ehp.1307732

greater frequencies in adults living within 1 mile of an oil and gas site, compared to adults living at further distances. Symptoms in children were also reported in greater frequencies within 2 miles of the same oil and gas sites, when compared with children living at further distances (Weisner et al., 2023).⁷⁰ Since children breathe faster, are more physically active than adults, and often breathe out of their mouths, they expose their lungs to more air pollution (citation).⁷¹ Their organs and immune systems have not been fully developed and higher ventilation rates and mouth-breathing may expose children to different mixtures of chemicals that are pulled deeper into the lungs, making clearance slower and more difficult, playing a significant role in asthma and diminished lung function.⁷²

26. The health burden associated with air pollution from the oil and gas sector is substantial. A 2023 study from the Boston University's School of Public Health, The University of North Carolina and EDF analyzed the impacts of onshore oil and gas, as well as specific process within the upstream

⁷⁰ Health Symptoms and Proximity to Active Multi-Well Unconventional Oil and Gas Development Sites in the City and County of Broomfield, Colorado - PubMed, <https://pubmed.ncbi.nlm.nih.gov/36767999/>.

⁷¹ Bateson TF, Schwartz J. Children's response to air pollutants. J Toxicol Environ Health A. 2008;71(3):238-43. doi: 10.1080/15287390701598234. PMID: 18097949.

⁷² *Id.*

sector, including venting and flaring.⁷³ Prior studies have indicated that oil and gas activity is associated with increased risk of adverse health events, but there was limited quantification of the health impacts that resulted from air pollution from flaring and venting activities. This study sought to fill this gap by quantifying ozone, fine particulate matter (PM_{2.5}) and nitrogen dioxide (NO₂) emissions from the oil and gas sector and attributing those emissions to health outcomes. Using a hybrid VIIRS and National Emissions Inventory (NEI) and applying an EPA atmospheric model (CMAQ) and EPA health impact assessment tool (BenMAP), the study assessed air quality impacts attributable to the oil and gas sector, finding 7,500 excess deaths, 410,000 asthma exacerbations, 2,200 new cases of childhood asthma and \$77 billion in health impacts. Of these impacts, EDF estimated that 710 premature deaths, 73,000 asthma exacerbations, 210 instances of ozone NAAQS exceedances and \$7.4 billion in health damages can be attributed to venting and flaring activities.⁷⁴

27. Children miss 500,000 days of school each year due to poor health

⁷³ Buonocore, J. J., Reka, S., Yang, D., Chang, C., Roy, A., Thompson, T., ... & Arunachalam, S. (2023). Air pollution and health impacts of oil & gas production in the United States. *Environmental Research: Health*, 1(2), 021006.

⁷⁴ Tran, et al. (2023). A refined Satellite-based emissions estimate from onshore oil and gas flaring and venting activities in the United States and their impacts on air quality and health, ESS Open Archive, <https://essopenarchive.org/doi/full/10.22541/essoar.169447349.95079599/v1>.

associated with smog pollution.⁷⁵ A study of children in Pennsylvania found that exposure to unconventional natural gas development was associated with increased odds of pediatric asthma-related hospitalization.⁷⁶

28. Air pollutants associated with oil and gas operations are known to cause serious health impacts in sensitive populations such as pregnant women, babies, and children. Studies have documented that living near natural gas wells is associated with lower birth weight babies⁷⁷ and preterm birth.⁷⁸ An epidemiological study found adult residents living within one mile of an oil and gas site in Colorado reported greater frequencies of upper respiratory, lower respiratory, gastrointestinal and acute symptoms than residents living greater than two miles from an oil and gas site.⁷⁹ Increased symptoms in children were reported two miles out from oil and gas sites. The findings from this study were corroborated with additional research that found concentrations of individual, oil

⁷⁵ Clean Air Task Force, *Gasping for Breath: An analysis of the health effects from ozone pollution from the oil and gas industry* (2016).

⁷⁶ Mary D. Willis, et al., *Unconventional natural gas development and pediatric asthma hospitalizations in Pennsylvania*, *Environ Res.* 166:402–408 (Oct. 2018), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6110967/>.

⁷⁷ See Stacy, et al., *Perinatal Outcomes and Unconventional Natural Gas Operations in Southwest Pennsylvania*, *PLoS ONE* (June 3, 2015), available at <https://doi.org/10.1371/journal.pone.0126425>.

⁷⁸ Casey et al., *Unconventional Natural Gas Development and Birth Outcomes in Pennsylvania, USA*, *Epidemiology* (Mar. 2016), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4738074/>.

⁷⁹ Weisner et al. 2023.

and gas-related volatile organic compounds from oil and gas sites in the same study area were often several orders of magnitude higher than background air and could be traced back to specific oil and gas activities.⁸⁰ Other studies have found an association between oil and gas proximity and congenital heart defects in infants.⁸¹ Congenital heart defects are the leading cause of death due to birth defects.⁸²

29. A recent case-controlled study in Colorado found that children diagnosed with acute lymphoblastic leukemia between 2002 and 2019 were significantly more likely to live near an oil and natural gas well site than children without a cancer diagnosis.⁸³ A 2014 Colorado study found that babies whose mothers had large numbers of natural gas wells within a 10-mile radius of their home had an increased risk of birth defects of the heart, compared to babies

⁸⁰ Ku et al. 2024.

⁸¹ McKenzie et. al., *Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado*, *Envtl. Health Perspectives* (Jan. 28, 2014) (“McKenzie 2014”), available at <https://ehp.niehs.nih.gov/1306722/>; McKenzie et al., *Congenital Heart Defects and Intensity of Oil and Gas Well Site Activities in Early Pregnancy*, *Environment International* (July 28, 2019) (“McKenzie 2019”), available at <https://www.sciencedirect.com/science/article/pii/S0160412019315429>.

⁸² McKenzie 2019.

⁸³ McKenzie et al., *Exposure from Oil and Gas Development and Childhood Leukemia Risk in Colorado: A Population-Based Case-Control Study*, *Cancer Epidemiol Biomarkers Prev* OF1-OF11, <https://doi.org/10.1158/1055-9965.EPI-24-1583> (March 2025).

whose mothers had no wells within 10 miles of their home.⁸⁴ A 2019 follow-up study by the same research team fortified these results.⁸⁵ Perhaps most notably, a study of over 1.1 million births in Pennsylvania demonstrated evidence of negative health effects (including low birth weight) from in utero exposure to fracking sites within 3 kilometers of a mother's residence, with the largest health impacts seen from in utero exposure within 1 kilometer of oil and gas sites.⁸⁶ Another recent study of 2.9 million births in California also found that among rural populations living in proximity to higher oil and gas production, oil and gas development was associated with increased odds of having a low birth weight baby.⁸⁷ A 2020 study of births in the Eagle Ford Shale play in south Texas found that living within 5 kilometers of oil and gas wells was associated with adverse birth outcomes, and that women living within 5 kilometers of natural gas flaring events had higher odds of having a baby preterm.⁸⁸

⁸⁴ McKenzie 2014.

⁸⁵ McKenzie 2019.

⁸⁶ Currie, Janet, et al., *Hydraulic Fracturing and Infant Health: New Evidence from Pennsylvania*, Science Advances, American Association for the Advancement of Science (Dec. 1, 2017), available at <https://advances.sciencemag.org/content/3/12/e1603021>.

⁸⁷ Tran, Kathy V., et al., *Residential Proximity to Oil and Gas Development and Birth Outcomes in California: A Retrospective Cohort Study of 2006– 2015 Births*, Environmental Health Perspectives 128.6 (2020): 067001.

⁸⁸ Laura J. Cushing et al., *Flaring from Unconventional Oil and Gas Development and Birth Outcomes in the Eagle Ford Shale in South Texas*, Environmental Health Perspectives 128(7) (July 2020), available at <https://ehp.niehs.nih.gov/doi/pdf/10.1289/EHP6394>.

30. Other studies also document correlations between proximity to oil and gas drilling and human health effects in otherwise healthy populations. This emerging body of scientific literature includes several new studies documenting negative human health impacts based on proximity to oil and gas wells. For example, a study from 2016 demonstrated that oil and gas well proximity was correlated with an increase in the likelihood of asthma exacerbations, including mild, moderate, and severe asthma attacks.⁸⁹ A 2018 study observed evidence supporting an association between the intensity of oil and gas activity and several indicators of cardiovascular disease.⁹⁰ A 2015 study documented increased hospitalization rates in counties with a high density of oil and gas wells.⁹¹ Similarly, other studies, including a 2017 study, have demonstrated an increase in the reporting of nasal, sinus, and migraine headaches, and fatigue symptoms in areas with high volumes of oil and gas drilling.⁹²

⁸⁹ Rasmussen et al., *Association between Unconventional Natural Gas Development in the Marcellus Shale and Asthma Exacerbations*, 176 J. Am. Med. Assn. Internal Med. 1334-43 (Sept. 2016), available at <https://www.ncbi.nlm.nih.gov/pubmed/27428612>.

⁹⁰ Lisa M. McKenzie et al., *Relationships between Indicators of Cardiovascular Disease and Intensity of Oil and Natural Gas Activity in Northeastern Colorado*, Environ Res. 170: 56–64 (Mar. 2019), available at <https://pubmed.ncbi.nlm.nih.gov/30557692/>.

⁹¹ Jemielita et al., *Unconventional Gas and Oil Drilling Is Associated with Increased Hospital Utilization Rates*, PLoS ONE (July 15, 2015), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4503720/>.

⁹² See Tustin et al., *Associations between Unconventional Natural Gas Development and Nasal and Sinus, Migraine Headache, and Fatigue Symptoms in*

31. A 2018 study in Colorado found that communities living in close proximity to oil and gas activity had higher measured exposures to HAPs and face increased risks to their health, including a heightened risk of cancer.⁹³ The study found that the lifetime cancer risk was 8.3 per 10,000 people for populations living within approximately 500 feet of oil and gas activity, above EPA's allowable risk. The study also found elevated levels of acute and chronic blood system and developmental risks, and acute nervous system risks for the same population. Benzene exposures contributed to 80-95% of risks across the different health effects.

32. An important 2019 study, funded by the Colorado Department of Public Health and Environment, used weather and emissions data measured in Colorado with state-of-the-science dispersion modeling tools to map concentrations of air toxics from 3 sizes of oil and gas fields, finding both an elevated lifetime cancer risk and non-cancer health risks for the population living in close proximity to oil and gas fields.⁹⁴

Pennsylvania, 125 ENV. HEALTH PERSPECTIVES 189 (Feb. 2017), available at <https://ehp.niehs.nih.gov/EHP281/>.

⁹³ Lisa McKenzie et al., *Ambient Non-Methane Hydrocarbon Levels Along Colorado's Northern Front Range: Acute and Chronic Health Risks*, *Env't'l Sci. & Tech.* (Mar. 27, 2018), available at <https://pubs.acs.org/doi/10.1021/acs.est.7b05983>.

⁹⁴ See ICF, *Final Report: Human Health Risk Assessment for Oil & Gas Operations in Colorado* (Oct. 17, 2019), available at https://drive.google.com/file/d/1pO41DJMXw9sD1NjR_OKyBJP

33. Benzene exposures from production emissions (from existing wells), and all activities combined (drilling, fracking, flow back and production), were associated with an increased lifetime risk (above one in a million) of leukemia for the average individual at 500 feet. Risks in the most exposed populations (people who live downwind and spend more time outdoors) only dropped below the one- in-a-million risk threshold after a distance of 2000 feet from the well.

34. The study also found elevated non cancer risks due to VOC exposures. Benzene and 2-ethyltoluene emissions from oil and gas in Colorado resulted in maximal acute exposures higher than considered safe for most populations 500 feet away. Exposures of benzene were more than 10 times higher than considered safe for acute exposure and should be considered a risk for blood disorders. Blood disorders could result in anemia, disturbances in clotting or the ability to fight infections, and could manifest as fatigue, nose bleeds or infections. The study also found the potential for neurotoxic effects, such as headaches, blurred vision, and dizziness, from combined acute exposures of benzene and 2- ethyltoluene.

35. The study only assessed pollution dispersion from single wells. This

[5NCb- AO0I/view](#) (submitted to the Colorado Department of Public Health and Environment).

potentially underestimates the risks faced by almost two-thirds of the roughly 240,000 Coloradoans living within 2000 ft. of two or more well pads.

36. A new study in Colorado assessed the cumulative risk from exposure to ozone and ozone precursors, such as volatile organic compounds, emitted from the oil and gas industry. Results found that for communities located near unconventional oil and natural gas during pre-production in an ozone non-attainment area, respiratory risks surpassed EPA thresholds due to the combined risk from not only ozone, but ozone precursors.⁹⁵

37. The health impacts we describe may disproportionately affect minority communities living in the vicinity of oil and gas activity. For example, in Texas, there are over 800,000 Latinos living within half a mile of an oil or gas well, in Colorado nearly 3 out of 10 people living near a well are Latino, and in California 2 out of 5 people living in close proximity to a well are Latino.⁹⁶ The 2020 study of birth outcomes in south Texas found that Hispanic women in the study were particularly vulnerable to the effects of flaring on preterm birth, noting that those findings were consistent with prior studies that found African American and residents of socioeconomically disadvantaged neighborhoods

⁹⁵ <https://ehp.niehs.nih.gov/doi/10.1289/EHP16272>.

⁹⁶ *Latino Communities at Risk: The Impact of Air Pollution from the Oil and Gas Industry*, Clean Air Task Force (CATF), League of United Latin American Citizens (LULAC), National Hispanic Medical Association (NHMA) 2016.

more vulnerable to the impacts of air pollution.⁹⁷

**Delaying EPA's 2024 Rule Will Increase
Substantial Ozone Forming and Other Harmful Air Pollution**

38. We are aware that the Environmental Protection Agency (EPA) has issued an interim final rule that provides an 18-month extension for standards to reduce methane emissions from new, modified and existing sources in the oil and gas sector and to reduce volatile organic compound (VOC) emissions from new and modified sources in the oil and gas sector. “Extension of Deadlines in Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review Final Rule” (“Delay Rule”), 90 Fed. Reg. 35,966 (July 31, 2025). We understand the Delay Rule will result in increased emissions from both new and existing oil and gas sources, *see* Proville-Mirtich Decl., and that EPA projects it will result in negative health outcomes.⁹⁸

39. By delaying compliance deadlines for methane and VOC standards, many Americans will be adversely affected by ozone-forming VOC emissions

⁹⁷ Laura J. Cushing et al., *Flaring from Unconventional Oil and Gas Development and Birth Outcomes in the Eagle Ford Shale in South Texas*, Environmental Health Perspectives 128(7) (July 2020), available at <https://ehp.niehs.nih.gov/doi/10.1289/EHP6394>.

⁹⁸ EPA, *Economic Impact Analysis for the Extension of Deadlines in the NSPS OOOOb and EG OOOOc* (July 31, 2025) Doc ID: EPA-HQ-OAR-2025-0162-0025, 6-8; *See also* Proville-Mirtich Decl.

and HAP emissions. Even small amounts of VOC, ozone and HAP pollution can cause severe damage. Nationwide, it is estimated that almost 18 million people live within 1 mile of at least one active oil and/or gas site.⁹⁹ Sensitive populations including children, older adults, those suffering from respiratory diseases such as asthma, low-income populations including minority low-income communities, outdoor workers, and others recreating outdoors are likely to be disproportionately affected. This is particularly true for Americans living in areas that already experience unhealthy levels of ozone pollution.

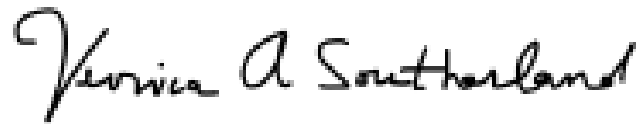
Conclusion

40. The Delay Rule will lead to increases in harmful VOC and HAP pollution that would otherwise be abated. Individuals exposed to these emissions and the secondary pollutants that form from them, even for a short period, face a higher risk of adverse health effects, including acute and immediate respiratory ailments like asthma and enhanced risk of longer term, deleterious health effects associated with toxic pollution exposures, such as neurotoxicity, cancer, or blood disorders.

⁹⁹ Eliza D. Czulowski et al., *Toward Consistent Methodology to Quantify Populations in Proximity to Oil and Gas Development: A National Spatial Analysis and Review*, 125 *Env'tl. Health Perspectives* 6 (2017), available at <https://doi.org/10.1289/EHP1535>.

I declare that the foregoing is true and correct.

Veronica Southerland

A handwritten signature in black ink that reads "Veronica A. Southerland". The script is cursive and fluid.

Dated: August 12, 2025

Meagan Weisner

A handwritten signature in black ink that reads "Meagan Weisner". The signature is stylized with a large initial 'M' and a long horizontal stroke at the end.

Dated: August 12, 2025

Exhibit A

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EDUCATION

Doctor of Philosophy, Environmental Health, 2022

George Washington University, Milken Institute School of Public Health, Washington, D.C.

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Master of Public Health, Environmental Health Science and Policy, 2013

George Washington University, Milken Institute School of Public Health, Washington, D.C.

Bachelor of Arts, International Affairs, 2008

Florida State University, Tallahassee, FL

PROFESSIONAL & RESEARCH EXPERIENCE

Role	Institution	
Scientist Global Clean Air	Environmental Defense Fund Washington, D.C.	2023-Current
Practicum Director Professorial Lecturer Department of Environmental and Occupational Health	George Washington University Milken Institute School of Public Health Washington, D.C.	2023-Current
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Analyst	ICF International, Inc. Fairfax, VA	2018-2019
Research Associate	Uniformed Services University of the Health Sciences Bethesda, MD	2017-2018
Research Contractor	Environmental Health Analytics, LLC Washington, D.C.	2017
Recommendations Specialist	U.S. Chemical Safety and Hazard Investigation Board Washington, D.C.	2015-2017
Project Coordinator	Children's National Health System	2013-2015

PUBLICATIONS

Peer-reviewed journal articles

[11] Naess B, Buonocore J, **Southerland V**, Khemani M, Seppanen C, Roy A, et al. (2025). Distribution of air quality health benefits of medium and heavy-duty electrification policies in New York City. *Environmental Research: Health*, 3(1), 011001.

[10] Gohlke JM, Harris MH, Roy A, Thompson TM, DePaola M, Alvarez RA, Anenberg SC, Apte JS, Demetillo MG, Dressel IM, Kerr GH, Marshall JD, Nowlan AE, Patterson RF, Pusede SE, **Southerland VA**, & Vogel SA (2023). State-of-the-Science Data and Methods Need to Guide Place-Based Efforts to Reduce Air Pollution Inequity. *Environmental Health Perspectives* 131.12: 125003.

[9] **Southerland V**, Zota A, Parasram V, Alvarez C, Clement M, Anenberg S. (2023). Temporal trends in sociodemographic composition and land development within U.S. fence-line communities surrounding hazardous industrial facilities: 2001–2019. *Environmental Research Letters* 18. 14042 DOI 10.1088/1748-9326/ado136

[8] Li C, van Donkelaar A, Hammer MS, McDuffie EE, Burnett RT, Spadero JV, Chatterjee D, Cohen AJ, Apte JS, **Southerland, VA**, Anenberg SC, Brauer M, Martin RV. Reversal of trends in global fine particulate matter air pollution. *Nature Communications* 14, 5349 (2023). <https://doi.org/10.1038/s41467-023-41086-z>

[7] **Southerland VA**, Brauer M, Moheg A, Apte J, Hammer M, Martin RV, van Donkelaar A, Anenberg SC. Global urban temporal trends in fine particulate matter (PM_{2.5}) and attributable health burdens: estimates from global datasets. *Lancet Planetary Health*. [https://doi.org/10.1016/S2542-5196\(21\)00350-8](https://doi.org/10.1016/S2542-5196(21)00350-8)

[6] Apte J, Seraj S, Chambliss S, Hammer MS, **Southerland, VA**, Anenberg SC, et al. (2021). Air Inequality: Global Divergence in Urban Fine Particulate Matter Trends. *ChemRxiv*. Preprint. <https://doi.org/10.26434/chemrxiv.14671908.v1>

[5] Castillo MD, Kinney PL, **Southerland V**, Arno CA, Crawford K, van Donkelaar A, Hammer M, Martin RV, Anenberg SC. Estimating Intra-Urban Inequities in PM_{2.5}-Attributable Health Impacts: A Case Study for Washington, DC. *Geohealth*. 2021 Nov 1;5(11):e2021GH000431. doi: 10.1029/2021GH000431.

[4] **Southerland VA**, Anenberg SC, Harris M, Apte J, Hystad P, van Donkelaar A, et al. (2021). Assessing the Distribution of Air Pollution Health Risks within Cities: A Neighborhood-Scale Analysis Leveraging High-Resolution Data Sets in the Bay Area, California. *Environmental Health Perspectives*, 129(3), 037006.

[3] Anenberg SC, Henze DK, **Tinney V**, Kinney PL, Raich W, Fann N, et al. Estimates of the Global Burden of Ambient PM_{2.5}, Ozone, and NO₂ on Asthma Incidence and Emergency Room Visits. *Environmental Health Perspectives*. 2018;126(10):107004-1-14.

[2] **Tinney VA**, Anenberg SC, Kaszaniak M, Robinson B. Eighteen years of recommendations to prevent industrial chemical incidents: results and lessons learned of the US Chemical Safety Board. *Public Health*. 2016 Oct;139:183-188. doi: 10.1016/j.puhe.2016.04.011. Epub 2016 May 17.

[1] **Tinney V**. Children's health and the environment. *Pa Nurse*. 2014;69(1):4-13

Commentaries

[2] **Tinney V**, Denton J, Tyler L, Paulson J. School siting near industrial chemical facilities: Findings from the U.S. Chemical Safety Board's investigation of the West Fertilizer explosion. *Environmental Health Perspectives*. 2016;124(10):1493-1496.

[1] **Tinney VA**, Paulson JA, Larsen JW, Bathgate SL. Medical education for obstetricians and gynecologists should incorporate environmental health. *American Journal of Obstetrics and Gynecology*. 2015;212(2):163-6.e1.

EPA Regulatory Documents

[3] U.S. EPA, 2022 (contributing author). Accidental Release Prevention Requirements: Risk Management Program Under the Clean Air Act; Safer Communities through Chemical Accident Prevention. Proposed rule. Office of Emergency Management, Washington, DC. Available at: <https://www.federalregister.gov/documents/2022/08/31/2022-18249/accidental-release-prevention-requirements-risk-management-programs-under-the-clean-air-act-safer>

[2] U.S. EPA, 2022 (contributing author). Clean Water Act Hazardous Substance Worst Case Discharge Planning. Proposed rule. Office of Emergency Management, Washington, DC. Available at: <https://www.regulations.gov/document/EPA-HQ-OLEM-2021-0585-0001>

[1] U.S. EPA, 2021 (contributing author). Safety Alert: Public Safety at Oil and Gas Upstream Facilities. Office of Emergency Management, Washington, DC. Available at: <https://www.epa.gov/rmp/oil-and-gas-safety-alert-public-safety-oil-and-gas-upstream-facilities>.

Other publications

[2] Health Effects Institute (contributor). 2022. Air Quality and Health In Cities: A State of Global Air Report 2022. Boston, MA:Health Effects Institute. Available at: <https://www.stateofglobalair.org/resources/health-in-cities>.

[1] Paulson J, **Tinney V**. Potential and Known Health Impacts Associated with Unconventional Natural Gas Extraction. In M Finkel, ed. The Human and Environmental Impact of Fracking: How Fracturing Shale for Gas Affects Us and Our World. Santa Monica, CA: Praeger; 2015:1-22.

PRESENTATIONS

[8] **Southerland V**, Stainforth T. Attainment of the European Union's Green Deal Zero Pollution Action Plan goals for fine particulate matter attributable mortality in urban areas. 2023. American Geophysical Union, San Francisco, CA.

[7] **Southerland V**. Methane Matters: Exploring the health impacts of methane mitigation. George Washington University Environmental and Occupational Health Department Fall Research Seminar Series. October 25th, 2023.

[6] **Southerland V**. The impact of air quality on the health of DC residents. George Washington University Hospital Health Policy Grand Rounds. May 24, 2023.

[5] **Southerland V**, Anenberg SC, Roy A, Harris M. 2020. Assessing the distribution of air pollution health risks within cities: a neighborhood-scale analysis leveraging high resolution datasets in the Bay Area, California. International Society for Environmental Epidemiology, virtual.

[4] **Southerland V**, Roy A. 2019. Google Street View and the health burden of air pollution. American Geophysical Union Annual Meeting, San Francisco, CA.

[3] **Southerland V**. 2019. Health Impacts of Air Pollution using Satellites and Mobile Monitoring. American Geophysical Union Annual Meeting, San Francisco, CA.

[2] **Tinney, V**. 2016. Outside the Facility Fenceline: The Proximity of Chemical Facilities to Communities and Potential Public Consequences of Catastrophic Accidents. American Public Health Association Meeting, Denver, CO.

[1] **Tinney, V**. 2016. U.S. Chemical Safety Board Recommendations to the National Fire Protection Association. National Fire Protection Association Annual Conference, Las Vegas, NV.

Poster presentations

[3] **Southerland V**, Sanchez S, Weisner, M, Pusch J. Building a health research alliance to drive community-centered climate action in Mexico. American Geophysical Union Fall Meeting, Washington, DC.

[2] **Southerland V**, Parasram V, Anenberg SC. 2021. Temporal trends in land use and environmental justice near hazardous industrial facilities across the US. American Geophysical Union Fall Meeting, virtual.

[1] **Southerland V**, Anenberg SC, Harris M, Roy A, Apte J, Hystad P, Vodonos A, Schwartz J. 2019. Assessing the distribution of air pollution health risks within cities: a neighborhood-scale analysis leveraging high resolution datasets in the Bay area, California. American Geophysical Union, San Francisco, CA.

TEACHING EXPERIENCE

Role	Responsibilities	Dates	Course Name	Institution
Teaching assistant	Provided feedback to graduate students on draft assignments, Graded homework assignments, answered student questions,	Spring 2025, 2024, 2023, 2022	Protecting Public Health and the Environment: Policies, Politics, and Programs (Pubh 6122)	Milken Institute of Public Health, George

	maintained Blackboard materials for ~20 graduate students.			Washington University
Graduate teaching assistant	Held weekly office hours, graded weekly homework assignments, conducted in-class, SAS-based data-analysis laboratory, assisted with code troubleshooting for ~20 graduate students.	Spring 2020	Quantitative Methods in Environmental and Occupational Health (Pubh 6131)	Milken Institute of Public Health, George Washington University
Graduate teaching assistant	Taught a 120-minute lecture on chemical safety and occupational health, graded exams, and answered student questions for ~40 graduate students	Fall 2019	Assessment and Controls of Environmental and Occupational Hazards (Pubh 6126)	Milken Institute of Public Health, George Washington University
Graduate teaching assistant	Updated lecture materials to include R and STATA coding examples, office hours, conducted exam review sessions for ~60 graduate students	Fall 2017	Biostatistics I (PMO503)	Uniformed Services University of the Health Sciences

AWARDS

- Individual Excellence Award, Office of Land and Emergency Management, US Environmental Protection Agency, 2022
- Analyst of the Year, Office of Land and Emergency Management, US Environmental Protection Agency, 2021
- Grand Prize Winner (\$5,000), Data Visualization and Storytelling Competition, American Geophysical Union (AGU) and the National Aeronautics and Space Administration (NASA), 2019
- Full doctoral tuition, Milken Institute School of Public Health Institutional Scholarship, 2018

PROGRAMMING SKILLS

- **R/RStudio:** Advanced level
- **ArcGIS/ArcPro:** Advanced level
- **SAS:** Intermediate level
- **STATA:** Intermediate level
- Comprehensive Air quality Model with extensions (**CAMx**): Intermediate level
- Sparse Matrix Operator Kernel Emissions (**SMOKE**): Beginner level
- **GDAL:** Beginner level

LANGUAGES: Spanish (Intermediate Working Proficiency)

PROFESSIONAL ACTIVITIES & SERVICE

Professional Development

- **GeoCAFE Scholar, 2024-2025**
GeoCAFE is a National Science Foundation Research Coordination Network that brings together university faculty from non-medical related geoscience departments and medical and public health professionals.
- **Reach the Decision Makers Fellowship, 2014-2015**
Program on Reproductive Health and the Environment, University of California, San Francisco fellowship designed to develop professional capacity for public policy making among health professionals.

Peer-review of submitted manuscripts (editorial requests):

- Nature Communications
- Atmospheric Environment
- Environmental Research Letters
- American Journal of Obstetrics and Gynecology

Memberships

- American Geophysical Union, 2019-Current
- American Public Health Association, 2013-Current
- Delta Omega Honor Society in Public Health, Omega Chapter, *Inductee Represents Top 10% of Graduating Student Body*, 2014
- Lead Poisoning Prevention and Healthy Homes Advisory Committee, District of Columbia Department of the Environment, 2013-2015

Grant review panels

- Data Visualization and Storytelling Competition, American Geophysical Union (AGU) and the National Aeronautics and Space Administration (NASA), 2020-Current
- Grants & Awards, National Environmental Education Foundation, 2017

Other service activities

- Junior League of Charlottesville, Diversity Equity and Inclusion Committee (2024-2025)

Exhibit B

Meagan L. Weisner, PhD

E: mweisner@edf.org

Education

2019	Ph.D. Geosciences, Florida Atlantic University
2018	Advanced GIS Certificate , Florida Atlantic University
2015	M.A. Anthropology, Florida Atlantic University
2013	B.A. Anthropology, Oregon State University
2011	A.A. Anthropology, Broward College

Relevant Employment

Dec 2023 – present, **Senior Health Scientist**, Global Clean Air, Environmental Defense Fund. Full-time employment. Working on multiple projects with a team of scientists to investigate health impacts related to methane co-pollutants from oil and gas operations both nationally and internationally.

August 2021 – Nov 2023, **Senior Environmental Epidemiologist**, City and County of Broomfield, Department of Public Health, CO. Full time, 40 hours/week. Responsibilities included advising City Council on local environmental topics related to oil and gas development, air quality monitoring, and air toxics exposure. Additional responsibilities included organizing and conducting health research in collaboration with University of Colorado School of Public Health.

Feb 2020 – August 2021, **Environmental Epidemiologist**, City and County of Broomfield, Department of Public Health, CO. Full time, 40 hours per week. Managed and analyzed air quality data for the County's oil and gas monitoring program. Collaborated with various departments, the community, and external stakeholders on a variety of environmental issues including health impacts associated with living near multi-well oil and gas sites.

June 2016 – Dec 2019, **Adjunct Professor**, Courses: World Geography, Water Resources, Culture and Society. Department of Geosciences and Department of Anthropology, Florida Atlantic University and at Broward College. Part time, 20 hours/week. Duties included lecturing 25 - 250 students per class either in-person or online, developing curriculum, lectures, quizzes, and directing a team of teaching assistants.

May 2019 – Sept 2019, **Postdoctoral Research Associate**, Center for Environmental Studies, Florida Atlantic University. Full time, 40 hours/week. My key responsibilities were to query and analyze data, oversee graduate students with IRB applications, as well as survey design and research implementation for statewide climate change projects, mitigation strategies, and local community vulnerability assessments.

August 2015 – May 2019, **Research Investigator**, Florida Atlantic University. Part time 20 hours/week. Over the course of 4 years, I managed grant funding for my dissertation research and hired and trained three research assistants to assist in field work and data collection.

January 2016 – May 2016, **GIS Lab Technician**, Department of Geosciences, Florida Atlantic University. Part time, 20 hours/week.

January 2014 – Dec. 2015, **Graduate Teaching Assistant** for a variety of classes including Environment and Society, Introduction to Philosophy, Environment and Disease (Environmental Epidemiology course), and World Geography. Part time, 20 hours/week.

December 2008 – April 2009 **Volunteer English Teacher**, Traveler Not Tourist Organization, Arequipa, Peru. I volunteered to teach children in the village of Chachani, Peru. This program was designed to give educational access to over 100 children. Part time 20 hours/week.

Professional Leadership and Service

- 2024 - present, selected by the State of Colorado to serve on the Scientific Community Technical Working Group for House Bill 122-1244, Public Protections from Toxic Air Contaminants, Colorado Department of Public Health and Environment.
- 2022- 2023, selected to serve on the External Advisory Committee, Department of Environmental and Occupational Health, University of Colorado School of Public Health.
- 2021- present, Special Appointment, Adjunct Assistant Professor, University of Colorado School of Public Health.
- American Association of Geographers, 2018-current, member.
- American Geophysical Union, 2024-current, member.
- Colorado Public Health Association, 2023-present, member.

Research Experience

- Cumulative health risks from air toxics near unconventional oil and gas sites
- Unconventional oil and gas development, air quality, and health impacts
- Design, implementation, data organization and analysis for air quality monitoring near oil and gas sites in Colorado
- Health Equity frameworks and research
- Florida Climate Change mitigation survey design and implementation (postdoctoral research)
- Examining the Relationships between Neighborhood Socioeconomic Status and Drinking Water Quality: Identifying Inequities in Palm Beach County, FL (dissertation research)
- South Florida: Peace, Justice and Human Rights Index (research assistant)

Awards and Grants

- 2021 City and County of Broomfield, funding for epidemiological research on the health impacts of residents living near unconventional oil and gas development, Principal Investigator, award amount \$61,847
- 2018 Research Award, Water Resources Specialty Group, American Association of Geographers, \$200
- 2017 Florida Atlantic University Center for Environmental Studies, Walter and Lalita Janke Innovations in Sustainability Science Research Grant, \$5,000
- 2016 Florida Atlantic University, Graduate and Professional Student Association, 1st place award for poster presentation
- 2016 Florida Atlantic University, Department of Geosciences, \$1000 Scholarship award
- 2015 Florida Atlantic University, Graduate and Professional Student Association, 1st place award for poster presentation, \$100
- 2014 Florida Atlantic University, Anthropology Department, Morrow Thesis Award, \$1000
- 2013 Oregon State University, \$500 Travel Award

Select Presentations and Posters

Sutherland, V., **Weisner, M.** December 2024. Co-convener for poster session, Health Impacts of Methane Emissions and Copollutants from Oil and Gas Operations Poster. American Geophysical Union annual meeting.

Weisner, M.L., Varner, P.M., Ku, I., Collett, J., McKenzie, L.M. December 2024, paper presentation. Assessing the Cumulative Health Risks from Volatile Organic Compounds and Regional Ozone at Colorado's Unconventional Oil and Gas Sites. American Geophysical Union annual meeting.

Sutherland, V., Sanchez, S., **Weisner, M.**, Pusch, J. December 2024, poster presentation. Building a health research alliance to drive community-centered climate action in Mexico. American Geophysical Union annual meeting.

Weisner, M.L. April 2024, paper presentation, American Association of Geographers' annual meeting. Oil and Gas Cumulative Impacts Policy in Colorado: Evaluation of Volatile Organic Compounds and Health Impacts.

Copeland, C. Turner, J., Frank, D., **Weisner, M.L.** on behalf of Colorado Communities for Climate Action. October 2023, presentation to the Legislative Interim Committee on Ozone Air Quality. Front Range Local Government Air Quality Studies.

Weisner, M.L. October 2023, invited speaker, Department of Political Science, Colorado State University. Ozone Pollution from a Health and Policy Perspective.

Weisner, M.L. September 2023, paper presentation, Public Health in the Rockies conference.

Oil and Gas Air Monitoring in the City and County of Broomfield.

Weisner, M.L. March 2023, paper presentation, American Association of Geographers' annual meeting. Unconventional Oil and Gas Development Near your Neighborhood: the challenges and science needed for opposition.

Weisner, M.L. February 2022, session organizer and paper presentation, American Association of Geographers' annual meeting. Weisner, M.L. At the Intersection of Oil and Gas Development and Human Health: What have we learned? Where do we go from here?

Weisner, M.L., Root, T.L. and Harris, M.S. April 2019, paper presentation, American Association of Geographers' annual meeting. Examining the Relationship between Metals in Tap Water and Socioeconomic Inequality: A Spatial Analysis of Water Quality Disparities in Palm Beach County, FL.

Weisner, M.L., Root, T.L. and Harris, M.S. November 2018, paper presentation, Southeastern Division of the American Association of Geographers' annual meeting. The Socioeconomics of Tap Water Quality: Public Perceptions and Consumption Patterns in Palm Beach County, FL.

Weisner, M.L., Root, T.L. and Harris, M.S. April 2018, paper presentation, American Association of Geographers' annual meeting. "I don't want to know what's in my drinking water because I'm too poor to do anything about it": resident reactions to tap water testing in a South Florida county.

Weisner, M.L. November 2016, Poster Presentation, Southeastern Division of the American Association of Geographers' annual meeting. Examining the Relationship between Socioeconomic Factors and Drinking Water Quality: Mapping Areas of Concern in Eastern Palm Beach County, FL.

Weisner, M.L. April 2016, Poster Presentation, Florida Atlantic University 3rd Annual Sea-Level Rise Summit. Sea-Level Rise in South Florida: Impacts to Drinking Water and Human Health.

Weisner, M.L. March 2016, Poster Presentation, Graduate and Professional Student Association, Florida Atlantic University. Drinking Water Quality and Socioeconomics: Testing for Heavy Metals throughout South Florida Communities.

Publications (Peer-reviewed)

Weisner, M.L., Varner, P.M., Ku, I., Collett, J., Buck, B., McKenzie, L.M. 2025. Cumulative Human Health Risk Assessment of Regional Ozone and Volatile Organic Compounds from Unconventional Oil and Gas Sites in Colorado's Front Range. *Environmental Health Perspectives*. <https://doi.org/10.1289/EHP16272>

Weisner, M.L., Harris, M.S., Mitsova, D.M., and Liu, W. 2023. Drinking Water Disparities and Aluminum Concentrations: assessing socio-spatial dimensions across an urban landscape.

Social Sciences and Humanities Open. <https://doi.org/10.1016/j.ssaho.2023.100536>

Weisner, M.L., Allshouse, W.B., Erjavac, B., Valdez, A.P., Vahling, J., McKenzie, L.M. 2023. Health Symptoms and Proximity to Active Multi-Well Unconventional Oil and Gas Development Sites in the City and County of Broomfield, Colorado. *International Journal of Environmental Research and Public Health.* <https://www.mdpi.com/1660-4601/20/3/2634>

Weisner, M.L., Root, T.L., Harris, M.S., Mitsova, D.M. and Liu, W. 2020. The Complexities of Trust between Urban Water Utilities and the Public, *Sustainable Water Resources Management.* <https://doi.org/10.1007/s40899-020-00407-6>

Weisner, M.L., and Cameron, M. 2020. Does Yoga Enhance Sustainability? Yoga, Meditation, Sensory Awareness, and Environmental Behavior, *Worldviews: Global religions, culture and ecology.* <https://doi.org/10.1163/15685357-02401101>

Weisner, M.L., Root, T.L., Harris, M.S., Mitsova, D.M. and Liu, W. 2019. Tap Water Perceptions and Socioeconomics: Assessing the Dissatisfaction of the Poor, *Journal of Sustainable Production and Consumption.* <https://doi.org/10.1016/j.spc.2019.08.008>

Weisner, M.L. Levels of Resistance to Rate Collection [map]. 2019. In: Kanter, D. and Walsh, P. eds., *Taxation, Politics, and Protest in Ireland, 1662-2016*. Cham: Palgrave Macmillan, page 179.

Weisner, M.L. Petitions for Tax Relief. Weisner [map]. 2019. In: Kanter, D. and Walsh, P. eds., *Taxation, Politics, and Protest in Ireland, 1662-2016*. Cham: Palgrave Macmillan, page 239.

Weisner, M.L. 2018. Flooding - The City of Boston case study. In: Mitsova, D. and Esnard, A-M. *Geospatial applications in climate adaptation planning*. CRC Press - Routledge.

Government Reports

Weisner, M.L. 2022. Q2 2022 City and County of Broomfield Health Report April 1, 2022 - June 30, 2022. Department of Public Health and Environment. Available at: https://drive.google.com/drive/folders/1SVnG-xGYpe6a7gRKZmnRbmLto_uMatys

Weisner, M.L. 2022. Q1 2022 City and County of Broomfield Health Report January 1, 2021 - March 31, 2021. Department of Public Health and Environment. Available at: <https://docs.google.com/document/d/1sZD3NKSxFNXBd0UhlS8Gp78MLBajRmaMpiLq-p6SN4/edit>

Weisner, M.L. 2021. Q4 2021 City and County of Broomfield Health Report October 1, 2021 - December 31, 2021. Department of Public Health and Environment. Available at: <https://docs.google.com/document/d/16A6CW1e4tqSeCkSERuccyK-15kOvWWo2Uf7oQDQzPl8/edit>

Weisner, M.L. 2021. Q3 2021 City and County of Broomfield Health Report July 1, 2021 - September 30, 2021. Department of Public Health and Environment. Available at:

<https://docs.google.com/document/d/1QjaJSnGISIfi9jH-dEBo-OAgMxLMKfjRZjxoGZnahw0/edit>

Weisner, M.L. 2021. Q2 2021 City and County of Broomfield Health Report April 1, 2021 - June 30, 2021. Department of Public Health and Environment. Available at:

<https://docs.google.com/document/d/1OxPY9Xw1nOL4df3Ks6Ou2vOur24ltzjKN0brqhUDBW0/edit>

Weisner, M.L. 2021. Q1 2021 City and County of Broomfield Health Report January 1, 2021 - March 31, 2021. Department of Public Health and Environment. Available at:

<https://docs.google.com/document/d/1FgNKXd5e4jZYwcIYkGgFwtYRoOmrdivyJ-N3jZp-6GiM/edit>

Weisner, M.L. 2020. Q4 2020 City and County of Broomfield Health Report October 1, 2020 - December 31, 2020. Department of Public Health and Environment. Available at:

<https://docs.google.com/document/d/1vvEnblhoNJKSyYxEqc-Wv3H1jWG3WibWNko7-fnJUml/edit>

Weisner, M.L. 2020. Overview of Symptom Data Reported by Broomfield Residents1 for Q3 2020 Period. Department of Public Health and Environment. Available at:

<https://docs.google.com/document/d/14RBthheL5xCzur2k0L7FgRD4lmoGGGLbeebDQXkiruY/edit>

Weisner, M.L. 2020. Q2 2020 City and County of Broomfield Health Report April 1, 2020 - June 30, 2020. Department of Public Health and Environment. Available at:

<https://docs.google.com/document/d/1mgeB8CWk75MImQkdicRzN4YN3Gn-ECofGxKNlqKq8vI/edit>

Peer-reviewer for the following journals:

American Geophysical Union, Community Science
Sustainable Water Resources Management

Mentoring and Advising

(University of Colorado, School of Public Health, Anschutz Medical Campus)

Student	Degree	Role	Year
Clare Burchenal	MD	Fellowship Advisor	2024-present
Hannah Walters	PhD	Committee Member	2023-present
Ben Erjavac	MPH	Capstone Preceptor	2022-2023
Ben Erjavac	MPH	Practicum Preceptor	2022
Maizie Humm	MPH	Practicum Co-Preceptor	2022
Maizie Humm	MPH	Capstone Preceptor	2022

Jillian Murphy (George Washington University)	MPH	Capstone Preceptor	2021-2022
Student	Degree	Role	Year
Vana Brookings	MPH	Practicum Preceptor	2024

Select Testimonies and Public Comment

Colorado Air Quality Control Commission. February 2025. Regulation number 7 rulemaking, Control of Emissions from Oil and Gas Emissions Operations. Served as expert witness on behalf of EDF.

Colorado Air Quality Control Commission. February 2025. Informational Hearing on HB-22 1244, Public Protections from Toxic Air Contaminants. Served as expert to provide information to the commission.

Colorado Energy and Carbon Management Commission. August 2024. Cumulative Impacts and Enhanced Systems and Practices Hearing. Public comment written on behalf of the Environmental Defense Fund.

Colorado Energy and Carbon Management Commission. October 2023. Cumulative Impacts Hearing. Public Commenter on behalf of the City and County of Broomfield.

Colorado Energy and Carbon Management Commission. September 2023. Hearing for Lizzie B Oil and Gas Development Pad. Public commenter on behalf of the City and County of Broomfield.

Colorado Air Quality Control Commission. May 2023. Regulation number 3 hearing, enhancing modeling, monitoring and permitting in disproportionately impacted communities. Served as expert witness and presenter on behalf of the Local Government Coalition.

Colorado Oil and Gas Conservation Commission. October 2022. Hearing for the Cosslett East Oil and Gas Development Pad. Served as expert witness and presenter for the City and County of Broomfield.

Select Media Interviews and Engagements

Broomfield Enterprise, 2020, Broomfield Hires Environmental Epidemiologist.
<https://www.broomfieldenterprise.com/2020/03/03/broomfield-hires-environmental-epidemiologist/>

Broomfield Enterprise, 2021, Broomfield City Council Oks 2,000-foot reverse setbacks from pre-production oil and gas sites.
<https://www.broomfieldenterprise.com/2021/07/28/broomfield-city-council-oks-2000-foot-reverse-setbacks-from-pre-production-oil-and-gas-sites/>

The Colorado Sun, 2022, Colorado oil and gas regulators approve new wells in Weld County over Broomfield's objections. <https://coloradosun.com/2022/10/26/colorado-oil-and-gas-regulators-approve-new-wells-in-weld-county/>

Boulder Daily Camera, 2022, Broomfield officials review oil and gas health survey results. <https://www.dailycamera.com/2022/05/27/broomfield-officials-review-oil-and-gas-health-survey-results/>

The Sum and Substance, 2023, Companies within disproportionately impacted communities to come under new regulations. <https://tsscolorado.com/companies-within-disproportionately-impacted-communities-to-come-under-new-regulations/>

EDF Vital Signs, 2025, Colorado scores a win for communities and cleaner air. <https://vitalsigns.edf.org/story/colorado-scores-win-communities-and-cleaner-air>

Attachment 28

Declaration of Linda Weiss, Dakota Resource Council

IN THE UNITED STATES COURT OF APPEALS
DISTRICT OF COLUMBIA CIRCUIT

DECLARATION OF LINDA WEISS
Submitted In Support of Dakota Resource
Council

I, Linda Weiss, declare as follows:

1. My siblings and I, along with another relative, own and operate a family farm, renting crop and pastureland near Belfield, North Dakota. The farmstead was bought by my paternal grandparents and has been in my family for nearly a century. I have lived here since 1985, for the past 39 years. The farm is located six miles east of the Theodore Roosevelt National Park, a Class One airshed, and approximately one mile outside of Belfield, North Dakota.

2. I am a dues-paying member of the Dakota Resource Council (“DRC”) since 2000 and have served on the board of the organization since 2005. From 2013 to 2015, I served as chair of DRC’s board. DRC was formed in 1978 to protect North Dakota's land, air, water, rural communities and agricultural economy. DRC’s mission is to promote sustainable use of North Dakota’s natural resources and family-owned and operated agriculture by building member-led local groups that empower people to influence the decision-making processes that affect their lives and

communities. In my role as a member and board member of DRC, I actively participate in DRC's campaigns on agriculture and oil and gas issues. DRC has participated in the federal oil and gas leasing process, including, for example, by commenting on the Oil and Gas Leasing Draft Supplemental Environmental Impact Statement (DEIS) Northern Great Plains Revision in 2018.

3. Through DRC, I am also a member and board member of the Western Organization of Resource Councils ("WORC"). I am on WORC's Oil and Gas Task Force, in which capacity I work on behalf of WORC and its member groups, including DRC, to give communities a voice in how oil and gas development affects them. The task force works to address methane waste and orphaned and abandoned oil and gas wells and infrastructure, among other aspects of the oil and gas industry that threaten clean water and farmland. I am aware that active, orphaned, and abandoned wells can emit hazardous and carcinogenic air pollutants, and that proximity to these wells positively correlates with an increase in the occurrence of adverse health impacts, including cardiovascular disease, respiratory diseases, and certain types of cancer.

4. In the early 2000's, I co-chaired, and then chaired the Badlands Area Resource Council ("BARC"), an affiliate of DRC. BARC is

comprised of members from Killdeer, Dickinson, Richardton, Beach, Belfield and Medora and was formed in 1998 in response to efforts to privatize the Dickinson Landfill. Later campaigns have included protecting the Heart River, opposing genetically modified wheat, and opposing the South Heart Mine. Currently, BARC has been working to relocate the proposed Davis oil refinery from its proposed location less than three miles southeast of the Theodore Roosevelt National Park and three miles southwest of my family's farm.

5. I am a member of DRC and WORC because I support their mission to promote responsible use of North Dakota's natural resources and support family owned and operated agriculture, and because I believe in protecting our air, water, land, and wildlife resources from the negative impacts of fossil fuel development.

6. When DRC organized in 1978, one founding member stated "that it protects the integrity of food producing land, air and water." Early issues dealt with energy issues, reclamation of coal mines, preserving water, protecting airsheds, fighting acid rain, protecting people from mercury-laden fish, and improving air quality. Along with two other member groups in Montana and Wyoming, DRC launched the Western Organization of Resource Councils in 1979. We were facing the same

issues impacting members in different ways. Members, with help from organizers, empowered themselves to face local, state, federal and sometimes global entities and agencies on issues that affected us directly and extensively. We have dealt with many livestock issues such as Country of Origin Labeling (COOL), livestock concentration, beef checkoff, confined animal feeding operations, and huge hog operations. In the past couple of decades issues around local foods, soil health, food hubs, renewables, and community have grown. Members have gone on to serve in different government councils, offices and legislatures.

7. Our family farm—my home—has been negatively impacted by federal oil and gas development in many ways. The extraction industry has impacted the land for many decades; first coal mines in early 1900s leaving tunnels in nearby land, then seismic testing in the 1980's, affecting groundwater quality and aquifers, oil and gas drilling affecting the land surface, and a produced water spill on pastureland in 1990s. Oil and gas exploration adjacent to and in some cases on our property has affected the zoning of our land and has resulted in us having to sell some parts of it in order to keep others.

8. I am aware of 18 active and abandoned wells within approximately one mile of my home/family farm. From my front yard I can

see 12 flares on the horizon, one of which in the northeast seems to run continuously. On overcast days I can see the reflection of the flares in the clouds, which also makes it look as if the trees underneath are on fire. When there's a cold snap, the flares burn even more. I can also hear a loud noise emanating from the northeast, in the direction of the flares.

9. Because of all these impacts, I have been working for more than 20 years, advocating for clean air, water and land. Issues I have worked on include air quality near coal-fired power plants, GMO wheat affecting farmers' crops and export customers, a mine and coal-fired power plant near South Heart and a national park, opposing the resumption of uranium mining in our area (which first occurred in the early 1960s), coalbed methane development, special waste landfills taking radioactive waste from oil and gas production, trade agreements detrimental to farmers and ranchers, development of a rail loop every five or 10 miles, and the proposed development of an oil refinery within three miles of a national park. I found a quote by Ted Nace, a founding member of DRC, and he said "just as lusting is not our sin but calling it love is, so exploiting the earth is not our sin but calling it development is."

10. My biggest concerns about oil and gas development include impacts to air quality/airshed issues, abandoned/orphan wells, volatile

organic compounds (VOCs), particulates, water quality and quantity, reclamation bonding, and wildlife and wildlife habitat impacts. I am concerned that these air quality impacts may make it more difficult for me to breathe and to take a deep breath. Because I do not know what is in the air that I breathe, I regularly check an air quality monitoring application on my phone. It often says that the air quality is unhealthy and suggests limiting your time outdoors. I also receive air quality alerts from an air monitoring station at Fort Berthold. On days with dangerous air quality I try to limit the amount of time that I spend outside, or even stay inside entirely.

11. I am very concerned about the recovery costs from this type of development falling on the backs of people—ND residents, their agricultural land and soil health, and ultimately healthy food and healthy people.

12. I support the Biden Administration's effort to better protect communities from the harms of oil and gas development through the new final rules for New Source Performance Standards and Emission Guidelines for the oil and gas industry, published on March 8, 2024 ("2024 Rule"). These rules are necessary to protect the health and wellbeing of myself, my family, and my community. In these rules, EPA regulates new

and modified emission sources in the oil and gas industry. In particular, I understand that the rule's comprehensive leak monitoring requirements will help to mitigate the emission of harmful air pollutants. I am aware that the super emitter program, which enables third parties to notify EPA of large leaks, will streamline identification and repair of leaks that could harm myself and my community. I am also aware that the rules will restrict flaring and include other measures to reduce air pollution, which will help reduce the health impacts that I worry about. I understand that when implemented, this rule is estimated to reduce emissions of VOCs by 16 million tons, and hazardous air pollutants by 590,000 tons.

13. Moreover, I am aware that the final rule ensures significant benefits to the climate by reducing methane emissions by covered sources by 80%, totaling 58 million tons. Preventing the emission of this potent greenhouse gas is key to maintaining a stable climate system upon which I rely for my health and well-being.

14. I have learned that the Trump administration plans to reconsider the 2024 Rule. And on July 31, 2025, EPA issued a rule that immediately extended many of the compliance dates in the 2024 Rule, without taking any public comment before doing so. According to the fact sheet for the rule, emissions reductions that I was counting on to protect me

and my community will no longer occur in the near term, including 3.8 million tons of methane, 960,000 tons of VOCs, and 36,000 tons of toxic air pollution. Then, on December 3, 2025, EPA issued a rule that reaffirmed the compliance deadline extensions, extended one deadline even further, and added a new one-year extension for operators' compliance reports.

15. According to analysis provided to me by Environmental Defense Fund analyst Laura Mirtich (*see* Mirtich Declaration), there are currently more than 268 producing oil and gas wells in Stark County, ND where I live. Five of these wells were drilled after December 2022 and would be subject to the new source standards in the 2024 Rules, and 263 of these wells were completed prior to December 2022 and would be subject to the existing source standards of the 2024 Rule once adopted by North Dakota. Six of these existing wells are within ½ mile of my home.

16. By delaying compliance with the 2024 Rules, the Trump administration has delayed important protections for me and my community. I worry about the effect of delays, and possibly eventual rescission, of standards that were adopted to restrict flaring and reduce air pollution and how that will affect the health of me and my neighbors.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of

perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge, information, and belief.

Signed this 22nd day of December, 2025 in Belfield, North

Dakota.



Linda Weiss

Attachment 29

Declaration of Joyce Yeung, Natural Resources Defense Council

DECLARATION OF JOYCE YEUNG

I, Joyce Yeung, declare as follows:

1. I am the Associate Director of Membership at the Natural Resources Defense Council (NRDC). I have served as the Associate Director of Membership since 2022, and I have worked in NRDC's Membership department for more than 20 years.

2. My duties include supervising the preparation of materials that NRDC distributes to members and prospective members. Those materials describe NRDC and identify its mission.

3. NRDC is a membership organization incorporated under the laws of the State of New York. It is recognized as a not-for-profit corporation under section 501(c)(3) of the United States Internal Revenue Code. NRDC's headquarters are located at 40 West 20th Street, 11th floor, New York, NY 10011.

4. NRDC's mission statement declares that "The Natural Resources Defense Council's purpose is to safeguard the Earth: its people, its plants and animals, and the natural systems on which all life depends." The mission statement goes on to declare that NRDC works "to restore the integrity of the elements that sustain life – air, land, and water – and to defend endangered natural places." NRDC's mission includes the prevention and mitigation of global warming to

protect and maintain NRDC's members' use and enjoyment of natural resources threatened by climate change, as well as members' own health and safety.

5. Through its Climate and Energy Program, NRDC pursues federal and state policies to curb air pollution, particularly the pollutants that are causing climate change. NRDC seeks to reduce emissions of methane from the oil and gas sector, which is responsible for over a third of the nation's methane pollution.

6. As a part of these efforts to protect our climate, communities, wildlife and ecosystems, NRDC joined our colleagues in submitting comments on the Environmental Protection Agency's ("EPA") November 2021 proposal and November 2022 supplemental proposal, both titled "Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review." NRDC is also part of the group of organizations that sued EPA over its prior attempts to delay and rescind methane regulations for the oil and natural gas sector, and intervened to defend EPA's 2024 standards for methane emissions from new and existing oil and gas operations.

7. When an individual becomes a member of NRDC, his or her current residential address is recorded in NRDC's membership database. When a member renews his or her membership or otherwise makes a contribution to NRDC, the database entry reflecting the member's residential address is verified or updated.

8. NRDC has hundreds of thousands of members nationwide. There are NRDC members residing in each of the fifty United States and in the District of Columbia and Puerto Rico.

9. When an individual becomes a member of NRDC, he or she authorizes NRDC to take legal action on his or her behalf to protect the environment and public health.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Signed on August 8, 2025



Joyce Yeung