

States of California, Colorado, Connecticut, Delaware, Illinois, Maine, Maryland, Michigan, Minnesota, New Mexico, New York, North Carolina, Oregon, Vermont, Washington, Wisconsin, the Commonwealths of Massachusetts and Pennsylvania, the District of Columbia, and the City of Chicago

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RE: Comments on “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 (Dec. 6, 2022)

Attention: Docket ID No. EPA-HQ-OAR-2021-0317

Dear Administrator Regan,

The States of California,¹ Colorado, Connecticut, Delaware, Illinois, Maine, Maryland, Michigan, Minnesota, New Mexico, New York, North Carolina, Oregon, Vermont, Washington, Wisconsin, the Commonwealths of Massachusetts and Pennsylvania, the District of Columbia, and the City of Chicago (States and Cities) respectfully submit these comments on the Environmental Protection Agency’s (EPA) supplemental notice of proposed rulemaking, “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 (Dec. 6, 2022) (Supplemental Proposal).

The Supplemental Proposal updates, strengthens, and expands the standards proposed on November 15, 2021 to reduce emissions of greenhouse gases (GHGs) and other harmful air pollutants from new modified and reconstructed facilities, as well as from existing facilities, in the oil and natural gas sector.² EPA anticipates that the Supplemental Proposal will result in

¹ The California Attorney General submits these comments pursuant to his independent power and duty to protect the environment and natural resources of the State. *See* Cal. Const., art. V, § 13; Cal. Gov. Code, §§ 12511, 12600-12612; *D’Amico v. Bd. of Medical Examiners*, 11 Cal.3d 1, 1415 (1974).

² 86 Fed. Reg. 63,110 (Nov. 15, 2021) (2021 Proposal). The States and Cities submitted detailed comments on the 2021 Proposal. *See* EPA-HQ-OAR-2021-0317-1267. Thus, to the extent the Supplemental Proposal references and relies on issues, analyses, and conclusions noted in the 2021 Proposal, the States and Cities expressly incorporate all comments and supporting

(continued...)

approximate emissions reductions, in the years 2023 to 2035, of 36 million tons of methane, 9.7 million tons of smog-forming volatile organic compounds (VOCs), and 390,000 tons of air toxics. Further, EPA determined that the net economic benefits of the rule will outweigh the costs, taking into consideration the avoided social costs imposed by GHG emissions and the industry's ability to sell the natural gas that will be captured by the new controls.

We support EPA's continued efforts to further reduce methane emissions from the oil and natural gas sector. The Supplemental Proposal has addressed several issues that were raised in our comments on the 2021 Proposal, including: (1) a revised approach for fugitive emissions monitoring and repair at all well sites, based on the specific types of equipment rather than well production, that continues until a site has been properly closed, including plugging the wells at the site and submitting a well closure plan; (2) a zero-emissions standard for pneumatic controllers and pneumatic pumps at affected facilities in all segments of the industry; and (3) a requirement that owners and operators of oil wells with associated gas must implement alternatives to flaring the gas unless it is not feasible for demonstrated technical or safety reasons.

We are also encouraged by EPA's proposed super-emitter response program. Studies show that emissions from a small number of oil and natural gas sources are responsible for a significant portion of the industry's emissions. The proposed program allows regulatory authorities or qualified third parties to notify owners and operators of regulated facilities when a super-emitting event (defined as emissions of 100 kilograms of methane per hour or larger) is detected. Owners and operators would then be required to conduct an analysis within five days of receiving notification to determine the cause of the event, and be required to take corrective action within ten days. The program will hopefully empower underserved³ and overburdened communities that are often affected by nearby oil and gas infrastructure.

For these reasons, and as detailed below, we strongly support EPA's Supplemental Proposal. We further believe that certain elements of the Supplemental Proposal should be strengthened, including, but not limited to: requiring a shorter repair period if the well site is located in proximity to an already overburdened community; adding restrictions on the amount

documents previously submitted, including the supporting materials submitted as Attachments 1 through 29. Additional supporting materials are submitted with these comments as Attachments 30 through 40.

³ "Underserved communities" refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. *See* Exec. Order 13,985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, 86 Fed. Reg. 7009 (Jan. 25, 2021).

of time that operators are allowed to idle wells and limiting the number of idle wells that an individual owner can hold; prohibiting routine flaring with an exception only for safety and emergencies; revisiting potential regulatory options for “pigging” operations; lowering the threshold for defining super-emitter emission events; clarifying super-emitter reporting requirements; and designing the super-emitter response program to maximize community participation.

I. LEGAL JUSTIFICATION FOR THE PROPOSED RULE

The States and Cities reaffirm our support of EPA’s legal and factual findings for the 2021 Proposal and the Supplemental Proposal. Under section 111 of the Clean Air Act, EPA must establish a list of source categories and “shall include a category of sources in such list if in [the EPA Administrator’s] judgment it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.” Once it has listed a source category, EPA “shall” promulgate “standards of performance” limiting emissions of certain pollutants from new sources in that source category.⁴ A “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 non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.”⁵ When EPA establishes performance standards for new sources in a particular source category, EPA is also required under section 111(d) of the Clean Air Act and applicable regulations to publish guidelines for controlling emissions from existing sources in that source category, subject to two narrow exceptions that are not applicable here.⁶ After EPA issues final guidelines for existing sources of a designated pollutant, states must submit plans containing emission standards for control of that pollutant from designated facilities within the state.⁷

In 1979, EPA listed crude oil and natural gas production under section 111 of the Clean Air Act as a source that “contributes significantly to air pollution that may reasonably be anticipated to endanger public health or welfare.”⁸ In 1985, EPA promulgated new source performance standards for the oil and natural gas source category that regulated emissions of VOCs and sulfur dioxide.⁹ In 2012, EPA updated the new source performance standards to establish VOC standards for several oil and natural gas-related operations not previously covered.¹⁰ Also in 2012, EPA evaluated methane emissions from the oil and natural gas source

⁴ 42 U.S.C. § 7411(b)(1)(B).

⁵ *Id.* § 7411 (a)(1).

⁶ *Id.* § 7411 (d).

⁷ 40 C.F.R. § 60.23a(a)(1).

⁸ *See* Priority List and Additions to the List of Categories of Stationary Sources, 44 Fed. Reg. 49,222 (Aug. 21, 1979).

⁹ 50 Fed. Reg. 26,122 (June 24, 1985); 50 Fed. Reg. 40,158 (Oct. 1, 1985).

¹⁰ 77 Fed. Reg. 49,490 (Aug. 16, 2012).

category, but did not take action.¹¹ In 2016, EPA issued new source performance standards directly regulating methane emissions from the oil and natural gas sector for the first time.¹²

To date, the oil and natural gas sector remains the largest industrial emitter of methane in the United States.¹³ Methane is a potent GHG that has eighty-three times the warming impact of carbon dioxide for the first two decades after release and approximately thirty times the warming impact over a one hundred-year timeframe.¹⁴ “Indeed, one third of the warming due to GHGs that we are experiencing today is due to human emissions of methane.”¹⁵ As we experience the warmest temperatures on record, threats to public health and the environment in our States and Cities continue to mount. For example, higher temperatures are linked with significant increases in “[hospital] admissions for acute renal failure, appendicitis, dehydration, ischemic stroke, mental health, noninfectious enteritis, and primary diabetes.”¹⁶ Socially-vulnerable populations—including children, elderly people, low-income communities, and people of color—are exposed disproportionately and experience greater impacts from higher temperatures.¹⁷ Rising temperatures combined with drier conditions are also increasing the risk of wildfires.¹⁸ “[S]ince 1984, human-induced climate change is responsible for doubling the cumulative area of

¹¹ *Id.* at 49,513.

¹² 81 Fed. Reg. 35,824 (2016 Standard).

¹³ 87 Fed. Reg. at 74,720.

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ See Att. 2, Toki Sherbakov, et al., *Ambient temperature and added heat wave effects on hospitalizations in California from 1999 to 2009*, 160 *Envtl. Research* 83, 83 (2018); see also Att. 3, Louise Bedsworth et al., California Governor’s Office of Planning and Research, *Statewide Summary Report. California’s Fourth Climate Change Assessment* 38 (2018) (“High ambient temperatures have been shown to adversely affect public health via early death (mortality) and illness (morbidity).”).

¹⁷ See Att. 5, EPA, *Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts* at 32–36 (2021), available at www.epa.gov/cira/social-vulnerability-report; Att. 4, Marcus C. Sarofim et al., U.S. Global Change Research Program, *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*, at 45 (2016); Att. 6, Angel Hsu et al., *Disproportionate exposure to urban heat island intensity across major U.S. cities*, *Nature Communications* 8 (2021), available at <https://doi.org/10.1038/s41467-021-22799-5> (“Currently disadvantaged groups suffer more from greater heat exposure that can further exacerbate existing inequities in health outcomes and associated economic burdens, leaving them with fewer resources to adapt to increasing temperature.”).

¹⁸ Att. 30, U.S. Global Change Research Program, *Fourth National Climate Assessment, Volume II: Impacts, Risks, and Adaptation in the United States* at 241 (D.R. Reidmiller et al. eds., 2018) (Fourth National Climate Assessment), available at <https://nca2018.globalchange.gov/downloads/>; Att. 10, Zachary A. Holden, et al., *Decreasing fire season precipitation increased recent western US forest wildfire activity*, 115 *PNAS* E8349, E8349 (Sept. 4, 2018) (“[D]eclines in summer precipitation and wetting rain days have likely been a primary driver of increases in wildfire area burned.”).

forest fires across the western United States.”¹⁹ Climate change is also contributing to increasingly severe weather events, such as hurricanes of greater intensity, sea-level rise, and coastal flooding.²⁰

The oil and natural gas sector is also a source of significant emissions of VOCs and air toxics. The public health impacts of VOCs are well documented. VOCs are a main precursor to the formation of ozone, which can cause harmful respiratory symptoms such as airway inflammation and asthma.²¹ Long-term exposure to VOCs can also result in premature death from lung and heart disease.²² Children and people with respiratory disease are most at risk.²³ Air toxics associated with natural gas, such as formaldehyde and benzene, cause cancer and other serious health effects.²⁴

For these reasons, the oil and natural gas sector contributes significantly to air pollution that may reasonably be anticipated to endanger public health or welfare and EPA remains statutorily obligated under section 111 to regulate emissions—including methane emissions—from new and existing sources in the oil and natural gas source category. Further, in 2016, EPA correctly determined that it had legal authority to regulate methane from the oil and natural gas source category under section 111(b)(1)(B).²⁵ EPA relied on overwhelming record evidence regarding the adverse impacts of methane to public health and welfare and the high quantities of methane emissions from the oil and natural gas source category, including existing sources.²⁶ EPA also explicitly made an endangerment and significant contribution finding with respect to GHG emissions from the oil and natural gas source category. Thus, EPA properly concluded that methane emissions must be directly addressed through standards of performance under section

¹⁹ Att. 11, Marcus Lowe and Rebecca Marx, Datu Research, Climate Change-Fueled Weather Disasters & Costs to State and Local Economies 53 (July 2020).

²⁰ Fourth National Climate Assessment, *supra* n.18, at Ch. 8.

²¹ 86 Fed. Reg. at 63,127.

²² *Id.*

²³ *Id.*

²⁴ *Id.*

²⁵ 81 Fed. Reg. at 35,841; *id.* at 35,842–43 (“When considered in total, the facts presented in . . . this preamble, along with prior EPA analysis, . . . provide a rational basis for regulating GHG emissions from affected oil and gas sources by expressing GHG limitations in the form of limits on methane emissions.”).

²⁶ *See, e.g.*, 81 Fed. Reg. at 35,833–43 (citing to, among other things, EPA’s 2009 endangerment finding for GHGs, including methane, 74 Fed. Reg. 66,496 (Dec. 15, 2009), and subsequent assessments validating and lending additional credence to such finding; the fact that the oil and natural gas source category is the largest industrial emitter of methane in the United States; and the high global warming potential of methane, which is 28 to 36 times greater than that of carbon dioxide); *cf. Coalition for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102, 120 (D.C. Cir. 2012) (“The body of scientific evidence marshaled by EPA in support of the [2009] Endangerment Finding is substantial.”).

111(b)(1).²⁷ And since at least 2016, when EPA began to regulate methane from new oil and natural gas sources under section 111(b) of the Clean Air Act, EPA has been required to promulgate emission guidelines to regulate methane from existing oil and natural gas sources under section 111(d) of the Act.²⁸

II. EPA’S SUPPLEMENTAL PROPOSAL IS APPROPRIATE AND REASONABLE

The States and Cities continue to support EPA’s proposed new source performance standards and emission guidelines for the oil and natural gas source category. As demonstrated by the 2016 Standard, which has been in effect for several years, and the nation-leading regulatory experiences of states like California, Colorado, and New Mexico, cost-effective control technologies and practices to eliminate or substantially reduce harmful methane and VOC emissions from new and existing oil and natural gas sources are technically feasible and widely available. As noted below, the States and Cities also believe that EPA should build upon and strengthen certain elements of the Supplemental Proposal.

A. EPA’s Proposed Standards for New and Existing Well Sites

The States and Cities continue to support EPA’s elimination of the exemption from fugitive monitoring and repair for low production or marginal wells—including well sites with a potential to emit (PTE) of less than 3 tons per year—and are encouraged that EPA is requiring regular fugitive emissions monitoring and repair for all well sites regardless of their PTE or production level. As EPA recognizes, large leaks can happen at any time, even at well sites with low PTE, and regular monitoring is necessary to detect and mitigate those fugitive emissions.

We appreciate EPA’s revised approach for fugitive emissions monitoring at all well sites based on the specific types of leak-prone equipment or equipment that can be the source of large emission events—such as flares, storage vessels, and pneumatic devices—rather than well production. Specifically, EPA has proposed that: single wellhead only facilities and “small well sites” (defined as single wellhead facilities with a single piece of major equipment and no tank battery) require quarterly audio visual and olfactory (AVO) inspections; two or more wellhead only facilities require semiannual optical gas imaging (OGI) inspections and quarterly AVO inspections; and well sites with major production and processing equipment and centralized production facilities require quarterly OGI monitoring and bimonthly AVO.²⁹

EPA’s revised approach seems to be largely based on Colorado’s leak detection and repair (LDAR) program, which has been in place since 2014, and requires each well site to calculate its baseline methane emissions for all of the equipment at the well site, the number of fugitive emissions components associated with each piece of equipment, and the site-specific gas composition. Colorado’s regulatory approach to leak detection and approved instrument

²⁷ 81 Fed. Reg. at 35,833–43.

²⁸ See 42 U.S.C. § 7411(b), (d).

²⁹ 87 Fed. Reg. at 74,708–09 (Dec. 6, 2022).

monitoring method (AIMM) inspection of well production facilities is multi-layered. First, as of a December 2021 program update, all new well production facilities must conduct monthly AIMM inspections unless they are constructed and operated with specified design features that reduce the potential for emissions, such as constructing the site without hydrocarbon liquid storage tanks (i.e., tankless design).³⁰ Existing well production facilities must conduct inspections at a frequency that depends on the actual, uncontrolled VOC emissions from a storage tank.³¹ Inspection frequencies range from annual, for the smallest sites, to monthly for the largest sites.³² Colorado also incorporates stricter standards for operations in disproportionately impacted communities and, in some cases, where the operations are located within 1,000 feet of an occupied area.³³

Alternatively, EPA may consider streamlining the proposed LDAR program by requiring the same LDAR requirements for all facilities. California’s regulation requires quarterly LDAR inspections at all new and existing well sites without exemptions, and operators in California—including large and small entities—have complied with the requirements for many years now.³⁴ Specifically, components in place after January 1, 2018 require quarterly EPA Method 21³⁵ inspections.³⁶ OGI is permissible for leak detection and/or monitoring but may not be used in place of quarterly EPA Method 21, and the time limitations for leak repair are also applied evenly across the facilities.³⁷ Similarly, New Mexico’s recently promulgated regulations apply LDAR requirements to all wells with no exceptions, with every well to receive leak inspections at least once a year, and larger, potentially higher emitting wells receiving semiannual or quarterly inspections.³⁸ And New York’s recently adopted regulations require semiannual LDAR at all well sites with no exceptions.³⁹ Uniformity may facilitate and ensure that states are able to implement and enforce these requirements in their plans.

³⁰ 5 Colo. Code Regs. § 1001-9:D.II.E.4.e-f (adopted Dec. 17, 2021).

³¹ *Id.* § II.E.4.g. tbl. 4.

³² *Id.*

³³ Colo. Rev. Stat. § 24-4-109.

³⁴ *See* Cal. Code Regs., tit. 17, § 95669.

³⁵ 40 C.F.R § 60, Appendix A7 (“Method 21: Determination of Volatile Organic Compound Leaks”). The summary of Method 21 provides that “a portable instrument is used to detect VOC leaks from individual sources. The instrument detector type is not specified, but it must meet the specifications and performance criteria contained in section 6.0. A leak definition concentration based on a reference compound is specified in each applicable regulation. This method is intended to locate and classify leaks only, and is not to be used as a direct measure of mass emission rate from individual sources.” *Id.*

³⁶ Cal. Code Regs., tit. 17, 95669(g) (2018).

³⁷ *Id.*

³⁸ *See* New Mexico Administrative Code 20.2.50, at 20.2.50.16, *available at* <https://www.env.nm.gov/air-quality/wp-content/uploads/sites/2/2022/07/Oil-and-Gas-Sector-Ozone-Precursor-Polutants-Final-rule-20.2.50-NMAC-06Jul22.pdf>.

³⁹ 6 New York Codes, Rules and Regulations (NYCRR) 203-7.2(a) (effective Mar. 3, 2022).

EPA has also proposed that a first attempt at repair must be made within 15 days of identifying a leak through AVO. With respect to leaks identified through OGI, EPA has proposed a first attempt at repair within 30 days, with final repair, including resurvey to verify repair, completed within 30 days after the first attempt.⁴⁰ The States and Cities continue to recommend that EPA require a shorter repair period if the well site is located in proximity to an already overburdened community. For instance, Colorado regulations require that a first attempt at the repair of a leaking component be made within five days if a site is located within 1,000 feet of an occupied area or within a disproportionately impacted community.⁴¹

Finally, the undersigned support EPA's adoption of a presumptive standard for existing well sites that follows the same fugitive monitoring and repair program as for new sources. Detecting and repairing leaks does not require installation of controls on existing equipment or retrofits. Rather, as noted by EPA,⁴² the technology to address methane leaks is the same at new and existing sites, as are the emission reductions, costs and cost-effectiveness. It is therefore reasonable for EPA to promulgate a presumptive standard for fugitive emissions at well sites that mirrors the new source performance standard.

B. EPA's Proposed Standards for New and Existing Compressor Stations

The States and Cities support EPA's revised approach of monthly AVO monitoring and quarterly OGI monitoring of fugitive emissions at new and existing compressor stations. California requires quarterly Method 21 inspection of compressor stations with the option of OGI monitoring, as long as a Method 21 inspection is performed in the event OGI monitoring detects a leak.⁴³ New York regulations require bimonthly monitoring at compressor stations using EPA Method 21, OGI, or an approved alternative that is at least as effective.⁴⁴ Colorado's regulations require quarterly inspections of fugitive VOC emissions greater than or equal to 50 tpy, bi-monthly if greater than or equal to 50 tpy and located within a disproportionately impacted community or within 1,000 feet of an occupied area, or monthly if greater than or equal to 50 tpy.⁴⁵ The States and Cities further support EPA's adoption of a presumptive standard for compressor stations in the OOOOc emission guidelines that follows the same fugitive monitoring and repair program as for new sources.⁴⁶ As EPA recognizes,⁴⁷ the BSER analysis is the same for both new and existing sources.

⁴⁰ 86 Fed. Reg. at 63,121, Tbl. 3 ("Summary of Proposed Presumptive Standards for GHGs from Designated Facilities").

⁴¹ 5 Colo. Code Regs. §§ 1001-9:D.II.E.6.f-g, II.E.7.b (adopted Dec. 17, 2021).

⁴² 86 Fed. Reg. at 63,173.

⁴³ Cal. Code Regs., tit.17, §§ 95668-95669.

⁴⁴ 6 NYCRR 203-7.2(c).

⁴⁵ 5. Colo. Code Regs. 1001-9:D.II.E.3.a & Tbl. 3.

⁴⁶ 86 Fed. Reg. at 63,174.

⁴⁷ *Id.* at 63,196.

C. Advanced Methane Detection Technologies

In the 2021 Proposal, EPA proposed an alternative screening option that would allow the use of advanced methane detection technologies as an alternative to the use of ground based OGI surveys and AVO inspections to identify fugitive emissions at well sites, centralized production facilities, and compressor stations.⁴⁸ In the Supplemental Proposal, EPA notes that “[w]hile there was widespread support of the concept of an alternative screening option, the EPA still does not have enough information to conduct the requisite BSER analysis for any specific advanced measurement technology to determine whether it would qualify as the BSER for detecting fugitive emissions.”⁴⁹ EPA has instead proposed a screening matrix, which specifies several different screening frequencies corresponding to a range of minimum detection levels, rather than the single screening frequency and detection level under the 2021 Proposal. The proposed alternative periodic screening approach is limited to technologies with a minimum detection threshold less than or equal to 30 kg/hr. EPA has also proposed a continuous monitoring approach as a second alternative approach to the fugitive emissions monitoring and repair program. EPA anticipates that through this alternative screening option, EPA may “gain additional information that could be used to reevaluate the BSER in a future rulemaking.”⁵⁰ EPA has further proposed a pathway for technology developers and other entities to seek EPA’s approval for the use of advanced measurement technologies under this alternative screening option.

The States and Cities continue to encourage EPA’s support for the use of advanced methane detection technologies for identifying fugitive emissions. The State of California has partnered with private companies, federal agencies, and several academic and philanthropic entities to advance the use of remote sensing plume-mapping technology for detecting emissions. The State of California has committed \$100 million towards the purchase of this type of data from satellites, which will be awarded by a competitive request for proposal process. This technology can pinpoint and quantify leaks and other emissions of methane and carbon dioxide. These efforts build upon a successful partnership between the California Air Resources Board, the California Energy Commission, and the NASA Jet Propulsion Laboratory on a statewide study to identify large methane sources across California. That study, called the California Methane Survey, used similar technology envisioned for the satellites but mounted on airplanes to “see” methane emissions. Many commercial satellite companies are in the early stages of developing and deploying satellites equipped with similar methane plume mapping instruments, along with capabilities to observe up to 25 other environmental indicators. California will continue to explore how best to use this new information to mitigate emissions even further, both in California and globally.

However, given that this technology is still emerging and developing, the States and Cities recommend that alternative screening methods (e.g., aerial surveys) should complement, and not

⁴⁸ 87 Fed. Reg. at 74,709, 74,740.

⁴⁹ *Id.* at 74,740.

⁵⁰ *Id.*

yet completely replace, traditional OGI/AIMM inspections. We further suggest that EPA let states have the flexibility to employ alternative screening after individualized review of the appropriateness of the technology, frequencies, follow-up and repair timelines, as is most effective in the region and for the sites for which the alternative screening is deployed.

D. EPA's Proposed Standards for New and Existing Pneumatic Controllers

The States and Cities support EPA's proposed definition of pneumatic controller affected facilities to include the collection of natural gas-driven pneumatic controllers at a site instead of each individual natural gas-driven controller. We further support EPA's proposal to include: (1) controllers where the emissions are collected and routed to gas-gathering flow line or collection system to a sales line, or used as an onsite fuel source and (2) self-contained natural gas pneumatic controllers.

We further support EPA's proposal to determine that zero-emission pneumatic controllers are the BSER for new and existing sources.⁵¹ As EPA notes, most zero-emission measures for pneumatic controllers are site-wide solutions so it is practical to define the affected facility as a collection of all controllers at a site rather than each individual controller. In addition, as EPA recognizes,⁵² Colorado and New Mexico have demonstrated that oil and natural gas operators can utilize zero-emitting pneumatic equipment at both new and existing sources at reasonable cost and without disrupting operations.⁵³ Colorado's regulations require that new well-production facilities, those constructed after May 1, 2021, and well production facilities receiving production from a newly drilled or refracked well, must use only non-emitting pneumatic controllers.⁵⁴ For other existing well-production facilities, Colorado requires a phased-in approach to retrofitting specified percentages of gas-driven pneumatic controllers with non-emitting pneumatic devices.⁵⁵ Colorado's program does not require that all gas-driven pneumatic controllers be removed or replaced. Its program focuses on the percentage of the facility production, based on liquids production that moves through a facility, and requires that a specified percentage of production move through facilities with non-emitting pneumatic controllers.⁵⁶ Colorado, however, exempts operators from complying with many components of this program if their "total statewide oil and natural gas production average[es] 15 barrels of oil equivalent or less per day per well,"⁵⁷ in addition to other limited exemptions.⁵⁸

⁵¹ *See id.* at 63,208–09.

⁵² *Id.* at 63,204.

⁵³ *Id.* at 63,206.

⁵⁴ 5 Colo. Code Regs. §§ 1001-9:D.III.C.3.a, III.C.4.a (adopted Dec. 17, 2021).

⁵⁵ *Id.* § III.C.4.

⁵⁶ *Id.* § III.C.4.c.(iii) & tbl. 1.

⁵⁷ *Id.* § III.C.4.c.(iv).

⁵⁸ *Id.* § III.C.4.e.(i).

E. EPA’s Proposed Standards for New and Existing Pneumatic Pumps

The States and Cities support EPA’s proposed definition of the pneumatic pump affected facility to include the collection of natural gas-driven pneumatic pumps at a site instead of each individual natural gas-driven pump. We further support EPA’s proposal to determine that zero-emission pneumatic pumps in all segments—specifically diaphragm and piston pneumatic pumps in the production segment and diaphragm pneumatic pumps in the transmission and storage segment—are the BSER for new and existing sources.

F. EPA’s Proposed Standards for New and Existing Reciprocating Compressors and Centrifugal Compressors

The States and Cities support EPA’s proposed standard that all reciprocating compressors, except those located at well sites, must replace or repair the rod packing to maintain flow rate at or below 2 standard cubic feet per minute (scfm). As demonstrated by the regulatory experience of California, repairing the rod packing is a cost-effective alternative that achieves equivalent emission reductions.⁵⁹

With respect to centrifugal compressors, the States and Cities support EPA’s proposed standard that all wet seal centrifugal compressors (except for those located at single well sites) must capture and route emissions from the wet seal fluid degassing system to a control device or to a process that reduces emissions by 95%, and all dry seal centrifugal compressors must ensure a volumetric flow rate at or below 3 scfm. Again, the regulatory experience of California supports EPA’s conclusion that this proposed standard is adequately demonstrated.⁶⁰

G. EPA’s Proposed Standards for New and Existing Storage Vessels

The States and Cities support EPA’s amended definition of a storage vessel affected facility as a single storage vessel or “tank battery” to include a group of all storage vessels that are manifolded together for liquid transfer. With respect to any new, reconstructed, or modified single storage vessel or tank battery with a PTE of greater than or equal to 6 tons per year (tpy) VOCs or greater than or equal to 20 tpy methane, EPA has proposed a standard of capturing and routing emissions to a control device that achieves 95 percent reduction emissions. For existing storage vessels, any single storage vessel or tank battery with a PTE of greater than or equal to

⁵⁹ See Cal. Code Regs., tit. 17, § 95668(c)(3)(D); see also 6 NYCRR 203-4.4 (requiring reciprocating compressor with rod packing or seal with a measured emission flow rate greater than 2 scfm to be successfully repaired within thirty (30) days).

⁶⁰ See Cal. Code Regs., tit. 17, § 95668(c)(3)(D); see also 6 NYCRR 203-4.3 (beginning January 1, 2023, requiring centrifugal compressors with wet seals to control the wet seal vent gas with the use of a vapor collection system or replace the wet seal with a dry seal; the vapor collection system must direct collected vapors to a sales gas system, a fuel gas system, or a vapor control device that achieves at least 95% control efficiency; a centrifugal compressor with a wet seal emission flow rate greater than 3 scfm must be repaired within thirty (30) days).

20 tpy for methane must capture and route emissions to a control device that achieves 95 percent reduction emissions.⁶¹ EPA should consider lowering the applicable threshold. For example, Colorado requires the control of all new and existing storage tanks emitting 2 tpy of VOC or more,⁶² Pennsylvania requires controls if VOC emissions exceed 2.7 tpy, and New Mexico has adopted a threshold of 2 tpy of VOC for new tanks, 3 tpy of VOC for existing tanks in multi-tank batteries, and 4 tpy for existing tanks in single tank batteries.⁶³

H. EPA's Proposal to Require Monitoring of Wells Until Submission of Well Closure Plans and Proper Plugging Will Help Prevent Wells from Becoming Orphaned

The States and Cities support EPA's proposed adoption of new source performance standards and emission guidelines that require fugitive emission monitoring and repair at all well sites to continue until a site has been properly closed, including plugging the wells at the site and submitting a well closure plan.⁶⁴ Requiring LDAR at all well sites, including wellhead only and small well sites, until closure will help address concerns cited in our comments on the 2021 Proposal regarding continuing emissions from orphaned wells and unplugged idle wells. These wells are a huge source of methane emissions and impose substantial burdens on states and taxpayers. EPA's 2022 Inventory of U.S. Greenhouse Gas Emissions and Sinks (GHGI) estimates that there are around 3.7 million abandoned oil and gas wells in the U.S., and that in 2020 abandoned oil wells emitted 219,000 metric tons of methane and abandoned gas wells emitted 57,000 metric tons of methane.⁶⁵

The States and Cities also support EPA's proposal to require that, prior to ceasing regular monitoring, owners and operators be required to conduct a survey of the well site using OGI after well closure activities have been completed. This will help ensure that the well has been properly plugged since improperly plugged abandoned wells are still a significant source of methane emissions.⁶⁶

⁶¹ See 86 Fed. Reg. at 63,201.

⁶² 5 Colo. Code Regs. § 1001-9:D.II.C.1.c.

⁶³ New Mexico Administrative Code 20.2.50, at 20.2.50.123(A), available at <https://www.env.nm.gov/air-quality/wp-content/uploads/sites/2/2022/07/Oil-and-Gas-Sector-Ozone-Precursor-Pollutants-Final-rule-20.2.50-NMAC-06Jul22.pdf>

⁶⁴ 87 Fed. Reg. at 74,736 (NSPS OOOOb) & 74,737 (EG OOOOc).

⁶⁵ U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990-2020*, at p. 3-108 [2021 GHGI], available at <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2020>. These numbers are likely an underestimate. See Att. 29, Williams et al., *Methane Emissions from Abandoned Oil and Gas Wells in Canada and the United States*, 55 Env. Sci. Tech. 563 (2020) (finding that annual methane emissions from abandoned wells are underestimated by 20% in the U.S.).

⁶⁶ 2021 GHGI, *supra* n.65, at p. 3-110 (Tables 3-101 & 3-102).

As we had recommended in our comments on the 2021 Proposal,⁶⁷ we also agree with EPA's proposal to require submission of a well closure plan prior to closure and agree that such plan should, at a minimum, describe how and when all wells at a well site will be closed and demonstrate the financial capacity to do so, including providing for financial assurance to complete closure. EPA's proposal to require owners and operators to submit the well closure report within 30 days of cessation of production from all wells at the well site and to notify the agency 60 days before beginning well closure activities is reasonable. In the final rule, EPA should clarify that, for existing wells, the emission guidelines (OOOOC) require owners and operators to submit the well closure report and the required 60-day notice to the state regulatory agency in addition to EPA.

EPA is soliciting comment on additional provisions that could be added to ensure that companies remain engaged with the site until all wells at a site are properly closed, including for instance automatic consequences for missed monitoring reports.⁶⁸ The States and Cities support the addition of such provisions. In particular, an automatic consequence for an owner's or operator's repeated failure to submit monitoring reports should include a requirement to permanently cease production, submit a well closure report, and permanently plug all wells at the site. When owners and operators are no longer monitoring and staying engaged with well sites there is a greater potential for them to deteriorate and leak or become orphan wells. By requiring owners and operators to close well sites as an automatic consequence of failure to comply with monitoring requirements, the new source performance standards and emission guidelines will incentivize owners and operators both to comply with monitoring requirements and to either produce or plug wells, rather than leaving them idled and unplugged or abandoning them to become orphan wells.

As we noted in our comments on the 2021 Proposal, EPA should also consider adding restrictions on the amount of time that operators are allowed to idle wells and limit the number of idle wells that an individual owner or operator can hold.⁶⁹ For instance, under New Mexico's regulations, an operator is allowed to idle no more than a certain percentage of its wells: two wells or 50 percent of the wells the operator operates, whichever is less, if the operator operates 100 wells or less; five wells if the operator operates between 101 and 500 wells; seven wells if the operator operates between 501 and 1,000 wells; and 10 wells if the operator operates more than 1,000 wells.⁷⁰ New Mexico also requires operators to either properly plug and abandon a well or place the well in approved temporary abandonment after drilling operations have been suspended for 60 days, the well has been determined to be no longer usable for beneficial purposes, or the well has been inactive for one year; and limits the time allowed for approved temporary abandonment to five years.⁷¹ The longer wells are allowed to remain idle, the greater

⁶⁷ See States and Cities Jan. 31, 2022 Comments, EPA-HQ-OAR-2021-0317-1267, at 21.

⁶⁸ 87 Fed. Reg. at 74,736.

⁶⁹ See Att. 21, IOGCC, *Idle and Orphan Oil and Gas Wells: State and Provincial Regulatory Strategies 2021* (detailing state regulatory strategies for addressing orphaned wells).

⁷⁰ 19.15.5 NMAC.

⁷¹ 19.15.25 NMAC.

potential that they will become orphan wells. Also, a high percentage of idle wells may indicate an increased vulnerability of the owner becoming insolvent and leaving orphan wells.

Finally, the States and Cities support EPA's proposal to require reporting, through the annual report, of any changes in ownership at individual well sites. We agree that such a requirement will help prevent well sites from becoming orphaned by providing clarity as to who the responsible owners and operators are until the site is plugged and closed and LDAR is no longer required.

I. EPA Should Strengthen Its Proposed Standards for Associated Gas from Oil Wells to Prohibit Routine Flaring with the Only Exceptions for Safety and Emergencies

The undersigned States and Cities continue to urge EPA to adopt New Source Performance Standards (NSPS) and emission guidelines that effectively prohibit routine flaring of associated gas from new and existing oil wells, with the only exceptions related to safety and emergencies, by requiring owners or operators to capture all or a majority of the gas. Flaring is a major source of emissions of many harmful air pollutants. When functioning properly, flares emit large amounts of carbon dioxide and nitrogen oxides. When malfunctioning, which is common, they emit substantial amounts of methane, VOCs, and hazardous air pollutants directly into the atmosphere.⁷²

As EPA recognizes,⁷³ several states have adopted standards to further reduce routine flaring of associated gas, including Colorado and New Mexico. Since 2020 Colorado has prohibited the routine flaring and venting of gas. Flaring is permitted during well production only if conditions at the well are disrupted or with written permission during maintenance, production evaluation, or as part of an approved gas capture plan.⁷⁴ The gas capture plan may allow wells in production prior to January 15, 2021 that are flaring or venting because they are not connected to a natural gas gathering line or putting the gas to beneficial use, to vent or flare for a period not to exceed 12 months, when the operator can show that it is necessary to produce the well, will minimize waste, and will minimize adverse impacts to public health, safety, welfare, the environment, and wildlife resources.⁷⁵ If an operator does not connect its facility to a gathering line or otherwise put gas to a beneficial use as described in its gas capture plan, it may

⁷² See, e.g., Environmental Defense Fund, *Permian Methane Analysis Project*, available at <https://data.permianmap.org/pages/flaring> (finding in seven random surveys of routine-flaring sites, flare malfunctions ranged from 3.3% to 11.5% and when expanded to all well sites, including lower-production wells, flare malfunctions jumped from 29% to 36%).

⁷³ 87 Fed. Reg. at 74,780.

⁷⁴ 2 Colo. Code Regs. § 404-1-903.d.(1).

⁷⁵ *Id.* § 404-1-903.d.(3).

be required to shut in a well until it is connected to a gathering line or the gas is put to beneficial use.⁷⁶

New Mexico's waste prevention regulations adopted in May 2021 further support that a prohibition on flaring is adequately demonstrated as the BSER. New Mexico's regulations prohibit routine venting or flaring and provide for a phased approach to require capture of at least 98% of gas produced by end of 2026.⁷⁷ At Phase 1, operators must collect and report data to identify the sources of emissions (from wellhead to processing and beyond) and then benchmarks are set for each operator.⁷⁸ At Phase 2, operators must show increasing progress until they reach the 98% capture threshold.⁷⁹ In addition, vented and flared gas are considered waste and subject to payment to the state of royalties and taxes.⁸⁰

EPA should follow the states' lead and prohibit routine flaring of associated gas from new and existing oil wells except in very limited cases such as emergencies and for safety reasons. If EPA continues to allow flaring of associated gas for technical feasibility reasons, EPA also should take steps to disallow the indefinite continuation of routine flaring. The States and Cities believe that it would be appropriate to limit the allowable time for flaring to 12 months. If after 12 months an owner or operator does not connect its facility to a gathering line or otherwise put gas to beneficial use, EPA should require the operator to shut in a well until it is connected to a gathering line or the gas is put to beneficial use.

At a minimum, EPA should further strengthen flaring restrictions to ensure that the need to flare is well-documented, continues to be necessary, and does not become routine. EPA should require more frequent certifications than annual reports to demonstrate why all potential beneficial uses, including emerging techniques, are not feasible due to technical or safety reasons. When there is any change in circumstances, owners and operators should be required to perform a more thorough analysis and engineering certification comparable to the initial certification required once an owner or operator becomes subject to the rule. For instance, we agree, as EPA suggests, that it would be appropriate to require an owner or operator to provide an additional engineering certification that flaring is the only option where a new gathering pipeline is installed within a certain distance of an oil well.

J. EPA Should Consider Standards for Pigging Operations

The States and Cities encourage EPA to revisit potential regulatory options for "pigging operations," which are maintenance activities performed on a daily, weekly, or monthly basis to prevent buildup of natural gas condensates in field gas gathering and transmission pipelines. These operations require a facility to vent and blowdown any pressure in the line prior to

⁷⁶ *Id.* § 404-1-903.e.(3).

⁷⁷ 19.15.28 NMAC.

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Id.*

removing the device known as a pipeline intervention gadget or “pig.” As demonstrated by regulations adopted by New Mexico, Colorado, and Pennsylvania, cost effective and technically feasible best practices exist to reduce emissions from pigging operations by reducing the flashing of hydrocarbons entrained in the liquids when the pigging unit is opened to remove the pig.

New Mexico has adopted a comprehensive emission reduction and LDAR strategy for pigging operations located within the property boundary of, and under common ownership or control with, well sites, tank batteries, gathering and boosting stations, natural gas processing plants, and transmission compressor stations.⁸¹ Colorado’s rule covers pigging units at natural gas compressor stations, natural gas processing plants, and “stand alone pigging stations” that are not located within the boundaries of other regulated facilities. Colorado relies upon a matrix of the size and pressure of the pigging pipeline to determine applicability of capture requirements. Colorado requires all operating pressure over 500 psig to employ capture or control techniques and also requires the capture of gas emitted during pigging. For smaller size and lower pressure pigging pipelines, Colorado determined that an emissions-based threshold was an appropriate approach. These thresholds are based on the location of the pigging unit, and depend on the type of location, such as whether the unit is located in a disproportionately impacted community (more stringent thresholds apply to sources in disproportionately impacted communities). In Pennsylvania, General Permit-5A regulates emissions from Unconventional Natural Gas Well Site Operations and Remote Pigging Stations, and requires quarterly LDAR for sources at unconventional natural gas well sites or remote pigging stations.⁸² Given these state regulatory programs, the States and Cities request that EPA consider similar requirements in future rulemakings.

K. The Super-Emitter Response Program Is an Important Compliance Assurance Tool

The States and Cities support EPA’s proposal to create a super-emitter response program, in recognition of the fact that a small proportion of sources contribute to more than half of total methane emissions.⁸³ These super-emitters are a significant source of methane and VOC emissions, and a single super-emitter emissions event can have substantial health and safety impacts for neighboring communities. EPA’s super-emitter response program will serve as an important backstop to the proposed rule’s performance standards and presumptive standards by identifying and promptly mitigating large emissions events that may not be detected by routine monitoring. The States and Cities agree with EPA’s conclusion that the super-emitter response program is legally justified either by treating super-emitter emission events as a separate source of emissions for which the super-emitter response program is the BSER, or by incorporating the

⁸¹ See 20.2.50.121 NMAC.

⁸² 25 Pa. Code Chapter 127, Subchapter H (General Plan Approvals and Operating Permits).

⁸³ Att. 31, Yuanlei Chen et al., *Quantifying Regional Methane Emissions in the New Mexico Permian Basin with a Comprehensive Aerial Survey*, 56 *Env. Sci. and Tech.* 4317 (2022), <https://doi.org/10.1021/acs.est.1c06458>.

super-emitter response program into the performance standards and presumptive standards for facilities as an additional compliance assurance measure or work practice standard.⁸⁴

EPA is soliciting comments on all aspects of the super-emitter response program. The States and Cities provide the comments below in order to maximize emissions reductions, enable community participation, promote transparency, and clarify program requirements.

1. EPA Should Maximize Emissions Reductions and Consider a Lower Threshold for Super-Emitters

The States and Cities suggest lowering the 100 kg/hr threshold for defining a super-emitter emissions event in order to identify and mitigate a wide range of emissions events. The States and Cities suggest a threshold of 70 kg/hr to ensure that the super-emitter threshold is within the range of what satellite monitoring can detect. While, as EPA notes, “no specific mass-based or production-based rates have been formally or consistently applied to the term,”⁸⁵ several studies have defined super-emitters with thresholds as low as 26 kg/hr.⁸⁶ One study applied a threshold of 26 kg/hr because it captured the highest-emitting one percent of sites, which accounted for nearly half of total site emissions in the production region.⁸⁷ A lower threshold would enable the super-emitter response program to reduce a larger quantity of methane and associated VOC emissions, while still ensuring that the program does not duplicate other requirements of the proposed rule.

As EPA notes, the super-emitter response program would largely require owners and operators to undertake actions already required by other standards and requirements of the proposed rule in order to mitigate super-emitter emissions events; the super-emitter response program would merely require that these actions be taken sooner, rather than waiting until they are detected by periodic monitoring.⁸⁸ Consequently, lowering the threshold for a super-emitter emissions event would not significantly increase costs to owners and operators, and would in fact allow facilities to recover more natural gas for sale rather than emitting the gas into the atmosphere.

⁸⁴ 87 Fed. Reg. at 74,752–54

⁸⁵ *Id.* at 74,749.

⁸⁶ Att. 32, Daniel Zavala-Araiza et al., *Super-emitters in Natural Gas Infrastructure are Caused by Abnormal Process Conditions*, 8 *Nature Commc’ns.* 14012 (2017), <https://doi.org/10.1038/ncomms14012>; Att. 33, Daniel H. Cusworth et al., *Intermittency of Large Methane Emitters in the Permian Basin*, 8 *Env. Sci. & Tech. Letters* 567 (2021), <https://doi.org/10.1021/acs.estlett.1c00173>.

⁸⁷ Zavala-Araiza et al., *supra* n.86.

⁸⁸ 87 Fed. Reg. at 74,753–54.

2. The Program Should Be Designed with Community Participation in Mind

EPA's proposed super-emitter response program is an important step to empower communities to help stem large emission events by providing a mechanism for communities and other third parties to detect and report emissions to operators. The States and Cities encourage EPA to ensure that the program is designed with community participation in mind, and that the benefits of the program will accrue to those communities that are disproportionately impacted by oil and gas facilities. EPA should ensure that the technologies that may be used to detect a super-emitter emissions event are not so restrictive that they prevent community groups from participating as third-party notifiers. For example, EPA should leverage publicly available satellite data in the super-emitter response program by permitting third parties who may not have access to remote-sensing technologies to submit notifications based on publicly available satellite monitoring data.

A third-party who chooses to become an EPA-approved notifier would do so on a voluntary and uncompensated basis. This means that private parties with access to remote-sensing technologies may have few incentives to actively participate as third-party notifiers. Communities living near oil and gas facilities, on the other hand, will have a vested interest in identifying super-emitter emissions events in order to protect their own health and safety, and such communities should be empowered to identify and report super-emitter emissions events by relying on reliable, publicly available data.

Finally, the States and Cities suggest that EPA establish a procedure for communities to report super-emitter emissions events that does not rely on the quantification of emissions. Many communities will not have access to the technologies required to quantify emissions on a kilograms-per-hour basis. The super-emitter response program should incorporate community experiences of super-emitter emissions events. Communities may experience odors, health effects, and other impacts of high levels of methane and VOC emissions, but may not have the resources or the ability to quantify the level of emissions. EPA should establish a pathway for community members to notify operators and the EPA of such health impacts. While notifications of odors and health impacts may not necessarily require an operator to take immediate corrective action, providing a mechanism for communities to report odor and health impacts would alert owners and operators of potential problems, and create a record of facilities that have frequent community impacts, allowing the EPA and states to identify facilities where compliance efforts should be focused.

3. The States and Cities Suggest Clarifications for EPA's Approval of Third-Party Notifiers and Revocation of Approval

The States and Cities support EPA's proposal to pre-approve third-party notifiers and to maintain a public list of approved third-party notifiers.⁸⁹ The States and Cities suggest that EPA

⁸⁹ *Id.* at 74,750.

further describe its proposed standards for third-party notifiers. For example, EPA could provide additional information and/or specific examples of what qualifies as an adequate “demonstration” of “the potential notifier’s technical expertise in the specific technologies and detection methodologies proposed.”⁹⁰ EPA could also provide application forms or templates to assist potential notifiers.

EPA is soliciting comment on whether it should establish a procedure for owners and operators to suggest that EPA reconsider the approval granted to a third-party notifier. If EPA decides to establish such a procedure, the States and Cities request that EPA provide more detail on the revocation procedure, to ensure that third-party notifiers are not denied the right to participate in the program without sufficient evidence, and to ensure that such a revocation procedure does not chill third party participation in the program.

First, EPA should provide a definition of “meaningful, demonstrable error.” As EPA notes, super-emitter emissions events can be intermittent, so an operator’s subsequent finding that there is no active super-emitter emissions event should not be considered evidence that the notifier demonstrably erred.⁹¹ Operators will generally have access to much more data about their own operations than third parties using remote-sensing technologies, so it is important that EPA does not permit operators to undermine the validity of third-party notifications on those grounds alone. The States and Cities suggest that an error should only be considered “meaningful” if it results in false positive (i.e., the identification of a super-emitter emissions event when no such event occurred).

Second, EPA should clarify the process and schedule for an operator to challenge the validity of a third-party notification. The States and Cities suggest that if an operator believes a notification contains meaningful demonstrable error (and consequently, that a super-emitter emissions event did not occur), the operator must submit a report to the EPA within 10 calendar days of receiving the notification, and simultaneously submit a copy to the third-party notifier. The third-party operator would then be provided an opportunity to respond, and EPA would ultimately make a determination as to whether the notification contained meaningful, demonstrable error. The States and Cities suggest that the third party notifier be given 10 calendar days to respond, and that EPA’s determination be issued 10 calendar days after that.

Third, the States and Cities request that EPA clarify that a third-party notifier’s approval will not be revoked unless EPA has found demonstrable error in three of the party’s notifications sent to the same site. EPA suggests that a third party’s approval would be revoked after an operator has received “more than three notices at the same site and from the same third party” which contain “meaningful, demonstrable errors,” but then later states that operators may seek revocation “should they establish that more than one notification contains demonstrable

⁹⁰ *Id.*

⁹¹ *Id.* (“Given the intermittency of super-emitter emissions events, the failure of the operator to find the source of the super-emitter emissions event upon subsequent inspection would not be proof, by itself, of demonstrable error on the part of the third-party notifier.”).

errors.”⁹² EPA should also clarify that operators must respond to a third-party’s notification under the super-emitter response program (by undertaking a root cause analysis and corrective actions) unless and until a third party’s approval has officially been revoked by EPA and they have been removed from EPA’s list of approved notifiers.

4. The Requirements for Owner and Operator Actions and Reports Should Be Clarified

The States and Cities support EPA’s suggested timelines for operator response to a super-emitter emissions event notification. Given the scale of super-emitter emissions events, it is imperative that they be addressed and mitigated promptly. EPA’s proposal would require owners and operators to initiate a root cause analysis within five calendar days after receiving a third-party notification, and to complete corrective actions within 10 days of notification.⁹³ The States and Cities support these timelines, and provide several suggestions to clarify the actions required by owners and operators, to ensure emissions events are promptly mitigated and promote transparency.

a. EPA Should Promote Transparency by Requiring a 10-Day Status Report from Owners and Operators

EPA proposes a series of steps that an owner or operator must undertake after receiving a notification of a super-emitter emissions event. First, the owner or operator must confirm that the reported emissions event is traceable to a source located on their site and investigate to confirm if a super-emitter emissions event is still ongoing.⁹⁴ Second, the owner or operator must initiate a root cause analysis to determine the cause of the super-emitter emissions event. Third, the owner or operator must take corrective actions to mitigate the emissions. Finally, the owner or operator must submit a written report to EPA documenting the data included in the notification, the source of the emissions, the corrective actions taken to mitigate the emissions, and the compliance status of the affected facility.⁹⁵

Under these procedures, the first time that that EPA would receive any update from the owner or operator would be 25 days after receipt of the notification, when the owner or operator submits its written report after completion of the corrective action, or 30 days after receipt of the notification, if the owner or operator determines that the corrective action would take more than 10 days to complete.⁹⁶ This means that EPA—and the public—would be in the dark for nearly one month after a super-emitter emissions event is discovered.

⁹² *Id.*

⁹³ *Id.* at 74,751.

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.* EPA proposes that owners and operators would complete corrective actions within 10 days after receiving a notification, and submit a written report 15 days after completing the corrective action.

The States and Cities suggest that, as an intermediate step, the owners and operators be required to submit a report within 10 calendar days of receiving the notification. This 10-day report could include the following information: (1) whether the reported emissions event is traceable to a source located on the owner or operator's site; (2) whether the emissions event is ongoing, and if not, when it stopped; (3) whether the root cause analysis has been completed, and if so, the results of the analysis; and (4) whether the corrective actions are complete, and if not, justification for why additional time is needed. Additionally, as discussed above, if the owner or operator believes the notification contains demonstrable error, they could submit a report demonstrating the error in lieu of the 10-day report. EPA should also specify that a root cause analysis and corrective action(s) are required even if an owner or operator determines that the emissions event is not ongoing, unless the owner or operator can demonstrate that a super-emitter emissions event did not occur.

b. EPA Should Clarify the Timelines for Owner and Operator Actions

Under EPA's proposal, the first action that an owner or operator is required to take after receiving a third-party notification is to confirm that the reported emissions event is traceable to a source located on their site and investigate to confirm if a super-emitter emissions event is still ongoing.⁹⁷ EPA does not propose a time frame for this first step. The States and Cities suggest that owners and operators should be required to complete this first step within five calendar days after receiving the notification. This initial step is essential, as it will confirm whether the emissions are in fact attributable to the owner or operator, and whether the emissions event is ongoing. This timeline would align with the requirement that the owner or operator initiate the root cause analysis within five calendar days.

EPA proposes that owners and operators be required to complete corrective actions within 10 calendar days of receiving a notification.⁹⁸ However, EPA also proposes an alternative option when corrective actions will take more than 10 days to complete, whereby an owner or operator can develop and submit a corrective action plan 30 days after receiving a notification, describing the corrective actions completed as of that date, additional measures proposed to reduce or eliminate emissions, and a schedule for completion of those measures.⁹⁹ The States and Cities are concerned that this exemption would swallow the rule, and suggest that EPA clarify that owners and operators are expected to complete corrective actions within 10 calendar days of the notification, and must provide justification if the corrective actions are not complete in that time frame. The States and Cities suggest that this justification take the form of a 10-day status report, as described above.

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ *Id.*

5. All Notifications and Submittals Should be Submitted to the State, in Addition to the EPA

The States and Cities agree with EPA that when a third-party notifier submits a notification to an owner or operator, the party should provide a complete copy to EPA and the appropriate state authority.¹⁰⁰ The States and Cities believe that all subsequent reports and submittals should also be copied to the state. This will allow states to monitor compliance efforts under the super-emitter response program, and will provide valuable information that states can use in their own compliance and enforcement efforts. The States and Cities also suggest that EPA clarify that EPA will enforce the requirements of the super-emitter program. While reports submitted pursuant to the program can assist state agencies in enforcement of state regulations, enforcement of the requirements of the super-emitter response program itself should be centralized with EPA.

III. COMMENTS ON EPA’S IRA EQUIVALENCE DETERMINATION

EPA is requesting comment on how to interpret certain provisions of section 136 of the Clean Air Act added by the Inflation Reduction Act (IRA). Under section 136, certain affected facilities must pay a charge on methane emissions that exceed an applicable threshold unless and until certain conditions set forth in section 136(f) are met. Specifically, section 136(f)(6)(A) provides that charges shall not be imposed on an applicable facility that “is subject to and in compliance with” methane emission requirements pursuant to Clean Air Act sections 111(b) and 111(d) upon a determination by the EPA Administrator that: (i) such standards and plans “have been approved and are in effect in all States with respect to the applicable facilities”; and (ii) “compliance with the requirements described in clause (i) will result in equivalent or greater emissions reductions as would be achieved by” EPA’s November 2021 proposed rule.

EPA seeks comment on the proper interpretation of clause (ii) in section 136(f)(6)(A) with respect to how it should conduct the required equivalency evaluation and what factors should influence how the EPA conducts the comparison.¹⁰¹ With regard to temporal elements of the equivalency evaluation, the States and Cities agree with EPA that the appropriate comparison should be based on when the NSPS or state plan requirements are fully implemented by the sources. Such an interpretation is consistent with the prefatory language in section 136(f)(6)(A), which provides that a methane charge will not be imposed only when an affected facility is “subject to and in compliance with” methane standards under section 111(b) or (d). It is also consistent with clause (i), which requires the standards and plans to have been approved and be in effect before the methane charge will no longer be imposed.

With respect to geographical elements of the evaluation, EPA requests comments on whether it should consider making a national evaluation of equivalency or whether it should consider a state-by-state evaluation instead. The States and Cities believe that the answer to this

¹⁰⁰ *Id.* at 74,750.

¹⁰¹ *Id.* at 74,720–22.

question depends on EPA's interpretation of the statutory language in Clean Air Act section 136(f)(6)(A)(i), which provides that, before an applicable facility can no longer be subject to the charge, the Administrator must determine that emission standards "have been approved and are in effect in all States with respect to the applicable facilities." It would be reasonable for EPA to interpret clause (ii) as allowing a national evaluation of equivalency only if EPA interprets clause (i) to mean that no affected facility in any state can avoid the charge until all states have approved state plans that are in effect. Only when all states had approved state plans in effect would EPA be able to evaluate equivalency on a national level. If, however, EPA interprets clause (i) to allow an applicable facility to avoid the change if a state plan is in effect in any state in which the applicable facility operates, then correspondingly EPA should interpret clause (ii) to require a state-by-state equivalency evaluation. Otherwise, affected facilities in a state that is not achieving emission reductions equivalent to EPA's November 2021 proposal would unfairly benefit from greater emission reductions required under more stringent requirements in another state.

EPA requests comments on whether the EPA should make the evaluation and the IRA equivalency determination in advance of states having submitted fully approvable plans or instead make the evaluation and IRA equivalency determination at a later date once the standards of performance pursuant to Clean Air Act section 111(b) and 111(d) are fully promulgated (e.g., the EPA has approved state plans and/or developed a Federal Plan). Consistent with the language in clause (i) of section 136(f)(6)(A), the States and Cities believe that EPA should make the evaluation only once the standards and state plans "have been approved and are in effect."

Finally, EPA seeks comment on how a state's invocation of remaining useful life and other factors to apply a less stringent standard to a designated facility might affect the IRA equivalency determination. Section 136 does not by its terms compel any consideration of remaining useful life and other factors in making an IRA equivalency determination. Therefore, the States and Cities believe that it would be appropriate for EPA to conduct an equivalency evaluation with respect to an applicable facility without consideration of the application of these factors.

IV. PROPOSED STATE PLAN REQUIREMENTS

This section provides the undersigned's comments on state plan issues, including equivalency, consideration of site-specific factors, community engagement, timing, and compliance.

A. Background

In the 2021 Proposal, EPA provided a general overview of the state planning process triggered by EPA's finalization of an emissions guideline for existing oil and gas facilities and included detailed requirements for state plan submittals. The States and Cities commented on numerous state plan issues, including equivalency, consideration of site-specific factors, community engagement, timing, and compliance. Among other comments, we urged EPA to: (1)

provide states with flexibility in developing their plans provided that the plans would achieve equivalent or greater emission reductions, (2) require engagement with impacted communities while providing states with additional guidance on meeting the meaningful engagement requirement, and (3) setting more expeditious deadlines for facilities that will be complying through LDAR.

In the Supplemental Proposal, EPA has proposed some revisions to the initial proposed rule and to include additional requirements to provide states with information needed for state plan development. In the discussion below, the States and Cities provide their comments on the following aspects of the Supplemental Proposal, which correspond to the organization of these topics in the preamble: state plan equivalency; remaining useful life and other factors; providing measures that implement and enforce standards of performance; emission inventories; meaningful engagement; components of state plan submission; and timing of state plan submissions and compliance times.

B. State Plan Equivalency

As set forth in our comments on the initial proposed rule, the States and Cities favor flexibility for states in designing their section 111(d) plans provided that states can demonstrate equivalent or better emission reductions from oil and gas facilities regulated by EPA's emissions guideline. In the section of the Supplemental Proposal titled "Leveraging State Programs," EPA discusses how states can achieve approval under section 111(d) for state plans that may be different in certain respects from the emissions guideline. Here, the States and Cities provide their comments on EPA's reconsideration of the prior Administration's interpretation limiting state compliance choices. With respect to other state plan equivalency issues, we refer EPA to comments submitted by our respective state agencies.

EPA proposes to interpret section 111(d) to authorize states to establish standards of performance for their sources that, in the aggregate, would be equivalent to the presumptive standards. EPA explains that this approach would necessitate reversing its legal interpretation in the Affordable Clean Energy (ACE) rule that "each state establish for each source a standard of performance that reduces that source's emissions, and to preclude the type of compliance flexibility that EPA is now proposing."¹⁰² On that basis, EPA precluded the use of emissions averaging or trading to comply with the 2019 Affordable Clean Energy (ACE) Rule. The D.C. Circuit cited this limit on state plan flexibility as one of the reasons why the ACE rule was unlawful.¹⁰³ Although the Supreme Court reversed the D.C. Circuit, holding that the ACE's rule's repeal of the Clean Power Plan was lawful under the major questions doctrine, the Supreme Court did not rule on the statutory interpretation EPA advanced in favor of the ACE rule, including the limit on compliance flexibility.¹⁰⁴

¹⁰² 87 Fed. Reg. at 74,812.

¹⁰³ See *American Lung Ass'n v. EPA*, 985 F.3d 914, 957–58 (D.C. Cir. 2021).

¹⁰⁴ See *West Virginia v. EPA*, 142 S. Ct. 2587, 2615–16 (2022).

In the Supplemental Proposal, EPA explains that it has changed its view set forth in the ACE rule that constrained compliance flexibility.¹⁰⁵ As EPA notes, there is no statutory language in section 111 that limits the flexibility of states in determining which measures will best achieve compliance with the emissions guideline. To the contrary, that flexibility is consistent with section 111’s language, which focuses on the aim of achieving sufficient pollution reduction, not the manner in which that reduction is accomplished. Specifically, section 111(a)(1) provides that state plans are to include standards of performance for regulated facilities that “reflect[] the degree of emission limitation achievable through application of the best system of emission reduction.”¹⁰⁶ In addition, section 116 of the Clean Air Act preserves the “right of any State . . . to adopt or enforce . . . any standard or limitation respecting emissions of air pollutants” as long as such standard or limitation is at least as stringent as one “in effect under an applicable implementation plan or under section 7411” of the statute.¹⁰⁷ Although there may be instances in which emissions averaging or trading potentially could run afoul of this structure (e.g., by enabling the creation of pollution “hot spots”), such a concern would not arise in the context of emissions guidelines that require limiting GHG emissions, such as carbon dioxide or methane.¹⁰⁸ Therefore, the States and Cities support EPA’s change in interpretation as justified in this rulemaking.¹⁰⁹

C. Remaining Useful Life and Other Factors

In establishing standards of performance for existing facilities, states are permitted under the statute to take into account the remaining useful life of a specific facility as well as other factors.¹¹⁰ And in promulgating a federal plan for states that did not submit plans or had plan submittals disapproved, EPA is required to take remaining useful life and other factors into account in establishing standards of performance for specific facilities.¹¹¹ In our comments on the initial proposal, the States and Cities suggested that EPA provide guidance on how the remaining useful life criterion should be applied to the different types of oil and gas facilities.

In the Supplemental Proposal, EPA proposes several additional requirements to guide states that decide to take into account remaining useful life and other factors in establishing standards of performance for oil and gas facilities. The agency’s overall approach and rationale are discussed in subsection 1 below, while the specific proposed revisions are discussed in subsection 2. Finally, subsection 3 sets forth our comments on EPA’s treatment of state plans

¹⁰⁵ 87 Fed. Reg. at 74,812.

¹⁰⁶ 42 U.S.C. § 7411(a)(1).

¹⁰⁷ *Id.* § 7416.

¹⁰⁸ *See Amer. Lung Ass’n*, 985 F.3d at 958.

¹⁰⁹ As EPA notes, it is also proposing to change the ACE rule interpretation in the context of its section 111(d) implementing regulations, which establish the default procedures and requirements for all state plans under section 111(d). 87 Fed. Reg. at 74,813. Many of the States and Cities intend to address this topic in their comments on that proposed rule as well.

¹¹⁰ 42 U.S.C. § 7411(d)(1).

¹¹¹ *Id.* § 7411(d)(2).

that establish more stringent standards of performance than required under the emissions guideline.

1. Overview of EPA Approach and Rationale

Overall, the proposed changes to the remaining useful life and other factors provision stem from EPA's concerns that the current section 111(d) implementing regulations do not provide clear parameters for states on how and when they may establish a less stringent standard for a particular facility than the presumptive level in the emissions guideline.¹¹² Specifically, without a clear analytical framework for applying remaining useful life and other factors, the current provision could be used by states to set less stringent standards that would effectively undermine the overall presumptive level of stringency envisioned by EPA's BSER determination.¹¹³ Furthermore, EPA's evaluation of whether each state plan is "satisfactory," including application of remaining useful life and other factors, must be generally consistent from one plan to another. Accordingly, if states do not have clear parameters on how to consider these factors, they face the risk of submitting plans that EPA may not be able to consistently approve as satisfactory.

To address these concerns about the current regulations, EPA's proposed revisions would tether the remaining useful life and other factors analysis to the statutory factors EPA considered in its BSER determination.¹¹⁴ This change would enable states to adjudge whether the application of the BSER factors to a particular designated facility is fundamentally different than the EPA determinations made to support the BSER and presumptive level of stringency in the emissions guideline. Under this approach, the remaining useful life and other factors generally would be applicable only for a subset of sources for which implementing the BSER would impose unreasonable costs or not be feasible due to unusual circumstances that are not applicable to the broader source category that EPA considered when determining the BSER. EPA finds further legal support for this approach in variance procedures under other environmental statutes, such as the fundamentally different factors approach under the Clean Water Act.¹¹⁵

The States and Cities agree that changes to help guide states in applying remaining useful life and other factors would improve consistency in EPA evaluations, promote equity among states, and further section 111's pollution reduction aims. We offer comments on the specific aspects of EPA's proposed changes below.

¹¹² 87 Fed. Reg. at 74,817–18. In parallel, as referenced in the supplemental proposed rule, EPA has proposed changes to the remaining useful life and other factors provisions of the implementing regulations. *See* 87 Fed. Reg. at 79,196–206. As noted above, many of the States and Cities will also be submitting comments on that proposed rule.

¹¹³ 87 Fed. Reg. at 74,818.

¹¹⁴ *Id.*

¹¹⁵ *Id.* at 74,819.

2. Specific Provisions

Consistent with the agency's proposed changes to its section 111(d) implementing regulations, EPA proposes in its emissions guideline for oil and gas facilities to revise the way in which states apply remaining useful life and other factors in establishing standards of performance. Those changes include or relate to: threshold requirements, source-specific BSER, contingency requirements, capital expenditures and retirement dates, and consideration of impacts on local communities.

- ***Threshold requirements for considering remaining useful life and other factors.*** The current regulations contain certain threshold criteria that must be triggered for a state to establish a less stringent standard based on the remaining useful life of a facility (or other factors). While retaining the threshold requirements in the current regulations that refer to an unreasonable cost of control resulting from plant age, location, or basic process design or physical impossibility of installing necessary control equipment, EPA proposes to modify the current “catchall” third criterion to apply if a state demonstrates that there are other factors specific to the facility (or class of facilities) “that are fundamentally different from the factors considered in the establishment of the emission guidelines.”¹¹⁶ For example, if the state could demonstrate that the cost-per-ton of pollution reduction at a particular facility would be significantly higher than estimated by EPA in its BSER analysis, that facility may be evaluated for a less stringent standard. States would not be permitted to invoke the remaining useful life and other factors provision based on minor, non-fundamental differences.

The States and Cities support these proposed revisions to the threshold requirements for applying remaining useful life and other factors. The “fundamentally different” language adds clarification on applying the other factors and is consistent with variance provisions in the Clean Water Act and other environmental laws.

- ***Source-specific BSER.*** EPA is proposing several requirements that would apply for calculation of a standard of performance that incorporates remaining useful life and other factors, including a source-specific BSER for the designated facility.¹¹⁷ The state plan submission would have to identify all control technologies available for the source and evaluate the BSER factors (cost, non-air quality health and environmental impacts, energy requirements, amount of reductions, and advancement of technology) for each technology. The standard would have to be in the same form (e.g., numerical rate-based emission standard) as the presumptive standard.

The States and Cities support the source-specific BSER requirement. The BSER factors encompass all the information relevant to a state's determination of an appropriate

¹¹⁶ *Id.* at 74,819.

¹¹⁷ *Id.* at 74,821.

emission standard for a facility to which the remaining useful life or other factors could properly apply.

- **Contingency requirements.** Where a state seeks to rely on a designated facility’s operational conditions—such as the source’s remaining useful life or restricted capacity—as a basis for setting a less stringent standard, EPA proposes to require enforceable conditions for that facility in the state plan to address the scenario where a source’s operations change.¹¹⁸ This requirement would address operating conditions such as operation times, operational frequency, process temperature or pressure, and other conditions that are subject to the discretion and control of the designated facility.¹¹⁹

The States and Cities support imposing contingency requirements in instances where a less stringent standard is based on an operational constraint within a facility’s control. As EPA notes, in the absence of an enforceable requirement, a subsequent (unforeseen) change in a facility’s operations could result in foregone emission reductions and undermine the level of stringency in the emissions guideline.¹²⁰

- **Capital expenditures and retirement provisions.** EPA is proposing certain requirements regarding capital expenditures and retirement dates in scenarios where a state seeks to apply a less stringent standard on grounds that a designated facility will retire in the near future. First, the state plan must identify the source’s retirement date and explain why this date qualifies for imposition of a less stringent standard, i.e., why the cost of control is unreasonable in relation to the retirement date.¹²¹ A state would have to demonstrate unreasonable cost of control for each of the identified compliance options, not just one.¹²² Second, EPA is proposing that the only cost factor that should be considered in this emissions guideline for oil and gas facilities is whether there is a significant capital investment required to design, purchase, and install equipment.¹²³ EPA reasons that a BSER based on compliance measures that do not require such upfront capital expenditures would have been demonstrated to have reasonable costs in EPA’s analysis of the presumptive standards. Because controlling methane pollution would not require a significant capital investment for certain types of designated oil and gas facilities, under EPA’s proposed approach a less stringent standard based on unreasonable cost would be available for the following types of designated facilities only: oil wells with associated gas, storage vessels, pneumatic controllers, and pneumatic pumps. Retiring facilities (except those retiring in six months or less) that qualify under the proposed revisions

¹¹⁸ *Id.* at 74,821–22.

¹¹⁹ *Id.* at 74,822.

¹²⁰ *Id.* at 74,821.

¹²¹ *Id.* at 74,822.

¹²² *Id.* at 74,823.

¹²³ *Id.*

would also need to have their retirement date included as a federally enforceable requirement and comply with a reasonably achievable source-specific BSER.

The States and Cities support the proposed requirements concerning retirement dates and capital expenditures. As set forth in our comment on the initial proposal, the inclusion of presumptive standards for many types of facilities in the emissions guideline likely lessens the instances in which a performance standard in a state plan would need to be relaxed compared to the guideline to account for a facility's remaining useful life or other site-specific factors. And the control of fugitive emissions from well sites and compressor stations through use of LDAR, for example, could be done throughout the remaining useful life of these sources without the need to install any retrofit technology. We suggest, however, that EPA should more expressly explain why it is proposing to limit the unreasonable cost criterion to the four types of oil and gas facilities cited above.

- ***Consideration of impacted communities.*** For situations in which a state seeks to consider a facility's remaining useful life in establishing a performance standard less stringent than called for in the emissions guideline, EPA proposes to require that the state consider the potential health and environmental impacts on communities most affected by and vulnerable to the impacts from the facility.¹²⁴ These communities would be identified by the state as pertinent stakeholders under the proposed meaningful engagement requirements. EPA explains that it has authority under section 111(d)'s "other factors" language and section 111(d)(2)'s general requirement that state plans be "satisfactory" to impose this requirement.

The States and Cities strongly support requiring states to consider impacts of a less stringent standard on communities located near the facility. Congress's inclusion of the "other factors" language indicates that additional factors other than remaining useful life could be relevant to determining the appropriate performance standard for individual facilities. Also, section 111(d)'s language directing that EPA "permit" states to consider remaining useful life indicates that the agency has some discretion regarding how states can apply remaining useful life, among other factors, in establishing performance standards. Given that the purpose of regulating stationary source pollution under section 111 is to address emissions that endanger public health and welfare, requiring that states take into account how excess pollution (above the level reflected in application of the BSER) may impact the health and welfare of local communities is consistent with the statutory design. Finally, EPA's oversight authority in ensuring that state plans do a "satisfactory" job of adopting standards that reflect the degree of emission reduction from applying the BSER provides additional support for requiring that potential harms from exceeding the emissions guideline be adequately considered.

¹²⁴ *Id.* at 74,824.

3. Authority to Apply More Stringent Standards as Part of State Plan

In the initial proposed rule, EPA took the position that it must approve section 111(d) state plans that are more stringent than the emissions guideline if the plan is otherwise in compliance with all applicable requirements.¹²⁵ In our comments, we agreed with EPA's view of the relevant statutory sections and its conclusion that EPA must approve a more stringent state plan that meets the criteria set forth in the emissions guidelines.

Similarly, in the Supplemental Proposal, EPA proposes that under section 111(d), consistent with authority reserved to states pursuant to section 116 of the Clean Air Act, states may consider other factors to include more stringent standards of performance in their state plans.¹²⁶ In reconsidering its previous interpretation in the ACE rule, EPA proposes to interpret that the statute authorizes EPA to permit states to consider other factors that justify application of a more stringent standard to a particular source than required by the emissions guideline.¹²⁷

The States and Cities support EPA's interpretation in the Supplemental Proposal. As EPA explains, there is nothing in the language of section 111(d) suggesting that EPA has the authority to preclude states from determining that it is appropriate to regulate certain sources within their jurisdiction more strictly than otherwise required by federal requirements.¹²⁸ And the inclusion of the "other factors" language in section 111(d) demonstrates that Congress envisioned that states could consider additional circumstances—such as effects on local communities—in determining standards of performance for specific facilities.

D. Providing Measures That Implement and Enforce Such Standards

EPA is proposing to supplement the initial proposal by clarifying that states would be required to maintain the same monitoring, reporting, and recordkeeping requirements, or equivalent requirements, as described in the emissions guideline. The States and Cities support requiring that state plans maintain the same or equivalent monitoring, reporting, and recordkeeping requirements as set forth in the emissions guideline to ensure that facilities comply with their standards of performance.

E. Emissions Inventories

In the initial proposal, EPA sought comment on whether to supersede the requirement in the current section 111(d) implementing regulations that state plans contain emissions data on a source-specific or unit-specific level and replace that requirement with a different emissions

¹²⁵ 86 Fed. Reg. at 63,251–52 (citing section 116 of the Clean Air Act and *Union Elec. Co. v. EPA*, 427 U.S. 246 (1976)).

¹²⁶ *Id.* at 74,825.

¹²⁷ EPA has proposed a similar interpretation in the context of its proposed section 111(d) implementing regulations. *See* 87 Fed. Reg. at 79,204.

¹²⁸ 87 Fed. Reg. at 74,826.

inventory requirement that seeks to represent the same general type of information but allows states to utilize existing inventories and emissions data, such as EPA’s Greenhouse Gas Reporting Program.¹²⁹ In our comments, the States and Cities suggested that EPA allow states to utilize existing inventories and emissions data—even if that data might not fully align with the designated facilities in the emissions guidelines—provided that the data submitted by states is rigorous and comprehensive enough to accurately capture emissions from the oil and natural gas industry.

In the Supplemental Proposal, based on comments received on the initial proposal from several states (including Colorado), EPA proposes to supersede the emissions inventory requirements of 40 CFR § 60.25a(a) in this emissions guideline, so that state plans are not required to include an inventory and emissions data.¹³⁰ Under this approach, states would be allowed to leverage existing emission inventories and emissions data, even if that data may not be fully aligned with the designated facilities in the emissions guideline.

As discussed in our comments on the initial proposal, the States and Cities support this aspect of the guidelines.

F. Meaningful Engagement

In its initial proposal, EPA proposed to require states to perform early outreach and meaningful engagement with overburdened and underserved communities during the development process of state plans to comply with the emissions guideline for oil and gas facilities.¹³¹ In the States’ and Cities’ comments, we agreed on the importance of meaningful engagement of all stakeholders in the development of state plans, and with EPA’s efforts to ensure that these communities play an important role in the process, including through setting forth some minimum criteria for participation. We urged EPA to take existing state practices into account in light of the fact that some states have developed robust environmental justice programs that include public participation. We also asked EPA to provide some additional information on its proposed meaningful engagement criteria.

EPA now proposes to require that states provide, in their plan submittals, a list of the pertinent stakeholders and a summary of engagement conducted and of the stakeholder input provided.¹³² EPA explains that given the public health and welfare objectives of section 111(d) in regulating specific existing sources, it is reasonable to require meaningful engagement as part of the state plan development participation process. In its parallel proposed rule to revise the section 111(d) implementing regulations, EPA has included definitions for “meaningful engagement” and “pertinent stakeholders.” Meaningful engagement would include:

¹²⁹ 86 Fed. Reg. at 63,251.

¹³⁰ 87 Fed. Reg. at 74,827.

¹³¹ 86 Fed. Reg. at 63,254.

¹³² 87 Fed. Reg. at 74,829.

the timely engagement with pertinent stakeholder representation in the plan development or plan revision process. Such engagement must not be disproportionate in favor of certain stakeholders. It must include the development of public participation strategies to overcome linguistic, cultural, institutional, geographic, and other barriers to participation to assure pertinent stakeholder representation, recognizing that diverse constituencies may be present within any particular stakeholder community. It must include early outreach, sharing information, and soliciting input on the state plan.¹³³

Pertinent stakeholders would “include, but are not limited to, industry, small businesses, and communities most affected by and/or vulnerable to the impacts of the plan or plan revision.”¹³⁴ The agency is also soliciting comments on examples or models of meaningful engagement by states, including best practices and challenges.

As discussed in our comments on the initial proposal, the States and Cities support making meaningful engagement with impacted communities and other stakeholders a state plan requirement. Such a requirement is consistent with the statutory design. Section 111(d) provides that EPA regulations are to follow a procedure similar to the development of state plans under section 110 of the Clean Air Act, which expressly calls for “reasonable notice and public hearings.”¹³⁵ The proposed meaningful engagement and pertinent stakeholder definitions and requirements would help to implement the reasonable notice and public hearing language set forth in the statute by adding parameters designed to ensure that the input of affected communities and businesses is taken into account. In recent comments several of the States and Cities submitted to the Internal Revenue Service, we offered some thoughts on approaches to facilitate the participation of disadvantaged communities, such as expanding opportunities for participation, providing multilingual services, and targeted outreach.¹³⁶ In addition, for examples of meaningful engagement that our States and Cities already use, we refer EPA to comments submitted by our respective state agencies on the initial proposal and on this supplemental one.

G. Timing of State Plan Submissions and Compliance Times

With respect to the timing for submitting state plans, EPA did not initially propose a specific deadline, but instead solicited comment on a reasonable deadline in light of facts and circumstances that are unique to the oil and natural gas industry.¹³⁷ In our comments, the States and Cities suggested a timeline in which state plans would be due within 12 months after EPA’s

¹³³ 87 Fed. Reg. at 79,191 (proposed 40 C.F.R. § 60.21a(k)).

¹³⁴ *Id.* (proposed 40 C.F.R. § 60.21a(l)).

¹³⁵ 42 U.S.C. §§ 7411(d)(1), 7410(a)(1).

¹³⁶ *See* Att. 34, Comments of the Massachusetts Attorney General, et al. on Requests for Comments on Implementation Guidance for the Inflation Reduction Act (Dec. 1, 2022) at 7, available at <https://www.mass.gov/doc/multistate-inflation-reduction-act-comments/download>.

¹³⁷ 86 Fed. Reg. at 63,255.

promulgation of the final guideline (with the ability to seek additional time depending on a state's specific statutory requirements for creation and adoption of state plans).

In the Supplemental Proposal, EPA is proposing that states be required to submit their plans within 18 months after publication of the final emissions guideline.¹³⁸ This proposed period is a bit longer than the default 15-month deadline in the proposed rule to revise section 111(d) implementing guidelines. EPA argues that 18 months is reasonable here based on its evaluation of the need to balance the complexity of the oil and gas emissions guideline and the need to mitigate climate change and protect human health. EPA also undertook an analysis of the time required for states to submit previous plans to regulate existing facilities pursuant to section 111(d) and section 129 emission guidelines and found that state plans typically took longer than 12 months to submit.¹³⁹ On the other hand, EPA concluded that a 36-month time period (the deadline included in the ACE rule, vacated by the D.C. Circuit, and not subsequently addressed by the Supreme Court) was unnecessary for states to develop their plans to regulate existing oil and gas facilities and also unjustified in light of the fact that rapid methane reductions are critical to reducing the near-term disruption of the climate system.¹⁴⁰

Although we suggested a 12-month time frame for state plan submittal in our comments on the initial proposal, in light of EPA's additional analysis in the Supplemental Proposal summarized above, the States and Cities recognize that a longer period may be needed. We urge EPA to establish the shortest time frame necessary to accommodate the administrative procedures of the states charged with implementing the guideline.

With respect to source compliance, EPA initially proposed that state plans include schedules requiring compliance with the standards of performance as expeditiously as practicable, but no later than two years following the state plan submittal deadline.¹⁴¹ The States and Cities advocated for earlier compliance deadlines for designated facilities for which EPA has proposed LDAR as the presumptive non-numerical standard (e.g., for well sites, compressor stations, and gas plants). Specifically, we urged that EPA should require in its final rule that the compliance deadline for presumptive standards based on LDAR be no longer than one year.

Now, EPA is proposing that state plans impose a compliance timeline on designated facilities to require final compliance as expeditiously as practicable, but no later than three years following the state plan submittal deadline.¹⁴² EPA believes that establishing a uniform three-year compliance deadline would simplify compliance and ease the burden on large and small business owners and operators that need to develop and implement approaches to meet their compliance obligations for a large number of designated facilities.

¹³⁸ 87 Fed. Reg. at 74,831.

¹³⁹ *Id.* at 74,832.

¹⁴⁰ *Id.* at 74,833–34.

¹⁴¹ 86 Fed. Reg. at 63,256.

¹⁴² 87 Fed. Reg. at 74,836.

As discussed in our comments on the initial proposal, even a two-year deadline is excessive for facilities that need only adopt LDAR practices to comply. New York’s regulations, for example, were finalized in March 2022 and required compliance with LDAR by January 1, 2023.¹⁴³ EPA has failed to justify why such a lengthy compliance period would be necessary for these types of facilities. Although the agency cites to possible time delays for pneumatic controller compliance stemming from an anticipated high demand for specialized control equipment,¹⁴⁴ EPA has not explained why a two-year (much less a three-year) compliance period for LDAR is necessary. In addition, although EPA cites to the critical need to promptly reduce methane emissions when discussing the appropriate deadline for state plan submittals, the agency failed to consider this important factor in the context of the appropriate deadline for facility compliance. The desire to simplify compliance and ease the burden on industry operators is not a valid basis for this time frame under the statute and not warranted by these circumstances.

V. EPA’S COST-BENEFIT ANALYSIS SUPPORTS THE SUPPLEMENTAL PROPOSAL

EPA expects that the net economic benefits of the 2021 Proposal and the Supplemental Proposal will outweigh the costs, taking into consideration the avoided social costs imposed by GHG emissions and the industry’s ability to sell the natural gas that will be captured by the new controls. The undersigned support EPA’s use of the interim Social Cost of Methane (SCM) established in the Interagency Working Group on Social Cost of Greenhouse Gases’ (IWG) recently published Technical Support Document (2021 TSD)¹⁴⁵ in evaluating the costs and benefits of the Supplemental Proposal.¹⁴⁶ Although the IWG is currently in the process of reviewing comments on how to improve and update the social cost of greenhouse gases (SC-GHG), including the SCM,¹⁴⁷ for now the interim value for SCM established in the 2021 TSD represents the best available estimate of the long-term cost to society of increasing methane emissions now.¹⁴⁸ Moreover, the SC-GHG does not dictate the outcome of any specific agency rulemaking, including this one. Here, EPA considers the SCM in evaluating the costs and benefits of the Supplemental Proposal,¹⁴⁹ but nowhere suggests that those values were used to determine the BSER for the oil and natural gas sector, or that they will be determinative of its

¹⁴³ See 6 NYCRR § 203-7.

¹⁴⁴ 87 Fed. Reg. at 74,835.

¹⁴⁵ EPA-HQ-OAR-2021-0317-0005, Interagency Working Group on Social Cost of Greenhouse Gases, *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimate Under Executive Order 13,990* (Feb. 2021) (hereinafter, “2021 TSD”).

¹⁴⁶ EPA-HQ-OAR-2021-0317-1566, Regulatory Impact Analysis of the Supplemental Proposal for the Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review (hereinafter, “RIA”) at 65.

¹⁴⁷ See *Notice of Availability and Request for Comment on “Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates Under Executive Order 13,990,”* 86 Fed. Reg. 24,669, at 24,670 (May 7, 2021).

¹⁴⁸ See RIA, *supra* n.146, at 65–66.

¹⁴⁹ RIA at 3.2.

ultimate decision.¹⁵⁰ The SCM is simply one additional tool for monetizing some of the benefits of a regulation that would otherwise be non-monetized, not a thumb on the scale of agency cost-benefit analyses

A. EPA’s Cost-Benefit Analysis Appropriately Relies on the Interim Value for the Social Cost of Methane Established by the Interagency Working Group, Which Represents the Best Available Science for Assigning a Monetary Value to the Impact of Greenhouse Gases

As EPA appropriately describes, the interim value for the SCM in the 2021 TSD is based on the SCM established in a 2016 TSD, which was reached following a comprehensive, multi-year process of peer review and public comment. The IWG comprises economic and scientific experts from across the federal government.¹⁵¹ Estimates of the SCM are based on the best available, peer-reviewed literature and economic models.¹⁵² These estimates were developed using the three leading climate models that link greenhouse gas emissions to physical changes and economic damages; each model has been published and extensively reviewed in the scientific literature.¹⁵³ The IWG has thoroughly and transparently discussed the models, inputs, and assumptions used, and has acknowledged the uncertainties of climate science.¹⁵⁴ The U.S. Government Accountability Office reviewed the IWG’s process and concluded that the IWG:

(1) Used consensus-based decision making; (2) relied largely on existing academic literature and models, including technical assistance from outside resources; and (3) took steps to disclose limitations and incorporate new information by considering public comments and revising the estimates as updated research became available.¹⁵⁵

Courts have also accepted, and at times required, the use of the SC-GHG in valuing climate-change related impacts. The Seventh Circuit upheld the Department of Energy’s (DOE) use of the SC-GHG in evaluating the benefits of its refrigeration efficiency standards.¹⁵⁶ The Court concluded that DOE’s use of the SC-GHG to conduct an assessment of the rule’s environmental benefits was authorized by the Energy Policy and Conservation Act (EPCA),¹⁵⁷

¹⁵⁰ 87 Fed. Reg. at 74,843.

¹⁵¹ 2021 TSD, *supra* n.145, at 1, 10–12.

¹⁵² *Id.* at 10–12.

¹⁵³ *Id.*

¹⁵⁴ *Id.* at 26–32.

¹⁵⁵ Att. 35, U.S. Gov’t Accountability Off., *Regulatory Impact Analysis: Development of Social Cost of Carbon Estimates*, at 8 (July 2014), available at <https://www.gao.gov/assets/gao-14-663.pdf>.

¹⁵⁶ *Zero Zone, Inc. v. U.S. Dep’t of Energy*, 832 F.3d 654, 678-80 (7th Cir. 2016).

¹⁵⁷ 49 U.S.C. §§ 32901–19

which provided for consideration of “the need for national energy . . . conservation.”¹⁵⁸ The Court also turned aside a variety of objections to the development and reliability of the SC-GHG, concluding that DOE had appropriately responded to those objections and determined that the SC-GHG could be used to assess environmental benefits.¹⁵⁹

Moreover, courts have rejected agency action for failure to consider the SC-GHG. For example, in *Center for Biological Diversity v. National Highway Traffic Safety Administration*, the Ninth Circuit held that the National Highway Traffic Safety Administration (NHTSA) had acted arbitrarily and capriciously when it established vehicle efficiency standards under EPCA, without monetizing the benefits of greenhouse gas emissions reductions.¹⁶⁰ The Court rejected NHTSA’s argument that the value of reducing greenhouse gas emissions was “too uncertain” to quantify.¹⁶¹ The Court stressed that “while the record shows that there is a range of values, the value of carbon emissions reduction is certainly not zero.”¹⁶² Moreover, the Court observed that NHTSA had monetized the value of *other* uncertain benefits, including the reduction of criteria pollutants, crashes, and increases in energy security.¹⁶³

Other courts have held that, if an agency quantifies the economic benefits of an action that could increase GHGs, it must also employ the SC-GHG to quantify the costs of the increased emissions.¹⁶⁴ These court decisions recognize that the SC-GHG is a reliable and scientifically validated approach to monetizing climate change impacts that should be incorporated into federal decision-making. It is therefore appropriate for EPA to employ the SCM in evaluating the benefits of the proposed rule.

B. EPA’s Cost-Benefit Analysis Appropriately Relies on a Social Cost of Methane that Takes Into Account a Global Perspective on Climate Change Impacts

The undersigned agree with EPA’s recognition that the SCM must take into account global, not just domestic, emissions.¹⁶⁵ As far back as 2008, EPA recognized that:

GHGs are global pollutants. Economic principles suggest that the full costs to society of emissions should be considered in order to identify the policy that maximizes the net benefits to society, i.e.,

¹⁵⁸ *Zero Zone, Inc.*, 832 F.3d at 677.

¹⁵⁹ *Id.*

¹⁶⁰ 538 F.3d 1172, 1198–1203 (9th Cir. 2008).

¹⁶¹ *Id.* at 1200.

¹⁶² *Id.*

¹⁶³ *Id.* at 1202.

¹⁶⁴ See *Montana Env’tl Info. Ctr. v. U.S. Office of Surface Mining*, 274 F.Supp.3d 1074, 1095–99 (D. Mt. 2017); *High County Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp.3d 1174, 1189–92 (D. Col. 2014).

¹⁶⁵ RIA, *supra* n.146, at 68–69.

achieves an efficient outcome. Estimates of global benefits capture more of the full value to society than domestic estimates and can therefore help guide policies towards higher global net benefits for GHG reductions. Furthermore, international effects of climate change may also affect domestic benefits directly and indirectly to the extent U.S. citizens value international impacts (e.g., for tourism reasons, concerns for the existence of ecosystems, and/or concern for others); U.S. international interests are affected (e.g., risks to U.S. national security, or the U.S. economy from potential disruptions in other nations); and/or domestic mitigation decisions affect the level of mitigation and emissions changes in general in other countries (i.e., the benefits realized in the U.S. will depend on emissions changes in the U.S. and internationally). The economics literature also suggests that policies based on direct domestic benefits will result in little appreciable reduction in global GHGs.¹⁶⁶

The consideration of global impacts is also fully within the authority of federal agencies. In *Zero Zone*, the Seventh Circuit specifically upheld DOE's consideration of global – just national – benefits, accepting DOE's explanation that “climate change involves a global externality, meaning that carbon released in the United States affects the climate of the entire world.”¹⁶⁷

In fact, ignoring global climate change impacts would be arbitrary and capricious. In *California v. Bernhardt*, the Northern District of California held that the Bureau of Land Management (BLM) had erred in evaluating only the domestic costs of increases in greenhouse gas emissions from BLM's repeal of regulations to reduce waste at natural gas wells.¹⁶⁸ The Court noted that “focusing solely on domestic effects has been soundly rejected by economists as improper and unsupported by science.”¹⁶⁹ The Court concluded that BLM could not “construct a model that confirms a preordained outcome while ignoring a model that reflects the best science available.”¹⁷⁰

¹⁶⁶ *Regulating Greenhouse Gas Emissions Under the Clean Air Act*, 73 Fed. Reg. 44,354, 44,415–16 (July 30, 2018) (internal citations and footnotes omitted).

¹⁶⁷ *Zero Zone*, 832 F.3d at 679.

¹⁶⁸ 472 F.Supp.3d 574, 608–14 (N.D. Cal. 2020), *appeal pending* Docket Nos. 20-16794, 20-16801 (9th Cir.).

¹⁶⁹ *Id.* at 613.

¹⁷⁰ *Id.* at 614.

C. EPA’s Sensitivity Analysis Recognizes Some of the Limitations of the Interim Value for the Social Cost of Methane that Underestimate the Costs of Climate Change, But It Should Engage in a Fuller Discussion of Those Limitations

EPA is correct to recognize that the interim value for SCM established in the 2021 TSD likely underestimates the true cost of climate change impacts, both in its use of discount rates and in the assumptions made by the underlying climate models.¹⁷¹ The undersigned States and Cities urge EPA to more fully evaluate these uncertainties by running additional evaluations with lower discount rates and by expanding its discussion of non-quantified impacts from climate change.

In our comments on the 2021 Proposal, we applauded the fact that EPA recognized that the interim value for SCM established in the 2021 TSD likely underestimates the true cost of climate change impacts, both in its use of discount rates and in the assumptions made by the underlying climate models.¹⁷² We urged EPA to more fully evaluate these uncertainties by running additional evaluations with lower discount rates and by expanding its discussion of non-quantified impacts from climate change. We revisit these two issues below.

Previously, the States urged EPA to use lower discount rates (below 3%) in order to account for the long-term, intergenerational impacts of climate change. As the IWG now recognizes, “the 3 percent discount rate used by the IWG to develop its range of discount rates is likely an overestimate of the appropriate discount rate.”¹⁷³ Since 2008, federal agencies have recognized that:

There are reasons to consider even lower discount rates in discounting the costs of benefits of policy that affect climate change. First, changes in GHG emissions—both increases and reductions—are essentially long-run investments in changes in climate and the potential impacts from climate change. When considering climate change investments, they should be compared to similar alternative investments (via the discount rate). Investments in climate change are investments in infrastructure and technologies associated with mitigation; however, they yield returns in terms of avoided impacts over a period of one hundred years and longer. Furthermore, there is a potential for significant impacts from climate change, where the exact timing and magnitude of these impacts are unknown. These factors imply a highly uncertain investment environment that spans multiple generations.

¹⁷¹ RIA, *supra* n.146, at 69–70.

¹⁷² *Id.*

¹⁷³ 2021 TSD, *supra* n.145, at 17.

When there are important benefits or costs that affect multiple generations of the population, EPA and OMB allow for low but positive discount rates (e.g., 0.5-3% noted by U.S. EPA, 1-3% by OMB).¹⁷⁴

Indeed, recent studies show support for a long-term discount rate of “no higher than 2 percent.”¹⁷⁵ We thus applaud EPA’s proposal, in its External Review Draft of Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances (Draft Report), to use dynamic discount rates with three near-term target rates of 1.5%, 2%, and 2.5%.¹⁷⁶ We believe that the version with a near-term target rate of 1.5% is the most appropriate, because it incorporates a near-zero pure rate of time preference.¹⁷⁷ The Draft Report notes that “Ramsey (1928), for example, argued that it is ‘ethically indefensible’ to apply a positive pure rate of time preference to discount values across generations.”¹⁷⁸ Individual human beings’ preference for short-term over long-term benefits in the course of their own lifetimes should not be relevant to evaluating multigenerational impacts. We recommend that EPA identify as the most accurate SC-GHG estimates those estimates which include a pure rate of time preference of zero or near zero.

We also urge EPA to highlight the fact that the SC-GHG does not reflect significant damage categories that have not yet been monetized. The Draft Report acknowledges the existence of omitted damages but ignores, or only vaguely alludes to, some of the most important omitted damage categories, and does not conduct the kind of analysis of omitted damages called for by OMB Circular A-4. The Supplemental Proposal does not acknowledge the existence of

¹⁷⁴ 73 Fed. Reg. at 44,354.

¹⁷⁵ See Att. 23, Tamma Carleton, et al., *Updating the United States Government’s Social Cost of Carbon*, Energy Policy Institute at the University of Chicago, Working Paper No. 2021-04, at 23 (Jan. 2021), available at https://epic.uchicago.edu/wp-content/uploads/2021/01/BFI_WP_202104_Final.pdf; accord Expert Report, *The Use of the Social Cost of Carbon in the Federal Proposal “Safer Affordable Fuel-Efficiency (SAFE) Vehicles Rule,”* (attached to comments of California Air Resources Board on EPA Docket No. EPA-HQ-OAR-2017-0355), Maximilian Auffhammer, Oct. 24, 2018, at 12; Att. 36, Council of Economic Advisers, *Discounting for Public Policy: Theory and Recent Evidence on the Merits of Updating the Discount Rate*, Issue Brief, at 3 (Jan. 2017), available at https://obamawhitehouse.archives.gov/sites/default/files/page/files/201701_cea_discounting_issue_brief.pdf.

¹⁷⁶ EPA-HQ-OAR-2021-0317-1549, EPA External Review Draft of Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances (Sept. 2022) (hereinafter, “Draft Report”) at 60 (Table 2.4.2).

¹⁷⁷ *Id.* at 54 (“The pure rate of time preference, ρ , is the rate at which the representative agent discounts utility in future periods due to a preference for utility sooner rather than later. The elasticity of marginal utility with respect to consumption, η , defines the rate at which the well-being from an additional dollar of consumption declines as the level of consumption increases.”).

¹⁷⁸ *Id.* at 52.

omitted damages at all, stating without qualification, “[i]n principle, SC-CH₄ includes the value of *all* climate change impacts.”¹⁷⁹ As stated in our comments on the 2021 Proposal, economists reviewing the SC-GHG models have extensively analyzed areas of damages that are not quantified or are otherwise underestimated.¹⁸⁰ As New York’s evaluation of appropriate SC-GHG values observed, “[t]he [climate models] only partially account for, or omit, many significant impacts of climate change that are difficult to quantify or monetize, including ecosystems, increased fire risk, the spread of pests and pathogens, mass extinctions, large-scale migration, increased conflict, slower economic growth, and potential catastrophic impacts.”¹⁸¹ We previously highlighted several areas of unquantified damages that are particularly important to the States. We will reiterate our discussion of two of those: (1) health impacts from wildfires, and (2) loss of culturally and historically significant assets. The first of these is only briefly referenced in the Draft Report; the second is ignored.

The climate models underlying the SC-GHG values do not account for impacts from wildfires, which include both health and economic effects.¹⁸² Each year, millions of Americans suffer through lengthy episodes of extremely unhealthy air due to wildfires, as the wildfire season becomes lengthier and more destructive due to climate change. Indeed, the *Fourth National Climate Assessment* highlighted health risks from wildfires as a major consequence of climate change, stating that “[e]xposure to wildfire smoke increases the risk of respiratory disease and mortality ... Wildfires are projected to become the principal driver of summertime PM_{2.5} concentrations, offsetting even large reductions in emissions of PM_{2.5} precursors.”¹⁸³ In December 2021, wildfires destroyed approximately one thousand homes and businesses in Boulder County, Colorado—where the usual wildfire season is May to September—because of a combination of changed climate conditions including a summer drought, a historic lack of

¹⁷⁹ 87 Fed. Reg. at 74,843 (italics added).

¹⁸⁰ See, e.g., Att. 24, Ruth DeFries, et al., *The missing economic risks in assessments of climate change impacts* (Sept. 2019), available at <https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2019/09/The-missing-economic-risks-in-assessments-of-climate-change-impacts-2.pdf>; Att. 25, Institute for Policy Integrity, *A Lower Bound: Why the Social Cost of Carbon Does Not Capture Critical Climate Damages and What that Means for Policymakers* (Feb. 2019), available at https://policyintegrity.org/files/publications/Lower_Bound_Issue_Brief.pdf; Att. 26, Peter Howard, *Omitted Damages: What’s Missing from the Social Cost of Carbon*, at 30 (Mar. 13, 2014).

¹⁸¹ Att. 37, Resources for the Future, *Estimating the Value of Carbon: Two Approaches*, at 3 (Oct. 2020, revised April 2021), available at

https://media.rff.org/documents/RFF_NYSERDA_Valuing_Carbon_Synthesis_Memo.pdf

¹⁸² See *Lower Bound*, *supra* n.180, at 5; *Omitted Damages*, *supra* n.180, at 20, 30.

¹⁸³ *Fourth National Climate Assessment*, *supra* n.18, at 521–22.

December snowfall, and extreme winds.¹⁸⁴ It is reasonable to expect that any effort to account for SC-GHG would include such a high-profile effect of climate change.

The Draft Report mentions the omission of wildfires, stating that “the estimated health damages in GIVE and DSCIM only include temperature- and SLR-related mortality, and exclude other sources of mortality impacts (e.g., climate mediated changes in storms, wildfire, flooding, air pollution), and morbidity impacts (e.g., infectious diseases, malnutrition, allergies).”¹⁸⁵ Wildfire also appears as a subset of the “partially accounted for” category of “[m]ortality and morbidity from extreme weather events (e.g., storms, wildfire, flooding), and sea level rise.”¹⁸⁶ But the Draft Report’s discussion of wildfires and other “omitted damages” falls far short of the kind of analysis called for in OMB circular A-4. Specifically, the Circular states:

It will not always be possible to express in monetary units all of the important benefits and costs...If the non-quantified benefits and costs are likely to be important, you should carry out a ‘threshold’ analysis to evaluate their significance...[Y]ou should indicate, where possible, which non-quantified effects are most important and why.

The Draft Report *lists* wildfire damages and other damage categories as unquantified or partially quantified. But it does not “evaluate their significance,” nor does it “indicate ... which non-quantified effects are most important and why.” We believe that conducting the kind of analysis called for in OMB Circular A-4 would greatly enhance the informative value of all future discussions of the SC-GHG.¹⁸⁷

As we previously explained, another area of unquantified damages identified by the National Academy of Sciences is the “loss of goods and services that are not traded in markets and so cannot be valued using market prices,” such as “loss of cultural heritage, historical

¹⁸⁴ Att. 38, Jason Samenow, Jacob Feuerstein, and Becky Bolinger, *How Extreme Climate Conditions Fueled Unprecedented Colorado Fire*, Wash. Post (Dec. 31, 2021), <https://www.washingtonpost.com/weather/2021/12/31/colorado-fires-climate-weather-drought/>; see also Att. 39 Tynin Fries, *List of homes and businesses destroyed in the Marshall fire*, The Denver Post (Jan. 1, 2022), <https://www.denverpost.com/2022/01/01/marshall-fire-homes-destroyed-list-addresses-businesses/>

¹⁸⁵ Draft Report, *supra* n.176, at 71.

¹⁸⁶ *Id.* at 73.

¹⁸⁷ The Draft Report dedicates significant space to one category of omitted damages—damages from ocean acidification. *Id.* at 75–76. Clearly then, EPA considers this category important. However, because this is the only category of omitted damages that is discussed extensively, it is unclear whether EPA considers it the *only* significant omitted damage category. If so, EPA should clarify this point, after undertaking the OMB Circular A-4 analysis.

monuments, and favored landscapes.”¹⁸⁸ The Union of Concerned Scientists has identified many historic sites and landmarks at risk from climate change:

- Boston historic districts and Faneuil Hall, MA
- The Statue of Liberty and Ellis Island, NY and NJ
- Harriet Tubman National Monument, MD
- Historic Annapolis, MD
- Historic Jamestown, VA
- Fort Monroe National Monument, VA
- NASA’s Coastal Facilities, FL and TX
- Cape Hatteras Lighthouse, NC
- Historic Charleston, SC
- Historic St. Augustine, FL
- Mesa Verde National Park, CO
- Bandelier National Monument, NM
- Cesar Chavez National Monument, CA.¹⁸⁹

The loss of these unique sites would exceed the monetary value of the land upon which they are located. Landmarks such as these are not the only culturally and historically significant resources at risk. As the Regulatory Impact Analysis for the Supplemental Proposal recognizes:

Indigenous communities possess unique vulnerabilities to climate change, particularly those communities impacted by degradation of natural and cultural resources within established reservation boundaries and threats to traditional subsistence lifestyles. Indigenous communities whose health, economic well-being, and cultural traditions depend upon the natural environment will likely be affected by the degradation of ecosystem goods and services associated with climate change.¹⁹⁰

EPA should disclose that the SCM does not take into account impacts to historically significant locations or to culturally significant resources; should consider those impacts in its

¹⁸⁸ Att. 40, Nat’l Academy of Sciences, *Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide*, at 152 (2017).

¹⁸⁹ Att. 28, Union of Concerned Scientists, *National Landmarks at Risk: How Rising Seas, Floods, and Wildfires Are Threatening the United States’ Most Cherished Historic Sites*, at 4–32, 36–40, 44 (2014).

¹⁹⁰ RIA at 110-111 (*italics added*); *see also* Carson Viles, *Tribal Climate Change Profile: First Foods and Climate Change* (December 2011) (“Because of the vital role that first foods play in the physical, mental, and spiritual health of native communities, impacts from climate change on first foods may negatively affect tribal culture and livelihood.”) *available at* http://www7.nau.edu/itep/main/tcc/docs/tribes/tribes_FirstFoodsCC.pdf

evaluation of the benefits of the Supplemental Proposal; and should acknowledge that these impacts are not accounted for in the SCM and other variants of the SC-GHG. We believe that an EPA “significance” analysis, as called for by OMB Circular A-4, would reveal that the ongoing loss of culturally and historically significant resources will be one of the most important non-quantified damage categories.

For these reasons, we urge EPA to acknowledge and discuss significant “omitted damages,” including damages from wildfire, and damages to culturally and historically important resources, whenever EPA refers to the SC-GHG in rulemaking.

VI. CONCLUSION

In sum, the States and Cities strongly support EPA’s Supplemental Proposal. Further, as detailed in these comments, the State and Cities request that EPA strengthen certain elements of the Supplemental Proposal before issuing a final rule.

Sincerely,

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