

**In The
Supreme Court of the United States**

State of WEST VIRGINIA, et al. v. ENVIRONMENTAL PROTECTION AGENCY, et al.

NATIONAL RURAL ELECTRIC COOPERATIVE v.
ENVIRONMENTAL PROTECTION AGENCY, et al.

NATIONAL MINING ASSOCIATION AND AMERICA'S POWER v.
ENVIRONMENTAL PROTECTION AGENCY, et al.

NACCO NATURAL RESOURCES CORPORATION v.
ENVIRONMENTAL PROTECTION AGENCY, et al.

MIDWEST OZONE GROUP v. ENVIRONMENTAL PROTECTION AGENCY, et al.

ELECTRIC GENERATORS FOR A SENSIBLE TRANSITION v.
ENVIRONMENTAL PROTECTION AGENCY, et al.

EDISON ELECTRIC INSTITUTE, et al. v. ENVIRONMENTAL PROTECTION AGENCY, et al.

State of OHIO, et al. v. ENVIRONMENTAL PROTECTION AGENCY, et al.

**BRIEF FOR STATE AND MUNICIPAL RESPONDENTS IN OPPOSITION TO
APPLICATIONS FOR STAYS OF ADMINISTRATIVE ACTION**

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INTRODUCTION

Two years ago, this Court recognized that Section 111 of the Clean Air Act (42 U.S.C. § 7411) authorizes the Environmental Protection Agency (EPA) to reduce pollution through measures that require individual sources to operate more cleanly. *West Virginia v. EPA*, 597 U.S. 697, 725 (2022). Shortly thereafter, Congress reaffirmed that Section 111 should be used to limit carbon dioxide (CO₂) emissions from power plants and dramatically reduced the cost of pollution controls through new tax credits. EPA subsequently promulgated a regulation setting carbon dioxide (CO₂) emission standards based on approaches that individual coal-fired and gas-fired power plants can take to operate more cleanly, such as capturing and storing CO₂ or co-firing with cleaner fuels. *See* 89 Fed. Reg. 39,798 (May 9, 2024) (“Rule”).

Various States and industry members petitioned for review of the Rule and sought stays pending appeal. A panel of the U.S. Court of Appeals for the D.C. Circuit (Millett, Pillard, Rao, JJ.) unanimously denied the stay motions, finding that based on an initial review of the record, petitioners were unlikely to succeed on the merits of their legal challenges to the Rule and failed to show irreparable harm in the relevant time frame given the Rule’s lengthy compliance deadlines. App1.2.¹ The court ordered the parties to submit a proposed expedited briefing schedule and directed oral argument to be held “as early as possible in the court’s 2024 term.” *Id.*

¹ Citations to “App1.” and “App2.” are to the State Respondents’ appendices, with relevant page number(s) following after the period.

Petitioners (“Applicants”) then filed eight separate applications seeking a stay from this Court. For several reasons, this Court should deny the applications.²

First, Applicants are unlikely to prevail on the merits of their legal challenges to the Rule. Applicants argue that the Rule is a redux of the regulation rejected in *West Virginia*, but the plain text of the Rule regulates emissions from individual sources, an action this Court recognized in *West Virginia* as one that the EPA is expressly authorized to take. Although Applicants attempt to portray this case as one that turns on statutory interpretation, it is not. Rather it is a routine (though complex) record-based challenge to EPA’s technical and scientific judgment as to whether technologies have been adequately demonstrated. Applicants will have ample opportunity to challenge EPA’s view of the record evidence below, and both the parties and this Court will benefit from the D.C. Circuit’s considered judgment on those claims following full briefing and oral argument on the merits.

Second, Applicants fail to demonstrate irreparable harm given the Rule’s lengthy compliance deadlines, which will fall long after litigation in the D.C. Circuit is completed. Therefore, even if Applicants’ speculative and contradictory assertions of harm were credited (and they should not be), the court of appeals likely will issue

² This brief is submitted on behalf of New York, Arizona, Colorado, Connecticut, Delaware, Hawai‘i, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Jersey, New Mexico, North Carolina, Oregon, Pennsylvania, Rhode Island, Vermont, Washington, Wisconsin, District of Columbia, Boulder (CO), Chicago, Denver, New York City, and the California Air Resources Board, who are Intervenor-Respondents below (collectively, “State Respondents”).

a merits decision in the spring of 2025—a full year before the Rule requires state plans to be submitted and five years before the first compliance deadline.

Third, the equities and public interest weigh strongly against a stay. More than a decade after this Court told the States in *American Electric Power Co. v. Connecticut*, 564 U.S. 410 (2011), to look to EPA and its authority under Section 111 to stave off the grave harms caused by carbon pollution emitted by power plants nationwide—and after decades of devastating storms, wildfires, and heat waves supercharged by climate change—the sector has still evaded any EPA regulations limiting CO₂ from existing plants. Applicants have acknowledged that they will seek to use any stay to toll the Rule’s already protracted compliance deadlines. A stay would therefore further delay long overdue emission reductions needed to address numerous and worsening climate-related harms.

STATEMENT

A. Statutory Background

Section 111 of the Clean Air Act requires EPA to limit emissions from any category of stationary sources it determines causes or significantly contributes to dangerous air pollution. 42 U.S.C. § 7411(b)(1)(A). For new sources in the category, EPA determines standards of performance that “reflect[] the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impacts and energy requirements) the Administrator determines has been adequately demonstrated.” *Id.* § 7411(a)(1). EPA then

issues emission guidelines to control pollution from existing sources in the category,³ including specifying the degree of emission limitation each source would achieve using the best system of emission reduction. *Id.* § 7411(d)(1); *West Virginia*, 597 U.S. at 709-11. To regulate existing sources within its jurisdiction, each State must submit a plan to EPA explaining the emissions restrictions it will adopt and enforce to meet the EPA’s guidelines. 42 U.S.C. § 7411(d)(1). In the plan, the State may consider a source’s remaining useful life and other factors in establishing a standard of performance. *Id.*

The Act directs EPA to assess whether a state plan is “satisfactory.” *Id.* § 7411(d)(2)(A). Although States can impose stricter emission limits than in EPA’s guidelines, each plan must at a minimum adhere to EPA’s limits. *West Virginia*, 597 U.S. at 710. If a State does not submit a plan or EPA finds it unsatisfactory, then EPA must promulgate a federal plan within one year. *See* 42 U.S.C. § 7411(d)(2)(A). Accordingly, for existing sources, EPA has “the primary regulatory role,” and “[t]he Agency, not the States, decides the amount of pollution reduction that ultimately must be achieved.” *West Virginia*, 597 U.S. at 710; *see* § 7411(a)(1), (d)(1).

³ If the pollutant is regulated as a criteria pollutant under Section 108 (42 U.S.C. § 7408) or as a hazardous air pollutant under Section 112 (42 U.S.C. § 7412) of the Act, then EPA may not issue emission guidelines for that pollutant under Section 111(d). 42 U.S.C. § 7411(d)(1).

B. Carbon Dioxide Emissions and Climate Change Harms

EPA determined long ago that coal-fired and gas-fired power plants contribute significantly to dangerous air pollution. *See* 36 Fed. Reg. 5931 (Mar. 31, 1971); 42 Fed. Reg. 53,657 (Oct. 3, 1977). These plants emit enormous quantities of CO₂ and other greenhouse gases, the root cause of climate change. *See* 74 Fed. Reg. 66,496, 66,517 (Dec. 15, 2009). As of today, coal-fired and gas-fired power plants emit 25 percent of the nation’s CO₂ emissions, making reducing their pollution “essential to addressing the challenge of climate change.” 89 Fed. Reg. at 39,800.

Across the country, state and local governments and their residents are experiencing myriad climate change harms on a daily basis: higher rates of deaths and illnesses from more frequent and severe heat waves; lethal flash flooding from increasingly severe storms; rising seas swallowing coastal lands; and wildfires destroying homes and degrading air quality. *See* 89 Fed. Reg. at 39,807-10; App2.54-63, 82-98, 105-10, 119-23, 144-49, 162-67. Responding to these harms and building more resilient infrastructure to withstand more-damaging storms and extreme heat is becoming more expensive for States and for local governments. *See* App2.17-20, 40-49. Climate change also threatens power grid reliability by increasing the frequency of severe weather, which is the leading cause of power outages. *See* [Comments by N.Y. Att’y Gen. et al. on Supplemental Notice 2-5 \(Dec. 20, 2023\)](#).⁴

The Federal Energy Regulatory Commission found last year that severe weather

⁴ URLs for documents not in the appendices are in the Table of Authorities.

“threatens livelihoods, electric system reliability, and the Commission’s ability to ensure just and reasonable jurisdictional rates.” 88 Fed. Reg. 41,477, 41,478 (June 27, 2023) (adopting reporting requirement for transmission providers to describe extreme-weather vulnerability assessments); *see also* 88 Fed. Reg. 33,240, 33,415 (May 23, 2023) (EPA finding that severe weather affects “energy infrastructure and both the demand for and supply of electricity.”).

To address climate change harms, many State Respondents require power plants in their jurisdictions to reduce CO₂ emissions under state law through approaches such as performance standards, cap-and-invest programs, and renewable portfolio standards. *See* 89 Fed. Reg. at 39,820-21; App2.24-26, 69-70, 141-43, 149-50. These initiatives have largely been successful. For example, States that are in the Regional Greenhouse Gas Initiative have reduced carbon pollution from power plants by more than 50 percent. [Comments of N.Y. Att’y Gen. et al. on Proposed Rule, att. 2 at 1-2 \(Aug. 8, 2023\)](#). Colorado and North Carolina have recently passed laws requiring investor-owned utilities to achieve, respectively, 80 percent and 70 percent reductions in CO₂ by 2030. *Comments of N.Y. Att’y Gen. et al. (Aug. 2023), supra*, at 12-13; [Comments of Colo. Energy Office on Proposed Rule at 6-7 \(Aug. 8, 2023\)](#). But because power plant CO₂ emissions in every State collectively contribute to harms in all States, State Respondents have also long advocated for strong federal emission limits on all fossil-fueled power plants under the Clean Air Act. *See, e.g., Letter from N.Y. Att’y Gen. et al. to EPA at 2 (Feb. 20, 2003)*.

C. The Rule

In 2021, EPA began a rulemaking to update its CO₂ standards for new gas-fired power plants and to replace the emission guidelines for existing coal-fired plants set by the Affordable Clean Energy (ACE) rule, which EPA had promulgated to replace the 2015 Clean Power Plan. *See* Status Report (D.C. Cir. May 24, 2021) (No. 19-1140), ECF#1899829, at 3. While the rulemaking was underway, this Court granted certiorari in *West Virginia v. EPA* and ultimately held the Clean Power Plan was unlawful. The Court explained that the rule was premised on reducing system-wide emissions through shifting to less-polluting sources, which differed in kind from prior EPA rules based on “traditional” pollution control technologies that improved the performance of individual sources, such as “add-on controls” and “fuel-switching.” 597 U.S. at 727 (quotation marks omitted). The Court acknowledged that a valid Section 111 rule may well affect coal’s share of the electricity market, but explained that EPA did not have the power to decide coal’s proper market share and to direct plants to change generation levels to meet it. *Id.* at 731 n.4.

Shortly after *West Virginia* was decided, Congress passed the Inflation Reduction Act, which affected the regulation of power plant CO₂ emissions in two ways. *See* Pub. L. No. 117-169, 136 Stat. 1818 (2022). First, Congress directed EPA “to ensure that reductions in greenhouse gas emissions are achieved through the use of the existing authorities of” the Clean Air Act, including Section 111. *See* 42 U.S.C. § 7435(a)(6). Second, the Inflation Reduction Act included tax credits for carbon capture and sequestration (CCS). *See* I.R.C. § 45Q; *see also* Pub. L. No. 117-

169, § 13104, 136 Stat. at 1924-25. As discussed below (*infra* at 16), these substantial tax credits significantly cut the costs of pollution control.

Approximately one year later, EPA proposed a rule consistent with this Court's direction in *West Virginia* and Congress's instruction in the Inflation Reduction Act. 88 Fed. Reg. 33,240 (May 23, 2023). In May 2024, after two rounds of public comment, including one focused in part on grid reliability, EPA published a final Rule containing four primary components: (1) repeal of the ACE rule; (2) performance standards for combustion turbines at new gas-fired power plants; (3) emission guidelines for electric generating units at existing coal-fired power plants; and (4) performance standards for modifications at existing coal-fired and gas-fired plants. 89 Fed. Reg. 39,798. The stay applications currently before the Court seek to stay parts of the Rule's second and third components.

For new gas-fired plants, EPA established three subcategories—base-load, intermediate load, and low load—based on utilization relative to potential electricity output. *Id.* at 39,908. Base-load and intermediate load sources must achieve a standard reflecting the use of highly efficient turbine design, while the standard for low load (peaking) plants is based on use of cleaner fuels. *Id.* at 39,917. By 2032, base-load units must achieve a second phase of the standard based on CCS, with a 90 percent capture rate. *Id.* at 39,802.

For existing coal-fired plants, after receiving input from electric utilities on planned future operations of their plants, 88 Fed. Reg. at 33,345, EPA finalized emission guidelines that contain two subcategories with control requirements and

an exemption for plants that will retire in the near future. For coal-fired units that will operate long term (beyond 2038) and thus have more time to recoup control costs, EPA determined that CCS is the best system of emission reduction. *Id.* at 39,845. Beginning in 2032, long-term units must capture 90 percent of CO₂ emissions. 40 C.F.R. § 60.5775b(c)(1).

EPA set a less stringent limit for coal-fired units that will retire in the medium term—that is, by 2038—and thus have less time to recoup CCS costs. For medium-term plants, EPA set a limit based on a best system of co-firing coal with 40 percent natural gas. *Id.* § 60.5775b(c)(2). Coal plants that retire in the near term—by the end of 2031—are not subject to the Rule’s emission reduction requirements. *See* 40 C.F.R. §§ 60.5710b(b), 60.5876b.

States implementing the Rule have until May 2026 to prepare plans establishing standards and compliance schedules for existing long- and medium-term coal-fired generating units. *Id.* §§ 60.5780b, 60.5785b(a). If a State believes that a standard that is less stringent than the emission limit in the Rule is warranted for a particular source due to, for example, a source’s remaining useful life, the State must follow the process in EPA’s regulations for Section 111(d) plans to make that determination. 89 Fed. Reg. at 39,962 (citing 40 C.F.R. § 60.24a).

The Rule also provides compliance flexibilities, including (i) providing a one-year extension if facilities experience construction delays, and (ii) allowing plants to postpone retirements or operate at higher levels if necessary to ensure grid reliability. *See* 40 C.F.R. § 60.5740b(a)(11)-(13).

D. The Litigation

Various States and industry groups petitioned for review of the Rule and moved for stays pending appeal in the D.C. Circuit. The court of appeals consolidated the actions, and a unanimous panel (Millett, Pillard, and Rao, JJ.) denied the stay motions. App1.2. First, the court found that, based on the rulemaking record, petitioners had not shown that they were likely to prevail on the merits of their claims that the Rule relies on inadequately demonstrated technologies or sets unachievable emission standards. *Id.* Nor did petitioners show, the court found, that the case presented a major question under *West Virginia*, because EPA claimed only the power to require individual sources to operate more cleanly, which “falls well within EPA’s bailiwick.” *Id.* (citing *West Virginia*, 142 S. Ct. at 2610). Second, the court found that petitioners failed to show irreparable harm warranting a stay because the Rule’s compliance deadlines do not begin to phase in until 2030 or 2032, several years after this case will be resolved, and the only consequence of a State not meeting the May 2026 deadline for plan submission would be temporary promulgation of a federal plan the State could later replace. *Id.*

The court ordered the parties to submit a schedule for expedited briefing, and directed that oral argument take place “as early as possible in the court’s 2024 term.” App1.2. The D.C. Circuit has since issued a scheduling order requiring the case to be fully briefed by November 1 (Order at 2 (Aug. 9, 2024)), ECF #2069206, and the case therefore likely will be argued in December 2024 or January 2025, with a decision likely by spring 2025.

Shortly after the D.C. Circuit’s denial of the stay motions, eight groups of petitioners sought a stay of the Rule’s effective date from this Court.⁵

REASONS TO DENY THE STAY APPLICATIONS

A stay pending review in the court of appeals is an “intrusion into the ordinary processes of administration and judicial review.” *Nken v. Holder*, 556 U.S. 418, 427 (2009) (quotation marks omitted). This Court will grant such a stay “only in extraordinary circumstances,” *Williams v. Zbaraz*, 442 U.S. 1309, 1311 (1979) (Stevens, J., in chambers), and “upon the weightiest considerations,” *Packwood v. Senate Select Comm. on Ethics*, 510 U.S. 1319, 1320 (1994) (Rehnquist, C.J., in chambers) (quotation marks omitted). For such applications, the Court considers:

(1) whether the stay applicant has made a strong showing that he is likely to succeed on the merits; (2) whether the applicant will be irreparably injured absent a stay; (3) whether issuance of the stay will substantially injure the other parties interested in the proceeding; and (4) where the public interest lies.

Nken, 556 U.S. at 434 (quotation marks omitted). In this Court an applicant must also show a reasonable probability that the Court will grant certiorari if the applicant seeks it at the appropriate time. *Hollingsworth v. Perry*, 558 U.S. 183, 190 (2010) (per curiam); see *Does 1-3 v. Mills*, 142 S. Ct. 17, 18 (2021) (Barrett, J., concurring in the denial of application for injunctive relief) (first *Nken* factor incorpo-

⁵ No Applicant objects to the Rule’s repeal of the ACE rule or its standards for modified power plants. In addition, no Applicant objects to the first phase standard for new-fired gas plants based on turbine efficiency and lower-emitting fuels. Finally, applicant Edison Electric Institute does not challenge the emission limit for medium-term coal-fired power plants (based on 40% co-firing with natural gas).

rates inquiry into reasonable probability of certiorari). It is “especially important” for this Court to hold an applicant for preliminary relief to its burdens in a case that will be resolved on record-intensive grounds. *Murthy v. Missouri*, 144 S. Ct. 1972, 1991 n.7 (2024); *see also Ohio v. EPA*, 144 S. Ct. 2040, 2058 (2024) (Barrett, J., dissenting) (cautioning against granting “emergency relief in a fact-intensive and highly technical case without fully engaging with both the relevant law and the voluminous record”).

For the reasons explained below, Applicants fail to meet their heavy burden.

I. APPLICANTS ARE UNLIKELY TO SUCCEED ON THE MERITS.

A stay is not warranted because Applicants are unlikely to succeed on the merits of their petitions for review or to obtain certiorari in this case if they ultimately seek it. First, the record amply supports EPA’s technical judgments regarding the demonstrated nature of pollution control technologies and the feasibility of the Rule’s emission standards and limits. Second, this case does not implicate the major questions doctrine; to the contrary, EPA acted consistent with this Court’s direction in *West Virginia* and in accordance with Congress’s delegation of authority in promulgating the Rule. Third, the Rule appropriately respects state authority to regulate power plant pollution within their jurisdictions.

A. The Rule Is Based on Adequately Demonstrated Systems of Emission Reduction and Sets Achievable Standards and Limits.

Applicants are unlikely to prevail on their challenge to EPA’s technical, record-based judgment that CCS is an adequately demonstrated technology and that the resulting standards for new base-load gas-fired plants and long-term coal-fired plants are achievable. To the extent some Applicants also challenge the Rule’s less stringent emission limits for coal-fired plants that intend to retire by 2038, those arguments are equally unlikely to succeed.

1. The Rule’s standards and emission limits based on carbon capture and storage are lawful.

The Act expressly delegates to EPA the authority to choose the best system of emission reduction that “the *Administrator determines* has been adequately demonstrated.” 42 U.S.C. § 7411(a)(1) (emphasis added). Because “the best reading of [the] statute is that it delegates discretionary authority to an agency,” *Loper Bright Enters. v. Raimondo*, 144 S. Ct. 2244, 2263 (2024), the role of a court is to recognize constitutional delegations, “fix the boundaries of the delegated authority,” and ensure that EPA “has engaged in reasoned decisionmaking within those boundaries.” *Id.* Here, no party has raised a constitutional challenge to EPA’s delegated authority, and, as the court of appeals found (see *infra* at 18-21), EPA acted within the boundaries of that delegated authority. Therefore, the relevant question is whether Applicants are likely to prevail in arguing that EPA has not engaged in reasoned decisionmaking. *Loper Bright*, 144 S. Ct. at 2263 (citing, *inter alia*, *Motor Vehicles Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29

(1983)). The court of appeals correctly found that they have failed to show they are likely to prevail on the record here. App1.2.

All parties generally agree (*see, e.g.*, Elec. Gens. Appl. 15; OH Appl. 9; WV Appl. 9) that a system is adequately demonstrated if it has been shown to be “reasonably reliable,” and “reasonably efficient,” and to “serve the interests of pollution control without becoming exorbitantly costly.” *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 433 (D.C. Cir. 1973). In exercising its delegated authority under Section 111(a)(1), EPA’s longstanding approach has been to assess—based on past and current practices—whether a technology is “adequately demonstrated,” and to determine that the standard that is “achievable” allowing sufficient time for installing the necessary controls. *See* 89 Fed. Reg. at 39,829-32. For the reasons explained by EPA and Public Interest Respondents in their oppositions to the applications, the record amply supports EPA’s findings that (i) CCS is adequately demonstrated to control CO₂ from coal-fired and gas-fired plants, and (ii) a standard based on 90 percent capture is achievable.

Indeed, many State Applicants have taken regulatory actions that require or encourage CCS. For example, Wyoming defines low-carbon electricity to mean electricity generated while using CCS. Wyo. Stat. § 37-18-101(a)(iii). It requires utilities serving 10,000 or more customers to use CCS by 2033, *id.* § 37-18-102(a)(i)-(ii), and both anticipates and requires CCS generation to be “reliable,” *id.* § 37-18-101(a)(iv). Kentucky has found that CCS will enable it “to utilize diverse fuel sources” and allow its industries to remain competitive. Ky. Rev. Stat. § 353.802(4). North Dakota

offers reductions of up to 50 percent for general tax liabilities for facilities that capture at least 80 percent of their emissions. N.D. Cent. Code § 57-60-02.1. Most recently, North Dakota advocated that CCS qualify as a “carbon-free energy technology” under a law requiring 90 percent of Minnesota’s electricity be provided using such technology by 2035, citing the need to enhance grid reliability and the “large scale job potential arising from [CCS].” [Comments by N. Dak. Indus. Comm’n on Implementation of Minn. Stat. § 216B.1691, at 2-3, 9-10 \(June 26, 2024\)](#). These expectations and commitments further support that CCS is adequately demonstrated. Similarly, Illinois and Pennsylvania have taken actions to encourage development of CCS. *See* App2.71-72, 247-48. For example, last month Pennsylvania adopted a law that promotes underground storage of CO₂ and includes provisions to safeguard communities located near storage areas. *See* Act of July 17, 2024, Pub. L. No. 87, 2024 Pa. Laws.

The lack of widespread use of CCS in the power sector at present is not a reflection of the state of the technology, but of the sector’s long history of operating without any CO₂ standards that would allow regulated generators to recover the costs of CCS. *See* [Larry Parker & James E. McCarthy, *Climate Change: Potential Regulation of Stationary Greenhouse Gas Sources Under the Clean Air Act* 17-18 \(Cong. Rsch. Serv., May 14, 2009\)](#) (discussing lack of widespread adoption of scrubber technology prior to EPA’s performance standard for sulfur dioxide). Similarly, a lack of regulatory or financial incentive to achieve 90 percent CO₂ capture has played a role in capture rates to date. *See* 89 Fed. Reg. at 39,848. Under Applicants’

view (OH Appl. 9-12), the only rational decision EPA could ever make under Section 111 is to select a technology that is already in widespread use despite the absence of a regulatory requirement to incentivize it. That has never been the law. In any event, CCS is plainly a technology that a broad range of stakeholders (including several State Applicants) have employed and embraced; nothing about EPA’s arguments in this case threatens to empower the agency to choose a best system that “has never been demonstrated at all in the real world.” OH Appl. 12.

In determining that CCS is the best system of emission reduction for new base-load gas-fired plants and long-term coal-fired plants, EPA also reasonably explained why CCS is cost-reasonable. In fact, as early as 2015, when EPA determined partial CCS to be the best system for new coal-fired plants, EPA observed that for existing plants, CCS was “within price ranges . . . EPA has found to be cost effective in the context of other GHG rules.” 80 Fed. Reg. 64,662, 64,727-28 (Oct. 23, 2015). EPA also found “that a segment of the source category may implement these measures, and that the resulting emission reductions could be potentially significant,” and concluded CCS was not the best system because at that time it was “more expensive than other available measures for existing sources.” *Id.*

As EPA explained in the Rule, two things have fundamentally changed the economic calculus since 2015. First, the estimated cost of installing CCS dropped dramatically from \$74 per megawatt-hour in 2015 to \$44 per megawatt-hour in 2022—a 40 percent decrease in just seven years. 89 Fed. Reg. at 39,882. Second, Congress enacted a 70 percent increase in the tax credit for CCS. *Id.* at 39,819. As a

result, the costs of CCS over the 12-year amortization period—applicable to new base-load gas-fired plants and long-term coal-fired plants—are commensurate with costs under prior EPA regulations that have been upheld. *Id.* at 39,879, 39,882, 39,934-35. Due to these game-changing developments, the concerns Justice Kagan expressed in *West Virginia* about CCS costs (*see* NACCO Appl. 3 (citing 597 U.S. at 773 n.5, 775-76 (Kagan, J., dissenting))), no longer apply. EPA’s record-based finding, grounded in up-to-date facts, is sound. *See National Asphalt Pavement Ass’n v. Train*, 539 F.2d 775, 786 (D.C. Cir. 1976); *cf. FERC v. Electric Power Supply Ass’n*, 577 U.S. 260, 292 (2016) (deferring to FERC’s record-based findings).

2. The Rule’s emission limits for existing coal plants based on co-firing with natural gas are lawful.

Several Applicants also challenge EPA’s determination of the best system for medium-term coal generating units, which EPA identified as co-firing natural gas at 40 percent of annual heat input. Their arguments fail.

First, NRECA (Appl. 29) and West Virginia (Appl. 18) are incorrect that co-firing is not adequately demonstrated. *Nearly half* of U.S. coal-fired plants use natural gas for part of their generation—and 29 plants already co-fire at the 40 percent annual heat input that EPA found to be the best system. *See* 89 Fed. Reg. at 39,892. Second, the Rule’s co-firing compliance date of 2030 is also reasonable. A study by a consulting firm with extensive experience with the power sector found that conversion to co-firing takes only about two-and-a-half to three years from the decision to co-fire until commercial operation. *See* 89 Fed. Reg. at 39,894 (citing Sargent & Lundy, *Natural Gas Co-Firing Memo* 17).

Third, several Applicants attempt to stretch *West Virginia's* rationale on generation-shifting to bar consideration of co-firing 40 percent natural gas as the best system. Elec. Gens. Appl. 21; NMA Appl. 15. But this Court in *West Virginia* expressly cited “fuel-switching” as a type of pollution control that EPA has traditionally used under Section 111. 597 U.S. at 727. Therefore, Applicants are unlikely to prevail on the merits of their co-firing arguments.

B. The Rule Is Consistent with *West Virginia* and Does Not Implicate the Major Questions Doctrine.

In *West Virginia*, the Court explained that EPA’s traditional role under Section 111 is to identify, and use as the basis for emissions standards and guidelines, “measures that would reduce pollution by causing plants to operate more cleanly.” 597 U.S. at 706; *see id.* at 725. The Rule fulfills that role by setting emissions guidelines based on two approaches—either CCS or natural gas co-firing, depending on category—that reduce pollution via technological modifications to individual sources. Some Applicants, although not all, nevertheless contend that this case, too, is a major questions case. *See* WV Appl. 25; *but cf.* OH Appl. 8-12. But the major questions doctrine is reserved for “extraordinary cases.” *West Virginia*, 597 U.S. at 720. Any effort to portray this litigation as a major questions case misconstrues both *West Virginia* and the Rule.

The Court determined in *West Virginia* that the Clean Power Plan strayed outside of EPA’s statutory role and triggered application of the major questions doctrine, because that rule sought to fundamentally alter the overall power system by requiring coal-fired and gas-fired sources to shift power generation to other

sources and reduce their own generation. *Id.* at 727-28. By contrast, as the D.C. Circuit explained, in this Rule “EPA has claimed only the power to ‘set emission limits under Section 111 based on the application of measures that would reduce pollution by causing the regulated sources to operate more cleanly[,]’ a type of conduct that falls well within EPA’s bailiwick.” App1.2 (quoting *West Virginia*, 142 S. Ct. at 2610).

Far from “remak[ing]” the industry by directing coal plants to cease operations or produce a smaller share of energy generation (WV Appl. 9), CCS enables a coal-fired source to *continue* operating, burning coal, and producing power—with the source’s resulting CO₂ emissions captured and stored safely underground instead of being released into the atmosphere. *See* 89 Fed. Reg. at 39,888. In other words, the Rule implements Section 111 exactly as this Court understood it in *West Virginia*.

Moreover, and contrary to West Virginia’s argument (WV Appl. 22), Congress has spoken directly on the issue of greenhouse gas emissions. As explained above (at 7), EPA promulgated the Rule following passage of the Inflation Reduction Act in which Congress directed EPA to use its “existing authorities” under the Clean Air Act to reduce greenhouse gas emissions beyond reductions expected to occur in the absence of regulation. *See* 42 U.S.C § 7435(a)(5)-(6); *see also* [Greg Dotson & Dustin J. Maghamfar, *The Clean Air Act Amendments of 2022: Clean Air, Climate Change, and the Inflation Reduction Act*, 53 *Envtl. L. Rep.* 10,017, 10,033 \(2023\)](#). Thus, the Inflation Reduction Act provides contemporary and clear confirmation of Congress’s policy judgment that EPA must regulate power plant carbon emissions, and the

agency acted faithfully with Congress’s direction when it based the Rule’s emission reduction requirements in part on CCS—the specific control technology Congress decided to subsidize in the same legislation. See *supra* at 7-8.

Nor does the Rule implicate the major questions doctrine merely because some coal-fired plants may choose to retire as an alternative to meeting the standards. See NRECA Appl. 31; WV Appl. 23. As discussed below, the Rule’s impact on coal-fired generation is expected to be incremental to much larger declines due to market forces and tax incentives. See *infra* at 26-27. Moreover, EPA demonstrated that the number of plants likely to retire under the Rule is comparable to the number likely to retire under other rules that would require less capital investment for compliance. See 89 Fed. Reg. at 39,899-900. Indeed, some plants that install CCS will likely find it cost-effective to fire coal at a higher capacity than before, and at a higher profit, because the tax credit is calculated based on the total tons of CO₂ captured. See *id.* at 39,900.

In any event, the Court has already explained that EPA is authorized to enact technology-based measures that “may end up causing an incidental loss of coal’s market share.” *West Virginia*, 597 U.S. at 731 n.4. Here, both the purpose and the effect of the Rule are to reduce pollution while coal plants continue to operate, making any effect on coal’s market share “incidental.” Under *West Virginia*’s view (Appl. 22), *any* meaningful regulation of coal plants under Section 111 would trigger the major questions doctrine because such regulation could impose compliance costs that might lead some plants to retire rather than comply. In denying the stay

motions below, the court correctly recognized that whether EPA rationally discharged its congressionally delegated responsibility—which it did (see *supra* at 13-18)—presents a conventional record-review question, not a major question.

C. The Rule Properly Respects the Role of States in Regulating Existing Sources Under Section 111(d).

State Applicants are incorrect that the Rule infringes on state authority. West Virginia initially errs by arguing for state authority that is more expansive than either Section 111(d) or this Court’s precedent allow. WV Appl. 18-19. As this Court explained in *West Virginia*, EPA “retains the primary regulatory role in Section 111(d)” and “[t]he Agency, *not the States*, decides the amount of pollution reduction that must ultimately be achieved” through state plans. 597 U.S. at 710 (emphasis added). Thus, although the standards that States establish for existing sources need only “reflect” the degree of emission limitation from applying the best system of emission reduction as determined by EPA (WV Appl. 18), the flexibility available for state standards is contingent upon achieving reductions equivalent to (or greater than) than EPA’s emission guidelines. *See West Virginia*, 597 U.S. at 710; *see also* 42 U.S.C. § 7416 (reserving the “right of any State . . . to adopt or enforce . . . any standard or limitation respecting emissions of air pollutants” so 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 Act). West Virginia’s view would contravene the statutory design, which contemplates that *every* State be required to ensure that emissions from its stationary sources do not “exceed the permissible level of pollution established by EPA,” *West Virginia*, 597 U.S. at 710.

The Rule also properly respects states authority to consider remaining useful life and other factors in establishing performance standards for particular sources. First, the Rule’s presumptive standards are not “virtual requirements” (WV Appl. 19). As provided for by Section 111(d)(1), States may invoke a particular source’s remaining useful life and other factors to apply standards of performance to that source that are less stringent than EPA’s presumptive standards. 89 Fed. Reg. at 39,962. Thus, “a state plan may not necessarily achieve the same stringency as each source achieving the EPA’s presumptive standards of performance.” *Id.* at 39,956 n.911. And if a State disagrees with EPA’s disapproval of a state plan—for example, if a State believes EPA has wrongly rejected a reasonable useful life determination—the State can obtain judicial review of that specific action. *See* 42 U.S.C. § 7607(b). In addition, States may use standards of performance different from EPA’s presumptive standards so long as they achieve equivalent emission reductions. *See e.g.*, 40 C.F.R. § 60.5775b(e)(2) (alternative standard based on annual emissions from individual generating units).

West Virginia and Ohio are also wrong to argue that it was improper for EPA to require a State making a remaining useful life determination to show a fundamental difference between source-specific information and the information EPA considered. *See* WV Appl. 20-21; OH Appl. 13. As an initial matter, EPA promulgated this revision through a separate regulation not at issue here. That separate regulation is already subject to a separate legal challenge pending in the D.C.

Circuit, and any objections to that regulation must be litigated there. *See West Virginia v. EPA*, No. 24-1009 (D.C. Cir. filed Jan. 16, 2024).

In any event, the argument is meritless. West Virginia posits (Appl. 21) that Section 111(d)'s "shall permit" language means that EPA must defer to a State's decision to establish a more lenient standard than in EPA's guidelines based on a source's remaining useful life. But the statute directs only that EPA's regulations allow States "to take into consideration" other factors, such as remaining useful life, in establishing standards for existing sources. 42 U.S.C. § 7411(d)(1). Permission to consider does not grant limitless authority to take action based on that consideration. For example, a rule directing that a prosecutor "shall permit . . . defense counsel to examine . . . [any] tangible objects . . . material to the preparation of the defense," *In re al Baluchi*, 952 F.3d 363, 370 (D.C. Cir. 2020) (quoting R.M.C. 701(c)), would not be understood to authorize defense counsel all-hours and unconditional access to such items. So, too, here, where Section 111(d)'s command is that a State be allowed to take a source's remaining useful life into account, subject to reasonable conditions EPA may set. That reading aligns with EPA's oversight role to ensure that state plans are "satisfactory," including that standards a State sets for an individual source comply with the level of reduction in EPA's emission guidelines. *See* 42 U.S.C. § 7411(d)(1), (2)(A); *West Virginia*, 597 U.S. at 710.

Ohio also mistakenly asserts (*see* Appl. 13) that EPA has infringed on States' ability to consider remaining useful life by setting a less stringent emission limit for coal plants that retire by 2038. That argument conflates the roles of EPA and the

States in the Act’s cooperative-federalism structure. The agency is required under Section 111(a)(1)’s definition of “standard of performance” to consider cost in determining the best system of emission reduction and may as part of that determination establish subcategories that account for differences among sources. 89 Fed. Reg. at 39,828. EPA did so here in determining that CCS is cost-effective for plants that will operate beyond 2038, but not cost-effective for plants that will retire by 2038. *See id.* at 39,890-91. Contrary to Applicants’ suggestion (*cf.* OH Appl. 13), this overall cost consideration is separate from a State’s ability, at a later date, to invoke a particular unit’s remaining useful life to impose an emission standard less stringent than the presumptive standard. *See id.* at 39,891. For example, a unit that would need to build a pipeline to obtain natural gas to co-fire but which intends to retire early in the medium-term period—say, in 2033—could be eligible for a less stringent standard based on remaining useful life even though EPA previously considered cost in defining the medium-term category. [EPA, Response to Comments, ch. 11 \(State Plans\), at 20-21 \(Apr. 2024\)](#). For these reasons, EPA already provides for the flexibility that Ohio claims is missing.

II. APPLICANTS FAIL TO DEMONSTRATE THAT THEY WILL EXPERIENCE ANY IRREPARABLE HARM ABSENT A STAY.

To obtain a stay pending appeal, “simply showing some possibility of irreparable injury” is insufficient. *Nken*, 556 U.S. at 434 (quotation marks omitted). Instead, applicants must demonstrate that “irreparable injury is *likely*” without a stay. See *Winter v. Natural Res. Def. Council, Inc.*, 555 U.S. 7, 22 (2008). Doubtful or equivocal evidence of irreparable harm does not satisfy applicants’ burden to make a “clear showing” entitling them to this extraordinary remedy. *Winter*, 555 U.S. at 22; cf. *Moyle v. United States*, 144 S. Ct. 2015, 2022 (2024) (Barrett, J., concurring) (lifting of stay appropriate where State’s claim of irreparable harm turned out to be inconsistent with factual record). Applicants have not put forth the necessary evidence. Their applications should be denied on this basis alone. See *Labrador v. Poe*, 144 S. Ct. 921, 929 (2024) (Kavanaugh, J., concurring) (“If the moving party has not demonstrated irreparable harm, then this Court can avoid delving into the merits.”).

As an initial matter, all Applicants’ claims of irreparable harm fail for the fundamental reason that they cannot show injury within the time period relevant to a stay. In light of the D.C. Circuit’s order expediting briefing of the case, a merits decision can be reasonably expected by spring 2025—a full year before state plans are due in May 2026, and five years before the first compliance date for sources. See *supra* at 10. If any party believes it needs emergency relief from this Court following the D.C. Circuit’s opinion, it may seek such relief at the appropriate time with the benefit to the Court and all parties of a reasoned opinion on the merits from the

court of appeals based on briefing and full consideration of the record. Thus, as the D.C. Circuit found, Applicants cannot show any irreparable harm here.

In any event, the specific harms identified by Applicants—namely, risks to electric grid reliability, costs of compliance on industry members, and administrative costs on state agencies—are both speculative and insufficient to constitute irreparable harm.

A. The Rule Will Not Undermine Grid Reliability.

Applicants' contention that they will suffer irreparable harm because the Rule undermines the reliability of the electricity grid cannot withstand scrutiny. Under Applicants' mistaken view, the Rule will dramatically alter the electricity generation mix, cause unavoidable blackouts and brownouts, and result in inflexible enforcement regardless of the impacts on the grid. None of those speculative assertions is well-founded, let alone likely enough based on the record in this case to warrant a stay. To the contrary, the Rule's impacts on generation are likely to be incremental, States and grid officials are well-positioned to handle those impacts, and EPA has designed the Rule to ensure that plants are able to address reliability needs without penalty.

First, it is not true that the Rule will “restructure the Nation’s overall mix of electricity generation.” Elec. Gens. Appl. 11. The transition from coal-fired generation has been underway for over fifteen years, driven by economic pressures on coal plants and technological advancements in natural gas and renewable generation. 89 Fed. Reg. at 39,817; App2.214-15; Evt'l & Pub. Health Resps.-Intervenors Opp'n to

Pet'rs Stay Mot's. (June 11, 2024) (No. 24-1120), ECF #2059133, at 170-77.⁶ Indeed, EPA modeling predicts that the Rule will have almost no effect on coal-fired generation when the Rule is fully implemented in 2040. EPA, Regulatory Impact Analysis 3-28 to 3-29 (Apr. 2024) (coal-fired generation share in 2040 expected to be 3 percent without the Rule and 2 percent under the Rule). And although natural gas plants will continue to be built, their role—with or without the Rule—is expected to change in the near future from providing base-load power to supporting renewable generation. 89 Fed. Reg. at 39,823; App2.222-23.

Second, because the transition away from coal-fired generation has been ongoing for years, States and grid officials are well-positioned—even in the face of increasing demand for electricity—to ensure the Rule's requirements are implemented without sacrificing reliability. App2.178-79, 187-88, 194-95, 199, 201-02, 222-23, 239-40. For example, States with traditionally regulated utilities and those with competitive power markets are constantly planning for the retirement of old units and the connection of new generation resources to ensure long-term reliability needs. App2.185, 187-88, 199, 201, 214-17; *see also* WV App.431a (describing use of integrated resource planning in Indiana and noting that all of Indiana's investor-owned utilities have already planned replacement generation for their retiring coal

⁶ At the start of the 21st century, about 51 percent of electricity in the United States was generated from coal. Nadja Popovich, *How Does Your State Make Electricity?*, N.Y. Times (Aug. 2, 2024). Today coal accounts for only about 16 percent of U.S. electrical generation. *Id.* On a state-by-state level, coal was the leading source of electricity in 32 States as of 2001, but had been displaced from the top spot by other sources in all but ten States as of 2023. *Id.*

fleets). States or grid officials (e.g., independent system operators) also typically review power companies' decisions to retire generating units to ensure that such retirements do not threaten grid reliability. *See, e.g., N.Y. Indep. Sys. Operator, Inc., Generator Deactivation Assessment Cayuga Units 1 & 2 (Retirement) (Apr. 8, 2020)*; App2.233-34 (“States work with the federal government to ensure that sufficient generation resources are available, and that if unforeseen circumstances result in reliability concerns, exceptions are applied.”). These planning efforts are happening irrespective of the Rule, due to economic and ratepayer concerns, other regulatory requirements, and corporate emission-reduction targets. *See* 89 Fed. Reg. at 39,820-23, 40,011-12.

Third, Applicants cannot establish that the Rule creates any imminent, let alone irreparable, reliability threat through compelled closures of coal plants. Indeed, existing coal-fired plants that intend to retire by 2032 may continue operating without *any* carbon controls for the next seven-and-a-half years. 89 Fed. Reg. at 39,801. EPA also found that of the 208 coal-fired units located in State Applicants' jurisdictions or in other States in which Applicants own such units, “only eight units do not have a control cost for CCS or 40 percent co-firing below the cost information that EPA considered and found reasonable when determining the [best system of emission reduction].” EPA Resps. Opp'n to Mots. to Stay (D.C. Cir. June 11, 2024) (No. 24-1120), ECF #2059170, at 239-240. And even if a plant owner made an economic decision to close a plant sooner than 2032 (and even if it did so based in

part on the Rule), any retirement decision would be subject to approval by state or regional officials after considering potential reliability impacts. See *supra* at 27.

Applicants' erroneous premise of forced coal-plant closures also ignores the Rule's compliance options and flexibilities, inaccurately presenting the choice for coal plants as a dichotomy between retiring prematurely or installing CCS. See WV Appl. 26-29. For example, a West Virginia declarant assumes that *all 19 coal-fired units* in West Virginia are "long term"—although many will be 60 to 70 years old in the 2030s—and will install CCS to comply with the Rule. WV App.831a. As discussed below, the validity of this assumption is contradicted by another West Virginia declarant (see *infra* at 37-38). Regardless, this assumption ignores that a unit may instead operate for another 14 years (until the end of 2038) and use West Virginia's plentiful natural gas supply and 16,000-mile pipeline network to meet the Rule's less stringent co-firing-based standard. Cf. EPA Resps. Opp'n, *supra*, at 239-40 (in States studied, "19 of the 27 units with higher estimated CCS costs have estimated costs for 40-percent natural gas co-firing that are lower than the cost information that EPA considered and found reasonable when determining the [best system of emission reduction]"). Another declarant argues it would be too costly for a coal-fired unit scheduled to retire in 2032 under its current resource plan to co-fire with natural gas, OH App. at E-10-12, ignoring that such a unit may be eligible for a less stringent standard under a remaining useful life analysis. See also EPA Resps. Opp'n, *supra*, at 241 (there are units subject to either the CCS-based or 40 percent co-firing emission limits that "may differ fundamentally from the characteristics

that the EPA considered in determining the best system of emission reduction” and therefore may be “eligible to continue operating with a less stringent standard or a later compliance date”).

And although Applicants argue that existing coal plants are necessary for reliability purposes (e.g., WV Appl. 27),⁷ States are increasingly using non-fossil fuel generation resources like battery storage for that function. As the Colorado Energy Office’s Executive Director explains, “many utilities and grid operators, including Colorado’s, are finding that . . . battery storage can provide these [reliability] services and often at shorter timescales and with faster response than coal”). App2.238-39. This practice is occurring in State Applicants’ jurisdictions as well. See WV App.767a (Texas has 6,000 megawatts of battery storage and will add another 10,000 megawatts by summer 2025).

Fourth, the record contradicts Applicants’ contention that the Rule will jeopardize reliability by effectively preventing the building of new gas plants. For example, they argue that new gas plants cannot successfully use CCS at a

⁷ Yet, West Virginia fails to grapple with the increasing reliability problems experienced by coal plants and the related costs being borne by ratepayers to keep them operating. See WV App.777a-78a (reliability in Utah jeopardized by problems with coal supply); see also Arkansas Elec. Coop. Corp., 2022 Annual Report: CEO Report (disruptions to railroad coal deliveries led to inadequate fuel supply to “maintain normal coal plant operations,” resulting in a \$69 million increase in fuel costs for the co-ops); W. Va. Pub. Serv. Comm’n, Final Order, Case No. 23-0377-E-ENEC at 10, 20, 26, 30 (Jan. 9, 2024) (rising coal costs and inadequate stockpiles at coal plants led in 2021-23 to \$500 million in excess fuel costs and power purchases, which the utilities sought to recover from ratepayers, along with \$1.2 billion in still-unrecovered investments).

90 percent capture rate or meet the 2032 deadline due to construction or permitting delays. *See, e.g., Elec. Gens. Appl.* 19. But West Virginia recently approved a new natural gas plant that intends to install CCS and meet a 90 to 95 percent capture rate.⁸ Similarly, in Texas, several new natural gas base-load plants that are intended to meet that same capture rate have received permits or submitted permit applications. EPA Resps. Opp’n, *supra*, at 244, 246-48.

West Virginia’s argument that EPA’s subcategorization of gas-fired plants threatens reliability—not raised in their stay motion below—also misses the mark. West Virginia contends the Rule’s intermediate subcategory “will put many utilities in a bind” (WV Appl. 27), but that concern as raised in their rulemaking comments concerned a provision of the proposed rule that would have required intermediate units to co-fire with 30 percent hydrogen (WV App.327a), which EPA did not include in the final version. *See* 89 Fed. Reg. at 39,805. Similarly, West Virginia’s capacity factor argument (WV Appl. 28), citing Kentucky environmental agency’s comments) stems from the proposed rule’s requirements for intermediate *existing* gas turbines, which EPA also did not include in the final Rule. *See* 89 Fed. Reg. at 39,806.

Finally, in the unlikely scenario in which complying with the Rule’s standards would jeopardize grid reliability, EPA—following extensive coordination with FERC, the Department of Energy, state public utility commissions, and grid officials (*see*

⁸ [Curtis Tate, PSC Approves Construction of Gas Power Plant in Doddridge County, W. Va. Pub. Broad \(Apr. 29, 2024\); Competitive Power Ventures, CPV Shay Energy Center \(n.d.\).](#)

App2.231-32)—included provisions in the final Rule to allow for continued (or greater) operation of a power plant if necessary to maintain grid reliability. *See* 40 C.F.R. § 60.5740b(a)(12)-(13). Applicants ignore those reliability-related flexibilities.

B. The Rule Will Not Force Immediate or Irrevocable Compliance Decisions.

State Applicants' contention (*see* WV Appl. 29-31; OH Appl. 6) that the Rule will force immediate and irreversible decisions, which will result in excessive cost burdens for companies and ratepayers, is based on two incorrect assumptions.

First, Applicants assume that CCS (and in some Applicants' view, co-firing with natural gas) will not work, contrary to EPA's record findings. That is, Applicants assume that power plant owners will not be able to meet the Rule's emission limits for new gas-fired or existing coal-fired plants and therefore will be forced to undertake costly options such as making plans now to secure or build replacement power. *E.g.*, WV App.29-31. But as explained above, EPA's findings about the feasibility of CCS and co-firing are fully supported by the record, and at a minimum, Applicants have not met their burden of showing they are likely to demonstrate otherwise. *See supra* at 13-18. *See also* App2.134-35, 177-79, 230-31 (explaining that power plants in Minnesota, Arizona, and Colorado, respectively, have viable compliance options under the Rule). Because Applicants' purported need to make immediate and costly decisions is based on their misassumption about the

infeasibility of CCS and co-firing,⁹ those alleged harms stem from voluntary choices and do not “directly result” from the Rule. *See Wisconsin Gas Co. v. FERC*, 758 F.2d 669, 674 (D.C. Cir. 1985) (per curiam).

Even if Applicants needed to secure replacement power as a result of retirements that purportedly would be caused by the Rule, Applicants do not and cannot support their assertion that the cost of replacement capacity will raise electricity rates now (WV Appl. 28-29). Indeed, enormous amounts of replacement capacity were *already* being planned before the Rule, including in State Applicants’ jurisdictions.¹⁰ Applicants fail to show any likelihood that replacement power costs will be attributable to the Rule rather than to such preexisting transition plans. *See MediNatura, Inc. v. FDA*, 998 F.3d 931, 945 (D.C. Cir. 2021) (affirming denial of stay because plaintiff “did not demonstrate that any harm it is suffering is directly traceable” to the challenged agency action). In addition, West Virginia’s assumption

⁹ West Virginia’s assertion that an immediate decision must be made about a “\$30 million acquisition” (WV Appl. 30 (citing WV App.622a)), is wrong for a different reason: the alleged harm that would devalue the acquisition—the closure of a mine *in 2031*—will not occur if Applicants were to prevail on the merits. Under declarants’ own reasoning, the harm is not “irreparable” because granting the petitions would provide complete relief.

¹⁰ *See, e.g., Jack Quinn, Louisiana Approves Largest Renewable Expansion in State History*, E&E News (May 23, 2024) (Louisiana PSC approved a 3,000 MW expansion of utility solar); *Tim Fitzpatrick et al., End of Utah Coal Power in Sight as Rocky Mountain Power Moves to Renewables and Nuclear*, Salt Lake Tribune (updated Apr. 4, 2023) (Utah’s largest utility announced the addition of 20,000 MW of solar and wind power and 7,400 MW of battery storage by 2032); *Beret Walsh, LandGate Corp., West Virginia Solar Development Analysis* (updated May 21, 2024) (West Virginia has over 6,000 MW worth of utility solar projects queued for inter-connection).

that the “costs of lost power and abandoned investments will be passed to ratepayers” (WV Appl. 28-29) ignores the central role of state utility regulators in policing ratepayer charges. *See* W. Va. Pub. Serv. Comm’n, Final Order, *supra*, at 30, 32 (rejecting proposal to securitize \$1.2 billion in still-unrecovered capital costs from two coal plants); [AP News, Virginia Regulators Reject Request for WVa Plant Upgrades \(Aug. 24, 2021\)](#) (refusing to pass on to its ratepayers costs to retrofit these same two plants).

Second, Applicants misconstrue the Rule’s compliance deadlines and assume that they must undertake substantial and costly work now to meet the 2032 compliance deadline for CCS. *E.g.*, NRECA Appl. 35-36; WV Appl. 30. EPA determined, based on an extensive record, that the owners of existing coal-fired plants and new gas-fired plants could defer any “substantial work,” such as front-end engineering design studies, permitting, right-of-way acquisitions, and construction, until June 2026. 89 Fed. Reg. at 39,874-75, 39,938. As explained above (at 10), a merits decision from the D.C. Circuit in this case can reasonably be anticipated by the spring 2025, a full year before then. Furthermore, the Rule provides for a one-year extension in the event of compliance delays attributable to delays in construction or permitting. *See* 40 C.F.R. § 60.5740b(a)(11). And new gas-fired plants have the added flexibility of operating at an intermediate-load level until the CCS work is completed. *See* 89 Fed. Reg. at 39,952. Accordingly, this case is not one in which “businesses have to restructure their operations or build new facilities to comply with the new regula-

tions” during the period relevant for determining a stay. *See Labrador*, 144 S. Ct. at 929 (Kavanaugh, J. concurring).

Applicants are also wrong that compliance decisions that power plant companies may make in the near term are irreversible. *E.g.*, Elec. Gens. Appl. 26; OH Appl. 6. For example, owners of plants in Georgia and Virginia recently reversed decisions they had made several years before to retire generating units.¹¹ Under the Rule, the owner of a coal plant scheduled to retire in 2039 could, for instance, decide in late 2026 (after the state plan deadline and likely well after a final merits decision in this case) to instead retire the plant in 2038—and have sufficient time to comply with the Rule’s more lenient co-firing-based standard. *See* 89 Fed. Reg. at 39,893-94. The State in which such a plant is located could then submit a plan revision including a revised emission standard and compliance schedule. *See id.* at 39,999. For the same reason, Ohio’s assertion that compliance decisions are “irrevocably solidified in the State’s implementation plan” (OH Appl. 6) is simply incorrect.

C. The Rule Does Not Burden State Agencies Beyond Their Ordinary Responsibilities.

State Applicants also fail to establish irreparable harm relating to state plans under the Rule. First, as the court of appeals noted in its stay denial order (App1.2), States may avoid the costs of preparing plans altogether by allowing EPA to issue a

¹¹ *See Georgia Power, 2023 Integrated Resource Plan Update 26-27 (2023); Dominion Updates Plan to Extend Life of Clover Plant, SoVaNow.com (May 11, 2023).*

federal plan to regulate existing sources in that State—an approach at least one State Respondent (Pennsylvania) is contemplating. App2.252. States that do not wish to incur costs preparing state plans before the D.C. Circuit issues a merits opinion (likely in spring 2025) could replace the federal plan by submitting their own plan to EPA at a later date. App1.2.

Second, it cannot be that the ordinary costs of preparing a state plan are irreparable because the Act’s design plainly contemplates state plan preparation under Section 111(d) during the pendency of litigation over EPA regulations. *See* 42 U.S.C. 7607(b)(1). Here, several Applicants’ declarants describe tasks such as “evaluating the Final Rule” and “considering how to incorporate [it] into existing [regulations].” WV App.370a; *see also* App.884a: (referring to devoting staff resources “to evaluating the practical, technical, and economic implications of creating a state plan to meet the rule’s requirements”). But contrary to State Applicants’ argument (WV Appl. 31-34; Ohio Appl. 7), ordinary costs associated with evaluating a rule and preparing a state plan under the Act’s cooperative federalism structure do not qualify as irreparable harm. *Cf. Freedom Holdings, Inc. v. Spitzer*, 408 F.3d 112, 115 (2d Cir. 2005) (routine compliance costs typically insufficient to show irreparable harm). Holding otherwise would improperly transform a stay from an extraordinary remedy into a commonplace event under the Act and similar cooperative-federalism statutes.

Third, even if compliance costs may constitute irreparable harm where they are unusual and severe, the costs associated with preparing state plans here do not rise to that level. The obligations the Rule imposes on state agencies are typical for

power sector air regulations: tasks like identifying electricity-generating units that have compliance obligations, determining an emissions baseline based on recent operations, and coordinating with grid officials to ensure consideration of any reliability impacts of compliance decisions. *See* 89 Fed. Reg. at 39,957; App2.134-35, 171. Although States that decide to undertake a remaining useful life analysis will need to do additional work, the number of units that need to be included in most state plans is relatively small. 89 Fed. Reg. at 39,997-98. For example, most State Applicants that submitted declarations listed only two or three units that will be included in their state plans. *See* WV App.371a (Arkansas, three units), 415a (Indiana, two units), 498a (Montana, two units), 814a (Virginia, two units). Several State Respondents will be preparing plans with a similar or greater number of sources. *See* App2.76 (Illinois, four units), 129 (Minnesota, four units); 174-76 (Arizona, five units). Based on their experience in drafting similar plans under Section 111(d) or Section 110, these State Respondents expect to submit plans on timelines consistent with those in the Rule using existing staff resources. *See* App2.75 (Illinois), 130-31 (Minnesota), 172-73 (Arizona).

State Applicants' declarations also contain contradictory or unsubstantiated assertions or fail to show purported harms during the relevant period. For example, West Virginia's environmental agency (Crowder) asserts that the Rule will require it to double current staffing levels and spend nearly \$10 million, based on the assumption that *all* of West Virginia's 19 coal-fired units will install CCS. WV App.831a. But another West Virginia declarant (Preservati) contradicts this assump-

tion, stating that only *one* unit is a candidate to install CCS. WV App.843a-44a. The North Dakota Public Service Commission declarant likewise assumes it will take 2,700 staff hours and \$2 million to implement the Rule based on a remaining useful life review of *all* sources in the State (WV App.654a), but an evaluation of remaining useful life is intended to apply—at the State’s discretion—on a case-by-case basis as necessary, not invoked across the board for all sources. Finally, Ohio’s agency declarant asserts the Rule will impose “immense compliance burdens,” but fails to identify purported number of staff hours or costs that would allegedly be incurred during the timeline relevant to the stay. *See* OH App. at C-4.

West Virginia further conflates state plan preparation costs (which will fall in the two-year period for state plans) with costs borne by other agencies and the power industry, more generally, for implementing CCS at sources (which will largely come, if at all, much later). *See* WV Appl. 32-33. For example, West Virginia cites a North Dakota agency declarant’s estimate that processing permits for carbon storage—not preparing a state plan— will take “at least 28,000 hours of staff time” (WV Appl. 32 (citing WV App.564a-65a)), and the Utah ratepayer advocate’s estimate of “hundreds of thousands of dollars” for work—again, not work preparing a state plan—that will occur in “general rate cases” and other proceedings that happen regardless of the Rule’s status, *id.* (citing 794a). *See also* WV Appl. 33 (asserting “expert agencies doing the actual work say [costs are] ‘immense,’” but quoting an electric co-op’s chief executive describing implementation (394a)). Indeed, outside the state plan process, regulators’ and industry’s near-term planning should

largely occur within ongoing resource planning cycles that will continue with or without the Rule in effect. *See, e.g.,* Env't'l & Pub. Health Resps.-Intervenors Opp'n, *supra*, at 118-20, 173-75; OH App. at E-7-8.

III. THE EQUITIES AND PUBLIC INTEREST WEIGH DECISIVELY AGAINST A STAY.

In determining whether to grant a stay, “[i]t is ultimately necessary . . . to balance the equities—to explore the relative harms to applicant and respondent, as well as the interests of the public at large.” *Barnes v. E-Systems, Inc. Grp. Hosp. Med. & Surgical Ins. Plan*, 501 U.S. 1301, 1305 (1991) (Scalia, J., in chambers) (quotation marks omitted). Here, a stay on Applicants’ terms would harm State Respondents and the public interest by delaying overdue emissions reductions needed to address numerous and worsening climate-related harms, including more frequent severe weather, which poses the biggest threat to grid reliability.

It has been more than a decade since this Court held that Section 111(d) “provides a means to seek limits on emissions of carbon dioxide from domestic power plants.” *American Elec. Power*, 564 U.S. at 425. In that time, climate change has accelerated and the harms to our States, cities, and residents have multiplied. *See supra* at 5. Under Applicants’ theory that a stay should result in tolling any compliance deadlines for the period of the litigation (*e.g.,* WV Appl. 31), granting a stay would lock in millions of additional tons of CO₂ emitted into the atmosphere, which would contribute to climate harms for a long time. *See* EPA Resps. Opp’n, *supra*, at 297-98. Delays in substantially cutting carbon pollution would also make

it more difficult—and costly—for State Respondents to avoid catastrophic harms. See 89 Fed. Reg. at 39,809-10; App2.27, 49.

Moreover, further delaying emission reductions would exacerbate threats to grid reliability and lead to higher electricity rates because foregone reductions would contribute to more frequent and more extreme weather events, which are the leading cause of power outages. See *supra* at 5-6. States and power companies are already spending significant and growing sums of money to respond to and prevent power outages caused by severe storms and searing heat waves, and to address wildfires. See, e.g., App2.18-21, 185-86, 209-12; WV App.491a. These harms are expected to escalate unless immediate steps are taken to address climate change. See [U.S. Global Change Rsch. Program, *Fifth National Climate Assessment* ch. 5, at 5-4 \(2023\)](#); App2.212 (“[T]he only long-term and fully effective solution to extreme weather induced blackouts is curbing the GHG emissions that continue to increase the likelihood and magnitude of extreme weather events.”). Thus, contrary to applicants’ claims, prompt implementation of the Rule will promote grid reliability, while a stay would undermine it.

CONCLUSION

The Applications for a Stay should be denied. If the Court is inclined to grant Applicants any relief, it should stay only those parts of the Rule for which the Applicants have both expressly sought a stay and demonstrated applicability of all of the stay factors.

Dated: New York, New York
August 19, 2024

Respectfully submitted,

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Appendix 1

United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 24-1120

September Term, 2023

EPA-89FR39798

Filed On: July 19, 2024

State of West Virginia, et al.,

Petitioners

v.

Environmental Protection Agency and
Michael S. Regan, Administrator, United
States Environmental Protection Agency,

Respondents

Louisiana Public Service Commission, et al.,
Intervenors

Consolidated with 24-1121, 24-1122,
24-1124, 24-1126, 24-1128, 24-1142,
24-1143, 24-1144, 24-1146, 24-1152,
24-1153, 24-1155, 24-1222, 24-1226,
24-1227, 24-1233

BEFORE: Millett, Pillard, and Rao, Circuit Judges

ORDER

Upon consideration of the motions for stay, the oppositions thereto, the replies, the Rule 28(j) letter, and the responses thereto; and the motions to participate as amici curiae and the lodged amicus briefs, it is

ORDERED that the motions of the Chamber of Commerce, the Sierra Club, the Environmental Defense Fund, and Professor Rachel Rothschild to participate as amici curiae be granted. The Clerk is directed to file the lodged amicus briefs. It is

United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 24-1120

September Term, 2023

FURTHER ORDERED that the motions for stay be denied. Petitioners have not satisfied the stringent requirements for a stay pending this court’s review. See *Nken v. Holder*, 556 U.S. 418, 434 (2009); D.C. CIRCUIT HANDBOOK OF PRAC. AND INTERNAL PROCS. 33 (2021).

On the merits, petitioners dispute whether the Environmental Protection Agency (“EPA”) acted arbitrarily or capriciously in determining that carbon capture and other emission control technologies are adequately demonstrated, or that specific degrees of emission mitigation are achievable with those technologies. But petitioners have not shown they are likely to succeed on those claims given the record in this case. Nor does this case implicate a major question under *West Virginia v. EPA*, 142 S. Ct. 2587 (2022), because EPA has claimed only the power to “set emissions limits under Section 111 based on the application of measures that would reduce pollution by causing the regulated source to operate more cleanly[.]” a type of conduct that falls well within EPA’s bailiwick, *id.* at 2610.

On irreparable harm, actual compliance deadlines do not commence until 2030 or 2032—years after this case will be resolved. Though the first deadline for States to submit state implementation plans is May 2026, the only consequence of failing to submit a state plan is the promulgation of a federal plan—which the States can replace with their own plans later. EPA Opp., Ex. 1, Goffman Decl. ¶ 100. To the extent petitioners claim harm due to the need for long-term planning, a stay will not help because the risk remains that the distant deadlines in EPA’s rule will come back into force at the end of the case.

EPA has suggested that this case be expedited as an alternative means of protecting all parties’ interests. Accordingly, to ensure this case can be argued and considered as early as possible in the court’s 2024 term, it is

FURTHER ORDERED that the parties submit, within 14 days from the date of this order, proposed formats and schedules for the briefing of these cases. The parties are strongly urged to submit a joint proposal and are reminded that the court looks with extreme disfavor on repetitious submissions and will, where appropriate, require a joint brief of aligned parties with total words not to exceed the standard allotment for a single brief. Whether the parties are aligned or have disparate interests, they must provide detailed justifications for any request to file separate briefs or to exceed in the

United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 24-1120

September Term, 2023

aggregate the standard word allotment. Requests to exceed the standard word allotment must specify the word allotment necessary for each issue.

Per Curiam

FOR THE COURT:

Mark J. Langer, Clerk

BY: /s/

Selena R. Gancasz

Deputy Clerk

Appendix 2

ORAL ARGUMENT NOT YET SCHEDULED

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

State of West Virginia, et al.,

Petitioners,

v.

**United States Environmental
Protection Agency, et al.,**

Respondents.

Case No. 24-1120
(and consolidated cases)

**Declarations Accompanying State and Municipal Intervenor-
Respondents' Opposition to Petitioners' Stay Motions**

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Dated: June 11, 2024

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Exhibit A

Declaration of Jonathan Binder Commissioner for Climate Change, Air Resources, and Energy, New York State Department of Environmental Conservation

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

State of West Virginia, et al,

Petitioners,

v.

Environmental Protection Agency,

Respondent.

Case No. 24-1120

DECLARATION OF JONATHAN BINDER

DEPUTY COMMISSIONER

**NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION**

Pursuant to 28 U.S.C § 1746, Jonathan Binder declares:

1. I am the Deputy Commissioner for Climate Change, Air Resources, and Energy at the New York State Department of Environmental Conservation (NYSDEC), where I have worked since 2008. I submit this declaration in support of State and Municipal Intervenors' opposition to the motions to stay the U.S. Environmental Protection Agency's (EPA) final rule titled "*New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission*

Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule” 89 Fed. Reg. 39,738 (May 9, 2024) (the Rule).

PERSONAL BACKGROUND AND QUALIFICATIONS

2. I have a Bachelor of Science degree in Policy Analysis and Management from Cornell University. I have a Juris Doctor degree, with a Certificate in Environmental Law, from Tulane University Law School. I am an attorney licensed to practice law in the State of New York.

3. I have been the NYSDEC Deputy Commissioner for Climate Change, Air Resources, and Energy for approximately one year. In addition to my current position as NYSDEC Deputy Commissioner, from 2008 through 2023, I held various legal positions as an attorney in NYSDEC’s Office of General Counsel. Most recently, prior to being appointed Deputy Commissioner, I was the Chief of the Bureau of Climate, Air, and Energy within the NYSDEC Office of General Counsel.

4. My responsibilities as Deputy Commissioner include leading NYSDEC’s implementation of the State’s Climate Leadership and Community Protection Act (Climate Act). Among other requirements, the Climate Act requires New York to reduce economy-wide greenhouse gas

(GHG) emissions 40 percent by 2030 and no less than 85 percent by 2050, both from 1990 levels. Reduction of GHG emissions from stationary sources, including fossil fuel-fired electric generating units such as those implicated by the Rule, is an important component of New York State's plan to meet these state statutory requirements.

5. As Deputy Commissioner, I oversee NYSDEC's Division of Air Resources (DAR) and its Office of Climate Change (OCC). Among other functions, DAR carries out the development and implementation of regulations to reduce both GHG and co-pollutant emissions. This includes regulations to help implement the State's Climate Act, as well as regulations to ensure compliance with the requirements of the federal Clean Air Act (Act).

6. In addition, DAR is responsible for the development and submittal of Act-mandated state implementation plans and state plans, the permitting of individual stationary sources that incorporate all applicable state and federal requirements, and the enforcement of regulatory and permitting provisions at individual stationary sources.

7. Among other responsibilities, OCC leads the development of policies, programs, and other initiatives to help address climate change.

This includes through mitigation actions that reduce the GHG emissions that cause climate change, as well as adaptation and resiliency measures that help the State to be prepared for the changing climate. For example, OCC helps to ensure NYSDEC and the State utilize the best available science and technical analyses with respect to climate change-related impacts and assessments.

8. Both DAR and OCC, the units within NYSDEC that I oversee, have significant roles in the State's implementation of the Climate Act. In addition to the statewide GHG emission reduction requirements, the Climate Act also requires measures to minimize emissions leakage. Emissions leakage as contemplated by the Climate Act refers to "a reduction in emissions of [GHG] within the [S]tate that is offset by an increase in emissions of [GHG] outside of the [S]tate." ECL § 75-0101(12). The federal regulation of GHG emissions, including under the Act and pursuant to the Rule, helps to reduce the likelihood of emissions leakage that might otherwise result from state actions to regulate GHGs to implement the Climate Act. Overall, the GHG emission reductions that will come from EPA's implementation of the Rule are vitally important

to the State's efforts to combat climate change and to its planning and regulatory efforts under its Climate Act.

I. Climate Change Impacts

A. Climate Change is Already Harming New Yorkers' Health

9. Climate change is posing numerous health threats to our State. As the climate continues to change, the demand for health services and the need for public health surveillance and monitoring in New York will increase. Hotter temperatures are projected to result in more heat-related illnesses and deaths. In addition, increased coastal and riverine flooding resulting from more severe storms increases the risk of releasing contaminants or even toxic substances from wastewater treatment facilities, industrial facilities, and superfund sites with multiple attendant adverse physical and mental health effects. Water- and food-borne diseases, for example, are likely to increase without mitigation and adaptation intervention.¹

¹ N.Y. State Energy Research and Dev. Auth., Responding to Climate Change in New York State: The ClimAID Integrated Assessment for Effective Climate Change Adaptation (2011) (Cynthia Rosenzweig, et al., eds.) at 403-04, 421-22 (hereinafter the "ClimAID Report"), <https://www.nyserda.ny.gov/-/media/Files/Publications/Research/Environmental/EMEP/climaid/ClimAID-Report.pdf>

10. Climate change is likely to worsen the harms New York—especially the New York City metropolitan area—is already suffering from ozone. As EPA recognized many years ago when making its 2009 Endangerment Determination regarding GHG emissions under Section 202(a) of the Clean Air Act, “climate change is expected to increase [ground level] ozone pollution over broad areas of the U.S., including in the largest metropolitan areas with the worst [] ozone problems, and thereby increase the risk of adverse effects on public health.”²

B. Climate Change is Already Harming New York’s Environment

11. Anthropogenic emissions of carbon dioxide (CO₂), the predominant GHG, are contributing to the observed warming of the planet.³ The Earth’s climate is changing, with adverse consequences already well documented across the globe, in our nation and in the State. Extreme heat events are increasing, and intense storms are occurring with greater frequency. Many of the observed climate changes are beyond

² 74 Fed. Reg. at 66,525.

³ Intergovernmental Panel on Climate Change Working Group I Fifth Assessment Report, Climate Change 2013: The Physical Science Basis, 2013, *available at* <https://www.ipcc.ch/report/ar5/wg1/>

what can be explained by natural variability of the climate.⁴ These changes are harming, and will continue to harm, New York State's environment, including shorelines, drinking water sources, agriculture, forests, and wildlife diversity.

12. Temperatures in New York State have risen on average 0.21°F per decade from 1901-2022, with the greatest warming coming in the most recent decades. This warming includes an increase in the number of extreme hot days (days at or above 90°F) and a decrease in the number of cold days (days at or below 32°F).⁵ The 2011 New York State ClimAID assessment,⁶ the 2014 update to ClimAID,⁷ and the 2023 New York State Climate Impact Assessment present the numerous direct impacts that have already been observed in the State. These impacts are described in more detail below.

⁴ Ibid.

⁵ N.Y. State Energy Research and Dev. Auth., *Climate Impacts Assessment: Chapter 2 New York State's Changing Climate* [Interim version for public release] (2014) (Christopher Lamie, et al., eds.) (hereinafter the "Climate Impacts Assessment"), at 9/

⁶ ClimAID Report.

⁷ N.Y. State Energy Research and Dev. Auth., *Climate Change in New York State: Updating the 2011 ClimAID Climate Risk Information* (2014) (Cynthia Rosenzweig, et al., eds.) (hereinafter the "ClimAID Update"), <https://www.nyserda.ny.gov/climaid>

Natural Resource Impacts

13. New York State is likely to see widespread shifts in species composition in the State's forests and other natural landscapes within the next several decades due to climate change. Losses of spruce-fir forests, alpine tundra and boreal plant communities are expected. Climate change favors the expansion of some invasive species into New York, such as the aggressive weed, kudzu, and the insect pest, hemlock woolly adelgid. Increased CO₂ in the atmosphere due to climate change is likely to preferentially increase the growth rate of fast-growing species, which are often weeds and other invasive species. Lakes, streams, inland wetlands and associated aquatic species will be highly vulnerable to changes in the timing, supply, and intensity of rainfall and snowmelt, groundwater recharge and duration of ice cover. Increasing water temperatures will negatively affect brook trout and other native cold-water fish.⁸

14. New York State's forests and the economy that depends on them will be hurt by climate change. Climate change will affect the forest mix in New York, which could change from the current mixed forest to a

⁸ ClimAID Report 172, 196.

temperate deciduous forest. The habitat for existing tree species will decrease as suitable climate conditions shift northward.⁹ As forest species change, the resulting decrease in the vibrant display of New York State fall foliage could have a negative impact on regional tourism. New York State's Adirondack Park is the largest forested area east of the Mississippi and consists of six million acres, including 2.6 million acres of state-owned forest preserve.¹⁰ The Adirondack Park, one the most significant hardwood ecosystems in the world, is likely to be threatened by these changes.¹¹ These changes will also further impact plant and wildlife species in the Adirondack Park and throughout the state, as the forest composition changes.

Sea Level Rise Impacts

15. Warming ocean waters contribute to sea level rise, with adverse impacts for New York State. Warmer ocean water, which results in thermal expansion of ocean waters, melting of land ice, and local changes in the height of land relative to the height of the continental land

⁹ ClimAID Report 177.

¹⁰ N.Y. State Adirondack Park Agency, "More about the Adirondack Park," https://www.apa.ny.gov/About_Park/more_park.html

¹¹ ClimAID Report 178-79, III-47.

mass, are the major contributors of sea level rise. Warming ocean water has the potential to strengthen the most powerful storms, and combined with sea level rise, will lead to more frequent and extensive coastal flooding. Sea level in the coastal waters of New York State and up the Hudson River has been steadily rising over the 20th century. Tide-gauge observations in New York indicate that rates of relative sea level rise were significantly greater than the global mean, ranging from 0.9 to 1.5 inches per decade.¹²

16. Sea level rise increases the extent and magnitude of coastal flooding. For example, the twelve inches of sea level rise the New York City area has experienced in the past century exacerbated the flooding caused by Hurricane Sandy by about twenty-five square miles, damaging the homes of an additional 80,000 people in the New York City area alone.¹³ That flooding devastated several areas of New York City, including the Brooklyn-Queens Waterfront, the East and South Shores of Staten Island, Southern Queens, Southern Manhattan, and Southern

¹² ClimAID Report at 19, 127, 135.

¹³ New York City Panel on Climate Change 2015 Report, Chapter 2: Sea Level Rise and Coastal Storms. Ann. N.Y. Acad. Sci. ISSN 0077-8923, *available at* <http://onlinelibrary.wiley.com/doi/10.1111/nyas.12593/full>

Brooklyn. Some areas lost power and other critical services for extended periods. Overall, Hurricane Sandy caused 53 deaths and the estimated costs of response and recovery in New York State exceeded \$30 billion.¹⁴

17. New York State's tidal shoreline, including barrier islands, coastal wetlands, and bays, is expected to be particularly adversely affected by increased sea levels. New York State has 1,850 miles of tidal coastline,¹⁵ and the State owns dozens of state parks within New York State's coastal boundary. Tidal shoreline property in the State held by private landowners is similarly at risk.

18. As required by the State's Community Risk and Resiliency Act, based on the sea level rise impacts and projections just described, NYSDEC promulgated regulations, 6 NYCRR Part 490 (Part 490). This Part 490 regulation provides science-based projections of future sea level rise over time and in different geographic regions of the State. NYSDEC

¹⁴ N.Y. Senate Bipartisan Task Force on Sandy Recovery, *Preliminary Response & Recovery Report* at 1, 26 (Feb. 2013), <https://www.nysenate.gov/sites/default/files/articles/attachments/Senate%20Bipartisan%20Task%20Force%20on%20Hurricane%20Sandy%20Report%20FINAL%202-5.pdf>

¹⁵ U.S. Bureau of the Census, *Statistical Abstract of the United States 1987* at 187 (107th Ed.).

recently proposed revisions to Part 490 to ensure these projections are based on the most up-to-date science.

More Severe Storms and Flooding

19. Climate change is also increasing the frequency and magnitude of flood damage and storms. Rising air temperatures associated with climate change intensify the water cycle by driving increased evaporation and precipitation. The resulting altered patterns of precipitation include more rain falling in heavy events, often with longer dry periods in between. Heavy downpours have increased in New York State over the past 50 years. By the end of the 21st century, coastal flood levels currently associated with a 100-year flood could occur approximately four times as often under even conservative sea level rise scenarios. This trend will increase localized flash flooding in urban areas and hilly regions.¹⁶

20. New York State incurs significant costs from damage from flooding. Grants to the State from the Federal Emergency Management Agency (FEMA) Public Assistance Program made in the aftermath of flood disasters almost always require the State to fund a portion of the

¹⁶ ClimAID Report at 35, 103.

project. For example, in the aftermath of Hurricane Sandy, FEMA obligated over \$14 billion to New York State and local governments.¹⁷ Even in the case of Hurricane Sandy, which was deemed damaging enough that New York State and local governments had to pay only 10% of eligible costs for most projects,¹⁸ these grants entailed significant expenditures.

21. Flooding due to climate change exacerbates harm to public health, as discussed above, and the environment in New York State. Contaminated floodwaters can also impede other water uses including swimming, beach-going, and fishing.¹⁹ The U.S. Secretary of Health and Human Services issued Public Health Emergency Declarations in New York²⁰ following Hurricane Sandy and Tropical Storm Lee, in large part because of post-flood conditions.

¹⁷ Fed. Emergency. Mgmt. Agency, *New York Hurricane Sandy (DR-4085-NY)* (last updated Mar. 20, 2020), <https://www.fema.gov/ar/disaster/4085>

¹⁸ Fed. Emergency. Mgmt. Agency, *New York; Amendment No. 9 to Notice of a Major Disaster*, 78 Fed. Reg. 32,413 (May 30, 2013).

¹⁹ ClimAID Report at 422, 444-53.

²⁰ U.S. Dep't of Health & Human Serv., "Public Health Emergency Declarations," <https://www.phe.gov/emergency/news/healthactions/phe/Pages/default.aspx>

22. Climate change requires an increased commitment of state emergency response resources to protect lives and property in flood prone areas. For example, swift-water or air-rescue teams rescued over one thousand state residents during the flooding caused by Hurricane Irene and Tropical Storm Lee. New York State committed extensive emergency resources in response to the storms, including: deploying 1,700 State Police and 3,200 National Guard members, opening 200 shelters to house 18,000 citizens, and staffing 74 Disaster Recovery Centers to assist citizens during the recovery period.²¹ The storms closed 400 road segments and bridges and required repairs at 945 locations on the state highway system.

23. As EPA has previously recognized, “climate change is also expected to cause more intense hurricanes and more frequent and intense storms of other types, and heavy precipitation.”²² Over 15.5 million people live within coastal counties in New York, the second highest population within the United States (only California has a larger

²¹ N.Y. State Office of the Governor, *New York State Responds – Hurricane Irene and Tropical Storm Lee: One Year Later*. August 2012. Available at:

https://cdn.esd.ny.gov/DisasterRecovery/08232012_LeeIreneOneYear.pdf

²² 74 Fed. Reg. at 66,525.

coastal population).²³ According to NOAA's Office of Coastal Management, New York has the most insured coastal properties in the country that are vulnerable to hurricanes (\$2.92 trillion in value).²⁴

Threats to Infrastructure

24. New York State maintains or owns critical transportation infrastructure in lower Manhattan, including the Hugh L. Carey Tunnel (formerly the Brooklyn-Battery Tunnel),²⁵ the South Ferry Terminal,²⁶ and the West Side Highway, all of which are threatened by sea level rise and extreme weather events.²⁷

25. New York's Metropolitan Transit Authority (MTA) has, especially in the wake of Hurricane Sandy, taken extensive measures to

²³ Nat'l Oceanic and Atmospheric Admin., *National Coastal Population Report: Population Trends from 1970 to 2010* (Mar. 2013), available at:

<https://aambpublicoceanservice.blob.core.windows.net/oceanserviceprod/facts/coastal-population-report.pdf>

²⁴ Nat'l Oceanic and Atmospheric Admin, Office for Coastal Mgmt., "Fast Facts: Hurricane Costs," <https://coast.noaa.gov/states/fast-facts/hurricane-costs.html>

²⁵ See MTA, *2017 Adopted Budget: February Financial Plan, 2017-2020*, available at <http://web.mta.info/mta/budget/pdf/MTA%202017%20Adopted%20Budget%20February%20Financial%20Plan%202017-2020.pdf>

²⁶ *Id.* at 106.

²⁷ N.Y. State Dep't of Transport., Real Estate Division, Notice of Appropriation, "Route 9A Reconstruction Project," available at http://a836-acris.nyc.gov/DS/DocumentSearch/DocumentImageView?doc_id=FT_184000650048

prepare its infrastructure for climate change impacts such as increases in sea level rise, coastal storm surges, extreme winds, average air temperature and heat waves, and heavy precipitation.²⁸ In 2016, the MTA identified 46 resiliency projects across its transit system, requiring a total expenditure of just over \$750 million, which included both state and federal funding.²⁹ These projects included:

- a. Resiliency measures (e.g., hardening of pump systems, watertight doors, and portal-sealing) designed to improve underground and underwater subway tunnels from flooding from future Category 2 storms, with an additional three-foot safety factor;
- b. Redesign of bus depots with interior and exterior flood protections;
- c. Elevation of electric substations on the MTA Metro-North Railroad's Hudson Line four feet above projected flood levels; and

²⁸ MTA, *MTA Climate Adaptation Task Force Resiliency Report* at 8, available at <https://new.mta.info/document/10456>

²⁹ *Id.* at 12.

d. The installation of flood barriers on each side of the Hugh L. Carey Tunnel.³⁰

26. As climate change continues to worsen, it is expected that the State will be required to develop and pay for additional resiliency projects, as well as bearing the costs of damage from extreme weather incidents associated with climate change. For example, in September 2021, Hurricane Ida caused over one hundred million dollars of damage to New York City alone, including damage to transportation infrastructure.³¹

27. Reflecting and responding to this new reality due to ongoing climate change, state utility commissions and utilities themselves are taking action to harden the electricity grid and otherwise mitigate these risks. In New York, one utility prepared a comprehensive climate change vulnerability study that identified 52 climate adaptation measures to address climate risks, including hardening electric substations from increased incidence of heavy rain events and flooding, installing

³⁰ *Id.* at 16-27.

³¹ See, <https://www.fema.gov/press-release/20211110/279-million-federal-funding-fuels-new-york-two-months-after-hurricane-ida>

transformer cooling to address extreme heat, and moving overhead distribution system components underground to address hurricane force winds and storm surge.³² A utility operating in Massachusetts and New York plans to invest \$35 billion over the next five years to harden its grid against extreme weather, as well as reduce emissions and facilitate clean energy development.³³

C. Climate Change is Harming New York's Economy

28. Climate change is also expected to result in less frequent summer rainfall, increased evaporation, and additional, and possibly longer, summer dry periods, potentially impacting the ability of water supply systems to meet demands. Reduced summer flows on large rivers and lowered groundwater tables could lead to conflicts among competing water users.³⁴

³² Con Edison, Climate Change Vulnerability Study at 66-67 (Sept. 2023), <https://cdne-dcxprod-sitecore.azureedge.net/-/media/files/coned/documents/our-energy-future/our-energy-projects/climate-change-resiliency-plan/climate-change-vulnerability-study.pdf?rev=24fed7feb6894e7a9b80ed0073c24ad5&hash=05CAE67674E26EF58DF1EDDD458DAB98>

³³ R. Walton, National Grid plans 5-year, \$35 B investment in New York, Massachusetts, Utility Dive (May 23, 2024), <https://www.utilitydive.com/news/national-grid-plans-5-year-35-billion-investment-new-york-massachusetts/716960/>.

³⁴ ClimAID Report at 103.

29. Climate change is expected to hurt agriculture in New York State. Increased summer heat stress will negatively affect cool-season crops, requiring farmers to take adaptive measures such as shifting to more heat-tolerant crop varieties and eventually resulting in a different crop mix for New York's farmers. The loss of long cold winters could limit the productivity of apples and potatoes, as these crops require longer cold dormant periods. New York's maple syrup industry also requires specific temperature conditions for the sugar maples to produce sap. It is projected that sugar maple trees will be displaced to the north as the climate changes and temperatures increase. Increased weed and pest pressure associated with longer growing seasons and warmer winters will be an increasingly important challenge. Water management will be a more serious challenge for New York farmers in the future due to increased frequency of heavy rainfall events, and more frequent and intense summer water deficits by mid-to late-century.

30. Dairy farmers will also be impacted by warmer air temperatures associated with climate change. Milk production is

maximized under cool conditions ranging from 41°F to 68°F.³⁵ New York is the third largest producer of milk in the United States, behind California and Wisconsin, with 14.8 billion pounds of milk produced in 2016.³⁶ During the unusually hot summer in 2005, declines in milk production of five to 15 pounds of milk per cow per day (an eight to 20 percent decrease) in many New York dairy herds were reported.³⁷ In 2019, New York reported approximately \$2.5 billion dollars of cash receipts from its dairy industry.³⁸ A loss of milk production efficiency from heat effects could result in the loss of hundreds of millions of dollars annually for New York's dairy industry, and a consequential negative impact to the State's tax revenues.

31. In sum, the effects of climate change on New York will be deadly, widespread, and extremely expensive.

³⁵ Alvaro Garcia, *Dealing with Heat Stress in Dairy Cows* (South Dakota Cooperative Extension Service, Sep. 2002) at 1.

³⁶ U.S. Dep't of Agric., *Milk Production, Disposition and Income: 2016 Summary* at 10, available at https://www.nass.usda.gov/Publications/Todays_Reports/reports/mlkpd17.pdf

³⁷ Peter Frumhoff, *Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions*, Northeast Climate Impacts Assessment, July 2007 at 69.

³⁸ U.S. Dep't of Agric., *Milk Production, Disposition and Income: 2019 Summary* at 9, <https://downloads.usda.library.cornell.edu/usda-esmis/files/4b29b5974/5h73qf66r/hd76sk303/mlkpd20.pdf>

II. State Efforts to Address Climate Change Harms

32. Largely because of these and other impacts on the State due to climate change, the State has numerous programs and laws to reduce GHG emissions.

33. As mentioned previously, the State's overall GHG emission reduction objectives include requirements to reduce statewide GHG emissions by 40 percent from 1990 levels by 2030, and by 85 percent from 1990 levels by 2050, as established by the Climate Act. Environmental Conservation Law (ECL) § 75-0107.

34. The statewide GHG emission reduction requirements established in the Climate Act are applicable to all sources of GHG emissions, including but not limited to fossil-fuel fired electric generating units. As defined by the Climate Act, Statewide GHG emissions include all emissions of GHGs from sources within the State, as well as GHGs produced outside of the State associated with either the generation of electricity imported into the State, or the extraction and transmission of fossil fuels imported into the State. ECL § 75-0101(13).

35. Under the Climate Act, DEC is required to take multiple regulatory actions. This includes the requirement that DEC promulgate

regulations to ensure compliance with the statewide GHG emission limits discussed above. ECL § 75-0109.

36. In addition to these statewide GHG emission reduction and rulemaking requirements, the Climate Act also requires that 70 percent of the State's electricity come from renewable energy sources by 2030, and that 100 percent of the State's electricity come from carbon-free energy generation sources by 2040. Public Service Law § 66-p.

37. Consistent with the statewide GHG emission reduction and clean energy generation requirements set forth in the Climate Act, the State has established numerous regulatory programs to reduce GHG emissions, including already established regulatory programs to reduce GHG emissions from fossil-fuel fired electric generating units. For instance, the State participates in the Regional Greenhouse Gas Initiative (RGGI), which is implemented through and codified in NYSDEC regulations. 6 NYCRR Part 242. RGGI sets an overall cap on collective CO₂ emissions from subject electric generating units. In addition to its participation in RGGI, NYSDEC has promulgated regulations that establish CO₂ emission rate limits on individual new and

existing major electric generating facilities. 6 NYCRR Part 251 (Part 251).

III. The Rule

38. The Rule includes performance standards for CO₂ from new gas-fired combustion turbines and emission guidelines for states to establish performance standards for existing coal-fired electricity generating units. Although New York does not have any operating coal-fired electricity generating units, given the requirements of NYSDEC's Part 251 regulation, any new gas-fired combustion turbines constructed in the State would have to meet the Rule's performance standards to limit CO₂ emissions (as well as complying with Part 251 and any additional applicable State requirements).

39. The Rule is expected to achieve substantial GHG emission reductions. EPA estimates that the Rule will result in 1.38 billion tons of CO₂-equivalent emissions reduced during the 2028-2047 period. 89 Fed. Reg. at 40,004. This is the equivalent to preventing the annual emissions

of 328 million gasoline cars, or to nearly an entire year of emissions from the entire U.S. electric power sector.³⁹

40. A stay of the Rule that delays its required emission reductions would prejudice New York State. Such a delay would likely increase the need for and cost of state actions to further reduce GHG emissions and achieve its statutory requirements under the Climate Act, as well as increase the likelihood of GHG emissions leakage that the State is also required to minimize under the Climate Act. Moreover, given that New York State GHG emissions under the Climate Act include emissions outside of the State associated with the generation of electricity imported into the State, a stay of the Rule could increase the amount of GHG emissions that NYSDEC is responsible for reducing through regulations, pursuant to state statutory requirements as set forth in the Climate Act.

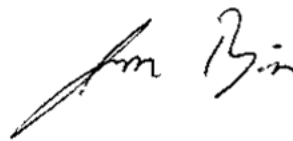
41. As explained above, New York has and will continue to take actions to fight the effects of climate change, however, it is critical that the federal government and other states also take the reasonable and necessary steps, like those in the Rule, to reduce GHG emissions.

³⁹ EPA, “Biden-Harris Administration Finalizes Suite of Standards to Reduce Pollution from Fossil-Fueled Power Plants (Apr. 24, 2024),” <https://www.epa.gov/newsreleases/biden-harris-administration-finalizes-suite-standards-reduce-pollution-fossil-fuel>.

Additionally, a stay of the Rule would create confusion and uncertainty for state and utility planning efforts with respect to the clean energy requirements outlined in the Climate Act.

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

Executed in Albany, NY on June 6, 2024.

A handwritten signature in black ink, appearing to read "Jon Binder", written in a cursive style.

Jonathan Binder

Exhibit B

Declaration of Alison Brizius Director, Office of Coastal Zone Management, Massachusetts Executive Office of Energy and Environmental Affairs

ORAL ARGUMENT NOT YET SCHEDULED

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**State of West Virginia, et al.,**

Petitioners,

v.

Environmental Protection Agency, et al.,

Respondents.

Case No. 24-1120
(and consolidated
cases)**DECLARATION OF ALISON BRIZIUS**

I, Alison Brizius, declare of my personal knowledge as follows:

1. I am submitting this declaration in support of the State and Municipal Intervenor's opposition to the motions to stay the U.S. Environmental Protection Agency's (EPA) final rule entitled New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule, 89 Fed. Reg. 39,798 (May 9, 2024) (Final Rule).

2. I am currently employed by the Massachusetts Executive Office of Energy and Environmental Affairs (EEA) as Director of the Office of Coastal Zone Management (CZM). CZM is the lead policy, technical assistance, and planning agency on coastal and ocean issues in Massachusetts. I have held this position since May 6th, 2024. Prior to joining CZM, I held positions at the City of Boston and the University of Chicago. At the City of Boston, I served as the Director of Climate and Environmental Planning from August 2017 to July 2021 and as the Commissioner of the Environment Department from August 2021 to April 2024 where I was responsible for leading the Environment Department's work climate resilience, greenhouse gas (GHG) mitigation and environmental protection initiatives. Prior to joining the City of Boston, from 2011 to 2017, I served as the Executive Director of the Center for Robust Decision-making on Climate and Energy Policy (RDCEP), a multi-institutional, interdisciplinary center working to address climate change and energy supply challenges.

3. I have extensive professional knowledge and experience regarding the impacts of climate change on coastal resources and communities in Massachusetts, as well as Massachusetts' efforts to plan and prepare for such impacts. My job duties include providing oversight and administration for CZM and directing policy development, planning efforts, and technical approaches for CZM program areas. I supervise a team of 30 plus multidisciplinary professionals working in a

range of program areas, including climate change adaptation and coastal resilience administered as CZM's StormSmart Coasts Program. Many of the staff I oversee have significant professional experience in coastal and environmental management, planning, science, policy, and other related fields. I routinely engage and partner with scientific and technical subject matter experts in federal agencies and academia. As part of my management responsibilities, I oversee CZM's work to provide information, strategies, tools, and financial resources to support communities and people working and living on the Massachusetts coast to address the challenges of erosion, flooding, storms, sea level rise, and other climate-change impacts. For instance, I oversee the development of sea level rise decision-support tools and services including inundation maps and guidance documents. I also direct CZM's work to provide policy and planning support and technical assistance to other state agencies, local communities, and private entities regarding adapting and increasing resilience to current and future impacts of climate change on our coast. For example, I oversee CZM's StormSmart Coasts Program that offers competitive grants, hands-on technical and planning assistance, and decision-support tools to Massachusetts cities and towns and non-profit organizations for the purposes of planning for and adapting to sea level rise and other climate-change-related coastal hazards.

4. In my role with CZM, I chair and participate in various legislative and executive branch groups, including the Massachusetts Ocean Advisory Commission and Science Advisory Council and associated work groups and the Seaport Economic Council. I also represent the Commonwealth of Massachusetts (Commonwealth) on several multi-state organizations, including the Coastal States Organization, Northeast Regional Ocean Council, the Gulf of Maine Council on the Marine Environment and Bureau of Ocean Energy Management's Gulf of Maine Intergovernmental Renewable Energy Task Force.

5. I received a Ph.D. and a M.S. in Physics from the University of Chicago, and a B.S. in Physics from Stanford University.

6. I am aware of and familiar with the science related to global and local climate change. My knowledge comes from my review of scientific peer-reviewed literature and consensus assessment reports, attendance at professional conferences and workshops, and professional exposure to other research and material. As a result of my professional experience and my knowledge of the peer-reviewed literature and reports, as well as my knowledge of the Massachusetts coastal resources and policies and planning related thereto, I can attest to the following.

7. The purposes of this declaration are to: (i) briefly describe the serious harms that climate change, caused in part by greenhouse gas pollutant emissions from existing coal and new gas power plants, is causing and will continue to cause

to Massachusetts' coastal resources, infrastructure, and communities; and (ii) briefly summarize extensive state and local initiatives, programs, and plans to respond to and prepare for such impacts.

Climate Change Threatens Massachusetts' Coastal Resources and Communities

8. The accelerated rate of global sea level rise and the severity and timing of coastal impacts due to this rise in sea level are largely dependent on current and future global greenhouse gas emissions, including from vehicle emissions, and reduction measures. Climate scientists have high confidence that anthropogenic drivers have been the dominant cause of global mean sea level rise since 1970.¹ Continued emissions of greenhouse gases, including vehicle emissions, will result in increases in global temperature, yielding additional contributions to global sea level rise (*i.e.*, increased contributions from thermal expansion of warmer waters and melting of land-based ice sheets).²

¹ Oppenheimer, M., B.C. Glavovic et al., *Chapter 4: Sea Level Rise and Implications for Low-Lying Islands, Coasts and Communities*, in IPCC SPECIAL REPORT ON THE OCEAN AND CRYOSPHERE IN A CHANGING CLIMATE (H.-O. Pörtner et al. eds., 2019).

² See generally U.S. GLOBAL CHANGE RESEARCH PROGRAM, FIFTH NATIONAL CLIMATE ASSESSMENT (Crimmins, A.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, B.C. Steward, and T.K. Maycock, Eds., 2023), <https://doi.org/10.7930/NCA5.2023>.

9. According to the U.S. Global Change Research Program, human-caused climate change has led to a rise in average sea level along the continental U.S. coastline of about 11 inches, which is higher than the rise in global mean sea levels of 7 inches since 1900, and a rate of rise (1.8 inches per decade) greater than global rates of rise (1.3 inches per decade) over the period of 1993-2020. Over this same time period, both the global and continental U.S. rates of sea level rise have accelerated.³ Global average sea levels will continue to rise by 1 to 6.5 feet by 2100 (compared to the baseline year 2000).⁴ Due to the relationship of the East Coast to the Gulf Stream and melting Antarctic ice sheets, sea level rise will be higher than the global average on the East Coast of the United States.⁵

10. A March 2018 report entitled *Massachusetts Climate Change Projections* (2018 Projections Report), informed by a team of scientists from the U.S. Department of the Interior's Northeast Climate Adaptation Science Center at the University of Massachusetts Amherst, presents the best available, peer-reviewed science on climate change downscaled, or localized, for Massachusetts through the end of this century.⁶ A key component of the 2018 Projections Report

³ *Id.* at 10.

⁴ *Id.*

⁵ *Id.*

⁶ MASSACHUSETTS CLIMATE CHANGE PROJECTIONS (2018), <https://eea-nescaum-dataservices-assets-prd.s3.us-east->

is sea level rise projections for the state's coastline. The analysis for Massachusetts consisted of a probabilistic assessment of future relative mean sea level rise at tide gauge stations with long-term records at Boston Harbor, MA, Nantucket, MA, Woods Hole, MA, and Newport, RI.⁷ The sea level projections are based on a methodology that provides complete probability distributions for different greenhouse gas emissions scenarios.⁸ Working with the principal investigators (Dr. Robert DeConto and Dr. Robert Kopp) and a team of external peer reviewers, CZM reviewed and synthesized the downscaled projections, which are made available by the Commonwealth, to set forth a standard set of sea level rise projections to be used by municipalities, state government, industry, the private sector, and others to assess vulnerability and identify and prioritize actions to reduce risk.

11. Massachusetts has 2,819 miles of tidal coastline, and a coastal zone (land areas from the shoreline to 100 feet inland of major roads or railways from New Hampshire to Rhode Island) that encompasses 886 square miles.

[1.amazonaws.com/resources/production/MA%20Statewide%20and%20MajorBasi ns%20Climate%20Projections_Guidebook%20Supplement_March2018.pdf](https://www.amazonaws.com/resources/production/MA%20Statewide%20and%20MajorBasi ns%20Climate%20Projections_Guidebook%20Supplement_March2018.pdf).

⁷ See *id.* at 11 (citing Robert M. DeConto & Robert E. Kopp, *Massachusetts Sea Level Assessment and Projections*, Technical Memorandum (2017)).

⁸ See *id.* (citing Robert E. Kopp et al., *Probabilistic 21st and 22nd century sea level projections at a global network of tide gauge sites*, 2 EARTH'S FUTURE 383–406 (2014)).

Approximately 5.1 million people or 75% of the Commonwealth's population reside in coastal counties. According to the 2023 ResilientMass Plan (the state's hazard mitigation and climate adaptation plan), over 500,000 people across Massachusetts coastal communities (as of the 2020 U.S. census, ~10% statewide population) are exposed to the Federal Emergency Management Agency (FEMA) 1% annual chance flood zone (current risk, not accounting for climate change).⁹ An additional approximately 165,000 people are susceptible to FEMA's mapped 0.2 percent annual chance flood event. Accelerated sea level rise will lead to more regular flooding of developed and natural coastal areas due to an increase in the extent of tidal inundation, and will also exacerbate erosion along beaches, dunes, and coastal banks.

12. In addition, there is very high confidence that climate change and sea level rise will increase the frequency and extent of flooding associated with coastal storms, such as hurricanes and nor'easters.¹⁰ Moderate to major coastal storm events will cause inundation of larger areas, and will occur more frequently, damaging or destroying coastal engineering structures such as seawalls; critical

⁹ ResilientMass Plan: 2023 State Hazard Mitigation and Climate Adaptation Plan <https://www.mass.gov/info-details/2023-resilientmass-plan>

¹⁰ See U.S GLOBAL CHANGE RESEARCH PROGRAM, *supra*, at 27.

infrastructure such as pump stations, wastewater treatment plants, and transportation systems; and businesses and private property.

13. More frequent severe storm surges will create serious risks for public safety and health, especially where roads, sewer mains, and pump stations are impacted. Frequent tidal flooding from sea level rise may also lead to increases in respiratory diseases due to mold from dampness in homes.¹¹ Saltwater intrusion—or the increased penetration of salt water into sources of fresh water—from sea level rise will impact water resources (such as drinking water) by contaminating freshwater sources with salt water and also through the corrosion of water supply infrastructure.

14. The Massachusetts coast includes a diverse array of marine and estuarine ecosystems including, among others, sandy beaches, rocky shores, barrier beaches, islands, and salt marshes. These ecosystems offer immense commercial, recreational, cultural, and aesthetic values to the residents of and visitors to the Commonwealth, while also serving important ecological functions. For instance, natural coastal resources, especially beaches and salt marshes, provide valuable

¹¹ See generally CENTERS FOR DISEASE CONTROL & PREVENTION, U.S. DEP'T OF HEALTH & HUMAN SERVS., COASTAL FLOODING, CLIMATE CHANGE, AND YOUR HEALTH: WHAT YOU CAN DO TO PREPARE (2017), www.cdc.gov/climateandhealth/pubs/CoastalFloodingClimateChangeandYourHealth-508.pdf.

coastal resilience services to the Commonwealth by buffering inland coastal communities and the built environment from waves and storm surges. Salt water will also impact natural coastal resources, as saltwater intrusion into salt marshes and freshwater wetlands will alter the composition of plant species and affect wildlife that depend on these ecosystems.

Massachusetts is Experiencing Economic Impacts from Climate Change and is Expending Significant Resources to Adapt and Prepare for Impacts of Climate Change on Our Coastal Areas

15. The Commonwealth is already experiencing impacts of climate change. The relative sea level trend at the Boston tide station is (+) 2.89 millimeters per year based on monthly mean sea level data from 1921 to 2022, which is equivalent to a change of 0.95 feet over 100 years.¹²

16. These impacts are directly harming the welfare of Massachusetts residents and causing significant economic losses. Coastal storms currently result in flooding with extensive damages to public infrastructure (as well as to private homes and businesses), and a significant demand for emergency response and recovery services, including services funded and provided by the State. For

¹² See Nat'l Oceanic & Atmospheric Admin., *Relative Sea Level Trend 8443970 Boston, Massachusetts*, TIDES & CURRENTS, https://tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?id=8443970.

example, a nor'easter on March 2–3, 2018, which reached the third-highest water level recorded at the Boston Harbor tide gauge, resulted in major flooding, damages, and expenditures for response and recovery. On April 30, 2018, Massachusetts Governor Charles Baker requested a federal disaster declaration, which the Trump Administration approved on June 25, 2018. The disaster declaration authorized FEMA Public Assistance funding for eligible applicants (FEMA DR-4372-MA), and as of March 2023, FEMA has disbursed \$15.6 million to coastal communities for public storm-related costs related to the event.¹³

17. Rising sea levels increase the frequency, depth, and duration of coastal flooding events; and the associated magnitude of damage costs, including costs associated with the increased demand on first responders, will escalate accordingly.

18. Sea level rise and other impacts of a changing climate pose major risks to communities in Massachusetts' coastal zone. Estimates of the projected direct flood damage to commercial and industrial structures in the Commonwealth's coastal areas are expected to more than double by 2030 (up to \$56 million) and the incremental cost could reach as high as \$270 million annually by 2090, more than ten times higher than current levels. These values are

¹³ ResilientMass Plan: 2023 State Hazard Mitigation and Climate Adaptation Plan <https://www.mass.gov/info-details/2023-resilientmass-plan>

conservative and assume no change in adaptation strategies along the coast. These direct impacts of flooding are largest and grow most rapidly in the Boston Harbor region, where a large portion of the Commonwealth's commercial economic base is located.¹⁴

19. Development along the Massachusetts coast is afforded protection from coastal buffers such as beaches and dunes, and from engineered coastal infrastructure such as revetments and seawalls. These coastal engineered structures will experience greater impacts from flooding and wave energy from the anticipated increase in frequency and intensity of coastal storm events associated with accelerated sea level rise and climate change. With these greater impacts will come more frequent need for maintenance and replacement of coastal engineered structures as well as beaches in the form of sediment nourishment at significant costs. For example, the Town of Winthrop needed additional protection from storm surge and flooding impacts for a suburban neighborhood with existing engineered shoreline structures (*i.e.*, seawalls, groins, and breakwaters) and an eroding beach. At a cost of approximately \$25 million in state funding, 460,000 cubic yards of

¹⁴ 2022 Massachusetts Climate Change Assessment: Volume II, Appendix A: Full Statewide Impact Rankings and Scores by Sector. <https://www.mass.gov/doc/2022-massachusetts-climate-change-assessment-december-2022-volume-ii-appendix-a/download>. 2030 damages (\$56 million) is equal to the sum of increase in damages from 2008 to "Current" (\$22 million) and the increase in damages from "Current" to 2030 (\$34 million).

sand, gravel, and cobble were placed along 4,200 linear feet of shoreline in 2013–2014. The community gained approximately 150 feet of beach width at high tide and increased protection against wave energy and coastal storms. Other communities across Massachusetts have worked to design (e.g., Chatham, Provincetown, Nahant, New Bedford, and Rockport) and construct (e.g., Duxbury, Edgartown, Hull, Marshfield, Plymouth, and Scituate) a variety of nourishment projects (e.g., cobble berms, beach and dune nourishment) to address erosion and failing coastal engineered structures that will be exacerbated by accelerated sea level rise and increased flooding from coastal storms. As described below, the Commonwealth provides substantial funding for these projects to protect coastal communities and their residents and businesses.

20. Coastal engineered structures, such as seawalls and revetments, have been constructed along over a quarter of the Commonwealth’s ocean-facing shoreline to protect public and private infrastructure and assets from flooding and erosion. The Commonwealth and its municipalities own approximately 92 miles of such structures along the coastline. As a result of wave forces on the coastal structures and lowered beach elevations, the Commonwealth and local governments routinely invest millions of dollars to repair and reinforce these structures so they can adequately protect coastal communities. For example, in 2018 a seawall reconstruction project was completed in the Town of Marshfield to

address coastal flooding and public safety issues. The Commonwealth provided a \$1.85 million grant and loan award to the town, which was matched with roughly \$620,000 in local funds. The approximately 600-foot section of seawall sustained damages during a coastal storm in January 2015, and the state-funded project increased the height of the seawall by two to three feet to better protect a public road, utilities, and homes. The Town of Marshfield has 32 coastal engineered structures along 12 miles of exposed shoreline, totaling over 20,000 feet (3.9 miles), that have been identified as needing repairs and retrofits to address the current and future threats of sea level rise and coastal storms. With higher flood levels and greater storm surges, significantly more investments will be required to achieve the current flood-design protections afforded by these engineered structures across the coast.

21. The Commonwealth owns a substantial portion of the state's coastal property and infrastructure. The Commonwealth owns, operates, and maintains approximately 177 coastal state parks, beaches, reservations, and wildlife refuges located within the Massachusetts coastal zone. The Commonwealth also owns, operates, and maintains numerous properties, facilities, and infrastructure in the coastal zone, including roads, parkways, piers, and dams. Rising sea levels along the Massachusetts coast will result in either the permanent or temporary loss of the Commonwealth's coastal property through inundation, storm surge, flooding, and

erosion events. These projected increases in sea levels will likely destroy or damage many of the state-owned facilities and infrastructure described above. The Commonwealth likely will be required to expend significant resources to protect, repair, rebuild, or possibly relocate the affected properties, facilities, and infrastructure. According to the Commonwealth's *2022 Massachusetts Climate Change Assessment*,¹⁵ annual expected coastal flood damage to state- and state-authority owned properties is expected to increase relative to current risks of about \$8 million statewide in the near term (2030s) to about \$17 million and to \$52 million annually by the 2070s.

22. The Massachusetts coastal zone is home to several major ports including the Port of Boston and New Bedford/Fairhaven Harbor. Recent economic studies indicate the income generated from the Massachusetts maritime economy supports 2.6% of the state's direct employment and 1.3% of gross domestic product.¹⁶ In 2018, New Bedford/Fairhaven Harbor alone generated \$3.7 billion in direct business revenue from seafood processing and fleet operation

¹⁵ Available at: <https://www.mass.gov/info-details/massachusetts-climate-change-assessment>.

¹⁶ See DAVID R. BORGES ET AL., UMass DARTMOUTH PUBLIC POLICY CTR., NAVIGATING THE GLOBAL ECONOMY: A COMPREHENSIVE ANALYSIS OF THE MASSACHUSETTS MARITIME ECONOMY 11 (2018), www.mass.gov/files/documents/2018/01/24/Maritime_Economy.pdf.

businesses.¹⁷ By nature of their purpose, the state's ports and harbors are generally low-lying, coastal-dependent areas of high density-built environment and are susceptible to service interruption and associated revenue loss when flooded or otherwise impacted by coastal events. Additionally, coastal dependent businesses, maritime schools, and public facilities and departments will face disruptions in service in post-storm conditions. Acknowledging the cultural and economic importance of the developed port areas in the Commonwealth, in 2020, CZM undertook a study to assess climate vulnerabilities and adaptation opportunities in these areas. The study provides tailored resilience strategies (e.g., flood preparedness/business continuity planning, relocation and/or elevation of critical assets and infrastructure, floodproofing, etc.) that could be implemented to address flood risks while continuing to support the operational needs of water-dependent industrial users in port areas, which must remain in vulnerable locations directly adjacent to the water to maintain operations.¹⁸

23. The Commonwealth is committed to protecting public safety, human health, the environment, and public resources through programs and policies that

¹⁷ MARTIN ASSOCIATES & FOTH-CLE ENG'G GROUP, ECONOMIC IMPACT STUDY OF THE NEW BEDFORD/FAIRHAVEN HARBOR 5 (2019), https://www.fairhaven-ma.gov/system/files/uploads/economic_impact_study_nbfh_harbor_2019-martin-report_0.pdf.

¹⁸ <https://www.mass.gov/files/documents/2022/03/29/building-resilience-in-massachusetts-designated-port-areas.pdf>

address sea level rise and other climate-change-related coastal hazards. EEA and CZM provide information, strategies, and tools to help other state agencies and communities plan for and address the challenges of erosion, flooding, storms, sea level rise, and other climate change impacts. In November of 2023, to address the impacts of climate change along the entire coastline of Massachusetts, EEA launched the CZM-led ResilientCoasts initiative,¹⁹ a holistic strategy that in collaboration with the state's 78 coastal communities, will pursue a multipronged approach to identify regulatory, policy, and funding mechanisms to develop focused long-term solutions.

24. EEA and CZM climate grant programs have been able to address about half of the need requested by communities. Since 2014, CZM has awarded approximately \$46 million (of \$78 million requested) in state-funded grants to local communities and non-profit organizations to support sea level rise adaptation planning and implementation through the Coastal Resilience Grant Program. Local governments and non-profit organizations have matched these state funds with roughly \$17 million in local funds and in-kind services. Since 2017, EEA has awarded over \$44 million of \$98 million requested in municipal grants for climate vulnerability planning and implementation coastwide through the Municipal Vulnerability Preparedness (MVP) Program. Since the start of the MVP Program,

¹⁹ <https://www.mass.gov/info-details/resilientcoasts-initiative>

local coastal governments have matched MVP grants with over \$18 million in local funds and staff time. EEA and CZM see a significant and growing need for funding support at the local level.

25. Municipalities, private entities, and other partners are also supporting planning and implementation of adaptation measures to address the impacts of sea level rise and other climate change impacts in Massachusetts. Adaptation planning efforts include vulnerability assessments to determine areas and infrastructure susceptible to coastal impacts, prioritization of vulnerable assets and areas, and development of adaptation alternatives to mitigate climate risks in the near and long term. One example is the City of Boston's "Climate Ready Boston" initiative, which has been developing neighborhood/district-level adaptation plans to address near-term (2030-2050) and long-term (2050-2070) actions for addressing future coastal flooding risks created by sea level rise. The City of Boston's report estimates the costs for these actions range from \$202 million to \$342 million for East Boston and Charlestown alone.²⁰ With the completion of coastal resilience plans for East Boston and Charlestown in 2022, the City of Boston has now developed strategies for all neighborhoods/districts along the City's 47-miles of

²⁰ See COASTAL RESILIENCE SOLUTIONS FOR EAST BOSTON AND CHARLESTOWN: FINAL REPORT (2017), https://www.boston.gov/sites/default/files/embed/c/climatereadyeastbostoncharlestown_finalreport_web.pdf.

coastline.²¹ Another example of regional planning for the impacts of coastal climate change is the *Great Marsh Coastal Adaptation Plan* led by the National Wildlife Federation in partnership with the Ipswich River Watershed Association.²² The plan assesses climate impacts and vulnerability for the Great Marsh region and each of its six communities (Salisbury, Newburyport, Newbury, Rowley, Ipswich, and Essex), examining the risk and exposure of critical infrastructure and natural resources, and identifies areas of special concern. The plan states that in Newburyport, estimated one-time damages to buildings and structures (not contents) from a 1% annual exceedance probability storm (also known as the 100-year storm) under 1.09 feet of sea level rise would be \$18.3 million, and under 3.45 feet of sea level rise the damages would increase to \$32.4 million.²³

26. I have reviewed the Final Rule, which sets New Source Performance Standards for CO₂ emissions from new, modified, and reconstructed gas-fired power plants and emission guidelines for existing coal-fired power plants. The Final Rule is expected to reduce CO₂ emissions by 1.382 billion metric tons by

²¹ <https://www.boston.gov/news/new-strategies-enhance-coastal-resilience-east-boston-and-charlestown>

²² See TAJ SCHOTTLAND ET AL., GREAT MARSH COASTAL ADAPTATION PLAN (2017), www.nwf.org/-/media/Documents/PDFs/NWF-Reports/NWF-Report_Great-Marsh-Coastal-Adaptation-Plan_2017.ashx.

²³ *Id.* at 49, tbl.3.3-3.

2047²⁴—more than twenty times all statewide gross CO₂-equivalent emissions in the entire Commonwealth of Massachusetts in 2020.²⁵

27. Greenhouse gas emission reductions attributable to the Final Rule would mitigate climate change and associated harms, including sea level rise and the frequency, magnitude, and severity of coastal flooding, erosion, and storms. Any delay or loss of the power plant emission reductions attributable to the Final Rule would contribute to these harms in Massachusetts, adversely impact the Commonwealth and its residents, and require the Commonwealth to expend additional resources and incur additional costs.

²⁴ “Regulatory Impact Analysis for New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule,” at D-4 (May 9, 2024), https://www.epa.gov/system/files/documents/2024-04/utilities_ria_final_111_2024-04.pdf.

²⁵ Massachusetts Clean Energy and Climate Metrics, <https://www.mass.gov/info-details/massachusetts-clean-energy-and-climate-metrics> (last visited May 14, 2024) (Massachusetts statewide gross greenhouse gas emissions in 2020 were 63.9 million metric tons CO₂-equivalent).

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

Executed in Boston, Massachusetts on June 5, 2024.



Alison Brizius
Assistant Secretary and Director
Massachusetts Office of Coastal Zone Management

Exhibit C

Declaration of Joel Creswell Manager, Climate Pollution Reduction Program, Washington Department of Ecology

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

State of West Virginia, et al.,

Petitioners,

v.

**United States Environmental Protection
Agency, et al.,**

Respondents.

Case No. 24-1120 (and
consolidated cases)

DECLARATION OF JOEL CRESWELL

**Climate Pollution Reduction Program Manager,
Washington State Department of Ecology**

I, Joel Creswell declare as follows:

1. I am now and at all times mentioned have been a citizen of the United States and a resident of the state of Washington, over the age of 18 years, competent to make this declaration, and I make this declaration from my own personal knowledge and judgment. I submit this declaration in opposition to motions to stay the final rule the Environmental Protection Agency (EPA) issued under section 111 of the Clean Air Act that establishes performance standards for carbon dioxide (CO₂) emissions from new gas-fired power plants and requires

States to develop plans to limit CO₂ from existing coal-fired power plants, 89 Fed. Reg. 39,798 (May 9, 2024) (Rule).

2. I am currently employed by the Washington State Department of Ecology as the manager of the Climate Pollution Reduction Program. As the program manager, I oversee the work of the program throughout the state of Washington. I have worked with Ecology on air quality and climate change issues for three and a half years total, and I have worked in this position since the creation of the Climate Pollution Reduction Program approximately nine months ago. Ecology's Climate Pollution Reduction Program is responsible for implementing the agency's greenhouse gas reduction policies, including the Cap-and-Invest Program, the Clean Fuel Standard, the Zero Emission Vehicles Program, the Hydrofluorocarbon Reduction Program, and the Greenhouse Gas Emissions Inventory.

3. As part of my work as the manager of the Climate Pollution Reduction Program, I have been involved in numerous efforts to combat climate change in the state of Washington, including greenhouse gas emissions reduction programs, providing advice and comment on state, federal, and international greenhouse gas reduction policy, and providing grants to support climate work in Washington.

4. Washington is a coastal state, a mountain state, and a forest state, home to 7.9 million people¹ and 3,375 different plant and animal species.² Climate change will significantly adversely affect each of these signature features of Washington, in addition to the industries that support the state's economy. Climate change will also cause significant harm to the health of Washington's ecosystems and public health, with a disproportionate impact on overburdened and historically marginalized communities.

5. Washington's coasts and waterways will be significantly harmed by the impacts of climate change. Approximately 4.3 million Washingtonians live in the area around Puget Sound. Climate change will cause the sea level to rise and permanently inundate low-lying areas in the Puget Sound region.³ Under intermediate projections, sea level is predicted to rise in Seattle relative to 2000 levels by 0.74 feet by 2050 and 2.92 feet by 2100.⁴ Sea level rise will increase the frequency of coastal flood events.⁵ For example, with 2 feet of sea level rise (predicted for Seattle), a 1-in-100 year flood event will become an annual event.⁶

¹ Office of Financial Management, Washington Data & Research: Total Population and Percent Change, <https://ofm.wa.gov/washington-data-research/statewide-data/washington-trends/population-changes/total-population-and-percent-change> (last visited May 30, 2024).

² The Nature Conservancy, *State of the Union: Ranking America's Biodiversity*, at 12 (Apr. 2002), <https://www.natureserve.org/sites/default/files/stateofunions.pdf>.

³ Climate Impacts Group, University of Washington, *State of Knowledge: Climate Change in Puget Sound* at 4-1 (Nov. 2015) (hereinafter "*2015 State of Knowledge, Puget Sound*"), https://data.cig.uw.edu/picea/mauger/ps-sok/PS-SoK_2015.pdf.

⁴ NASA, Interagency Sea Level Rise Scenario Tool – NASA Sea Level Change Portal, <https://sealevel.nasa.gov/task-force-scenario-tool> (last visited June 5, 2024).

⁵ *2015 State of Knowledge, Puget Sound, supra*, n.3 at 4-6.

⁶ *Id.*

Sea level rise will also cause coastal bluffs (the location of many family homes in Puget Sound) to erode and recede by as much as 75-100 feet by 2100 relative to 2000.⁷ This would be a doubling, on average, of the rate of recession in 2015.⁸ This erosion is not only depleting an important natural resource for biodiversity conservation (coastal bluffs),⁹ but is also reducing and degrading tribal lands.¹⁰ Many Tribes live in Washington's coastal areas and some of them are already being forced to move settlements inland. Sea level rise will also result in reduced harvest for commercial fishing and shellfish operations.¹¹

6. Climate change is also causing ocean acidification, through the absorption in the ocean of excess carbon dioxide from the atmosphere. As a result, ocean waters on the outer coast of Washington and the Puget Sound have become 10-40% more acidic since 1800.¹² This increased acidity is already affecting some shellfish species. Washington has the largest shellfish industry on the west coast, contributing \$270 million per year to Washington's economy and employing 3,200

⁷ *Id.* at 4-6, 4-7.

⁸ *Id.* at 4-7.

⁹ Christopher B. Chappell, Washington Department of Natural Resources, *Plant Associations of Balds and Bluffs of Western Washington*, at 4-5 (June 2006), https://file.dnr.wa.gov/publications/amp_nh_balds_bluffs.pdf.

¹⁰ Christopher Flavelle & Kalen Goodluck, *Dispossessed, Again: Climate Change Hits Native Americans Especially Hard*, The New York Times (June 27, 2021), <https://www.nytimes.com/2021/06/27/climate/climate-Native-Americans.html>.

¹¹ *Id.*

¹² Climate Impacts Group, University of Washington, *State of Knowledge Report, Climate Change Impacts and Adaptation in Washington State: Technical Summaries for Decision Makers*, at 2-6 (December 2013) (hereinafter "2013 State of Knowledge Report"), <https://cig.uw.edu/wp-content/uploads/sites/2/2020/12/snoveretalsok816.pdf>.

workers.¹³ Under a business as usual greenhouse gas scenario, ocean waters are expected to become at least 100% more acidic by 2100 relative to 1986-2005.¹⁴ The predicted level of ocean acidification is expected to cause a 34% decline in shellfish survival by 2100.¹⁵

7. Washington depends on yearly winter mountain snowpack for drinking water, as well as water for irrigation, hydropower, and salmon. Washington's winter mountain snowpack is decreasing because climate change is causing more precipitation to fall as rain rather than snow. Using figures from 2022, April snowpack in Washington has decreased by an average of about 28% since 1955.¹⁶ Based on historical trends, by the 2040s snowpack is predicted to decrease 38-46% relative to 1916-2006,¹⁷ and by the 2080s, snowpack is expected to decline 56-70%.¹⁸ In the Yakima Basin, one of the state's critical agricultural regions, this loss of snowpack will contribute to a 29-54% increase in the frequency of water shortage years,¹⁹ in addition to a predicted statewide average decrease in summer stream flow by 34-44% by the 2080s.²⁰ Not only do water

¹³ NOAA, *From the Tides of Puget Sound to Your Plate: Northwest Shellfish Industry Provides Important Ecological & Economic Value*, (Jan. 2012), https://media.fisheries.noaa.gov/dam-migration/noaa_shellfish_initiative_f_sheet_011312.pdf.

¹⁴ *2013 State of Knowledge Report, supra*, n.12 at ES-2.

¹⁵ *Id.* at 8-4.

¹⁶ US EPA, Climate Change Indicators: Snowpack, <https://www.epa.gov/climate-indicators/climate-change-indicators-snowpack> (last visited June 5, 2024).

¹⁷ *2013 State of Knowledge Report, supra*, n.12 at ES-2.

¹⁸ *Id.* at 6-10.

¹⁹ *Id.* at 6-5.

²⁰ *Id.* at 6-3.

shortages threaten irrigation and drinking water supplies, they reduce hydropower output, often leading to increased use of fossil fuels for power generation, which raises the state's greenhouse gas emissions.

8. Salmon recovery is an important initiative in Washington because the fish that formerly supported both industry and tribal communities are now subsisting at only 5% of historic population highs.²¹ The Washington State Department of Transportation is under a court order to remove hundreds of fish barriers in the state's streams to restore salmon habitat, at a cost of billions of dollars. Yet the decrease in summer stream flows combined with higher stream temperatures will result in stream temperatures too high to support adult salmon,²² and high emissions projections indicate there will be a 22% reduction in Washington salmon habitat.²³ The reduction in salmon habitat has already caused a \$4.2 billion loss (in 2023 dollars) in the fishing industry.²⁴ The fish kills directly resulting from higher temperatures have consequences for years after temperature

²¹ Todd Myers, Washington Policy Center, *State of Salmon in Washington 2022: struggling populations, sea lions, and legislative shortfalls*, (Mar. 1, 2023), <https://www.washingtonpolicy.org/publications/detail/state-of-salmon-in-washington-2022-struggling-populations-sea-lions-and-legislative-shortfalls>.

²² *2013 State of Knowledge Report*, *supra*, n.12 at ES-4, 6-6, 6-11, 6-12.

²³ May, C. et al., U.S. Global Change Research Program, *Northwest in Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment*, ch. 24 (2018). [10.7930/NCA4.2018.CH24](https://www.nca2018.org/10.7930/NCA4.2018.CH24) (hereinafter "Fourth National Climate Assessment")

²⁴ *Id.*, Inflation Calculator, US Inflation Calculator, <https://www.usinflationcalculator.com/> (last visited June 5, 2024).

spikes.²⁵ Higher temperatures also increase the number of salmon predators, which further compromises salmon recovery efforts.²⁶

9. Climate impacts on Washington's landscape will significantly harm state forestry, agriculture, and recreation industries. Of Washington's total area (45.6 million acres),²⁷ about half (almost 23 million acres) is forested.²⁸

Washington's forest products industry generates a gross income of about \$36 billion per year,²⁹ provides more than 100,000 jobs, and contributes approximately \$4.9 billion in annual wages.³⁰ Climate change is threatening this industry in a number of ways. For example, Douglas fir accounts for almost half the timber harvested in Washington.³¹ Under a moderate greenhouse gas scenario, Douglas fir habitat is expected to decline 32% by the 2060s relative to 1961-1990.³² In addition, the area of Washington forest where tree growth is severely limited by

²⁵ Fourth National Climate Assessment, *supra*, n.23.

²⁶ Washington State Recreation and Conservation Office Governor's Salmon Recovery Office, *Saving Salmon for the Future*, at 17 (2018), https://app.leg.wa.gov/ReportsToTheLegislature/Home/GetPDF?fileName=SOS-ExecSumm-2018-FINAL%20web_14054b82-91a9-47f8-aebc-d4b4151bba20.pdf.

²⁷ Washington State Recreation and Conservation Office, *Washington Public Lands Inventory*, at 3 (July 2014), <https://rco.wa.gov/wp-content/uploads/2019/08/PLIP-2014.pdf>.

²⁸ Washington State Recreation and Conservation Office, *Washington Public Lands Inventory*, at 3 (July 2014), <https://rco.wa.gov/wp-content/uploads/2019/08/PLIP-2014.pdf>.

²⁹ Washington State Department of Commerce, *Washington State's Forest Products Industry*, <http://choosewashingtonstate.com/why-washington/our-key-sectors/forest-products/> (last visited June 5, 2024).

³⁰ Washington Department of Revenue, *Healthy Working Forests Are Essential to Jobs and Washington's Economy*, *Washington's Working Forests*, <https://data.workingforests.org/> (last visited June 5, 2024).

³¹ Washington Department of Natural Resources, *2015 Washington Timber Harvest Report*, (Sept. 2016), https://www.dnr.wa.gov/publications/em_obe_wa_timber_harvest_2015_final2.pdf.

³² *2013 State of Knowledge Report*, *supra*, n. 12 at 7-1.

water availability is projected to increase (relative to 1970-1999) by about 44% in the 2040s, with an additional 12% increase in the 2080s.³³ Unpredictable timber price and supply could lead to a decrease in mill investment, which would have a particularly devastating effect on rural communities in Washington.³⁴

10. Wildland fires pose another threat to Washington's forests. Under a business as usual greenhouse gas scenario, decreases in summer precipitation, increases in summer temperatures and earlier snow melt are predicted to result in up to a 300% increase in the area in eastern Washington burned annually by forest fires³⁵ and up to a 1,000% increase in area burned annually on the west side of the state (typically, the wet side).³⁶ Impacts to state-owned forest lands could also lead to a decrease in state revenues.³⁷

11. Another important Washington crop that will be impacted by climate change is the apple. Washington is the nation's leading apple producer, growing 70% of U.S. apples, which support a \$2.185 billion industry.³⁸ The majority of these apples are grown east of the Cascades along the Columbia River.³⁹ Along the

³³ *Id* at 7-3.

³⁴ Fourth National Climate Assessment, *supra*, n.23.

³⁵ *Id.*

³⁶ *Id* at 7-4.

³⁷ Washington Department of Natural Resources, *Safeguarding Our Lands, Waters, and Communities: DNR's Plan for Climate Resilience* (Feb. 2020), https://www.dnr.wa.gov/publications/em_climateresilienceplan_feb2020.pdf

³⁸ Washington State Department of Agriculture, *Agriculture: A Cornerstone of Washington's Economy*, <https://agr.wa.gov/washington-agriculture> (last visited June 5, 2024).

³⁹ Washington Apple Commission, *Washington Apple Orchards*, <https://waapple.org/regions/> (last visited July 11, 2023).

Columbia River, there is a projected increase in irrigation demands of 5% by 2030.⁴⁰ In addition to a predicted increase in water demand for all crops in the Columbia Basin, apple production will be specifically harmed by the effects of climate change. Potential risks to Washington's apple crops include a mismatch of pollinator availability and flowering times as a result of earlier flowering, an increase in parasites, and scalding of the apples due to increased temperatures.⁴¹

12. Finally, the Washington outdoor recreation economy stands to be decimated by the impacts of climate change. The \$26 billion industry maintains over 200,000 jobs in Washington.⁴² The ski industry in particular will be harmed by the impacts of climate change. Ski seasons could be reduced by 50% by 2050 and 80% in 2090 in some locations due to climate change impacts.⁴³ This decrease in length of the winter recreation seasons is projected to decrease snow-based recreation revenue by 70% annually across the Northwest.⁴⁴

13. The public health of Washington is also in grave danger due to the harms of climate change. By far the highest costs to the state are expected to come from harm to public health. More frequent and intense flooding, fire, and heat

⁴⁰ Fourth National Climate Assessment, *supra*, n.23.

⁴¹ *Id.*

⁴² Todd Elsworth, Recreation Northwest, *Washington State Outdoor Recreation Report - Outdoor Industry Association*, (Oct. 26, 2018), <https://www.recreationnorthwest.org/recreation-economy/washington-state-outdoor-recreation-report-outdoor-industry-association/>.

⁴³ Cameron Wobus, et al., Global Environmental Change, *Projected climate change impacts on skiing and snowmobiling: A case study of the United States*, , Vol. 45, , pp. 1-14 (2017). , <https://doi.org/10.1016/j.gloenvcha.2017.04.006>.

⁴⁴ Fourth National Climate Assessment, *supra*, n.23.

waves will harm human health directly.⁴⁵ Climate related health risks are often greatest for the elderly, children, those with existing chronic health conditions, individuals with greater exposure to outside conditions, and those with limited access to health resources.⁴⁶ Washington is especially vulnerable to heat-related health impacts, as evidenced by Seattle being the least air-conditioned metropolitan city in the United States⁴⁷ in addition to having the third largest population of Americans experiencing homelessness.⁴⁸ Health impacts also trend higher when analyzing race and class. For example, low-income households and communities of color tend to be concentrated in hotter urban neighborhoods.⁴⁹ This trend is visible in Seattle, wherein historically redlined communities are 2.1°F warmer than the city average.⁵⁰

14. The extreme heatwave in 2021 highlights Washington's vulnerability to not only heat-related mortality, but also the cascading effects of climate change within the state. Between June 26 and July 2, 2021, the Pacific Northwest

⁴⁵ Juanita Constible, et al., NRDC, *Climate Change and Health in Washington* at 2 (Sept. 2019), <https://www.nrdc.org/sites/default/files/climate-change-health-impacts-washington-ib.pdf>.

⁴⁶ *2015 State of Knowledge Report*, *supra*, n.3 at ES-7.

⁴⁷ Sjoukje Y. Philip, et al., *Rapid attribution analysis of the extraordinary heatwave on the Pacific Coast of the US and Canada* June 2021, (Nov. 12, 2021) at 30, <https://www.worldweatherattribution.org/wp-content/uploads/NW-US-extreme-heat-2021-scientific-report-WWA.pdf>.

⁴⁸ U.S. Department of Housing and Urban Development, *The 2022 Annual Homelessness Assessment Report (AHAR to Congress) Part 1: Point-In-Time Estimates of Homelessness*, at 32 (Dec. 2022), <https://www.huduser.gov/portal/sites/default/files/pdf/2022-AHAR-Part-1.pdf>.

⁴⁹ *Climate Change and Health in Washington*, *supra*, n.45.

⁵⁰ USDA Climate Hubs, *Urban Heat Islands in the Northwest*, <https://www.climatehubs.usda.gov/hubs/northwest/topic/urban-heat-islands-northwest> (last visited June 5, 2024).

experienced a “once-in-a-millennium” heat wave that caused at least 100 heat-related deaths in Washington State,⁵¹ and an additional 38 deaths related to the heat wave after it had ceased.⁵² 67% of heat deaths in the summer of 2021 were over the age of 65.⁵³ In addition to the human death toll, the heat was so intense that hundreds of millions of shellfish baked to death in the Puget Sound.⁵⁴ This event likely impacted the health of all shellfish reproduced around this time, and it will take years to examine the full scale impact of this event on aquatic life, cultural connections, and fisheries.⁵⁵

15. Climate change will likely have significant impacts on Washington’s infrastructure, including state-owned facilities. Increased precipitation and more intense winter storms could lead to increased mudslides, localized flooding, and wind damage.⁵⁶ Rising sea levels and higher storm surges may erode and weaken roads and bridges, damage stormwater drainage and tide gates, and corrode state-

⁵¹ Nicholas Turner, *Window shades, ventilation and other key lessons from the 2021 Pacific Northwest heat wave*, The Seattle Times, June 25, 2022, <https://www.seattletimes.com/seattle-news/environment/window-shades-ventilation-and-other-key-lessons-from-the-2021-pacific-northwest-heat-wave/>; Wash. State Dep’t of Health, *Heat Wave 2021*, <https://doh.wa.gov/emergencies/be-prepared-be-safe/severe-weather-and-natural-disasters/hot-weather-safety/heat-wave-2021> (last visited June 5, 2024).

⁵² *Heat Wave 2021*, *supra*, n. 51.

⁵³ *Id.*

⁵⁴ John Ryan, *Extreme heat cooks shellfish alive on Puget Sound beaches*, KUOW Puget Sound Public Radio, June 23, 2022, <https://www.kuow.org/stories/extreme-heat-wave-cooked-many-shellfish-spared-others-study-finds>.

⁵⁵ Wendel W. Raymond, et al., Ecological Society of America, *Assessment of the impacts of an unprecedented heatwave on intertidal shellfish of the Salish Sea*, 2022, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9786359/>.

⁵⁶ Washington State Department of Transportation, *Guidance for Considering Impacts of Climate Change in WSDOT Plans*, at 4 (2017), <https://wsdot.wa.gov/sites/default/files/2021-10/Guidance-Doc-Considering-Climate-Change-In-WSDOT-Plans.pdf>.

owned coastal facilities.⁵⁷ Higher temperatures and drought pose threats of fire damage, buckling of roads and rail tracks, and loss of roadside vegetation, worsening erosion and landslides.⁵⁸

16. Washington's tribal communities are especially vulnerable to the impacts of climate change. Indigenous populations face disproportionate impacts of climate change compared to nonindigenous communities.⁵⁹ Washington has the 10th largest tribal population in the United States,⁶⁰ and is home to over 140,000 people who identify as American Indian/Alaska Native.⁶¹ Many of the impacts discussed above directly impact tribal interests. For example, the reduction of the bluffs and increased flooding are forcing tribal migration inland.⁶² Tribes in Washington also rely on shellfish harvesting for their livelihood, including commercial trade, subsistence, and ceremony.⁶³ Disparities in overall health

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ Kirsten Vinyeta & Kathy Lynn, US Forest Service Research and Development, *Exploring the role of traditional ecological knowledge in climate change initiatives*, at 1 (2013), <https://www.fs.usda.gov/research/treesearch/43431#>.

⁶⁰ *American Indians and Alaska Natives: Key Demographics and Characteristics*, National Council on Aging (Jan. 10, 2023), <https://www.ncoa.org/article/american-indians-and-alaska-natives-key-demographics-and-characteristics>.

⁶¹ Office of Financial Management, *Washington state population by race*, (2020), <https://ofm.wa.gov/washington-data-research/statewide-data/washington-trends/population-changes/population-race>.

⁶² Christopher Flavelle & Kalen Goodluck, *supra*, n.10.

⁶³ Northwest Indian Fisheries Commission, *Shellfish*, <https://nwifc.org/about-us/shellfish/> (June 5, 2024).

outcomes in native communities also mean that the health impacts of climate change will also disproportionately affect this population.⁶⁴

17. Washington strongly supports the federal greenhouse gas emission standards. EPA's standards and emission guidelines set forth in the Rule align with Washington's laws that reduce carbon emissions from the power sector.

18. Washington is committed to meeting growing electricity demand while simultaneously reducing dependence on fossil fuel power. Washington expects electricity demand to grow significantly over the next few decades. Our State Energy Strategy shows electricity demand in Washington could grow by 13-20% over 2020 levels by 2030. Electricity load growth then accelerates, and by 2050 is up to 92% above the 2020 level. By 2045, 42-50% of the energy used in Washington would be in the form of electricity, up from 21% today.⁶⁵

19. Washington's energy and climate laws likely make it uneconomic to construct additional baseload gas-fired generating facilities to serve electric loads in the state. Washington's Clean Energy Transformation Act prohibits use of electricity from coal-fired generating facilities to serve Washington electric loads after 2025,⁶⁶ requires carbon neutral electricity supplies starting in 2030, and

⁶⁴ *American Indians and Alaska Natives: Key Demographics and Characteristics, supra*, n.60.

⁶⁵ Washington State Department of Commerce, *2021 State Energy Strategy, Appendix F: 100% Clean Electricity to Meet the Needs of a Decarbonized Economy* at 116 (2021), https://www.commerce.wa.gov/wp-content/uploads/2021/01/WA_2021SES_Chapter-F-Electricity.pdf.

⁶⁶ Wash. Rev. Code §19.405.030(1)(a).

requires 100% renewable or non-emitting power supplies by 2045.⁶⁷ Additionally, under Washington's Climate Commitment Act, all gas-fired generating facilities operated in the state are required to surrender allowances for greenhouse gas emissions.⁶⁸ The total number of allowances is reduced over time to reduce statewide emissions by 45% by 2030, 70% by 2040, and achieve net-zero emissions by 2050.⁶⁹

20. Washington is taking active steps to facilitate the power sector's shift away from fossil fuels. The state legislature recently enacted a new law to ensure the state's largest utility divests from fossil fuels by providing the regulatory and financial tools needed for Puget Sound Energy to draw down natural gas assets, transition customers to electricity service, and ramp up clean energy generation.⁷⁰ Washington is also focused on enabling rapid buildout of nonemitting energy sources and transmission to meet growing electricity demand, and the legislature has passed several laws in recent years to address barriers, such as siting and transmission planning.

⁶⁷ Wash. Rev. Code §19.405.040(1)(a).

⁶⁸ Wash. Rev. Code §70A.65.080.

⁶⁹ Wash. Rev. Code §§70A.65.130(1)(a); 70A.65.070(2).

⁷⁰ 2024 Wash. Sess. Laws 2326, <https://lawfilesext.leg.wa.gov/biennium/2023-24/Pdf/Bills/Session%20Laws/House/1589-S.SL.pdf#page=1>

I have read the foregoing Declaration of fifteen typewritten pages and I declare under penalty of perjury that the foregoing is true and correct.

DATED this 7th day of June 2024, in Seattle, Washington.

Joel Creswell

JOEL CRESWELL

Exhibit D

Declaration of Rory Davis Manager Regulatory Development Unit, Bureau of Air, Illinois Environmental Protection Agency

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

State of West Virginia, et al,

Petitioners,

v.

Environmental Protection Agency, et al.,

Respondents.

Case No. 24-1120
(and consolidated
cases)

**DECLARATION OF RORY DAVIS, MANAGER,
REGULATORY DEVELOPMENT UNIT,
ILLINOIS EPA – BUREAU OF AIR**

I, Rory Davis, declare as follows:

1. I am the manager of the Regulatory Development Unit in the Air Quality Planning Section of the Illinois Environmental Protection Agency's ("Illinois EPA") Bureau of Air. Illinois EPA is the Illinois agency charged with implementation of the federal greenhouse gas ("GHG") Rule for power plants. I submit this declaration in support of State Intervenors' opposition to the motions to stay the United States Environmental Protection Agency's ("USEPA") final rule entitled New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating

Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units and Repeal of the Affordable Clean Energy Rule (“Power Plant CHG Rule” or “Rule”).¹

PERSONAL BACKGROUND AND QUALIFICATIONS

2. I have a Bachelor of Science degree in Computational Physics as well as a Bachelor of Science degree in Mathematics from Illinois State University. I have a master’s degree in engineering from the University of Illinois at Chicago. My graduate studies consisted of an interdisciplinary program involving coursework from the chemical engineering and mechanical engineering fields with a concentration on environmental engineering.

3. I have over 18 years of experience in the Air Quality Planning Section and have been involved with nearly all rulemakings and state implementation plan (“SIP”) submissions from the Bureau of Air for more than a decade.

4. During my time at the Illinois EPA, the State of Illinois, including the Illinois EPA’s Bureau of Air, has been a leader in the U.S. in controlling air pollution from the power sector in a number of its

¹ 89 Fed. Reg. 39,798 (May 9, 2024).

actions. Illinois was a leader in its early action to control mercury emissions from coal-fired power plants, by adopting standards in 2006 that were more stringent than federal standards and by adopting them before USEPA promulgated its federal rule.² Illinois also significantly reduced emissions of oxides of nitrogen (“NO_x”) and sulfur dioxide (“SO₂”) from coal-fired power plants with its Multi-Pollutant and Combined-Pollutant Standards and was a leader in incentivizing clean energy sources with its Clean Air Set Aside related to USEPA’s Clean Air Interstate Rule (“CAIR”).³ Finally, and most recently, the State of Illinois enacted the Climate and Equitable Jobs Act (“CEJA”), which requires the elimination of GHG emissions from all large fossil-fueled power plants by 2045 and required significant incremental reductions in power plant GHG emissions upon its enactment in 2021 and subsequent reductions in 2030, 2035, and 2040.

Climate Change Harms and State Laws

5. According to the Illinois State Climatologist Office and the Prairie Research Institute at the University of Illinois, effects from climate change in Illinois include changes in weather and precipitation

² See 35 Ill. Adm. Code 225.

³ *Id.*

patterns that have already caused and will continue to cause significant consequences for rural and urban communities in the state.⁴

6. These projected burdens on water resources and infrastructure, public health hazards, and impacts to Illinois farmers all threaten immense economic harm to the state.

7. Illinois has already acted to reduce GHG emissions from the state's power sector. In addition to its Renewable Energy Portfolio Standard and Energy Efficiency Portfolio Standard, Illinois was the first state in the Midwest to set a goal of 100% clean energy by 2050. In order to meet this goal, Illinois enacted CEJA, which requires all private coal-fired and oil-fired electric generating units to reach zero emissions by January 1, 2030; requires all municipal coal-fired plants to be carbon-free by December 31, 2045; requires all natural gas-fired units to reach zero emissions by 2045; created a coal-to-solar program to support the transition of coal plants to renewable energy facilities; authorizes the Governor to create a commission on market-based carbon pricing solutions; and created a Nonprofit Electric Generation Task Force to

⁴ Illinois State Climatologist Dr. Trent Ford, "Climate Change Impacts and Costs to Illinois Communities" (2021), https://stateclimatologist.web.illinois.edu/wp-content/uploads/2022/05/PRI_ClimateChange.pdf (last accessed May 31, 2024).

investigate carbon capture and sequestration and debt financing options for a specific coal-fired facility in the state. The Illinois EPA has also permitted a pilot project for capturing carbon emissions at the coal fired Dallman unit in Springfield, IL.⁵ And finally, Illinois law requires 90% capture of carbon dioxide emissions from any new coal-fired power plants.⁶

8. Despite Illinois' steps to decarbonize its power sector, the GHG emissions from the power sector in other states still contribute to climate change and its impacts on Illinois. Thus, Illinois must rely on the USEPA Rule to limit those emissions.

9. As discussed below, the Rule will help address these threats reducing GHG emissions from existing coal-fired and new natural gas-fired electricity generating units.

The Rule

10. USEPA's Rule sets forth GHG emission guidelines for existing coal-fired power plants and standards for new gas-fired power plants based on USEPA's determination of the Best System of Emission

⁵ <https://netl.doe.gov/node/12284> (last accessed May 31, 2024).

⁶ 20 ILCS 3855/ (2021).

Reductions (“BSER”). The standards and emission limits in the Rule are generally based on highly efficient generation, the use of alternative fuels, or carbon capture and storage (“CCS”).

11. For existing coal-fired units, the Rule establishes subcategories based on how long the unit will continue to operate. For “long-term” units (those that intend to operate on or after January 1, 2039), the presumptive standard is based on application of CCS with 90% capture by January 1, 2032. For “medium-term” units (those that commit to cease operations by January 1, 2039), the presumptive standard is based on 40% natural gas co-firing by January 1, 2030. The Rule contains no presumptive standard for units that commit to permanently ceasing operation before January 1, 2032. The Rule also contains some flexibility for states to consider Remaining Useful Life and Other Factors (“RULOF”) for particular units.

12. For new gas-fired combustion units, the Rule separates units into three subcategories based on the percentage of their maximum annual capacity factors at which they operate. For base load turbines (units that operate at 40% or greater of their maximum annual capacity), the emission standard is based on highly efficient generation in Phase 1,

and then on CCS with 90% capture in Phase 2 (after January 1, 2032). For intermediate load turbines (units that operate between 20 and 40% of their maximum annual capacity), the standard is based on highly efficient generation. For low load turbines (units that operate at less than 20% of their maximum annual capacity) the standard is based on those units using lower emitting fuels.

13. To implement the Rule's emission guidelines for coal-fired generating units, states are required to submit a state plan to USEPA for review and approval within two years of the Rule becoming effective. The plans must provide for the establishment, implementation, and enforcement of standards of performance, consistent with the emission guidelines in the Rule. States must also include a description of their meaningful engagement with stakeholders in developing their plans, including communities affected by air pollution from existing power plants, energy communities and workers, small businesses, and reliability authorities. As stated above, the Rule affords states some flexibility for implementing plans, including consideration of RULOF, emissions trading and averaging, and possible one-year compliance extensions for units that may have unanticipated delays. The Rule also

contains two optional mechanisms that states may incorporate. One is a short-term reliability mechanism for units responding to a declared grid emergency, and the other is reliability assurance mechanisms for units that may be needed to stay operational for longer than anticipated due to grid reliability needs.

State Plan Process

14. States that are subject to the Rule are required to submit a plan to USEPA within two years of when the Rule becomes effective or allow the USEPA to implement a federal plan. It is anticipated that the Illinois EPA will be preparing a plan for the State of Illinois.

15. Based on previous experience, I anticipate that Illinois EPA will be able to develop a state plan to comply with the Rule within the two-year time period using our existing resources and budget.

Source Compliance with the Rule

Existing Coal-Fired Power Plants

16. As noted above, the Rule requires states with coal-fired generating units that meet certain criteria to establish performance standards that limit carbon dioxide emissions from those units.

17. Illinois has the following remaining coal-fired generating units subject to the Rule, in the noted subcategories based on available information: Baldwin Units 1 and 2 (1,373 megawatts (“MW”)), Dallman Unit 4 (217 MW, long term), Kincaid Units 1 and 2 (1,297 MW), Marion Unit 123 (122 MW, long term), Newton Unit 1 (748 MW), Powerton Units 5 and 6 (1,673 MW), and Prairie State Units 1 and 2 (1,664 MW, long term).

18. Further, and again based on publicly available information, Illinois EPA anticipates that the following units will comply with the Rule by committing to retire by a date certain: Baldwin Units 1 and 2 (retirement by December 31, 2025), Kincaid Units 1 and 2 (retirement by December 31, 2027), Newton Unit 1 (retirement by December 31, 2027), and Powerton Units 5 and 6 (retirement by January 1, 2030). Each of these units committed to retirement before the Rule was finalized. If there is a need for any of these units to operate beyond their retirement date to maintain grid reliability, the Rule allows for that contingency.

19. At this juncture, Illinois EPA commits to assessing compliance options available to Dallman, Marion, and Prairie State to timely meet performance standards included in a state plan. Such

options may include retirement by a date certain, CCS, or co-firing of natural gas.

Impacts of a Stay of the Rule

20. As stated above, climate change impacts are already being experienced by the people of Illinois and those impacts will continue into the foreseeable future. Illinois has taken significant actions in decarbonizing its power sector and anticipates continuing GHG emission reductions in the coming years on the way to the state's goal of 100% clean energy by 2050. Delaying emission reductions nationwide from this sector will allow its significant contribution to overall global emissions to continue. Likewise, a stay of this Rule will likely lead to delays in emission reductions and to uncertainty for states, affected facilities, and stakeholders until all litigation has been resolved.

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

Executed in Springfield, Illinois on June 10, 2024.

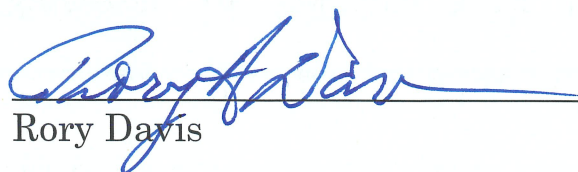

Rory Davis

Exhibit E

Declaration of Erica Fleishman Director of Oregon Climate Change Research Institute

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

State of West Virginia, et al.,

Petitioners,

v.

**United States Environmental
Protection Agency, et al.,**

Respondents.

Case No. 24-1020 (and
consolidated cases)

DECLARATION OF ERICA FLEISHMAN

DIRECTOR, OREGON CLIMATE RESEARCH INSTITUTE

I, Erica Fleishman, declare as follows:

1. I serve as director of the Oregon Climate Change Research Institute (OCCRI), which is housed at the College of Earth, Ocean, and Atmospheric Sciences at Oregon State University.
2. The purpose of this declaration is to briefly describe the serious harms that climate change, caused in part by carbon dioxide emissions from new and existing sources in the electricity generation sector, is causing and will continue to cause in Oregon. These harms include but are not limited to adverse effects

on infrastructure, public health, and native vegetation, and will add to the state's expenses.

3. I am submitting this declaration in support of the States' opposition to petitioners' motions to stay in *West Virginia v. U.S. Environmental Protection Agency*, No. 24-1120 (and consolidated cases) the U.S. Environmental Protection Agency's (EPA) final rule, *New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule*, 89 Fed. Reg. 39,798 (May 9, 2024) (Rule). I make this declaration on the basis of my own personal knowledge, unless otherwise indicated.

PERSONAL BACKGROUND AND QUALIFICATIONS

4. I received a B.S. and an M.S. in Biological Sciences from Stanford University in 1991 and 1992, respectively, and a Ph.D. in Ecology, Evolution, and Conservation Biology from University of Nevada, Reno in 1997. I have more than 30 years of experience in assessing the effects of climate and other types of environmental variability, extremes, and change on natural and human-dominated ecosystems in the western United States. Since 2012 I have served as a co-principal investigator of the Southwest Climate Adaptation Science Center,

one of eight such regional centers across the United States. These centers develop data and tools to address the climate change-related information needs of managers of species, ecosystems, and the human communities they support.

5. OCCRI was created in 2007 by the Oregon State Legislature under House Bill 3543. Among OCCRI's charges from the Legislature is "assess[ment of]... the state of climate change science, including biological, physical and social science, as it relates to Oregon and the likely effects of climate change on the state." The *Sixth Oregon Climate Assessment* (<https://doi.org/10.5399/osu/1161>), which was authored by OCCRI scientists and collaborators, was released in January 2023. OCCRI scientists also contributed to the Northwest chapter of the Fifth National Climate Assessment (<https://www.globalchange.gov/nca5>) and regularly support the Oregon Department of Land Conservation and Development in its production of state- and county-level natural hazard mitigation plans (e.g., <https://blogs.oregonstate.edu/occri/projects/dlcd/>). These and previous Oregon Climate Assessment reports, other publications in the peer-reviewed literature, and a limited amount of personal communication from agencies of the State of Oregon form the basis for this declaration.

6. I am making this declaration in my personal capacity on the basis of my expertise, experience, and training, and not on behalf of Oregon State

University.

CLIMATE CHANGE IN OREGON AND ASSOCIATED RISKS

7. Global increases in concentrations of greenhouse gases are changing the climate in Oregon. Not only are average values of annual temperature and, in some cases, precipitation and relative humidity changing; but the incidence of extreme heat, precipitation, and other forms of extreme climate is increasing; and climate is becoming less predictable. Anthropogenic climate change also is contributing to sea-level rise. As sea level rises, coastal storms and high tides are likely to increase the frequency and severity of flooding along the Oregon coastline. For example, by the year 2050, relative sea level at Charleston, Oregon, is highly likely to rise by 0.5–1.8 feet, and by the year 2100, at least one flood is likely to exceed 4 feet above mean high tide. Many of the consequences of climate change also directly and indirectly threaten Oregon residents' physical and mental health and their economic and social well-being. As explained further below, because Oregon bears a significant share of health care costs incurred in the state, negative health outcomes for Oregonians translate to negative impacts on state programs and resources. Disasters may result not only from isolated events, but also from recurrent events that individually are not extreme, but collectively degrade a community's

infrastructure (Field et al. 2012¹).

Impacts of Extreme Heat

8. The Pacific Northwest has warmed by about 2°F since 1900. Average temperatures in Oregon are projected to increase by another 5–8.2°F by the 2080s, depending on the global level of greenhouse gas emissions. Hot days and warm nights are becoming more frequent as a result of anthropogenic climate change. A common definition of an extremely warm day in the Pacific Northwest is a day on which the maximum temperature is 90°F or above. By this definition, the number of extremely warm days increased significantly across Oregon since 1951, and the number of such days in 2021 and 2022 was among the greatest on record in the state. Extreme heat poses risk to human health, especially among older adults, those who work or live outdoors, have underlying health conditions, and are economically disadvantaged, and can stress local emergency healthcare systems. Although dangerously warm temperatures are less common in Oregon than in many other parts of the United States, housing units in Oregon are less likely to use air conditioning

¹ Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Medgley, editors. 2012. Managing the risks of extreme events and disasters to advance climate change adaptation. A special report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom.

than housing units in 80% of other states (USEIA 2023²), leaving Oregonians at greater risk of negative health outcomes from extreme heat. For example, of the 69 people in Multnomah County, Oregon, whose deaths were directly attributable to heat exposure during 2021 and who died during an extraordinary heat wave in June, a maximum of three had a functional air conditioning unit (Burlotos et al. 2023³). As noted below, there also is evidence that the incidence of some infectious diseases, such as Lyme disease, West Nile virus, and salmonella, increase as average temperatures increase or during heat waves.

Impacts of Declining Snowpack

9. Oregon's annual snowpack is decreasing as the proportion of precipitation falling as rain increases and snowmelt occurs earlier. For example, from 1982–2017, peak snow water equivalent on the east side of the central Cascade Range declined by more than 70%. Snowmelt trended earlier in all mountain regions of the state, with maximum regional changes of 16 days earlier per decade. As a result, autumn and winter runoff is projected to increase across Oregon,

² USEIA (U.S. Energy Information Administration). 2023. Highlights for air conditioning in U.S. homes by state, 2020
<https://www.eia.gov/consumption/residential/data/2020/state/pdf/State%20Air%20Conditioning.pdf>.

³ Burlotos, A., C. Dresser, and V. Shandas. 2023. Portland's response to the western North American heatwave: a brief report. Disaster Medicine and Public Health Preparedness 17(e522):1–4oi: 10.1017/dmp.2023.184.

increasing the probability of seasonal flooding and landslides that can threaten human lives, private property, and infrastructure such as roads and other transportation corridors (see below). Additionally, the runoff associated with extreme precipitation may introduce human-made or naturally occurring toxins into the domestic water supply. Spring and summer runoff are likely to decrease, and vulnerability to water shortages to increase, in western and northeastern Oregon. For example, in the Columbia River basin, snowmelt runoff accounts for about 25% of total surface water allocated to irrigation (Qin et al. 2020⁴). Decreases in water availability may decrease the quality and quantity of water available for domestic and public consumption and use, including but not limited to drinking, cooking, washing, and bathing.

Impacts of Wildfire

10. Projected changes in climate in both the short term and the long term contribute to changes in fire dynamics in Oregon and beyond. Across the United States, changes in fire dynamics are leading to losses of human life and property, and to substantial financial costs. Nationwide, the direct damages associated with wildfires in 2017 and 2018 were greater than \$40 billion

⁴ Qin, Y., J.T. Abatzoglou, S. Siebert, L.S. Huning, A. AghaKouchak, J.S. Makin, C. Hong, D. Tong, S.J. Davis, and N.D. Mueller. 2020. Agricultural risks from changing snowmelt. *Nature Climate Change* 10:459–465.

(Smith 2019⁵). Shifts in fire dynamics often reflect interactions among historic fire suppression; changes in vegetation structure and composition, including the introduction of non-native invasive grasses that are highly flammable (Brooks et al. 2004⁶; Fusco et al. 2019⁷); the increasing role of humans in igniting wildfires (Balch et al. 2017⁸), and changes in climate and fire weather.

11. In the Pacific Northwest, the duration of the fire season more than quadrupled, from an average of 23 days to an average of 116 days, from the 1970s to the 2000s. Across the western United States, roughly half of the observed increase in fuel aridity and more than 16,000 square miles of burned area from 1984–2015 were attributed to human-caused climate change.

12. As climate, fuel loads, and associated fire dynamics change, the cost of fire suppression in Oregon is increasing. The average number of acres that burned in Oregon increased from 11,600 from 1990–1999 to 41,700 from 2010–2019 (GCWR 2019⁹).

⁵ Smith, A.B. 2019. 2018's billion dollar disasters in context. <https://www.climate.gov/news-features/blogs/beyond-data/2018s-billion-dollar-disasters-context>, accessed December 2019.

⁶ Brooks, M.L., C.M. D'Antonio, D.M. Richardson, J.B. Grace, J.E. Keeley, J.M. DiTomaso, R.J. Hobbs, M. Pellant, and D. Pyke. 2004. Effects of invasive alien plants on fire regimes. *BioScience* 54:677–688.

⁷ Fusco, E.J., J.T. Finn, J.K. Balch, R.C. Nagy, and B.A. Bradley. 2019. Invasive grasses increase fire occurrence and frequency across US ecoregions. *Proceedings of the National Academy of Sciences of the United States* 116:23594–23599.

⁸ Balch, J.K., B.A. Bradley, J.T. Abatzoglou, R.C. Nagy, E.J. Fusco, and A.L. Mahood. 2017. Human-started wildfires expand the fire niche across the United States. *Proceedings of the National Academy of Sciences of the United States* 114:2946–2951.

⁹ [Oregon] Governor's Council on Wildfire Response (GCWR), Report and Recommendations, November 2019. www.oregon.gov/gov/policy/Documents/FullWFCReport_2_019.pdf.

13. The State of Oregon owns forests in which the frequency and size of wildfires is likely to increase. The Oregon Department of Forestry noted that wildfires in the Santiam State Forest during September 2020, which burned over 16,000 acres, not only had ecological effects but also damaged recreation sites and roads.¹⁰ The area burned in Oregon during 2020 (approximately 1.2 million acres) was among the largest in the reliable historic record.
14. The human costs of wildfires are considerable, and also result in costs to the state. For example, high levels of fine particulate matter are associated with respiratory and cardiovascular illness in humans, especially in individuals with pre-existing medical conditions, and with reductions in outdoor exercise (Evans 2019,¹¹ Chen et al. 2021¹²). To illustrate, on a peak smoke day during the 2017 Eagle Creek fire, the Oregon Health Authority reported a 20% increase in emergency room visits for respiratory symptoms in the Portland metropolitan region (OHA 2017¹³). Short-term exposure to fine particulate matter from smoke also has been linked to increases in violent crime,

¹⁰ www.oregon.gov/odf/recreation/Pages/santiam-state-forest.aspx

¹¹ Evans, G.W. 2019. Projected behavioral impacts of global climate change. *Annual Review of Psychology* 70:449–474.

¹² Chen, H., J.M. Samet, P.A. Bromberg, and H. Tong. 2021. Cardiovascular health impacts of wildfire smoke exposure. *Particle and Fibre Toxicology* 18:2. doi: 10.1186/s12989-020-00394-8.

¹³ OHA (Oregon Health Authority). 2017. Statewide fire activation surveillance report (090517-090617).

especially assaults (Burkhardt et al. 2019¹⁴). The number of days on which the air quality index (AQI) was poor for all groups (AQI categories unhealthy, very unhealthy, or hazardous) in many Oregon municipalities as a result of wildfire smoke increased considerably in recent years (DEQ 2018¹⁵). For example, the AQI in Medford was poor due to wildfire smoke for a total of 28 days from 1985–2014, primarily in 1987 (16 days). By contrast, from 2015–2018, Medford’s AQI was poor due to wildfire smoke for a total of 46 days: 7 in 2015, 14 in 2017, and 25 in 2018. Portland’s AQI was not affected by wildfire smoke from 1985–2014, but smoke resulted in a poor AQI in the city on five days from 2015–2018. Similarly, during extreme wildfires in September 2020, the AQI in Portland, Oregon, reached levels higher (indicating high risks to human health) than those in any other major city worldwide (IQAir 2020¹⁶). The AQI in Portland was considered hazardous for three consecutive days, and unhealthy for seven consecutive days (IQAIR 2020). During that period, levels of fine particulate matter in smaller cities in Oregon, such as Applegate Valley and Cave Junction, sometimes exceeded

¹⁴ Burkhardt, J., J. Bayham, A. Wilson, J. Berman, K. O’Dell, B. Ford, E.V. Fischer, and J.R. Pierce. 2019. The relationship between air pollution and violent crime across the United States. *Journal of Environmental Economics and Policy*. doi: 10.1080/21606544.2019.1630014.

¹⁵ State of Oregon Department of Environmental Quality (DEQ). 2018. Wildfire smoke trends and associated health risks, Bend, Klamath Falls, Medford and Portland – 1985 to 2018. <https://www.oregon.gov/deq/FilterDocs/smoketrends.pdf>, accessed March 2019.

¹⁶ www.iqair.com/us/blog/wildfires/washington-oregon-fires-choke-northwest

those in Portland (AirNow 2020¹⁷). Moreover, smoke-driven reductions in air quality in Oregon are affecting regional economies. For example, *The New York Times* reported that in 2018, the Oregon Shakespeare Festival in Ashland estimated losses of \$2 million as a result of cancelled performances and reduced attendance due to wildfire smoke.¹⁸ During the 2020 wildfire season, 62% of Oregon wineries reported not only unhealthy air that delayed harvest, but impacts such as ash on grape skins and reduced sunlight that affected the size of grape clusters. Eighteen percent of Oregon wineries reported smoke damage to their wines, with the majority of red wine grape varieties discarded by producers or not harvested (IPRE 2021¹⁹).

15. Social vulnerability, as defined by the Centers for Disease Control and Prevention on the basis of social and economic status, household composition and disability, minority status and language, and housing type and transportation (ATSDR 2020²⁰), affects the ability of individuals and communities to mitigate and adapt to wildfire. In Oregon from 2000 through

¹⁷ www.airnow.gov/state/?name=oregon

¹⁸ The New York Times. 24 August 2018. Wildfire smoke disrupts Oregon Shakespeare Festival. www.nytimes.com/2018/08/24/theater/oregon-shakespeare-festival-wildfire-smoke.html

¹⁹ IPRE (Institute for Policy Research and Engagement). 2021. Impacts to Oregon's wine industry: Covid-19 and the 2020 wildfires. University of Oregon, Eugene, Oregon. <https://industry.oregonwine.org/wp-content/uploads/sites/2/2020-Vineyard-and-Winery-Report-COVID-and-Wildfire-Impacts-09-07-21.pdf>.

²⁰ ATSDR (Agency for Toxic Substances and Disease Registry). 2020. CDC / ATSDR Social Vulnerability Index. www.atsdr.cdc.gov/placeandhealth/svi/index.html.

2021, 45.4% of the population within wildfire perimeters was considered highly socially vulnerable, as compared with 23.5% of Oregon's overall population (Rad et al. 2023²¹).

16. The Oregon Health Authority (OHA), drawing on data on air quality, emergency department visits, and hospitalizations in areas affected by wildfire smoke, can estimate certain health care costs for diseases and conditions known to be caused or exacerbated by exposure to particulate matter. Wildfires were estimated to account for up to 50 percent of emissions of fine particulate matter in the western United States during the 2010s (Burke et al. 2021²²).
17. The OHA estimates that smoke from the Chetco Bar Fire and other wildfires that affected central and southwestern Oregon (1.1 million residents) during two months in late summer 2017 resulted in 207 excess emergency department visits and 18 excess hospitalizations for asthma, at a cost of \$556,000.
18. The OHA estimates that smoke from the 2017 Eagle Creek Fire in the Columbia River Gorge (2 million residents in seven counties) resulted in 96

²¹ Rad, A.M., J.T. Abatzoglou, E. Fleishman, M.H. Mockrin, V.C. Radeloff, Y. Pourmohamad, M. Cattau, J.M. Johnson, P. Higuera, N.J. Nauslar, and M. Sadegh. 2023. Social vulnerability of the people exposed to wildfires in U.S. West Coast states. *Science Advances* 9:eadh4615. doi: 10.1126/sciadv.adh4615.

²² Burke, M., A. Driscoll, S. Heft-Neal, J. Xue, J. Burney, and M. Wara. 2021. The changing risk and burden of wildfire in the United States. *Proceedings of the National Academy of Sciences* 118:e2011048118. doi: 10.1073/pnas.2011048118.

excess emergency department visits and 9 excess hospitalizations for asthma, at a cost of \$529,000.

Additional Health Impacts of Climate Change

19. In addition to the health effects of wildfire smoke and extreme heat, climate change may increase Oregonians' exposure to vector-borne diseases. For example, above-average temperatures were associated with expansion of West Nile virus from the eastern to the western United States (Reisen et al. 2006²³). As summer becomes longer and warmer, the incidence of West Nile virus, and other viral infections that cause brain inflammation, may increase (Bethel et al. 2013²⁴). Additionally, as water temperatures in oceans and estuaries in the Northwest increase, so may the incidence of *Vibrio parahaemolyticus* infections, which are caused by consuming raw oysters or other shellfish that are infected with the bacterium (Bethel et al. 2013). Exposure to and incidence of other water-borne diseases, especially cryptosporidiosis, may increase as precipitation and flooding in Oregon increase (Bethel et al. 2013). High flows can carry cattle feces into recreational waters and sources of drinking water,

²³ Reisen, W.K., Y. Fang, and V.M. Martinez. 2006. Effects of temperature on the transmission of West Nile virus by *Culex tarsalis* (Diptera: Culicidae). *Journal of Medical Entomology* 43:309–317.

²⁴ Bethel, J., S. Ranzoni, and S.M. Capalbo. 2013. Human health: impacts and adaptation. Pages 181–206 in Dalton, M., P.W. Mote, and A.K. Snover. 2013. *Climate change in the Northwest: implications for our landscapes, waters, and communities*. Island Press, Washington, D.C.

resulting in cryptosporidiosis and other gastrointestinal illnesses in humans.

20. Climate change is likely to reduce many populations' access to sufficient and nutritious food (Bethel et al. 2013), which in turn poses risks to physical and mental health, maternal health, and child development (Schnitter and Berry 2019²⁵). Mechanisms by which food security may be affected include droughts and floods within or beyond the region; both can affect agricultural production, and floods and landslides can affect the infrastructure used to transport food. Individuals, populations, and communities that have low incomes, are relatively isolated, or are in poor health may be especially vulnerable to climate change-induced food insecurity. Given the role that certain foods play in tribal communities, not only health but cultural values and identity are threatened by some elements of climate change and related food access (Quaempts et al. 2018²⁶).

21. Mental health also is likely to be adversely affected by climate change. For example, extreme events that are caused in part by climate change, such as wildfires or floods, can displace people from their homes either temporarily or

²⁵ Schnitter, R., and P. Berry. 2019. The climate change, food security, and human health nexus in Canada: a framework to protect population health. *International Journal of Environmental Research and Public Health* 16:2531. doi:10.3390/ijerph16142531.

²⁶ Quaempts, E.J., K.L. Jones, S.J. O'Daniel, T.J. Beechie, and G.C. Poole. 2018. Aligning environmental management with ecosystem resilience: a First Foods example from the Confederated Tribes of the Umatilla Indian Reservation, Oregon, USA. *Ecology and Society* 23(2):29. doi:10.5751/ES-10080-23029.

permanently and degrade social and economic infrastructure (Bethel et al. 2013). Similar effects on social and economic systems may result from recurrent events even if the individual events are not extreme (Field et al. 2012²⁷). Heat waves have been associated with increases in violent criminal activity during the following week in jurisdictions across the United States (Jacob et al. 2007²⁸), and increases in larceny and violent crime are projected to increase as maximum monthly temperatures increase (Ranson 2014²⁹).

Impacts to Marine and Coastal Systems

22. Rising sea levels, increases in ocean temperature, coastal erosion, ocean acidification, and an increase in the frequency of harmful algal blooms will continue to threaten private property and subsistence, recreational, and commercial fisheries, including but not limited to shellfish fisheries, along the Pacific Coast of the United States. For example, because warm water holds less oxygen than cold water, increases in water temperature directly reduce the concentration of dissolved oxygen. The number of Dungeness crabs

²⁷ Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Medgley, editors. 2012. Managing the risks of extreme events and disasters to advance climate change adaptation. A special report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom.

²⁸ Jacob, B., L. Lefgren, and E. Moretti. 2007. The dynamics of criminal behavior: evidence from weather shocks. *Journal of Human Resources* 42:489–527.

²⁹ Ranson, M. 2014. Crime, weather, and climate change. *Journal of Environmental Economics and Management* 67:274–302.

(*Metacarcinus magister*) caught per person-hour of fishing, and the general condition of those crabs, decreases as oxygen concentrations off the coast of west-central Oregon decrease (Keller et al. 2010³⁰). Additionally, in 2016, high concentrations of domoic acid from a regional harmful algal bloom led to a prolonged delay in the opening of the West Coast Dungeness crab fishery. Sea level rise could drive saltwater intrusion into coastal aquifers from which water for domestic and agricultural uses is derived. Additionally, extreme winter storms increase storm surge, erosion, and the likelihood of flooding in coastal communities.

Impacts on Transportation Infrastructure

23. Transportation systems in Oregon are threatened by extreme precipitation and temperatures, sea level rise, and wildfires, all of which can damage roads to the point that closures are necessary (OLIS 2019³¹). Current levels of funding are not sufficient for the Oregon Department of Transportation to proactively clear drainages (reducing the risk of flood), reshape slopes (reducing the risk of

³⁰ Keller, A, V. Simon, F. Chan, W.W. Wakefield, M.E. Clarke, D. Kamikawa, E.L. Frush, and J.A. Barth. 2010. Demersal fish and invertebrate biomass in relation to an offshore hypoxic zone along the U.S. West Coast. *Fisheries Oceanography* 19:76–87.

³¹ Oregon State Legislature, Oregon Legislative Information (OLIS). 2019. An adaptation menu of investment options: potential transportation investments to adapt to climate change impacts. Committee meeting document. <https://olis.leg.state.or.us/liz/2019R1/Downloads/CommitteeMeetingDocument/165202>.

landslides), and maintain roadside vegetation (reducing the risk of flood and ignition or expansion of wildfire) (OLIS 2019).

24. Climate change is likely to have negative effects on transportation

infrastructure absent substantial new investments. An assessment conducted by the Oregon Department of Transportation, Federal Highway Administration, and local government authorities in 2014 (ODOT 2014³²) identified vulnerabilities to climate change and extreme weather on highways in the Coast Range, roads in low-elevation areas that increasingly are prone to flooding, and the transportation infrastructure in coastal areas that are exposed to storm surges and inundation, both of which are becoming more frequent as anthropogenic climate change continues. Seismic Lifeline Routes in Oregon, intended to facilitate emergency response and recovery after an earthquake, also were found to be vulnerable. Furthermore, incremental increases in relative sea-level rise can produce exponential increases in flood frequency (Taherkhani et al. 2020³³). For example, on the west coast of the United States, a rise in sea level of about 2.1 inches doubles the likelihood of exceeding the contemporary 50-year flood (a flood that has a 2% probability of occurring in a given year) (Taherkhani et

³² ODOT (Oregon Department of Transportation). 2014. Climate change vulnerability assessment And adaptation options study. www.oregon.gov/ODOT/Programs/TDD%20Documents/Climate-Change-Vulnerability-Assessment-Adaptation-Options-Study.pdf.

³³ Taherkhani, M., S. Vitousek, P.L. Barnard, N. Frazer, T.R. Anderson, and C.H. Fletcher. 2020. Sea-level rise exponentially increases coastal flood frequency. *Scientific Reports* 10:6466. doi: 10.1038/s41598-020-62188-4.

al. 2020). Global mean sea level rose by nearly 8 inches from 1900 through 2018, and rates of sea level rise accelerated during that time (IPCC 2021³⁴). Global mean sea level is likely to continue to rise by about 1–4 feet, relative to the year 2000, by the year 2100 (Sweet et al. 2017³⁵). Sea level rise projections vary along the Oregon coast, primarily due to local differences in vertical land motions. To illustrate, median local sea level projections for Astoria, near Fort Stevens State Park, range from 0.1–2.4 feet above a 1992 baseline by 2050, depending on the emissions scenario. By contrast, median local sea level projections for Newport, near South Beach State Park and Lost Creek State Recreation Site, range from 0.6–2.9 feet above a 1992 baseline by 2050.

Impacts on State Financial Resources

25. Oregon incurs diverse costs from wildfires. The estimated cost to the state of completed and projected cleanup efforts in the wake of the September 2020 fires, including removal of ash, debris, hazardous materials, and trees that

³⁴ IPCC (Intergovernmental Panel on Climate Change). 2021. Summary for policymakers. Pages 3–32 in V. Masson-Delmotte et al., editors. *Climate change 2021: the physical science basis. Contribution of Working Group I to the sixth assessment report of the Intergovernmental Panel On Climate Change*. Cambridge University Press, Cambridge, United Kingdom and N York,

USA. doi: 10.1017/9781009157896.001.

³⁵ Sweet, W.V., R. Horton, R.E. Kopp, A.N. LeGrande, and A. Romanou, 2017. Sea level rise. Pages 333–363 in D.J. Wuebbles, D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock, editors. *Climate science special report: fourth National Climate Assessment, volume I*. U.S. Global Change Research Program, Washington, D.C. <https://science2017.globalchange.gov/>.

threatened to impede the roadway, is \$75.63 million from the State Highway Fund and \$75.75 million from the State General Fund.³⁶ These direct costs to the State will not be reimbursed by the Federal Emergency Management Agency. Prior to 2013, the Oregon Department of Forestry rarely required state General Fund dollars for fire suppression on lands under its jurisdiction. Since 2013, however, the Department has required General Fund support annually; the annual cost to the General Fund for suppressing large fires has been approximately \$20 million.

26. Climate change, including the effects of wildfires that are driven in part by climate change, is expected to have continuing negative effects on the health of Oregonians. The cost of those negative effects, in turn, will increase burdens on the state's budget, with negative consequences for state programs. The OHA, relying primarily on the Oregon All Payer Claims Database, estimates that at least 13% of all Oregon health care costs are borne by the state (including, but not limited to, Oregon's state share of Medicaid costs and costs of health care for State employees).

³⁶ F. Reading, Oregon Debris Management Task Force, Oregon Department of Transportation, personal communication, 16 December 2021.

Impacts on Tribes

27. Native American tribes in the state, both on and off reservations, generally are among the communities in Oregon most strongly and adversely affected by climate change. Climate change affects the lands, identity, economies, physical and mental health, and culture of Native American tribes in addition to tribal fisheries and other sources of traditional foods, including but not limited to salmon, shellfish, and berries. In 2015, 15 tribes in the Columbia River Basin and three intertribal organizations identified protection of water quality and quantity; fishes, their habitats, and connectivity among them; preparation for wildfires in forests; and wildlife and their habitat among their highest priorities for climate action plans (Sampson 2015³⁷).

³⁷ Sampson, D. 2015. Columbia River Basin tribes climate change capacity assessment. Portland State University, Portland, Oregon.
www.tribalclimatecamp.org/sites/default/files/ColBasinTribes_CCCassessment.pdf.

Potential effects of reducing carbon emissions from the electric power sector

27. In 2021, generation of electric power contributed about 25% of greenhouse gas emissions in the United States (EPA 2023³⁸). From 1990 through 2017, when transportation became the greatest contributor of emissions, electric power was responsible for about 30% of the country's emissions, more than any other sector (EPA 2023). EPA projects that the Rule will reduce emissions by 1.38 billion metric tons of CO₂-equivalent from 2028–2047, approximately the annual volume of emissions from the U.S. electric power sector³⁹. A stay of the Rule that delays those emissions reductions will increase the likelihood of the harms to Oregon discussed above.

I state under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge and belief.

Executed in Corvallis, Oregon, on 24 May, 2024

Erica Fleishman

Erica Fleishman

³⁸ EPA (U.S. Environmental Protection Agency). 2023. Climate change indicators: U.S. greenhouse gas emissions. www.epa.gov/climate-indicators/climate-change-indicators-us-greenhouse-gas-emissions.

³⁹ <https://www.epa.gov/newsreleases/biden-harris-administration-finalizes-suite-standards-reduce-pollution-fossil-fuel>

Director, Oregon Climate Change Research Institute

Exhibit F

Declaration of Elijah Hutchinson Director of the New York City Mayor's Office of Climate and Environmental Justice

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

State of West Virginia, et al,

Petitioners,

v.

Environmental Protection Agency, et al.,

Respondent.

Case No. 24-1220
(and consolidated
cases)

DECLARATION OF ELIJAH HUTCHINSON

**Executive Director
New York City Mayor's Office of Climate and
Environmental Justice**

I, Elijah Hutchinson, declare as follows:

1. I am the Executive Director of the New York City Mayor's Office of Climate and Environmental Justice ("MOCEJ").¹ I submit this declaration in support of State Intervenors' opposition to the motions to stay the Environmental Protection Agency's final rule: the repeal of the Affordable Clean Energy Rule; the new greenhouse gas ("GHG") emissions guidelines for existing coal and oil-fired generating units; and

¹ The Mayor's Office of Climate and Environmental Justice is the name for the Office of Long-term Planning and Sustainability, which was established by the New York City Charter. See New York City Charter § 20.

revised New Source Performance Standards for new, reconstructed, and modified fossil fuel generating units (collectively, “Rule”).

PERSONAL BACKGROUND AND QUALIFICATIONS

2. I earned a bachelor’s degree in Anthropology and a master’s degree in City Planning.

3. I have been the Executive Director at MOCEJ since September 2023. Prior to my current role, I served as vice president for waterfronts at the New York City Economic Development Corporation. In that role, among leading other portfolios, I launched the resilience practice group to incorporate hazard mitigation into waterfront planning throughout the City. The practice included the Lower Manhattan Coastal Resilience Project, a multi-component project focused on coastal storm risk reduction along the southern tip of Manhattan. Portions of the Lower Manhattan Coastal Resilience Project are in construction as of the date of this declaration.

4. MOCEJ’s mission is to address the unprecedented challenges brought by climate change, with a focus on equity, justice, and public health to create a more resilient, sustainable, equitable, and vibrant city for the New Yorkers of today and generations to come. Through science-

based analysis, policy and program development, and capacity building, MOCEJ leads the City's efforts to ensure that New York City is both reducing our GHG emissions to achieve carbon neutrality by 2050, in alignment with the Paris Climate Agreement, and adapting to the impacts of climate change and ensuring it is ready to withstand and emerge stronger from the multiple impacts of climate change in the near-, medium-, and long-term. As part of its mission, MOCEJ undertakes science-based analysis by identifying, translating, and applying the best-available climate science to develop its policies, programs, capital projects, and public engagements. MOCEJ develops innovative policy and programmatic solutions to improve quality of life for current and future New Yorkers, directly address the drivers of climate change, and achieve environmentally and economically just outcomes for all New Yorkers. MOCEJ works to advance critical infrastructure designed to adapt to observed and projected changes in temperature, precipitation, and sea level; develop resilience in New York City's communities; achieve ambitious emission reduction goals; and transition New York City to clean energy.

5. In my current capacity, among other responsibilities, I oversee the processes and procedures pertaining to the New York City Panel on Climate Change (“NPCC”) as prescribed by local law. The NPCC is an advisory board of researchers, appointed by the Mayor, who have expertise in various aspects of climate change—including climate science, demography, engineering, geography, architecture, law, and urban planning.² The purpose of the NPCC is to identify the best available science on climate change and its potential impacts on the City’s communities, vulnerable populations, public health, natural systems, critical infrastructure, buildings, and economy.

New York City is Experiencing Significant Climate Change Impacts, Which Are Expected to Worsen

6. I am familiar with the science related to global climate change and the projected impacts of climate change on New York City, including threats to public health and safety, harm to municipal resources and property, and significant recovery and adaptation costs. I have studied the research and conclusions resulting from the NPCC research, and I

² Mayor’s Office of Climate and Environmental Justice, New York City Panel on Climate Change, *available at* <https://climate.cityofnewyork.us/initiatives/nyc-panel-on-climate-change-npcc/>.

am tasked in my current role with using the NPCC research to address the projected risks from climate change citywide.

7. Climate change is dramatically increasing the risks for the people, natural resources, infrastructure, and economy of New York City. Annual temperatures are increasing, sea levels are rising, and extreme weather events are becoming more common. These trends are projected to continue and worsen in the coming decades due to higher atmospheric GHG concentrations.³

Sea Level Rise and Increased Precipitation Exacerbate New York City's Flood Risk

8. Climate change poses a significant flood risk to the City through higher sea levels, increased precipitation, and more frequent and severe extreme weather events. Continued sea level rise increases flood risk from coastal storms and tidal flooding and impedes drainage during fluvial (riparian) or pluvial (stormwater) flooding events.⁴ Climate change is also expected to increase the frequency and severity of extreme

³ New York City Panel on Climate Change, 4th Assessment of the New York City Panel on Climate Change (2024), NYC Climate Risk Information 2022: Observations and Projections, *available at* <https://climateassessment.nyc/assessments/> (“NPCC4”); NPCC4, Climate Drivers of Extreme Heat, and New Methods for Extreme Event Projections.

⁴ NPCC4, Climate Change and New York City's Flood Risk, at 4.

weather events, which can result in injury and death from exposure, interrupted utility service, or lack of access to emergency services.

9. As a city with 520 miles of coastline, New York City is particularly vulnerable to coastal and compound flooding, which climate change will exacerbate.⁵ For example, Superstorm Sandy was the largest storm to hit the Northeast in recorded history. Its impact was devastating; it led to the death of 44 people and caused \$19 billion in damages in New York City alone.⁶ Its reach was extensive – approximately 10.3% of the City’s population lived within the inundation area.⁷ The remnants of Hurricane Ida, which ravaged the City in 2021, caused 13 deaths in New York City alone, and resulted in an estimated \$900 million in known damages.⁸

⁵ NPCC4, Climate Change and New York City’s Flood Risk at 28.

⁶ NPCC4, NYC Climate Risk Information 2022: Observations and Projections at 11; NYC Recovery, Community Development Block Grant Disaster Recovery at 19 (2021), available at https://www.nyc.gov/assets/cdbgdr/documents/amendments/CDBG-DR_Action_Plan%201-24.pdf.

⁷ NYC Recovery, Community Development Block Grant Disaster Recovery at 12.

⁸ NPCC4, Advancing Knowledge Toward a Sustainable Future - Introduction, at 2-3; NPCC4, Climate Change and New York City’s Flood Risk at 13; New York City Panel on Climate Change, Building the Knowledge Base for Climate Resiliency: New York City Panel on Climate Change 2015 Report, Annals of the New York Academy of Science, Vol. 1336 (Jan. 2015), Chapter 2, available at <http://onlinelibrary.wiley.com/doi/10.1111/nyas.2015.1336.issue-1/issuetoc> (“NPCC2”). NPCC4 confirmed that, “[p]luvial flooding is already a significant

10. Sea level rise in New York City has averaged approximately 1.2 inches per decade since 1900,⁹ about twice the observed global rate,¹⁰ with a total increase to date of more than a foot.¹¹ By the 2050s, New York City may experience sea levels up to two feet higher than today.¹² Land that was once protected from coastal flooding will become increasingly vulnerable to frequent and severe coastal flood events.

11. Several neighborhoods in New York City are experiencing flooding on sunny days, absent any storms, as many as 63 times per year.¹³ This will continue to worsen, as sea level rise caused by climate change expands the area vulnerable to flooding during spring tides and other regularly high tides.¹⁴

hazard for NYC, and it will be exacerbated by human-caused climate change throughout the 21st century, especially if global efforts to reduce greenhouse gas emissions are delayed. Climate change is expected to increase the probability of extremely intense, short-duration precipitation.” NPCC4, *Climate Change and New York City’s Flood Risk*, at 24.

⁹ *Id.* at 13.

¹⁰ *Id.* at 12.

¹¹ *Id.* at 13.

¹² NPCC4, *NYC Climate Risk Information 2022: Observations and Projections* at 15.

¹³ New York City Panel on Climate Change, *Advancing Tools and Methods for Flexible Adaptation Pathways and Science Policy Integration*, *Annals of the New York Academy of Science*, Vol. 1439 (Mar. 2019), chapter 2, available at <https://www.nyas.org/annals/special-issue-advancing-tools-and-methods-for-flexible-adaptation-pathways-and-science-policy-integration-new-york-city-panel-on-climate-change-2019-report-vol-1439/> (“NPCC3”).

¹⁴ NPCC4, *Climate Change and New York City’s Flood Risk* at 31.

12. Flooding events are also more likely due to the increased probability of severe weather events because of long-term climate impacts. New York City is projected to experience more rainfall overall due to climate change,¹⁵ with an increase of up to 11% in annual precipitation by the 2050s.¹⁶ Intense precipitation events, like the cloudburst associated with the remnants of Hurricane Ida, are particularly likely to increase in both severity and frequency.¹⁷ Increases in heavy downpours could exacerbate not just coastal flooding but urban flooding in non-coastal areas.¹⁸ More extreme weather will leave the City and its essential infrastructure susceptible to more frequent violent storms and severe flooding;¹⁹ at other times, the new extremes could subject the City to prolonged periods of drought.²⁰

Rising Temperatures Pose Serious Health Risks to New Yorkers

13. Warming temperatures can introduce or exacerbate a wide range of health problems, and will likely result in an increase in deaths

¹⁵ *Id.* at 23-24.

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ NPCC4, Climate Change and New York City's Flood Risk at 20.

¹⁹ *Id.* at 28-29.

²⁰ NPCC4, NYC Climate Risk Information 2022: Observations and Projections at 27-28.

due to extreme heat.²¹ Extreme heat already poses a significant risk to New Yorkers; currently, an average of 350 residents suffer heat-related deaths each year.²² New York City is likely to experience an increase in average temperatures by up to six degrees Fahrenheit by the 2050s.²³ By that time, New York City could experience up to 69 days per year above 90 degrees Fahrenheit, approximately four times as many days per year compared to 1981-2010.²⁴ Heat waves, defined as three or more consecutive days of temperatures at or above 90 degrees, cause deaths from heat stroke and exacerbate chronic health conditions, particularly for vulnerable populations like the elderly. The frequency and duration of heat waves are both expected to increase over coming decades.²⁵

14. The health consequences of climate change disproportionately affect New York City's most vulnerable populations – the elderly, children, and low-income communities who already experience elevated instances of cardiovascular and respiratory diseases.²⁶

²¹ NPCC4, *Climate Change and New York City's Health Risk* at 7-17.

²² NYC Environment & Health Data Portal, *2023 Heat Mortality Annual Report* (2023), available at <https://a816-dohbesp.nyc.gov/IndicatorPublic/key-topics/climatehealth/heat-report/>.

²³ NPCC4, *NYC Climate Risk Information 2022: Observations and Projections* at 23.

²⁴ *Id.* at 24.

²⁵ *Id.* at 23-24.

²⁶ *Id.* at 13-17.

New York City's Mitigation and Adaptation Efforts

15. Aggressive action to reduce GHG emissions is required to reduce the likelihood of the NPCC's "high end" climate impact projections and avoid additional adaptation costs. Simply put, the projected "high end" impacts would be calamitous for New York City, causing destruction to essential infrastructure, affecting the basic habitability of significant swaths of the City, and increasing rates of death and severe illness for New Yorkers.

16. In 2014, New York City pledged to reduce GHG emissions by 80 percent of 2005 levels by the year 2050, mirroring the goal set by the United Nations Framework Convention on Climate Change to prevent dangerous anthropogenic interference with the climate system.²⁷ The City pushed this commitment further in 2019, pledging to achieve carbon neutrality by 2050.²⁸ To meet these goals, the City is implementing strategies such as Local Law 97 of 2019, which requires large buildings

²⁷ Local Law 66 of 2014 (Nov. 13, 2014) (amending section 24-803 of the New York City Administrative Code to require that citywide emissions be reduced by eighty percent of 2005 levels by calendar year 2050).

²⁸ *OneNYC 2050 Building a Strong and Fair City Report Volume 7* (2019) at 5, available at <https://climate.cityofnewyork.us/wp-content/uploads/2022/10/OneNYC-2050-Summary.pdf>; see also Mayor's Office of Sustainability, *Pathways to Carbon-Neutral NYC* (2021), <https://www.nyc.gov/assets/sustainability/downloads/pdf/publications/Carbon-Neutral-NYC.pdf>.

to reduce their GHG emissions, and the 2023 Carbon Neutrality zoning text amendment, which reduces barriers to the adoption of clean energy.

17. However, New York City's actions to reduce GHG emissions alone cannot shield New York City or its residents from the impacts of climate change. National and global action to reduce GHG emissions is required to stave off the realization of the NPCC's "high end" impacts. Continued unfettered emissions of GHGs, including from fossil-fuel burning power plants, will contribute to increased severity of impacts due to climate change experienced in New York City, and in turn, the costs and harms borne by New York City and its residents.

18. New York City has already incurred substantial costs due to recovery and mitigation in the face of climate change impacts and expects to further incur substantial costs in the development of new resiliency projects and climate proofing existing infrastructure such that the City can withstand future impacts and effectively protect vulnerable New Yorkers and critical City infrastructure and resources. The City is currently implementing an over \$20 billion resiliency plan consisting of approximately \$6.5 billion of City funds and \$16.4 billion in federal funds. This plan includes projects throughout the City, including but not limited

to \$3.2 billion dollars of repairs and resiliency measures at New York City Housing Authority campuses, \$1.9 billion dollars of repairs at Health + Hospital facilities, coastal resiliency measures such as the East Side Coastal Resiliency (\$1.45 billion), the Army Corps Staten Island project (\$615 million), and the Rockaway Boardwalk and other Rockaway Resiliency projects (\$626 million), to name a few. Future projects proposed in the NY & NJ Harbor & Tributaries Focus Area Feasibility Study, designed to protect the City from future Sandy-like coastal storm surges, are anticipated to cost tens of billions of dollars more.

The Rule

19. In April 2024, EPA finalized new GHG emissions guidelines for existing coal generating units and revised New Source Performance Standards for new, reconstructed, and modified fossil fuel generating units under section 111 of the Clean Air Act.²⁹ The standards and guidelines are based on carbon capture and sequestration (“CCS”) as the best systems of emissions reduction for new, baseload gas-fired combustion turbines and long-term coal-fired generating units. The

²⁹ 89 FR 39,798 (May 9, 2024) (to be codified at 40 CFR part 60).

Regulatory Impact Analysis for the Rule anticipates a reduction of 1.38 billion metric tons of carbon dioxide in a twenty-year period.

20. By way of comparison, New York City emitted approximately 53.65 million metric tons of carbon dioxide equivalent total in 2022.³⁰ The average annual GHG emission reduction provided by the Rule is greater than the total annual emissions citywide.

21. The Rule will help address the threats discussed above by requiring reductions in GHG emissions from existing coal-fired and new natural gas-fired electricity generating units.

Impacts of a Stay of the Rule

22. If the Rule's emission reduction requirements were delayed as a result of a stay, the likelihood of the "high end" impacts articulated by the NPCC would increase, as emissions from the power generation sector would not be significantly reduced in the near- and medium-term. In turn, New York City likely would shoulder larger economic, financial, social, and structural harms resulting from climate change from the Rule's delay.

³⁰ MOCEJ, *NYC Greenhouse Gas Inventories*, available at <https://climate.cityofnewyork.us/initiatives/nyc-greenhouse-gas-inventories/>.

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

Executed in New York, New York on June 7, 2024.

A handwritten signature in black ink, appearing to read 'Eli Hutchinson', with a horizontal line drawn underneath it.

Elijah Hutchinson ·
Executive Director
New York City Mayor's Office of Climate and Environmental Justice

Exhibit G

Declaration of Frank Kohlasch Assistant Commissioner for Air and Climate Policy Minnesota Department of Natural Resources

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

State of West Virginia, et al.,

Petitioners,

v.

United States Environmental Protection
Agency, et al.,

Respondents.

Case No. 24-1120 (and
consolidated cases) _____

DECLARATION OF FRANK KOHLASCH

I, Frank Kohlasch, declare as follows:

1. I am the Assistant Commissioner for Air and Climate Policy at the Minnesota Pollution Control Agency (MPCA). In my role as Climate Director, I am responsible for MPCA’s policies to mitigate and adapt to climate change in Minnesota, as well as Minnesota’s greenhouse gas (GHG) emissions inventory and MPCA’s implementation of the Clean Air Act. I have personal knowledge and experience with Minnesota’s efforts to prepare for and mitigate climate change and to reduce the impacts of air pollution, as well as state and regional scale analyses of policies and strategies to reduce GHG emissions from all sources in Minnesota, including transportation.

2. I submit this declaration in support of the Movant State-Intervenors' opposition to motions to stay the final action of the United States Environmental Protection Agency ("EPA"), "New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule," published at 89 Fed. Reg. 39,798 (May 9, 2024) (Final Rule).

PERSONAL BACKGROUND AND QUALIFICATIONS

3. My educational background includes a Juris Doctorate from Hamline University School of Law, a Bachelor's of Science in Chemistry from Fort Hays State University, and graduate level coursework in environmental chemistry, environmental toxicology, environmental health, and advanced analytical chemistry. I have worked in environmental analysis, environmental data, and climate change programs for the Minnesota Pollution Control Agency for 27 years. For the last 10 years, I have been directly responsible for the development and implementation of GHG reduction policies for the State of Minnesota, as well as GHG emissions inventory development, reporting, and analysis. I have experience and interest in the formation of fine particles and ozone, mercury emissions, air monitoring, environmental justice, regional haze control, air modeling, risk and science communication, and carbon regulations.

CLIMATE CHANGE HARMS THREATENING MINNESOTA

4. I am aware of and familiar with the science related to global climate change through my educational background, professional training, and 27 years of service with the Minnesota Pollution Control Agency.

5. Minnesota's climate is already changing; the 10 warmest and wettest years on record have all occurred in the past 20 years.¹ Minnesota has warmed 3° Fahrenheit since 1895, with most of that warming occurring after 1985. Average annual rainfall has increased 3.4 inches over the same time span. Heavy rains are now more common in Minnesota and more intense than at any time on record. Long-term observation sites have seen dramatic increases in 1-inch rains, 3-inch rains, and the size of the heaviest rainfall of the year. Since 2000, Minnesota has seen a significant uptick in devastating, large-area extreme rainstorms as well. Rains that historically would have been in the 98th percentile annually (the largest 2%) have become more common. Climate projections indicate these extreme rainstorms will occur with increasing frequency into the future.² These changes mean more flooding in Minnesota communities, damage to publicly and privately owned infrastructure, farmers with fields too wet to plant or harvest, and shorter

¹ Climate Change Factsheet, Climate Change Factsheet. (n.d.). Retrieved from https://files.dnr.state.mn.us/natural_resources/climate/change/climatechange-factsheet.pdf.

² More damaging rains. (n.d.). Retrieved from https://www.dnr.state.mn.us/climate/climate_change_info/climate-trends.html.

ice fishing and maple syrup seasons. The cumulative impact of climate change is having real effects on Minnesotans and our economy by forcing early and costly repairs to infrastructure, increasing home and crop insurance rates, and contributing to upheaval in our native ecosystems.³

6. In addition to increases in the frequency and magnitude of heavy rain, Minnesota has also seen a dramatic increase in large-coverage flash flood events in recent years. Between 2000 and 2021, the state had 11 catastrophic “mega-rain events” — when at least six inches of rain falls on an area greater than 1,000 square miles. The 27 years from 1973 through 1999 saw only five such storms, and 2016 became the first year on record with more than one. In addition, the mega-rains since 2000 have included the largest, earliest, and latest on record, suggesting that we are seeing not just an intensification, but also a lengthening of our heavy and extreme rainfall season.⁴ Flooding in March and April 2019 caused approximately \$32 million in state costs for infrastructure repair and disaster response.⁵ More frequent and more severe flooding will create ongoing and worsening state costs.

³ Effects of climate change in Minnesota. (n.d.). Retrieved from <https://www.pca.state.mn.us/air/effects-climate-change-minnesota>.

⁴ Historic mega-rain events in Minnesota. (n.d.). Retrieved from https://www.dnr.state.mn.us/climate/summaries_and_publications/mega_rain_events.html.

⁵ Minnesota Request FEMA Preliminary Damage Assessments. (2019, May 3). Retrieved from <https://dps.mn.gov/divisions/ooc/news-releases/Pages/minnesota-requests-fema-preliminary-damage-assessments.aspx>.

7. Climate data for the Midwest show observed increases in average temperatures. To date, most of Minnesota's observed warming has occurred during the coldest months. In 1970 through 2021, average daily winter low temperatures rose more than 15 times faster than average daily summer high temperatures. The frequencies of -35° F readings in northern Minnesota and -25° F readings in the south have fallen by up to 90%.⁶ On Minnesota lakes, ice coverage has declined an average of 10-14 days in the last 50 years.⁷ These trends are expected to continue. Cold weather warming harms Minnesota industries that rely on winter tourism, such as ice fishing, snowmobiling, and cross-country skiing.⁸

8. Temperatures are expected to rise significantly by mid-century, including an increase in particularly hot days.⁹ Climate change is anticipated to result in more hospital admissions for heat-related illness. Extreme heat events are linked to a range of illnesses, even death, and can exacerbate pre-existing chronic conditions such as cardiovascular, respiratory, liver, and neurological diseases, endocrine disorders, and renal disease or failure. Populations who are most vulnerable to extreme heat include persons over 65 or under five years old; living

⁶ Climate trends. (n.d.). Retrieved from https://www.dnr.state.mn.us/climate/climate_change_info/climate-trends.html.

⁷ Climate impacts on the environment (n.d.). Retrieved from <https://www.pca.state.mn.us/air-water-land-climate/climate-impacts-on-the-environment>.

⁸ Recreation, tourism threatened by winter warming (n.d.). Retrieved from <https://climate.state.mn.us/recreation-tourism-threatened-winter-warming>.

⁹ University of Minnesota Climate Adaptation Partnership, extreme events. (n.d.). Retrieved from <https://climate.umn.edu/our-changing-climate/extreme-events>.

alone; living in a building or institution without air conditioning, or residing on the topmost floor of a building; and with an income at or below the poverty line.

People who are exposed to heat because of recreational activities or job-related activities also are more vulnerable, including athletes, construction workers, and landscape/agricultural workers.¹⁰

9. Increasing temperatures also impact Minnesota's agricultural industry.¹¹ Agriculture is highly dependent on specific climate conditions. As a result of increasing temperature, crop production areas may shift to new regions of the state where the temperature range for growth and yield of those crops is more suitable unless new climate-adapted varieties are developed and used. According to the Fourth National Climate Assessment, the Midwest growing season has lengthened by almost two weeks since 1950 due in large part to earlier timing of the last spring freeze.¹² This trend is expected to continue. While a longer growing season may increase total crop production, other climate changes, such as increased crop losses and soil erosion from more frequent and intense storms, and increases in pests and invasive species, could outweigh this benefit. Summer heat

¹⁰ Extreme heat events. (n.d.) Retrieved from <https://www.health.state.mn.us/communities/environment/climate/extremeheat.html>.

¹¹ Climate impacts on agriculture. (n.d.). Retrieved from <https://www.pca.state.mn.us/air-water-land-climate/climate-impacts-on-agriculture>.

¹² Fifth National Climate Assessment, Ch. 24: Midwest. (2023). Retrieved from https://nca2023.globalchange.gov/downloads/NCA5_Ch24_Midwest.pdf.

waves are projected to be hotter and more frequent by midcentury.¹³ This difference could result in significant failure of corn crops. Animal health, growth, and reproduction are highly sensitive to temperature changes, making Minnesota's livestock industry vulnerable to climate change. Higher summer temperatures increase the risk of deaths due to heat loss, loss of production of milk and eggs, slower weight gain, and decreased reproduction.¹⁴

10. According to the Fifth National Climate Assessment, climate change is contributing to the increased likelihood of wildfires.¹⁵ Smoke from wildfires in the Western United States and Canada can travel thousands of miles and degrade air quality in Minnesota. The MPCA has issued 46 air quality alerts since 2015 and 34 of those were due to wildfire smoke.¹⁶

11. These impacts are only some of the many examples of how Minnesota is being impacted by climate change and do not include all of the ongoing and worsening harms of climate change to Minnesotans.

¹³ Minnesota CliMAT – Climate Mapping and Analysis Tool (CMIP6). (n.d.). Retrieved from <https://climate.umn.edu/MN-CliMAT>.

¹⁴ Climate impacts on agriculture. (n.d.) Retrieved from <https://www.pca.state.mn.us/air-water-land-climate/climate-impacts-on-agriculture>.

¹⁵ Fifth National Climate Assessment, Ch. 14: air quality. (2023). Retrieved from https://nca2023.globalchange.gov/downloads/NCA5_Ch14_Air-Quality.pdf

¹⁶ Are smoky summers the new normal? (n.d.) Retrieved from <https://www.pca.state.mn.us/news-and-stories/are-smoky-summers-the-new-normal>

CLIMATE ACTION IN MINNESOTA

12. Minnesota has a long history of climate action. In 2007, the Minnesota legislature adopted a bipartisan, wide-ranging state effort to address GHG emissions in Minnesota, known as the Next Generation Energy Act (NGEA). Minn. Stat. §§ 216H.01-.13. The NGEA established state-level GHG emission reduction targets of 15% from 2005 levels by 2015, 30% from 2005 levels by 2025, and 80% from 2005 levels by 2050. The NGEA also established a GHG emission reporting structure. The NGEA also included Renewable Energy Standards (RES) for Minnesota and changes to the state's Conservation Improvement Plan (CIP) to improve utilities' energy efficiency programs.

13. In 2023 the Minnesota State Legislature adopted new GHG emissions targets for Minnesota to reduce emissions compared with the level of emissions in 2005 by 15% by 2015, 30% by 2025, 50% by 2030, and net zero by 2050. Minn. Stat. §§ 216H.02. Also in 2023, the State Legislature adopted a carbon-free standard for Minnesota utilities. Electricity generated or procured to serve Minnesota's retail electricity customers must be 80% carbon free for public utilities and 60% carbon free for other electric utilities by 2030, 90% for all electric utilities by 2035, and 100% for all electric utilities by 2040. Minn. Stat. §§ 216B.1691.

14. In 2022 the state agencies adopted a Minnesota Climate Action Framework¹⁷ which sets a vision for how Minnesota will address and prepare for climate change. It identifies immediate, near-term actions we must take to achieve our long-term goal of a carbon-neutral, resilient, and equitable future for Minnesota. The Climate Action Framework guides Minnesota's climate action work.

15. Minnesota's utilities have been transitioning away from coal since the early 2000s. This transition has been managed through the Minnesota Public Utilities Commission's (PUC) Integrated Resource Planning (IRP) process. The PUC makes decisions on IRPs based on the public record, which may include public comments, expert testimony, and forecasted energy needs. As required by law, the PUC must evaluate proposed IRPs based on their ability to ensure adequate and reliable electric utility service, keep customers' bills and utility rates as low as practicable, minimize impacts to the environment, and adapt to changes in utility operations, among other factors.¹⁸ This process has allowed a managed transition away from coal that supports keeping costs to consumers low.

¹⁷ Minnesota's Climate Action Framework. (2022) Retrieved from <https://climate.state.mn.us/minnesotas-climate-action-framework>.

¹⁸ Electric integrated resource planning. (n.d.) Retrieved from <https://mn.gov/puc/activities/economic-analysis/planning/irp/>.

16. In the early years of Minnesota's transition away from coal-fired power plants, at least seven coal units were closed and converted to combined cycle natural gas units, resulting in significant emissions reductions. These units include High Bridge Power Station units 5 and 6 (2007); Riverside Power Station units 7 and 8 (2009); Black Dog Generating Station units 2 (2002), 5 and 6 (2015).

17. In recent years, utilities in Minnesota have continued planning a transition away from coal-fired power plants through the IRP process with more emphasis on renewable energy. In recent years, at least nine coal-fired units have shut down, resulting in significant GHG emissions reductions. These unit retirements include Northeast Power Station unit 1 (2016); Boswell Energy Center units 1 and 2 (2018); Hoot Lake Plant units 2 and 3 (2021); Sherburne County Plant unit 2 (2023); and Taconite Harbor Energy Center units 1, 2 (2023), and 3 (2015). The utilities' IRP processes have successfully planned for building new resources, largely renewable power, to replace capacity from retiring units, at a reasonable cost to consumers.

18. These coal-fired unit closures have been the result of a mix of factors including Minnesota's RES, the incorporation of the regulatory cost of carbon and social cost of carbon in the IRP process, as well as the cost-effectiveness of wind and other renewable energy sources. More closures over the next decade are identified in approved and proposed IRPs (see Table 1).

POWER SECTOR GHG REDUCTIONS IN MINNESOTA

19. Minnesota has accomplished significant reductions in GHG emissions from the power sector over the past two decades through a number of strategies, including those mentioned above, involving the state Legislature, Minnesota Department of Commerce, Minnesota Public Utilities Commission, the MPCA, and Minnesota's electricity producers.

20. In 2008, the MPCA began to biennially track Minnesota's progress in meeting GHG emissions targets. The most recent progress update was MPCA's "Greenhouse gas emissions in Minnesota, 2005-2020" report to the Legislature, published in January 2023. Based on this progress tracking, I have personal knowledge and experience that the Minnesota programs to address GHG emissions from the power sector have resulted in significant emission reductions while supporting a robust economy.

21. Between 2005 and 2020, GHG emissions from the power sector as tracked in the inventory have gone down by 54%,¹⁹ including emissions associated with electricity generated outside of Minnesota to meet Minnesota demand. These reductions have been driven largely by the retirement of coal plants, coal plants converting to natural gas, and Minnesota's RES and CIP programs. Between 2005

¹⁹ Greenhouse gas emissions in Minnesota, 2005-2020: Report to the Legislature. (January 2023) Retrieved from <https://www.pca.state.mn.us/sites/default/files/lraq-2sy23.pdf>

and 2020, the power sector has moved from Minnesota's top emitter of GHGs to its third largest sector. During this same timeframe, Minnesota's gross state product has grown approximately 15%, even considering the downturn in 2020 associated with the global COVID-19 pandemic.

FINAL RULE REVIEW AND ANALYSIS

State Plan Process

22. I have been involved with the MPCA's efforts to analyze and inform the development of GHG emissions guidelines and standards under Section 111(d) of the Clean Air Act since at least 2013. The MPCA has provided comments on every proposal for GHG emissions guidelines under Section 111(d), and has supported EPA actions to use the Clean Air Act to reduce emissions from the fossil-fuel electric generation sector in Minnesota and across the United States. Our comments have consistently supported stringent standards to achieve significant GHG reductions both within and nationally. Minnesota's own actions to reduce GHG emissions from the power sector show that it is possible to reduce GHG emissions while supporting a healthy economy, but nationwide standards are necessary to ensure reductions nationally and ensure an even playing field for states and utilities. The MPCA has also commented on EPA's proposals to update the Section 111(d) implementation regulations (88 Fed. Reg. 80,480, published November 17, 2023).

23. I, along with my staff, have completed an initial review of the Final Rule and supporting documents and have discussed the rule with other state agencies, the National Association of Clean Air Agencies, and local stakeholders. I believe the Final Rule is reasonable and its emissions guidelines achievable. The Final Rule incorporates key recommendations from Minnesota and other stakeholders, is appropriately stringent to achieve needed emissions reductions, and provides helpful flexibility to support implementation approaches that make sense for local contexts.

24. MPCA has experience with the state/federal cooperative model of state planning, in particular State Implementation Planning for National Ambient Air Quality Standards, Regional Haze State Implementation Plans, and state planning for other Section 111(d) emissions guidelines.

25. In the Final Rule, EPA extended the proposed deadline for state plans from 18 months to 24 months in response to comments, including input from state agencies. While the development of a state plan with meaningful engagement with Minnesotans will require significant time and effort, I believe submission of a state plan within 24 months is achievable.

26. Our initial review has identified four fossil fuel-fired generating units in Minnesota for which we may need to establish standards under the state plan (see Table 1). We are exploring the most efficient way to establish enforceable

standards and meaningfully engage with Minnesotans under the Final Rule. One tool that the MPCA has available to us is issuing administrative orders to covered facilities to establish enforceable limits. The MPCA has the authority to issue enforceable administrative orders under Minn. Stat. §§ 115.07 subd. 9 and Minn. Stat. §§ 116.072. The MPCA could then include these administrative orders in our state plan to become federally enforceable upon EPA's approval. The state administrative order process is quicker than permitting or rulemaking and still allows the state to incorporate limits into facility permits at a later date, if needed. The MPCA has used administrative orders for other state planning processes including National Ambient Air Quality Standards State Implementation Plans²⁰ and the Regional Haze State Implementation Plan.²¹ The state administrative order process is flexible enough to fit within the meaningful engagement expectations of the Final Rule.

27. Our initial assessment of MPCA resources needed to meet the expectations of the Final Rule will primarily be for staff time to conduct meaningful engagement, review technical submittals from the facilities, develop

²⁰ EPA Approved Minnesota Source-Specific Requirements (n.d.) Retrieved from <https://www.epa.gov/air-quality-implementation-plans/epa-approved-minnesota-source-specific-requirements>

²¹ Minnesota's State Implementation Plan for Regional Haze. (December 2022) Retrieved from <https://www.pca.state.mn.us/sites/default/files/aq-sip2-19.pdf>.

enforceable administrative orders, and write the state plan. The MPCA does not anticipate adding any additional staff for the purposes of preparing our state plan.

Compliance with the Final Rule’s Deadlines for Fossil-Fuel Fired Electric Utility Steam Generating Units

28. The Final Rule sub-categorizes existing fossil-fuel fired electric utility steam generating units based on fuel and retirement date. Existing coal-fired steam electric generating units (EGUs) are categorized as “long-term units” that plan to operate on or after January 1, 2039, and “medium-term units” that plan to operate on or after January 1, 2032, with a commitment to cease operation before January 1, 2039. The compliance deadline for medium-term units is January 1, 2030, and the compliance deadline for long-term units is January 1, 2032. Units that demonstrate they will permanently cease operation prior to January 1, 2032, are not subject to the standards adopted in the Final Rule. Existing natural gas-fired steam EGUs are subcategorized based on load and have compliance deadlines of January 1, 2030.

29. MPCA’s initial analysis has identified seven potentially covered sources in Minnesota as shown in Table 1. Three of the coal-fired EGUs already plan to cease operation prior to 2032 and are thus excluded from the requirement to establish standards under a state plan. Some of these retirement dates are included in finalized IRPs and others are enforceable in state administrative orders and have

been submitted to EPA as part of Minnesota’s Regional Haze State Implementation plan.²²

30. Two of the remaining units, Boswell units 3 and 4, are coal-fired electric utility steam generating units, and two, Laskin Energy Center units 1 and 2, are gas-fired electric utility steam generating units. Boswell units 3 and 4 would fall into either the medium-term or the long-term coal EGU subcategories. Laskin units 1 and 2 are likely to fall under the intermediate load gas EGU subcategory.

Table 1: Minnesota potentially covered sources

Utility	Unit	Fuel	Capacity (MW)	Notes
Minnesota Power (MP)	Boswell, unit 3	Coal	364.5	Operating
MP	Boswell, unit 4	Coal	558	Operating
MP	Laskin Energy Center, unit 1	Gas	58	Operating
MP	Laskin Energy Center, unit 2	Gas	58	Operating
Xcel Energy	Allen S. King	Coal	598.4	Retirement by 2028, per Administrative Order submitted to EPA and IRP (retirement approved by PUC on April 15, 2022)
Xcel Energy	Sherburne County, unit 1	Coal	660	Retirement by 2026, per Title V operating permit (see Air Emissions Permit No. 14100004-101, condition 5.57.1) and IRP

²² Minnesota’s State Implementation Plan for Regional Haze. (December 2022) Retrieved from <https://www.pca.state.mn.us/sites/default/files/aq-sip2-19.pdf>.

Utility	Unit	Fuel	Capacity (MW)	Notes
				(retirement approved by PUC on January 11, 2017)
Xcel Energy	Sherburne County, unit 2	Coal	740	Retirement by 2023, per Title V operating permit (see Air Emissions Permit No. 14100004-101, condition 5.58.1) and IRP (retirement approved by PUC on January 11, 2017)
Xcel Energy	Sherburne County, unit 3	Coal	809	Retirement by 2030, per Administrative Order submitted to EPA and IRP (retirement approved by PUC on April 15, 2022)

31. The early retirement of Xcel Energy’s Allen S. King plant (nine years early) and Sherburne County unit one and unit 3 (ten years early) was approved by the PUC in their April 15, 2022 order.²³ Xcel Energy proposed these closures as part of its preferred plan. Reasons Xcel Energy gave for the proposed retirements were three-fold: achieving corporate goals of reducing carbon emissions by 80 percent company-wide by 2030 and providing 100 percent carbon-free electricity

²³ “In the matter of the 2020-2034 Upper Midwest Integrated Resource Plan of Norther States Power Company d/b/a Xcel Energy: Order approving plan with modifications and establishing requirements for future filings” Docket number E-002/RP-19-368, (April 15, 2022). Retrieved from <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={202C2F80-0000-C11A-BA52-EC8AB5636CD4}&documentTitle=20224-184828-01>.

across their service territory by 2050, meeting statewide GHG reduction goals,²⁴ and economics – of the scenarios studied, the one that included the retirements had the most favorable present value.²⁵

32. MPCA will work with the affected facilities, in consultation with the Minnesota Department of Commerce, to identify the appropriate subcategory and to determine compliance strategies that meet the relevant compliance deadlines in the Final Rule, are consistent with achieving Minnesota’s carbon-free electricity law, and provide Minnesotans with meaningful opportunities to participate in the development of our state plan. This work will primarily consist of meeting with the affected utilities, identifying the pathways they are exploring, ensuring those are provided in the relevant IRPs, and engaging the public. The compliance analysis will likely be performed by the utilities and reviewed by MPCA. MPCA will provide feedback to the utilities and the PUC to ensure any given approach maintains consistency with the Final Rule.

²⁴ “Upper Midwest Integrated Resource Plan, 2020-2034,” Northern States Power Company, (July 1, 2019). Retrieved from <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId=%7b00FBAE6B-0000-C414-89F0-2FD05A36F568%7d&documentTitle=20197-154051-01>.

²⁵ “Upper Midwest Integrated Resource Plan, 2020-2034, Appendix G1: Demand Side Management,” Northern States Power Company, (July 1, 2019), Retrieved from <https://efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId=%7b10FBAE6B-0000-C040-8C1D-CC55491FE76D%7d&documentTitle=20197-154051-03>.

33. Utilities in Minnesota are already required to comply with Minnesota's carbon-free electricity by 2040 law. Based on utilities' experience in complying with that state law and interaction with the MPCA, the utilities will be analyzing and planning for their compliance with the Final Rule as part of their ongoing Integrated Resource Plan (IRP) processes. The MPCA will work with the utilities to align the work of complying with Minnesota's requirements with that of the state plan required under the Final Rule.

IMPACT OF A STAY OF THE FINAL RULE

34. EPA's Final Rule is anticipated to reduce greenhouse gas emissions by 1.38 billion metric tons.²⁶ If the standards adopted in the Final Rule do not remain in effect, the projected emission reductions will not be realized on the timeline set forth in the Final Rule. A delay in the Final Rule's greenhouse gas emission reductions would exacerbate the harms to Minnesota set forth above.

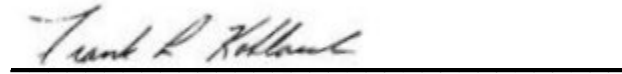
35. Additionally, the power sector plans 15 years ahead through the IRP process. Regulatory certainty is critical for thoughtful planning that supports both environmental protection and the reliability of the system. At the state regulatory

²⁶ "Regulatory Impact Analysis for New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule," (May 9, 2024). Retrieved from https://www.epa.gov/system/files/documents/2024-04/utilities_ria_final_111_2024-04.pdf

level, Minnesota’s GHG emission reduction requirements and RES have provided a stable target for utilities to plan toward. But, at the federal level, a stay of the Final Rule would create unnecessary regulatory uncertainty that would interfere with efficient and least-cost state power sector planning and regulatory processes.

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

Executed in Hennepin County on June 6, 2024.



Frank L Kohlasch

Assistant Commissioner for Air and Climate Policy, Minnesota Pollution Control Agency

Exhibit H

Declaration of Michael Ogletree Director, Air Division, Colorado Department of Public Health and Environment

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

State of West Virginia, et al,

Petitioners,

v.

Environmental Protection Agency, et al,

Respondents.

Case No. 24-1120
(and consolidated
cases)

DECLARATION OF MICHAEL OGLETREE

**DIVISION DIRECTOR OF THE COLORADO AIR
POLLUTION CONTROL DIVISION**

I, Michael Ogletree, declare as follows:

1. I am the Division Director of the Colorado Air Pollution Control Division (“Division”), which is the agency charged with implementation of the Environmental Protection Agency’s (“EPA”) final rule entitled New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule, 89 Fed. Reg. 39,798

(May 9, 2024) (“Power Plant GHG Rule” or “Rule”), in the State of Colorado through a state plan under section 111(d) of the Federal Clean Air Act (“CAA”). I submit this declaration in support of State and Municipal Intervenors’ opposition to the motions to stay the Power Plant GHG Rule.

Personal Background and Qualifications

2. I have a Bachelor’s of Science in Natural Science from Loyola Marymount University and a Master’s of Applied Science in Environmental Policy and Management from the University of Denver. I have also worked as a chemist and laboratory manager in the private sector.

3. I have over two and half years of experience at the Division. Prior to my position as Director of the Division, I served as an air quality program manager with the City and County of Denver where I led Denver’s overall efforts to improve air quality, with a special focus on the disproportionate impacts of air pollution and poor air quality on communities of color. I also served on the State’s Air Quality Control Commission (“Air Commission”) and the Air Quality Enterprise Board.

4. The Air Division is charged with implementing the Federal CAA and the Colorado Air Pollution Prevention and Control Act, including taking steps to prevent and mitigate the impacts of climate change. In my capacity as the Division Director, among other responsibilities, I oversee projects to address climate change and improve air quality including expanding air monitoring across Colorado, modernizing data processes and public access to information, enhancing community engagement, and developing new rule proposals for consideration by the Air Commission, which include implementation of the state's GHG emission reduction targets in sectors including the power sector.

5. The Division, through its implementation of the Colorado Air Pollution Prevention and Control Act, the Federal CAA, and their associated requirements, as well as many additional efforts, prioritizes a just and equitable decarbonization of the State's economy in a way that diversifies and strengthens our economic base, creates good-paying, local jobs, and improves the health and well-being of our communities.

6. The Division supports EPA's Power Plant GHG Rule, which aligns with many of Colorado's priorities stated above, and emissions

reduction goals described below. As described in more detail, Colorado is one of the many areas negatively impacted by climate change, and understands that, in order to combat impacts from climate change and work toward a healthier and safer environment and community, EPA and states need to take action toward deep emission reductions now. This Power Plant GHG Rule is an important step toward the emissions reductions necessary. Accordingly, the Division supports the Rule's establishment of emission limits for steam electric generating units ("EGUs") and new natural gas combustion turbines, while providing reasonable timelines for compliance, as well as the flexibility provided states in developing and implementing state plans and a requirement for meaningful engagement with stakeholders including communities most affected by and vulnerable to pollution from the power plant sector.

7. Since 2019, Colorado has passed more than 100 pieces of legislation addressing climate change, environmental justice, criteria pollutants, a transition to clean energy, and a just transition for workers. Colorado's *Climate Action Plan to Reduce Pollution*¹ set economy-wide

¹ See House Bill ("HB") 19-1261, 62nd Gen. Assemb., 1st Reg. Sess. (Colo. 2019), available at <https://leg.colorado.gov/bills/hb19-1261>.

GHG emission reduction targets of 26% by 2025, 50% by 2030, and 90% by 2050 from a 2005 baseline.² In the recent 2023 legislative session, the General Assembly established new GHG emission targets from 2005 levels for every five years to create a glide path from 2030 to a target of 100% reduction in GHG pollution by 2050.³ The legislature has also adopted requirements for electric utilities that own or operate EGUs in Colorado to develop plans to reduce their GHG pollution by at least 80% below 2005 levels by 2030, and submit these plans for verification and approval by state regulators.⁴ To begin work toward the initial emission reduction targets, in 2021, Colorado released the *Greenhouse Gas Pollution Reduction Roadmap* (“Roadmap”),⁵ which identified the leading sectors of GHG emissions in the state and laid out a set of sector-based, near-term actions that the state would commit to with a particular focus on reducing emissions from the leading sectors including transportation, electricity generation, buildings, oil and gas production, and industrial

² See *Id.*

³ See Senate Bill (“SB”) 23-016, 74th Gen. Assemb., 1st Reg. Sess. (Colo. 2023), available at <https://leg.colorado.gov/bills/sb23-016>.

⁴ See SB 19-236, 62nd Gen. Assemb., 1st Reg. Sess. (Colo. 2019), available at <https://leg.colorado.gov/bills/sb19-236>; HB 21-1266, 73rd Gen. Assemb., 1st Reg. Sess. (Colo. 2021), available at <https://leg.colorado.gov/bills/hb21-1266>.

⁵ Governor Jared Polis, [*Colorado Greenhouse Gas Pollution Reduction Roadmap*](#) (2021).

pollution. To date, Colorado has implemented more than 95% of the proposed actions identified in the initial Roadmap.⁶ Colorado has achieved this while maintaining electric rates that are lower than the national average.

8. Colorado's focus has also included efforts to ensure a just and equitable transition. This includes the passage of legislation that directs the Department of Public Health and Environment⁷ and the Public Utilities Commission⁸ to work toward more public engagement in the rulemaking and regulatory processes they administer. The State has developed a climate equity framework to help guide work on climate and clean energy policy setting. The State has also created the Office of Just Transition to assist workers and communities in communities that are seeing the closure of coal mines and coal-fired power plants, by helping the workers transition to new, high-quality jobs, and helping communities diversify businesses.⁹ Because the state has engaged in

⁶ Governor Jared Polis, [*Governor Polis Launches Updated, Comprehensive Climate Action Plan to Reduce Greenhouse Gas Emissions 50% by 2023, Support Future Generations*](#) (Feb. 26, 2024).

⁷ See HB 21-1266, 73rd Gen. Assemb., 1st Reg. Sess. (Colo. 2021).

⁸ See SB 21-272, 73rd Gen. Assemb., 1st Reg. Sess. (Colo. 2021), available at <https://leg.colorado.gov/bills/sb21-272>.

⁹ Colorado Department of Labor and Employment, [*The Office of Just Transition*](#) (2024).

proactive planning, giving clarity years in advance of coal plant closures, utilities have largely been able to avoid layoffs, and communities have significant lead time to invest in economic development. The Division has had a hand in developing, implementing, and enforcing, most of these policies and laws described above, and continues to work with communities, local governments, other agencies, and the EPA to develop policies in aiding the State to decarbonize in an efficient, equitable, and healthy way.

Climate Change Harms and State Laws

a. Climate Change Harms

9. Climate change is already having dire effects on the State of Colorado and its residents. Colorado experiences dramatic impacts on public health and the economy from extreme heat, droughts, wildfires, and flooding.¹⁰ These effects are disproportionately harming vulnerable populations, including rural communities, communities of color, youth and the elderly, and low-income individuals.¹¹

¹⁰ See HB 19-1261, 19-1261, 62nd Gen. Assemb., 1st Reg. Sess. (Colo. 2019), available at: <https://leg.colorado.gov/bills/hb19-1261>.

¹¹ EPA, [*Climate Change and Human Health: Who's Most at Risk?*](#) (Nov. 1, 2023).

10. Climate change is causing unprecedented heat waves in Colorado. The average temperatures in August in 2019, 2021, and 2022 were all within the 10 hottest on record in the State.¹² Colorado residents, particularly low-income communities, are at acute risk to extreme heat impacts. For instance, 30% of Denver’s housing stock is without air conditioning.¹³ Of that 30%, a majority are concentrated in mostly low-income neighborhoods, placing a disproportionate risk on already vulnerable populations.¹⁴ Extreme heat poses further risks because “[r]ising temperatures also increase the formation of ground-level ozone,” a serious problem in Colorado, especially in the Front Range.¹⁵ In fact, the “Front Range has one of the worst ozone problems in the county,” with ozone action day alerts being issued on 65 days in 2021.¹⁶ Ozone pollution can cause asthma attacks, pulmonary inflammation, and

¹² National Oceanic and Atmospheric Administration (“NOAA”), [August 2022 Climate Summary for Denver](#) (Aug. 2022).

¹³ Denver Office of Climate Action, Sustainability & Resiliency, [The Energize Denver Renewable Heating and Cooling Plan: Resilient Existing Building and Homes](#), at ES1, 18.

¹⁴ *Id.*

¹⁵ EPA, [What Climate Change Means for Colorado](#) (August 2016), at 2; see also Rocky Mountain PBS, [Colorado's efforts are not enough to solve its ozone problem](#) (July 14, 2022).

¹⁶ *Id.*

coronary damage and results in more than 1 million premature deaths each year.¹⁷

11. Additionally, Colorado and much of the Western U.S. have been in a state of drought since the year 2000 that has “drastically shrunk the Colorado River, which provides water for drinking and irrigation” for over 40 million people in Colorado, six other states, 30 tribes, and Mexico.¹⁸ Furthermore, rising temperatures increase the rate of water evaporation, worsening droughts.¹⁹ For instance, snowpack has decreased by 20 to 60% throughout Colorado since the 1950s.²⁰ Much of the water in Colorado, including everything from daily consumption to agriculture, comes from melting snowpack.²¹

12. Colorado has also been plagued by severe wildfires in recent years, which have been exacerbated by the worsening drought and rising temperatures.²² The 20 most destructive fires in Colorado history have

¹⁷ See Christopher S. Malley, et al., [*Updated Global Estimates of Respiratory Mortality in Adults ≥ 30 Years Of Age Attributable to Long-Term Ozone Exposure*](#), (Aug. 28, 2017), at 1.

¹⁸ Jennifer Weeks, [*The Colorado River drought crisis: 5 essential reads, The Conversation*](#) (April 13, 2023); CBS News, [*"Mega-drought" takes dramatic toll on Colorado River system that provides water to 40 million*](#) (June 9, 2021).

¹⁹ EPA, [*What Climate Change Means for Colorado*](#) (August 2016), at 1-2.

²⁰ *Id.* at 1.

²¹ *Id.* at 2.

²² Carly Phillips, [*The Vicious Climate-Wildfire Cycle*](#) (Apr. 30, 2019).

taken place since 2001, and 11 of those have occurred since 2016.²³ Recently, the 2021 Marshall Fire in Boulder County destroyed over 1,000 homes,²⁴ causing over \$2 billion in damages, making it the 10th costliest wildfire in U.S. history.²⁵

13. Climate change has also caused unprecedented flooding throughout Colorado. Increasing heat and shorter winters are causing snowpack to melt earlier and quicker, which, combined with wildfire damages, are causing increasingly intense flooding.²⁶ Colorado has experienced, and is likely to continue to experience, floods similar to the catastrophic 2013 floods throughout the Front Range, during which nearly as much rain fell in Boulder County in a matter of days as the area typically receives in an entire year.²⁷ The flood caused extensive damage, “with an estimated 19,000 homes damaged or destroyed, and at least 30 highway bridges destroyed by floodwaters.”²⁸

²³ Colorado Division of Fire Prevention & Control, [Historical Wildfire Information](#) (2024).

²⁴ Boulder County, [Marshall Fire Recovery Dashboard](#) (2024).

²⁵ Christian Murdock, [Official: 2021 Colorado wildfire losses surpass \\$2 billion](#) (Oct. 27, 2022).

²⁶ Shannon Mullane, [Snowmelt is swelling Colorado's rivers, but much more snow is still waiting in the high country](#) (May 23, 2023); Chrissy Esposito, [Climate Change Forces Local Leaders to Brace for Flooding](#) (Sept. 20, 2021).

²⁷ Andrew Freedman, [Flood-Ravaged Boulder, Colo., Sets Annual Rainfall Record](#) (Sept. 16, 2013).

²⁸ *Id.*

14. These impacts from climate change severely harm Colorado's economy. Infrastructure damage from climate change-influenced floods, wildfires, and other natural disasters has already and may continue to cost Colorado billions.²⁹ Wildfires and droughts in Colorado caused over \$1 billion in damages in 2020 alone.³⁰ Additionally, studies predict that, by century's end, ski mountains will experience a majority of days in winter with above-freezing temperatures,³¹ which will drastically impact Colorado's tourism industry and economy. Many Colorado mountains are already seeing historic lows for snowfall and ski days³² and future snow levels are projected to decrease by 20-30% by the 2040s and 40-60% by the 2100s throughout the Western U.S.³³ Studies predict that, even with some large-scale emissions reductions, Colorado ski resorts "could lose

²⁹ See State of Colorado, [Colorado Climate Plan: State Level Policies and Strategies to Mitigate and Adapt](#), at 48–49; see also S. Weiser, [Glenwood Canyon I-70 closure wreaks havoc on travel and the economy](#) (Aug. 11, 2021).

³⁰ Justin S. Mankin, et al., [NOAA Drought Task Force Report on the 2020–2021 Southwestern U.S. Drought](#) (2021), at Table 1.

³¹ Stephen Saunders, et al., [Climate Projections in Summit County, Colorado](#) (Aug. 2021).

³² E.g., Olivia Prentzel, [Yes, it hasn't snowed yet in Denver. But it's Colorado's meager snowpack that should worry you](#) (Dec. 2, 2021).

³³ Erica Siirila-Woodburn, [What a Low-to-No-Snow Future Could Mean for the Western U.S.](#) (Oct. 16, 2021).

two to four weeks in the ski season, as well as \$650 million annually, by 2050.”³⁴

b. Colorado State Laws

15. Colorado has already taken significant steps to reduce GHG pollution from the electric generation sector and is working with utilities to transition away from the use of coal and toward the use of clean energy resources. This transition is critical for Colorado to meet its statewide emission reduction targets and to curb the most severe impacts of climate change on the people, environment, and economy of the state.

16. In 2019, Colorado enacted legislation setting statewide GHG emission reduction targets of 26% by 2025, 50% by 2030, and 90% by 2050, all compared to a 2005 baseline.³⁵ In 2023, Colorado’s General Assembly set interim targets to include 65% reduction by 2035, 75% reduction by 2040, 90% by 2045 and updated the 2050 target to set a 100% reduction goal in net statewide GHG pollution by 2050.³⁶ To that end, through legislation enacted in 2019 and 2021, all of Colorado’s investor-owned electric utilities and the state’s only generation and

³⁴ Emma VandenEinde, [Colorado’s ski resorts helped by elevation, but climate change hurts overall industry, study shows](#) (March 12, 2024).

³⁵ § 25-7-102(2)(g), C.R.S.

³⁶ As contained in § 25-7-102 C.R.S.

transmission cooperative association are required to reduce their carbon dioxide (“CO₂”) pollution 80% by 2030 compared to a 2005 baseline. Finally, legislation enacted in 2021 created a pathway for all other electric utilities to voluntarily reduce GHG emissions to meet the requirements above in exchange for not facing additional GHG emission reduction requirements from the State’s air quality regulators. Colorado statutes also require the Air Commission to promulgate rules in line with statutory emission reduction goals, including GHG reductions and attainment and maintenance of National Ambient Air Quality Standards, and require the Air Commission to create rules to ensure timely progress toward the statewide GHG pollution reduction goals.

17. As demonstrated above, Colorado has taken significant steps toward decarbonizing the electric generation sector within its authority. However, states cannot directly regulate power plant GHG emissions from sources in other states, which can carry over to Colorado, and which contribute to nationwide and global climate change and the harms discussed above. Therefore, Colorado must rely on EPA’s Rules to limit those emissions.

18. The Rule will help address the threats posed by climate change by requiring reductions in GHG emissions from existing steam generating and new natural gas-fired combustion turbine electricity generating units.

The Rule

19. EPA's Power Plant GHG Rule establishes performance standards for new gas-fired combustion turbine power plants and emission guidelines for existing coal units that are projected to result in emission reductions of 1.38 billion metric tons of carbon dioxide equivalent ("CO₂-e") from the years 2028-47.

20. To implement the Rule, the Rule provides that states will have two years to submit state plans to EPA for review and approval.³⁷ The plans must provide for the establishment, implementation, and enforcement of standards of performance established in the Rule. States must include a description of their meaningful engagement with stakeholders in developing their plans, including communities affected by air pollution from existing power plants, energy communities and

³⁷ 89 Fed. Reg. at 39,989 (May 9, 2024).

workers, small businesses, and reliability authorities.³⁸ The Rule contains flexibility for states in implementing their plans, including variances for individual sources in considering Remaining Useful Life and Other Factors, provisions for allowing emissions trading and averaging, and a pathway for individual sources to seek a one-year compliance extension for unanticipated delays with control technology implementation.³⁹

State Plan Process

21. Colorado has extensive experience in developing implementation plans for various pollutants. The State has developed State Implementation Plans for multiple National Ambient Air Quality Standards, including Ozone, Particulates (PM 10), and Carbon Monoxide. Colorado has developed statewide multi-pollutant plans for Round One and Round Two of the Regional Haze Rule. Specifically, under Section 111 of the Federal CAA, Colorado has developed plans addressing incinerators and landfills. Colorado has also developed comprehensive statewide programs addressing oil and gas emissions and CDPHE staff

³⁸ *Id.*

³⁹ *Id.* at 39,987 - 39,990.

will be working on a 111(d) of the Federal CAA implementation plan to address the recent EPA rulemakings regarding New Source Performance Standards for the oil and gas sector.

22. Each state subject to the Rule must prepare a state plan within two years of the effective date. States also have the option of allowing EPA to implement a federal plan. Colorado intends to prepare a state plan under the Rule in the timeline identified.

23. Colorado intends to engage with a broad range of stakeholders in developing the required implementation plan including impacted facilities, environmental organizations, local governments, environmental justice advocates, and the general public as required by State legislation when developing rules to be brought before the Air Commission. It is anticipated that this stakeholder process will require 12 to 16 months to conduct. The stakeholder process is expected to lead into a formal rulemaking process for any elements that are identified as necessary to implement the enforceable requirements in the state plan. The Air Commission rulemaking process typically takes four months to complete from the request for rulemaking to the final hearing decision by the Air Commission. After adoption of any regulations by the Air

Commission, the Colorado Secretary of State reviews the adopted rule and then publishes it in the Colorado Register. The Colorado Secretary of State review is expected to take approximately two months. After publication in the Colorado Register, the plan and supporting information, including any applicable regulations, will be submitted to EPA for review and approval.

24. Accordingly, I expect that our agency will need 18-24 months to develop a state plan to comply with the Rule.

Source Compliance with the Rule

a. Existing Coal-Fired Power Plants

25. As noted above, the Rule requires states with existing coal-fired generating units that meet certain criteria to establish performance standards that limit CO₂ emissions from those units.

26. All coal fired units in Colorado will not be subject to the Rule and are exempt from emission limits under the Rule, as they have all committed to cease operation prior to January 1, 2032. All but one unit committed to these retirements and conversions as part of Round Two of the Regional Haze SIP. The SIP was adopted by the Air Commission in phases in 2020 and 2021. The retirements are also part of the Clean

Energy Plan obligations by utilities in Colorado to comply with the state GHG reduction statutes. These commitments were made prior to the finalization of this Power Plant GHG Rule. However, Colorado will include a list of the coal fired units and their retirement dates in the state plan pursuant to 40 C.F.R. 5740b(a)(9)(ii).

27. Therefore, based on publicly-available information, our agency anticipates that all existing coal-fired units in Colorado will be exempt from the Rule based on their current, enforceable, commitments to retire by a date certain: all prior to January 1, 2032.

b. Existing Coal and Natural Gas Fired Steam Generating Unit

28. The Rule also requires existing coal and natural gas fired steam generating units that meet certain criteria to establish performance standards that limit CO₂ emissions from those units. Colorado will likely have one natural gas fired steam EGU that will likely fall into the intermediate or base-load subcategory and has been demonstrated to comply with the performance standards of the Rule.

c. New Natural Gas-Fired Units

29. The Rule also establishes performance standards for new natural gas-fired combustion turbines. The standards differ based on

generating capacity and separate the units into three subcategories: base load, intermediate load, and low load.

30. New base load turbines are subject to a “phase one” standard based on efficient design and operation of combined cycle turbines; and then a “phase two” standard based on 90% capture of CO₂ by January 1, 2032.

31. New intermediate load turbines are subject to a standard based on efficient design and operation of simple cycle turbines. Newly constructed turbines are expected to be designed by the manufacturer to achieve the standards. New low load turbines are subject to a standard based on low-emitting fuel. In 2023, all existing simple-cycle turbines in Colorado were operating at or below the emission standards for low-load. Colorado has very little fuel oil back-up and we do not expect many new turbines to be built with this option. Accordingly, these standards have been demonstrated to be achievable by combustion turbines in Colorado based on Acid Rain Program reporting from existing turbines.

32. Additionally, our state anticipates the majority of new turbines built in Colorado will be in the low or intermediate load classifications due to existing Non-Attainment New Source Review permitting thresholds for the Denver Metro/North Front Range Ozone Non-Attainment Area and the statewide GHG reduction requirements for utilities to achieve Clean Energy Plan requirements.

d. Impacts of a Stay of the Rule

33. As described above, climate change is already having a dire effect on the health and wellbeing of Colorado's air, land, waters, economy, and communities. Colorado has been working hard to implement rules to aid in deep GHG emissions reductions in the power sector, but can only control pollution coming from within Colorado. The Power Plant GHG Rule is a significant step toward reducing these harmful emissions in the power sector nationwide and creating a healthier nation. The impacts of pollution coming from the power sector continue to worsen, and delaying emissions reductions will cause a continued decline in the health and wellbeing of Colorado and its communities, particularly its most vulnerable communities. If this Rule is stayed, that is only delaying crucial emissions reductions from one of

the biggest emitting sectors. Colorado, the nation, and communities cannot afford to wait any longer for these critical emission reductions.

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

Executed in Denver, Colorado on June 7, 2024.



Michael Ogletree
Director, Air Pollution Control Division
Colorado Department of Public
Health and Environment

Exhibit I

Declaration of Karen Peters, Cabinet Executive Officer and Executive Deputy Director Arizona Department of Environmental Quality

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

State of West Virginia, et al,

Petitioners,

v.

Environmental Protection Agency, et al,

Respondents.

Case No. 24-1120
(and consolidated
cases)

DECLARATION OF KAREN PETERS

I, Karen Peters, declare as follows:

1. I am the Cabinet Executive Officer and Executive Deputy Director of the Arizona Department of Environmental Quality (ADEQ). I submit this declaration in support of State Intervenors' opposition to the motions to stay the Environmental Protection Agency's (EPA) final rule entitled New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule, 89 Fed. Reg. 39798 (May 9, 2024) (Rule).

PERSONAL BACKGROUND AND QUALIFICATIONS

2. I earned my undergraduate Bachelors of Science degree from Arizona State University in 1984 and my Juris Doctorate from Georgetown University in 1987.

3. I have over 30 years of experience in environmental and water law and policy, and helped write Arizona laws and regulations on critical issues like protecting rivers and streams, cleanup of groundwater and soil contamination, and air quality.

4. As the Cabinet Executive Officer and Executive Deputy Director of ADEQ, I am responsible for administering the department pursuant to Arizona Revised Statutes (A.R.S.), Title 49, and other applicable laws.

5. ADEQ worked on developing state plans under the Clean Power Plan (CPP) and Affordable Clean Energy (ACE) rules. *See* 80 Fed. Reg. 64661 (Oct. 23, 2015); *see also* 84 Fed. Reg. 32520 (July 8, 2019). Additionally, ADEQ has original jurisdiction to permit coal-fired electric generating units (EGUs). A.R.S. § 49-402(A)(4). ADEQ also permits other fossil fuel fired EGUs if they are located in a county that has not obtained EPA approval of its title V permit program. A.R.S. § 49-402(A)(8). Lastly,

on March 30, 2011, EPA signed an agreement with ADEQ to delegate authority to issue and modify greenhouse gas (GHG) prevention of significant deterioration permits subject to 40 Code of Federal Regulations (C.F.R.) § 52.21.¹

Climate Change Harms and State Laws

6. Arizona is one of the areas of the country suffering the most from rising temperatures due to anthropogenic greenhouse gas emissions. Temperatures in Arizona have already risen 2.5 degrees Fahrenheit since the beginning of the 20th century. The last time Arizona experienced a year at or below average temperatures during this time period was in 2000, 23 years ago.² In 2023, Phoenix, the state's capital and the hottest major city in the nation, experienced 55 days of high temperatures above 110 degrees Fahrenheit, breaking the record of 53 days set just three years earlier in 2020.³

¹ U.S. EPA-ADEQ, Agreement for Delegation of Authority to Issue and Modify Greenhouse Gas Prevention of Significant Deterioration Permits Subject to 40 CFR 52.21 (Mar. 30, 2011), available at https://www.epa.gov/sites/default/files/2015-08/documents/adeq_ghg_psd_delegation_agreement_0.pdf.

² NOAA National Centers for Environmental Information | State Climate Summaries, Arizona (2022), available at <https://statesummaries.ncics.org/downloads/Arizona-StateClimateSummary2022.pdf>.

³ Arizona Republic, Until next year: As fall makes its debut, here's a look at how summer impacted Arizona, Arizona Republic (Sep. 22, 2023), available at: <https://www.azcentral.com/story/news/local/arizona-weather/2023/09/22/extreme-heat-brought-record-breaking-summer-to-arizona/70931723007/>.

7. Summer low temperatures have also been increasing over the past two decades, which makes heat waves more difficult to tolerate. The increase in low temperatures has been much more pronounced in Phoenix due to the urban heat island effect: heat absorbed by building and road surfaces during the day is released at night.⁴

8. This alarming rise in temperatures in an already hot and arid environment is only going to get worse. Four Arizona counties (Pinal, Graham, Mohave, Maricopa) are among the top ten counties in the nation expected to be most affected by extreme heat in the future. Yuma, Gila, Pima, and La Paz will also be among the hardest hit.⁵

9. Extreme heat produces a multitude of adverse health impacts, including heat stroke, adverse pregnancy and birth outcomes, and increased hospitalization due to cardiovascular disease, diabetes, and kidney failure. Children and older adults, people with disabilities, people with lower incomes, and outdoor workers are among the populations most vulnerable to extreme heat events.⁶

⁴ Cronkite News, Climate data reveals a hotter, drier Arizona, with more extremes possible (Feb. 17, 2022), available at <https://cronkitenews.azpbs.org/2022/02/17/climate-data-reveals-a-hotter-drier-arizona-with-more-extremes-possible/>.

⁵ ProPublica, New Climate Maps Show a Transformed United States (Sept. 15, 2023), available at <https://projects.propublica.org/climate-migration/>.

⁶ Fifth National Climate Assessment: Chapter 28, Southwest, 28-22 (2023) (Fifth NCA), available at <https://nca2023.globalchange.gov/chapter/28/>.

10. The southwest has historically experienced alternating periods of intense drought and precipitation. Higher temperatures produced by climate change, however, have intensified naturally occurring droughts. Arizona has been in a long-term drought for 30 years, and the southwest region as a whole is experiencing a “megadrought” that is the most severe the region has experienced in 1,200 years. Water levels in certain reservoirs throughout the southwest, including Lake Mead, which is a critical water resource for Arizona, have reached historically low levels.⁷

11. The intensity of droughts and arid conditions in Arizona will continue to increase as long as temperatures continue to rise. Although the impact of current and future climate change on precipitation in Arizona is uncertain, higher temperatures will continue to reduce snowpack and increase the rate of evaporation, resulting in reduced water supplies and an ever more arid desert environment. Drought conditions and increased aridity in turn increase the risk of dust storms and wildfires. Drought Preparedness Report at 37.

⁷ Arizona Department of Water Resources, Arizona Drought Preparedness Annual Report (2023) (Drought Preparedness Report), available at https://www.azwater.gov/sites/default/files/2023-12/ADPAR_2023_FINAL.pdf; Fifth NCA at 28-12.

12. Wildfires in the southwest have become larger and more severe as a result of climate change. The largest wildfires in Arizona's history have all occurred since 2007. High severity wildfires are expected to continue into the foreseeable future. Fifth NCA at 28-26 to 28-27.

13. Because high temperatures facilitate ozone formation in the atmosphere, increasing temperatures due to climate change are making and will continue to make compliance with the current National Ambient Air Quality Standard (NAAQS) for ozone more difficult in Arizona.⁸ Phoenix is a moderate nonattainment area for the NAAQS, and will likely be reclassified to serious within the next year.⁹ Other areas of the state are barely in compliance with the NAAQS. The state is already struggling to protect public health from the effects of ozone pollution in the face of increasing population and traffic, expansion of manufacturing industries, and uncertainty with regard to the chemistry of ozone formation in the southwest region. Climate change will make an already arduous task even more difficult.

⁸ EPA, Trends in Ozone Adjusted for Weather Conditions (May 6, 2024), available at <https://www.epa.gov/air-trends/trends-ozone-adjusted-weather-conditions>.

⁹ Cronkite News, Maricopa County's ozone pollution is high and getting worse (Jan. 10, 2023), available at <https://cronkitenews.azpbs.org/2023/01/10/maricopa-countys-ozone-pollution-high-and-getting-worse/>.

14. The intensification of wildfires and dust storms due to climate change has increased and will continue to increase the atmospheric concentration of particulate matter, including PM_{2.5}, Fifth NCA at 28-37, which contributes to increased mortality, respiratory illness, and cardiovascular disease. Concentrations of PM_{2.5} in Phoenix and Pinal County currently exceed the recently revised annual NAAQS for PM_{2.5}, and a portion of Pinal County is designated as nonattainment for the 24-hour standard. Increasing concentrations of PM_{2.5} due to climate change pose a significant public health threat to the state's citizens.

15. Increased heat, wildfires, and other climate impacts have produced and will continue to produce severe economic impacts on Arizona, including the costs of annual heat-related mortality, losses from reduced ability to perform work outside, and higher electricity bills as a result of increased air conditioning use. Since 2018, large climate related disasters have resulted in estimated damages totaling \$67.3 billion across the southwest. Fifth NCA at 28-22.

16. Agriculture in Arizona has already been hit hard by climate change. The production of cotton, an economically significant crop for Arizona, has declined because of heat stress. Fifth NCA at 28-12. In 2021,

the U.S. Bureau of Reclamation declared the first ever water shortage on the Colorado River resulting in water supply cuts that impacted Arizona farmers more than other users. Fifth NCA at 28-12. The availability of forage for livestock production on federal rangelands in Arizona is expected to decrease as a result of climate change. Fifth NCA at 28-20.

17. All of the adverse impacts to Arizona from climate change described above are going to get worse as long as global GHG concentrations continue to rise.

18. Arizona does not have any state statutes or regulations that directly limit GHG emission from power plants.

19. Because Arizona cannot reduce emissions beyond its borders, Arizona is reliant on EPA to create nationally applicable rules to limit GHG emissions in other states. Due to the global nature of climate pollution, the emissions in other states contribute to the harms to Arizona discussed above.

The Rule

20. The Rule addresses the harms detailed above by requiring reductions in GHG emissions from existing coal-fired and new natural gas-fired electricity generating units throughout the United States,

reducing domestic GHG emissions and, in turn, the climate harms to Arizona.

21. The Rule creates three subcategories for existing coal-fired electric generating units (“EGUs”). First, long-term coal-fired EGUs, which are units that plan to operate on or after January 1, 2039, must meet a numeric emission rate limit based on the application of carbon capture and storage (CCS) with 90% capture by January 1, 2032. Second, medium-term coal-fired EGUs, which are units that elect to operate on or after January 1, 2032 and retire before January 1, 2039, must meet a numeric emission rate limit based on 40% natural gas co-firing by January 1, 2030. Third, coal-fired units that plan to retire before January 1, 2032 will have no emission reduction requirements or limitations under the Rule.

22. EPA’s Rule establishes standards for three categories of new, modified, or reconstructed natural gas-fired EGUs (“covered gas-fired EGUs”) that commence construction or modification after May 23, 2023. For covered gas-fired EGUs in the base load category (capacity factor above 40%), there are two phases. Phase 1 imposes standards based on efficient design and operation of combined cycle turbines. Starting

January 1, 2032, Phase 2 imposes an emission standard based on 90% capture of CO₂. Covered gas-fired EGUs in the intermediate load category (20–40% capacity factor) are subject to a standard based on efficient design and operation of simple cycle turbines. Covered gas-fired EGUs in the low load category (less than 20% capacity factor) are subject to a standard based on low-emitting fuel.

23. Under the Rule, Arizona is required to develop and submit a state plan for existing coal-fired EGUs within two years of the Rule's publication in the Federal Register. The state plan must implement the emission guidelines contained within EPA's Rule. If Arizona does not submit an approvable state plan, EPA is required to develop a federal plan for the State.

24. Under the Rule and 40 C.F.R. Part 60, Subpart Ba, there are certain flexibilities that States may include in their state plans. Under Clean Air Act (CAA) § 111(d), the EPA Administrator is required to promulgate regulations under which states submit plans that establish standards of performance for any existing source and provide for the implementation and enforcement of such standards of performance. CAA § 111(d)(1) requires EPA's regulations to permit the states, in applying a

standard of performance to a designated facility, to take into consideration, among other factors, the remaining useful life of the existing source subject to the standard of performance. 40 C.F.R. § 60.24a(e). Additionally, the Rule provides compliance flexibility discussed below.

State Plan Process in Arizona

25. Since its establishment in 1987, ADEQ has been required to maintain the Arizona state implementation plan (SIP) that provides for implementation, maintenance and enforcement of national ambient air quality standards and protection of visibility as required by section 110 of the CAA. A.R.S. § 49-404. ADEQ has significant experience preparing SIP revisions under CAA § 110. ADEQ has developed SIP revisions for criteria pollutants: ozone, particulate matter (PM_{2.5} and PM₁₀), sulfur dioxide, lead, nitrogen dioxide, and carbon monoxide. Additionally, ADEQ has substantial experience developing CAA § 111(d) state plans. ADEQ submitted, and had approved, a state plan for municipal solid waste landfills. 85 Fed. Reg. 45327 (July 27, 2020). Additionally, ADEQ worked on developing state plans for the CPP and ACE rule. While neither of these plans was finalized due to litigation over EPA's rules,

ADEQ gained experience and knowledge regarding development of state plans for the power sector.

26. Under the Rule, each State with a coal-fired electricity generating unit subject to the Rule must prepare a state plan within two years of the publication of the Rule in the Federal Register. 89 Fed. Reg. 39798, 40056 (to be codified at 40 C.F.R. § 60.5785b). If a State does not submit an approvable state plan, EPA is required to implement a federal plan. *Id.* at 40048 (to be codified at 40 C.F.R. § 60.5720b(a)). Arizona intends to prepare a state plan.

27. Under A.R.S. § 49-459, ADEQ is required to develop, adopt and enforce a state plan to regulate CO₂ from existing EGUs in compliance with rules adopted by the EPA Administrator under CAA § 111(d), in consultation with the Arizona Corporation Commission (ACC), governing bodies of affected public power entities as defined in A.R.S. § 30-801, electric utilities regulated by the ACC, and independently owned electric generation units.

28. Under the Rule, in order to be deemed complete, the state plan must include, among other things, evidence that the State has adopted the plan into the state code or body of regulations; or issued the permit,

order, consent agreement in final form. 89 Fed. Reg. 39798, 40048 (to be codified at 40 C.F.R. § 60.5730b). That evidence must include the date of adoption or final issuance as well as the effective date of the plan, if different from the adoption/issuance date. 40 C.F.R. § 60.27a(g)(ii). In order to adopt an enforceable standard of performance, ADEQ must either commence the state rulemaking process or adopt the standard of performance through the designated facility's operating permit. *Id.*

29. Additionally, pursuant to 40 C.F.R. § 60.23a(i), the state planning process must include documentation of meaningful engagement with pertinent stakeholders. ADEQ anticipates that robust stakeholder engagement will take a significant amount of time and resources to effectively communicate with those most affected by or vulnerable to the impacts of the plan.

30. I anticipate that ADEQ will develop and submit its state plan for the Rule in a similar time frame as Arizona achieved for other technically complex EPA rules. I anticipate our agency will be able to complete the state plan process before EPA is required to issue a federal plan. I anticipate that our agency will regularly communicate with our

EPA regional office during this time apprising the agency of our progress in finalizing our state plan.

31. Currently, ADEQ plans to use existing staffing resources to develop its state plan. ADEQ anticipates its required consultation with the utilities and ACC listed in A.R.S. § 49-459(A) will provide insight into the resource planning process (under existing state law requirements) for each electric generating utility and the ACC. ADEQ has two potential options to develop standards of performance for designated facilities in Arizona. First, ADEQ could pursue a state rulemaking. A.R.S. § 49-459(C). Second, the ADEQ could develop a state operating permit revision to incorporate the standard of performance. ADEQ is evaluating each potential approach.

32. In developing prior state plans, ADEQ utilized analyses provided by the owners or operators of EGUs, as it was determined that the analyses would likely be prepared by the same professional contractors. At this time, ADEQ does not plan to retain contractors to develop analyses for the standard of performance.

Source Compliance with the Rule

Existing Coal-Fired Power Plants

33. As noted above, the Rule requires States with coal-fired generating units that meet certain criteria to establish performance standards that limit CO₂ emissions from those units.

34. Our State has the following coal-fired generating units: Apache Generating Station Unit 3 (194.7 MW), Cholla Generating Station Units 1 (131 MW) and 3 (305 MW), Coronado Generating Station Units 1 (456 MW) and 2 (456 MW), Springerville Generating Station Units 1 (427 MW), 2 (430 MW), 3 (450 MW), and 4 (450 MW).

35. Under the Rule, those units fall into the following subcategories:

- a. Long-term coal-fired steam generating units: based on information available to ADEQ at this time, it is anticipated that there will be two long-term coal-fired steam generating units that will be subject to the requirements of the Rule. Springerville Generating Station Unit 4 (owned by Salt River Project (SRP)) has not announced a retirement date. Unit 3 (owned by Arizona Electric Power Co-Op (AEPCO) of the Apache Generating

Station has not announced a retirement date. If these units intend to operate beyond January 1, 2039, they will likely be required to meet a numeric emission rate limit based on the application of CCS with 90% capture, which must be met by January 1, 2032. 89 Fed. Reg. at 40054 (to be codified at 40 C.F.R. § 60.5775b(c)(1)).

- b. Medium-term coal-fired steam generating units: Based on currently available information, there are three coal-fired generating units that could potentially be subject to the Rule's emission limits for medium-term units. Regarding the first two, SRP announced that the Coronado Generating Station, which consists of 2 coal-fired generating units, is scheduled to close no later than 2032 and will begin seasonal operations in 2025.¹⁰ When making this decision in 2020, SRP stated it would allow SRP to meet its 2035 Sustainability Goals of reducing CO₂ emissions by more than 60 percent. *Id.* SRP selected this operational strategy under an ADEQ SIP revision under the

¹⁰ Salt River Project, SRP Selects Operation Plan for Coronado Generating Station (Jan. 6, 2020), available at <https://media.srpnet.com/srp-selects-operation-plan-for-coronado-generating-station/>.

Regional Haze (CAA § 169A) program approved by EPA in 2017. Id.; see also 82 Fed. Reg. 46903 (Oct. 10, 2017). As to the third, Springerville Generating Station Unit 2, its owner TEP announced last year that it will be retired in 2032.¹¹ TEP's Integrated Resource Plan stated that its "strategy has focused on reducing the Company's exposure to fossil-fuel resources, which can be more costly and at risk of further environmental regulations, while making steady progress to a cleaner mix of energy resources."¹² If any of these three units operate beyond January 1, 2032, they will likely be required to comply with EPA's medium term standard. The medium term standard in EPA's final rule would require these units to comply with a numeric emission rate limit based on 40% natural gas co-firing that they must meet on January 1, 2030. 89 Fed. Reg. at 40048-49, 40054 (to be codified at 40 C.F.R. §§ 60.5740b(a)(5)(i)(C)(2), 60.5775b(c)(2)(i)).

¹¹ Tucson Electric Power, 2023 Integrated Res. Plan (Nov. 1, 2023), 9, available at <https://docs.tep.com/wp-content/uploads/2023-TEP-IRP.pdf>.

¹² Id,

c. Based on publicly available information, our agency anticipates that the following units will be exempted from the Rule because they will commit to retire by a date certain: Cholla Generating Station Units 1 (anticipated retirement date: April 2025) and 3 (anticipated retirement date: April 2025), Springerville Generating Station Units 1 (anticipated retirement date: 2027) and 3 (anticipated retirement date: 2031).¹³ These dates were announced prior the promulgation of EPA's final rule. If there is a need for any of these units to operate beyond their retirement date to maintain grid reliability, that the Rule allows state plans to permit such contingencies. Given the public health need in Arizona for utilities to be able to meet peak demand in summer months, ADEQ anticipates it is likely that its state plan will utilize such flexibility to be prepared for such a scenario.

36. ADEQ anticipates engaging with the owners and operators of designated facilities, in addition to other pertinent stakeholders, to

¹³ Ariz. Public Service; 2023 Integrated Res. Plan (Nov. 1, 2023), 29 available at https://www.aps.com/-/media/APS/APSCOM-PDFs/About/Our-Company/Doing-business-with-us/Resource-Planning-and-Management/APS_IRP_2023_PUBLIC.pdf; Tucson Electric Power, 2023 Integrated Res. Plan (Nov. 1, 2023), 9, available at <https://docs.tep.com/wp-content/uploads/2023-TEP-IRP.pdf>; and Tri-State Generation and Transmission Ass'n, Tri-State accelerates clean energy transition and bolsters electric system reliability (Dec. 1, 2023), available at <https://tristate.coop/tri-state-accelerates-clean-energy-transition>.

identify which subcategory should apply to each designated facility. The state plan would establish standards of performance for each subcategory based on the compliance options selected by the owners or operators. ADEQ also anticipates the state plan would give consideration to facility specific factors, such as remaining useful life and other factors.

37. Furthermore, our agency anticipates that the additional units that fall into the long-term subcategory have compliance options available to them to timely meet performance standards included in our state plan, if necessary, such as the compliance date extension, short-term reliability mechanism, and reliability assurance mechanism. 89 Fed. Reg. 39798, 40048-49 (to be codified at 40 C.F.R. §§ 60.5740b(a)(11)-(13)). Under the compliance date extension, state plans may include provisions that allow for the compliance date to be extended for owners or operators of affected EGUs that are installing add-on controls due to circumstances beyond their control. *Id.* (to be codified at 40 C.F.R. § 60.5740b(a)(11)). These provisions may allow the owner or operator of an affected EGU to request a single extension of no longer than one year from the specified compliance date, provided the owner or operator makes an adequate demonstration of necessity. *Id.* The short-term reliability

mechanism allows state plans to include provisions for system emergencies (as defined by *id.* at 40063-64 (to be codified at 40 C.F.R. § 60.5880b). *Id.* at 40048-49 (to be codified at 40 C.F.R. § 60.5740b(a)(12)). Lastly, the Rule’s reliability assurance mechanism allows state plans to include provisions that would allow one extension, not to exceed 12-months of the date by which an affected EGU has committed to permanently cease operations based on a demonstration consistent with the Rule that operation of the affected EGU is necessary for electric grid reliability. *Id.* (to be codified at 40 C.F.R. § 60.5740b(a)(13)). These mechanisms provide compliance options for owners or operators of affected EGUs to meet their grid reliability requirements.

Impacts of a Stay of the Rule

38. A stay of the Rule will prejudice the State’s interests by potentially delaying pollution reductions that will mitigate climate change harms in Arizona. The Arizona Governor’s Office of Resiliency established a priority to “[p]rotect Arizona’s precious natural resources, like our forests, parks, and bodies of water, from the devastating effects


of climate change that we're already experiencing.”¹⁴ Pursuant to A.R.S. § 49-191, ADEQ is prohibited from adopting or enforcing a state or regional program to regulate GHG emissions for the purpose of addressing climate change. However, ADEQ is authorized to develop state plans to regulate the emissions of CO₂ from existing electric generation units in compliance with rules adopted by the EPA Administrator under CAA § 111(d). *See* A.R.S. § 49-459. In order for ADEQ to regulate GHGs from existing electric generating units, ADEQ requires EPA's rule. Therefore, a stay of the federal rule would prevent ADEQ from taking action needed to address climate pollution from existing coal-fired EGUs in the State. A stay would also likely delay emissions reductions from other states, which are beyond Arizona's control. EPA's Regulatory Impact Analysis projects reductions of 1.38 billion metric tons of CO₂, systemwide, through 2047.¹⁵ These emissions reductions will reduce the climate harms Arizona is facing.

¹⁴ Ariz. Governor's Office of Resiliency, Resilience, Water and the Environment, available at <https://azgovernor.gov/governor/priorities/resilience-water-and-environment> (last accessed May 8, 2024).

¹⁵ U.S. Env't Prot. Agency, Regulatory Impact Analysis for the New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule (Apr. 2024), available at <https://www.regulations.gov/document/EPA-HQ-OAR-2023-0072-8913>.

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

Executed in Phoenix, Arizona on June 6, 2024.

DocuSigned by:

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Karen Peters
Cabinet Executive Officer
Arizona Department of Environmental Quality

Exhibit J

Declaration of Doug Scott Commissioner, Illinois Commerce Commission

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

State of West Virginia, et al,

Petitioners,

v.

**United States Environmental Protection
Agency, et al.,**

Respondents.

Case No. 24-1120
(and consolidated
cases)

**DECLARATION OF DOUGLAS P. SCOTT, CHAIRMAN
OF THE ILLINOIS COMMERCE COMMISSION**

I, Douglas P. Scott, declare as follows:

1. I am Chairman of the Illinois Commerce Commission (“ICC”), and submit this declaration in support of State Intervenors’ opposition to the motions to stay the Environmental Protection Agency’s (“EPA”) final rule entitled New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule (“Rule”). The declaration reflects my views and not the official views of the ICC.

Personal Background and Qualifications

2. I was appointed to fill an unexpired term as Chairman of the ICC on June 17, 2023, and was reappointed on January 19, 2024. I previously served as Chairman of the ICC from 2011 to 2015. Previously, I was Energy Systems Vice President for the Great Plains Institute, where I worked on decarbonization efforts with states and utilities, including by advising the Illinois Governor's Office from 2020 to 2023. I have also served as the Director of the Illinois Environmental Protection Agency. I hold a Bachelor of Arts from the University of Tulsa and a Juris Doctorate with honors from Marquette University.

Illinois Clean Energy Laws

3. Illinois has set a goal of 100% clean energy by 2050. To meet this goal, Illinois enacted the Climate and Equitable Jobs Act ("CEJA").¹

4. CEJA updated Illinois' Renewable Portfolio Standard ("RPS"), which was first established in 2007.² CEJA strengthened Illinois' RPS by requiring electric utilities to obtain more electric power through

¹ Illinois P.A. 102-0662.

² Illinois P.A. 95-0481.

renewable resources such as wind and solar—40% by 2030 and 50% by 2040.³

5. CEJA requires zero emissions from private coal-fired and oil-fired electric generating units by January 1, 2030, municipal coal-fired plants by December 31, 2045, and natural gas-fired units by 2045. CEJA also requires a 45% emissions reduction at municipal coal plants by 2035, or requires retirement by 2038. CEJA caps emissions for coal and gas-fired plants at current levels. Regional Transmission Organizations (“RTOs”) PJM and MISO negotiated with Illinois officials to establish exemptions from these limits in the event of reliability incidents. Such exemptions are at the discretion of the RTOs.

6. Severe weather—intensified by climate change—is significantly impacting the electricity grid in Illinois. For example, extreme cold and extreme storms have led to increased energy demand, requiring emergency measures to ensure reliability.⁴ As climate change

³ 20 ILCS 3855/1-75(c).

⁴ U.S. Energy Information Administration, “Extreme Cold in the Midwest Led to High Power Demand and Record Natural Gas Demand” (Feb. 26, 2019), *available at* [https://www.eia.gov/todayinenergy/detail.php?id=38472#:~:text=February%2026%2C%202019-.Extreme%20cold%20in%20the%20Midwest%20led%20to%20high.and%20record%20natural%20gas%20demand&text=Extreme%20cold%20weather%20in%20the,System%20Operator%20\(MISO\)%20gr id.](https://www.eia.gov/todayinenergy/detail.php?id=38472#:~:text=February%2026%2C%202019-.Extreme%20cold%20in%20the%20Midwest%20led%20to%20high.and%20record%20natural%20gas%20demand&text=Extreme%20cold%20weather%20in%20the,System%20Operator%20(MISO)%20gr id.) (last accessed May 30, 2024).

continues to lead to more severe weather events, the expense of preparing the grid will also increase.

The Rule

7. EPA's Rule sets forth emission guidelines for existing coal-fired power plants and standards for new gas-fired power plants generally based on highly efficient generation, the use of alternative fuels, or carbon capture and storage.

8. States must submit a state plan to EPA that implements the Rule's emission guidelines and standards. The Rule also contains two mechanisms to ensure electricity grid reliability. First, states may implement a short-term reliability mechanism for units responding to a declared grid emergency. Second, States may implement reliability assurance mechanisms of up to a year for units that may be needed to stay operational for longer than anticipated due to grid reliability needs.

Maintaining Grid Reliability

9. Through CEJA, Illinois has adopted a timeline for closing fossil-fuel power plants in Illinois, should they not achieve zero greenhouse gas and criteria pollutant emissions. CEJA's requirements

have already moved Illinois toward achieving the emissions reductions in EPA's Rule.

10. Illinois also plans to achieve the goals of CEJA and EPA's Rule while maintaining energy reliability and affordability. Energy in Illinois is a competitive market, so these goals must be met without relying on integrated resource planning available in other states. As part of CEJA, the ICC and other State agencies are required to submit a report on reliability to the General Assembly every five (5) years, with the first such report due by the end of 2025. Another important way that Illinois will do so is through aligning incentives for a reliable clean energy future and through ensuring that developers want to locate clean energy in our state.

11. One way that Illinois is aligning incentives is by providing financial assurances to Illinois' nuclear power plants when necessary to ensure their continued operation through 2027. Illinois is home to the largest fleet of nuclear generation in any State, and nuclear power is the largest source of clean energy in Illinois.

12. Illinois has well-established incentives to encourage incorporation of community solar, rooftop solar, utility scale wind and

solar, as well as incentives to convert coal plants and other brownfield sites into renewable energy and/or storage facilities. Further, Illinois has also significantly increased its commitment to energy efficiency to curb demand.

13. On May 30, 2024, the Illinois Commerce Commission adopted the Renewable Energy Access Plan (“REAP”) to foresee where transmission will be needed in the state, and to support adoption of grid-enhancing technologies. This Plan will help expedite transmission build out and prepare the State for additional energy production coming on line. The REAP will aid in strengthening our electricity interconnection system to ensure that new clean energy sources can quickly connect to our power grid.

14. By carefully implementing CEJA, our State intends to maintain reliability and affordability during this energy transition, especially any reliability concerns during emergencies when more power is needed. These methods will also ensure continued reliability while implementing EPA’s Rule.

15. The Illinois General Assembly recently passed a bill setting guidelines for carbon capture and storage. If signed into law, Illinois will

have a pathway for sites to utilize carbon capture and storage as contemplated by the EPA Rule. Illinois is already home to a large carbon storage site.


16. CEJA has a substantial focus on ensuring that the energy transition provides benefits for communities in Illinois that have traditionally not seen beneficial investment from the energy sector. This is manifested in CEJA through economic hubs that will provide job training and assistance for contractors from disadvantaged communities, as defined by CEJA. CEJA also provides for funding through the Illinois Climate Bank. The schedule for retirement of coal and gas-fired power plants is also structured to have the timing for retirements based upon the emissions of plants and their location, prioritizing retirements first in disadvantaged communities.

17. Illinois is focused on a just transition for communities and individuals who have economically relied on coal-fired power plants or coal mines. CEJA provides support to displaced energy workers, grants to replace lost community revenue, and financial incentives for clean

energy investment in those communities.⁵ The REAP also gives special attention to disadvantaged communities.

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

Executed in South Beloit, IL on June 9, 2024.


DOUGLAS P. SCOTT

⁵ 20 ILCS 735/10-1 *et seq.*

Exhibit K

Declaration of Jennifer Snyder Manager, Energy Planning Section, Washington Utilities and Transportation Commission

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

State of West Virginia, et al.,

Petitioners,

v.

Environmental Protection Agency, et al.,

Respondents.

Case No. 24-1120
(and consolidated
cases)

DECLARATION OF JENNIFER SNYDER

**Energy Planning Section Manager,
Washington Utilities and Transportation Commission**

I, Jennifer Snyder declare as follows:

1. I am now and at all times mentioned have been a citizen of the United States and a resident of the state of Washington, over the age of 18 years, competent to make this declaration, and I make this declaration from my own personal knowledge and judgment.

2. I am currently employed by the Washington Utilities and Transportation Commission (WUTC) as a section manager in the Energy Planning section. As section manager, I oversee the work of Energy Planning Regulatory Analysts reviewing electric and gas investor-owned utility Integrated Resource Plans (IRPs), Clean Energy Action Plans, Clean Energy Implementation Plans (CEIPs), Biennial Conservation Plans, and

Transportation Electrification Plans. I have worked for the WUTC on energy planning issues for eight and a half years. As part of my work as section manager of Energy Planning at WUTC, I am involved in long-term regional planning, serving on advisory committees for the Northwest Power and Conservation Council and the Northwest Energy Efficiency Alliance. The work of the WUTC ensures that the services of regulated companies are safe, available, reliable, and fairly priced.

3. WUTC, along with the Washington State Department of Commerce, holds annual meetings with representatives of investor- and consumer-owned utilities, regional planning organizations, transmission operators, and other stakeholder, to discuss the current, short-term, and long-term adequacy of energy resources to serve the state's electric needs.¹ In addition to their individual planning processes, the investor-owned electric utilities (IOUs) regulated by the WUTC, Puget Sound Energy, Avista Utilities, and PacifiCorp, communicate and collaborate with other utilities and appropriate regional entities to ensure reliability standards are met, resource adequacy is maintained, and integrity of the system is not otherwise compromised. The output of regional planning entities such as Western Electricity Coordinating Council (WECC), Western Power Pool, and the

¹ Wash. Rev. Code § 19.280.065.

California Independent System Operator (CAISO) are used as inputs in IRPs.

4. The Clean Energy Transformation Act (CETA) became law in Washington in 2019. CETA requires electric utilities to eliminate coal-fired resources from rates by 2025 and that all retail sales of electricity to Washington retail electric customers be greenhouse gas neutral by 2030. Several coal plants that used to provide electricity to customers in Washington have already shut down, including Colstrip Units 1 & 2 and Centralia Unit 1, all in 2020. The last coal-fired power plant in the state, owned by TransAlta in Centralia, WA, is slated to close in 2025. Additional coal resources currently owned by IOUs will no longer serve load in the state as of 2025 and will be fully depreciated in Washington, but do not have closure dates. Based on current long-term planning and forecasted information provided by IOUs in the most recently filed CEIPs, I do not anticipate upcoming coal retirements and exclusion of the fuel from the state energy mix to cause resource adequacy issues for the state.

5. Like much of the country, Washington faces changing electricity demand that includes, but is not limited to, population changes, vehicle charging, serving other specialized technology that requires high power quality, electrification of building-related end uses now served by fossil fuels, electricity deployed on the customer side of the meter through net metering,

community solar programs, and the growth of demand response programs. In order to meet this demand the WUTC, in alignment with state requirements and policy goals, is working with utilities on strategies to rely on energy efficiency, demand response, renewable resources, and energy storage to the maximum extent feasible, while transitioning away from coal and natural gas-fired generation.

6. In light of Washington's energy laws and policies already moving retail electricity sales to 100 percent nonemitting energy by 2045, the EPA rule will not significantly impact reliability for Washington energy customers.

7. Washington strongly supports the federal greenhouse gas emission standards. EPA's standards align with Washington's laws and policies that reduce carbon emissions from the power sector.

I have read the foregoing Declaration of three typewritten pages and I declare under penalty of perjury that the foregoing is true and correct.

DATED this 10 day of June 2024, in Olympia, Washington.


JENNIFER SNYDER

Exhibit L

Declaration of Joseph Sullivan Vice Chair, Minnesota PUC

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

State of West Virginia, et al.,

Petitioners,

v.

United States Environmental Protection
Agency, et al.,

Respondents.

Case No. 24-1120 (and
consolidated cases) _____

DECLARATION OF COMMISSIONER JOSEPH K. SULLIVAN

I, Joseph K. Sullivan, declare as follows:

1. I am the Vice Chair of the Minnesota Public Utilities Commission, and have held that role since May 2020. Before serving as Vice Chair, I served as Deputy Commissioner for the Minnesota Department of Commerce where I led the Division of Energy Resources. Prior to that, I held various legal, legislative, and regulatory roles for the Center for Energy and the Environment and Clean Grid Alliance. I also previously worked as an attorney in private practice at Flaherty & Hood, P.A. I have a Bachelor of Arts in both Philosophy and Anthropology from Marquette University and received a J.D. from the University of Wisconsin Law School.

2. I provide this declaration to provide my own views, and I am not speaking on behalf of the Minnesota Public Utilities Commission.

3. The Minnesota Public Utilities Commission, or the PUC, plays a vital role in ensuring that Minnesotans have safe, reliable, and affordable electric, gas and landline telephone utility services. The PUC is made up of five commissioners who are appointed by the Governor and approved by the Minnesota Senate. Commissioners come from a wide variety of political, geographic, and professional backgrounds, and bring a blend of different perspectives to their decisions. The Commission works within a “regulatory compact, which is an agreement, made up of several Minnesota laws, covering reasonable cost recovery for utilities’ investments necessary to provide service and rate setting.

4. The PUC is charged with establishing just and reasonable utility rates. In doing so, the PUC makes regulatory decisions that balance the need for safe and reliable utility service with ensuring the reasonable cost of providing that service. The PUC sets the rates and terms of service for eight major investor-owned electric and natural gas utilities and municipal or cooperative utilities whose members have decided to have their rates regulated. The two biggest investor-owned utilities that generate electricity in Minnesota are Xcel Energy and Minnesota Power.

5. The PUC is also charged with planning for the future. It reviews utilities’ long-term plans about the type of generation they will use to provide

electricity, their operating costs, and determines whether large electric infrastructure is needed and where it will be located to minimize the negative impacts on humans and the environment. The PUC also reviews and permits proposed energy facilities including new wind turbines, transmission lines, solar farms, and other types of infrastructure by evaluating their location and ensuring their impacts to humans and the environment are minimized.

6. One key aspect of the PUC's work is its review of utilities' integrated resource plans (IRPs), in which utilities document their current electricity generation plans along with their projections for demand (over 15 years), along with how they plan to generate electricity to meet that demand while also achieving other milestones such as greenhouse gas reduction. The IRP can include plans for power generation, unit construction or retirement, infrastructure and other considerations including reliability. As part of the IRP process, the PUC implements metrics relating to both the regulatory cost of carbon and the social cost of carbon.

7. In 2007, the Minnesota legislature adopted a bipartisan, wide-ranging state effort to address GHG emissions in Minnesota, known as the Next Generation Energy Act (NGEA). Minn. Stat. §§ 216H.01-.13. The NGEA established state-level GHG emission reduction targets of 15% from 2005 levels by 2015, 30% from 2005 levels by 2025, and 80% from 2005 levels by 2050. The NGEA also

established a GHG emission reporting structure. The NGEA also included Renewable Energy Standards (RES) for Minnesota and changes to the state's Conservation Improvement Plan (CIP) to improve utilities' energy efficiency programs.

8. In 2023, the State Legislature adopted a carbon-free standard for Minnesota utilities. Electricity generated or procured to serve Minnesota's retail electricity customers must be 80% carbon free for public utilities and 60% carbon free for other electric utilities by 2030, 90% for all electric utilities by 2035, and 100% for all electric utilities by 2040. Minn. Stat. §§ 216B.1691.

9. In my role, I have been involved in the PUCs regulatory work and efforts to drive implementation of these state goals. I have specialized familiarity with the regulated utilities' electrical generation plans, demand projections, and resilience plans directed to providing reliable power while achieving emissions reductions.

10. I am also familiar with United States Environmental Protection Agency ("EPA") final rule entitled, "New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal

of the Affordable Clean Energy Rule,” published at 89 Fed. Reg. 39,798 (May 9, 2024) (Final Rule).

11. I have publicly said that in this context, an ounce of prevention is worth a pound of cure. By that, I mean that it is my opinion that prudent planning requires that we incrementally plan to decarbonize the system by reducing carbon emitting resources and increasing renewable energy. A stable regulatory framework ensures reliability, affordability, and meeting state environmental and clean energy goals.

12. Minnesota has a powerful and robust planning process. Through its efforts directed to resource planning, including IRPs, Minnesota is in a good position to meet its emission reduction and clean energy goals while maintaining reliability. Regardless of what happens with the Final Rule, a great amount of work will need to go into sequencing the various components that need to come together including transmission lines, power plant closures and capacity replacement, and so on.

13. Increased demand is not a new phenomenon. The PUC’s resource planning adequately predicts increased demand for electricity and provides for attendant grid reliability. Utilities in Minnesota are already making better use of existing infrastructure with grid enhancing technologies that facilitate increased wind, solar, and storage technologies, and the utilities’ IRPs adequately

demonstrate their understanding that demand will grow while they work to meet Minnesota's carbon-reduction goal. It is my informed opinion that Minnesota utilities can comply with the Final Rule without sacrificing grid reliability.

14. In light of the continued transition away from coal-fired energy generation, Minnesota has also adopted a Just Transition Program to address the needs in communities impacted by the changing landscape.¹ This program recognizes that with the retirement of coal-based power generation, some communities could lose a tax base for local revenue, as well as employment opportunities in the coal-fired power generation sector. The program provides funding to establish transition programs, economic initiatives, and transition policy to minimize the negative consequences from closures and maximize opportunities for future economic growth and community wellbeing. The Minnesota Department of Employment and Economic Development is charged with implementing the program.

15. The PUC and Minnesota utilities are also planning around grid resiliency given the impacts of climate change. One impact of climate change is the increasing incidence of polar vortex intrusions into our power system. Our

¹ <https://mn.gov/deed/programs-services/energy-transition/>

transmission planning process must increasingly factor in resiliency and reliability in the face of these more frequent extreme weather events.

I declare under penalty of perjury that the foregoing is true and correct.
Executed in Blue Earth County on June 7, 2024.



Joseph K. Sullivan

Vice Chair, Minnesota Public Utilities Commission

Exhibit M

Declaration of Will Toor Executive Director and CEO, Colorado Energy Office

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

State of West Virginia, et al,

Petitioners,

v.

Environmental Protection Agency, et al,

Respondent.

Case No. 24-1120
(and consolidated
cases)

DECLARATION OF WILL TOOR

**EXECUTIVE DIRECTOR
COLORADO ENERGY OFFICE**

I, Will Toor, declare as follows:

1. As Executive Director of the Colorado Energy Office, I submit this declaration in support of State Intervenors’ opposition to the motions to stay the Environmental Protection Agency’s (“EPA”) final rule entitled New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing

Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule, 89 Fed. Reg. 39,798 (May 9, 2024) (“the Rule”).

Personal Background and Qualifications

2. I hold a Bachelor of Science in Physics from Carnegie Mellon University and a Ph.D. in Physics from the University of Chicago. I spent 12 years as Director of the University of Colorado Environmental Center, where I developed campus sustainability programs in the areas of solid waste, building energy use, and transportation planning. I served as the Mayor of Boulder for six years where I developed Boulder's community transit network and unlimited access transit pass program. I went on to chair the Denver Regional Council of Governments (“DRCOG”). The DRCOG is the regional planning commission for the Denver metro area and works with the Colorado Department of Transportation and other entities to prepare transportation plans and programs. I also served as a Boulder County Commissioner for eight years. As a Commissioner, I led the effort to create and adopt a countywide Sustainable Energy Plan, the BuildSmart green building code, the EnergySmart program, and the ClimateSmart Loan Program. I then became the Transportation Program Director at the Southwest Energy Efficiency Project (“SWEEP”).

SWEEP promotes energy efficiency, clean transportation, and beneficial electrification in several states in the Southwest region. Finally, in January 2019, I was appointed by Governor Jared Polis to be the Executive Director of the Colorado Energy Office (the “Energy Office”).

3. As Executive Director, I guide the Energy Office in meeting its statutory mission to “(a) Support Colorado’s transition to a more equitable, low-carbon, and clean energy economy and promote resources that reduce air pollution and greenhouse gas [(“GHG”)] emissions, including pollution and emissions from electricity generation, buildings, industry, agriculture, and transportation; (b) Promote economic development and high quality jobs in Colorado through advancing clean energy, transportation electrification, and other technologies that reduce air pollution and [GHG] emissions, including helping to finance those investments; (c) Promote energy efficiency; (d) Promote an equitable transition toward zero emission buildings; (e) Promote an equitable transition to transportation electrification, zero emission vehicles, transportation systems, and land use patterns that reduce energy use and [GHG] emissions; (f) Increase energy security; (g) Support lower long-term consumer costs and support reduced energy cost burden for

lower-income Coloradans; and (h) Protect the environment and public health.”¹

Colorado’s Position on the Rule

4. The Energy Office joined with the Colorado Department of Public Health and Environment to submit comments on behalf of the State of Colorado in support of the proposed rule during the public comment period. The Energy Office supports this Rule because it will assist in contributing to emissions reductions from power plants across the country—reductions necessary to combat the impacts of climate change already felt by Colorado—without jeopardizing reliability.

The Impact of Climate Change on Colorado

5. Climate change is already having negative impacts on the State of Colorado and its residents, including extreme weather, increased temperatures, wildfires, and flooding. The National Centers for Environmental Information (“NCEI”) at the National Oceanic and Atmospheric Administration (“NOAA”) publishes statistics for natural disasters and climate events that have occurred in the State of Colorado.²

¹ Colo. Rev. Stat. § 24-38.5-101.

² National Centers for Environmental Information (“NCEI”), [Billion-Dollar Weather and Climate Disasters, Colorado Summary](#), (as of May 8, 2024).

From 1980–2023, there have been 70 confirmed weather and climate disaster events in Colorado that each caused losses exceeding \$1 billion.³ These events include severe storms, droughts, wildfires, flooding, winter storms, and freeze events.⁴ During the period between 1980 and 2022 these events occurred on average 1.5 times per year.⁵ In the most recent 5 years (2019 – 2023), the annual average has increased to 3.6 events per year.⁶

6. The Fifth National Climate Assessment found that extreme weather is the primary cause of power outages,⁷ and Colorado has felt this impact in the last few years. In 2023, the North American Electric Reliability Corporation (“NERC”) found that the Western Interconnection, in which Colorado is located, experienced heightened reliability risks due to increased supply-side shortages along with ongoing drought impacts, continued wildfire threats, and expanding heat wave events.⁸ Seventy percent of Denver’s housing stock has air

³ *Id.*

⁴ *Id.*

⁵ *Id.*

⁶ *Id.*

⁷ U.S. Global Change Research Program, [Fifth National Climate Assessment](#) (Nov. 2023), ch. 5 (Energy).

⁸ North American Electric Reliability Corporation (“NERC”), [2023 Summer Reliability Assessment](#) (May 2023).

conditioning,⁹ but the extreme heat has led to higher electricity load and increased risk of blackout as Coloradans are forced to run their air conditioning more frequently and at higher levels.¹⁰ The electric load will also continue to increase if more people find it necessary to install air conditioning in their homes because of continuously rising temperatures. Further, extreme heat impacts powerline efficiency and the grounding efficiency of electricity transmission and distribution power lines, resulting in increased transmission losses and a reduction in carrying capacity.¹¹

7. Increased wildfires are also a major threat to physical components of the grid.¹² Wildfires can cause physical damage to wooden transmission line poles, the associated heat and smoke can impact transmission line capacity, and soot accumulation can increase the likelihood of outages.¹³ Wildfires are both a cause and effect of problems

⁹ Denver Office of Climate Action, Sustainability & Resiliency, [The Energize Denver Renewable Heating and Cooling Plan: Resilient Existing Building and Homes](#), at ES1, 18.

¹⁰ Childress, A., et al., [Colorado Climate Change Vulnerability Study](#) (January 2015) at 96.

¹¹ Gonçalves, A.C.R., Costoya, X., Nieto, R. et al., [Extreme weather events on energy systems: a comprehensive review on impacts, mitigation, and adaptation measures](#); *Sustainable Energy res.* 11, 4 (2024) at 6; U.S. Department of Energy's Office of Policy and International Affairs, [U.S. Energy Sector Vulnerabilities To Climate Change And Extreme Weather](#) (July 2013) at 13.

¹² U.S. Department of Energy's Office of Policy and International Affairs, [U.S. Energy Sector Vulnerabilities To Climate Change And Extreme Weather](#) (July 2013) at 8, 12.

¹³ *Id.* at 13.

with the electric grid because they can burn power lines and cause outages, but power lines can also start fires when there are strong winds and dry conditions.¹⁴ Recently, during a high wind event, Public Service Company of Colorado (“Public Service”) had to preemptively shut down power for 55,000 customers in Colorado to mitigate wildfire risk.¹⁵ Another 100,000 customers lost power due to damage to the electric grid from the windstorm.¹⁶

8. The Government Accountability Office has found that the average annual costs of severe weather-related power outages to U.S. utility customers is billions of dollars.¹⁷ Infrastructure damage from climate change, such as to buildings and roads, has already cost Colorado billions.¹⁸ For example, a 2021 wildfire in Boulder County destroyed over 1,000 homes,¹⁹ causing more than \$2 billion in damage and making it the

¹⁴ CPR News, [The Cold Isn't The Biggest Threat To Colorado's Power Grid — Other Climate Disasters Might Be](#) (February 20, 2021).

¹⁵ Smith, L., [Xcel Energy: Restoration of power could extend into Monday](#), CBS News (April 7, 2024).

¹⁶ *Id.*

¹⁷ Testimony of Frank Rusco, Director, Natural Resources and Environment, Government Accountability Office, Before the U.S. Senate Committee on Environment and Public Works, [Electricity Grid Resilience: Climate Change Is Expected to Have Far-reaching Effects and DOE and FERC Should Take Actions](#) (Mar. 10, 2021) at 4 (citing two government reports and one independent research report).

¹⁸ See [State of Colorado, Colorado Climate Plan: State Level Policies and Strategies to Mitigate and Adapt](#) (2018), at 48–49; see also S. Weiser, [Glenwood Canyon I-70 Closure Wreaks Havoc on Travel and the Economy](#), Denver Gazette (Aug. 11, 2021).

¹⁹ Boulder County, [Marshall Fire Recovery Dashboard](#).

10th costliest wildfire in U.S. history.²⁰ Further, power outages can have an extremely negative impact on businesses and their revenue when businesses unexpectedly lose power and are unable to operate as expected.²¹

9. While these impacts to the electrical grid can be partially mitigated by adding generation resources and giving electricity infrastructure short term upgrades, the only long-term and fully effective solution to extreme weather induced blackouts is curbing the GHG emissions that continue to increase the likelihood and magnitude of extreme weather events.

Colorado Electricity Policies

10. In light of these impacts, Colorado has taken decisive action to decarbonize its electric grid, and has achieved significant success. In 2010, 68% of Colorado's electricity came from coal-fired generation. By 2022, coal-fired generation supplied just 36% of its electricity, with natural gas-fired generation providing 26% and renewables just under

²⁰ Phillips, N. [*Marshall fire losses now expected to exceed \\$2 billion — making it the 10th costliest wildfire in U.S. history*](#), Denver Post (Oct. 27, 2022).

²¹ See e.g. Stevenson, C., [*Power outages cost Boulder County businesses tens of thousands of dollars*](#), Denver Post, (April 8, 2024).

40%.²² This is the result of several different statutes implemented by the Colorado legislature.

11. In 2019, the Colorado legislature officially recognized that Colorado is experiencing harmful climate impacts, and therefore set statewide greenhouse reduction goals of at least a 26% reduction in statewide GHG emissions by 2025, 50% reduction in GHG emissions by 2030, and 90% reduction in GHG emissions by 2050 relative to a 2005 baseline.²³ To achieve these goals, “Colorado shall strive to increase renewable energy generation and eliminate statewide [GHG] pollution.”²⁴ Further, Senate Bill (“SB”) 19-236 stated that “[i]t is a matter of statewide importance to promote the development of cost-effective clean energy and new technologies and reduce the carbon dioxide emissions from the Colorado electric generating system.”²⁵

12. In line with this directive, utilities are statutorily instructed to seek to provide their customers with energy generated from 100%

²² U.S. Energy Information Administration, [Colorado State Energy Profile](#).

²³ Colo. Rev. Stat. § 25-7-102(2)(g); see also Colo. Rev. Stat. § 25-7-103(22.5) (defining “statewide greenhouse gas pollution”).

²⁴ Colo. Rev. Stat. § 25-7-102(2)(g).

²⁵ Colo. Rev. Stat. § 40-2-125.5(1)(a).

clean energy resources by 2050.²⁶ In 2023, Colorado’s General Assembly updated the economy-wide emissions reduction targets to a 65% reduction by 2035, 75% reduction by 2040, 90% by 2045 and net zero statewide GHG pollution by 2050.²⁷

13. This legislation was built on voluntary commitments by Colorado’s largest utility, Public Service, which announced in December 2018 a commitment to achieve an 80% reduction in GHG emissions below a 2005 baseline by 2030 and a 100% reduction by 2050.²⁸ This voluntary commitment came after the Colorado Public Utilities Commission (“PUC”) had recently approved, on purely economic grounds, retiring two coal fired generating units and replacing them with lower cost wind , solar, and use of gas as a capacity resource.²⁹ That commitment was enabled by the trends in electric resource cost and availability, as the rapid declines in the costs of wind and solar power made them the lowest

²⁶ Colo. Rev. Stat. § 40-2-125.5(3)(a)(II).

²⁷ Colo. Rev. Stat. §§ 25-7-102(2)(g)(I)(C)-(E) (additional targets for 2035, 2040, and 2045) and Colo. Rev. Stat. § 25-7-102(2)(g)(I)(F) (increasing the target for 2050 from 90% reduction in statewide GHGs to 100% reduction)).

²⁸ Bouchard, J., [*What Xcel’s Lofty Energy Plan Means for Colorado—and the Nation*](#), 5280 Magazine (December 5, 2018).

²⁹ Colorado Public Utilities Commission Decision No. C18-0761, issued on September 10, 2018, in Proceeding No. 16A-0396E.

cost resources available, thereby making it cheaper to add new renewables to the system and retire coal generating units.³⁰

14. As part of the State’s overall energy planning framework, each investor-owned retail electric utility and wholesale electric generation and transmission cooperative is required to submit to the PUC an application for approval of an electric resource plan (“ERP”).³¹ This framework requires certain utilities in Colorado to have approved ERPs that demonstrate how the utility will meet the energy policy goals of the State.³² Colorado’s policy is that “a primary goal of electric utility resource planning is to...give[] the fullest possible consideration to the cost-effective implementation of new clean energy and energy-efficient technologies.”³³ Therefore, ERPs must include at least three alternate plans that will show the costs and benefits of increasing renewable energy resources, demand side resources, and energy storage systems in a cost-effective resources plan.³⁴

³⁰ *Id.* at ¶ 103.

³¹ Colo. Rev. Stat. § 40-2-134; 4 Colo. Code Regs. § 723-3603(a).

³² Colo. Rev. Stat. § 40-2-125.5(4)(a).

³³ 4 Colo. Code Regs. § 723-3601.

³⁴ 4 Colo. Code Regs. § 723-3604(k).

15. The ERP process has also served as a venue to plan the retirement of coal-fired generating facilities for these utilities. A utility's ERP as a whole describes the resources that the utility will acquire through a competitive acquisition process to meet its resource needs, which may include accounting for the retirement of coal-generating facilities. In 2016, the PUC approved the voluntary retirement of two coal-fired units by Public Service as part of the utility's Colorado Energy Plan, concluding that "[t]he composition of the [Colorado Energy Plan] Portfolio further satisfies the requirement in this ERP that we give the fullest possible consideration to the cost-effective implementation of new clean energy and energy-efficient technologies, as required by § 40-2-123(1), C.R.S."³⁵

16. Another aspect of Colorado's overall GHG emissions reduction strategy and energy planning framework are Clean Energy Plans ("CEPs"). CEPs are plans approved for certain utilities, including investor-owned utilities, municipal utilities, and rural electric cooperatives that own and operate electric generating assets, as part of

³⁵ Colo. Public Utilities Commission Decision No. C18-0761, issued on September 10, 2018, in Proceeding No. 16A-0396E, ¶ 113.

their ERPs.³⁶ A generation and transmission cooperative in Colorado is subject to similar emissions reduction obligations. CEPs demonstrate how the utility will reduce its carbon dioxide emissions from electricity sales to its customers by at least 80% from 2005 levels by 2030, and seek to provide its customers with 100% clean energy by 2050.³⁷ CEPs must include a set of actions and investments that will allow the utility to achieve compliance with those clean energy targets.³⁸ If a CEP includes retirement of an existing coal-fired generating facility, the CEP must also include workforce transition and community assistance plans.³⁹

17. The PUC, which must approve CEPs for Public Service and Black Hills Colorado Electric (“Black Hills”), is statutorily directed to evaluate whether a CEP submitted is in the public interest. The PUC is directed to consider the following factors, among others:

(I) Reduction in carbon dioxide and other emissions that will be achieved through the clean energy plan and the environmental and health benefits of those reductions; (II) The feasibility of the [CEP’s] impact on the reliability and resilience of the electric system. The commission shall not approve a plan that does not protect system

³⁶ Colo. Rev. Stat. §§ 40-2-125.5(2)(a), -(4).

³⁷ Colo. Rev. Stat. § 40-2-125.5(2)(a).

³⁸ *Id.* at -(4)(a)(II).

³⁹ *Id.* at -(4)(a)(VII).

reliability. (III) Whether the [CEP] will result in a reasonable cost to customers, as evaluated on a net present value basis.⁴⁰

18. Public Service, Black Hills, Tri-State Generation and Transmission Association (“Tri-State”), Holy Cross Electric, Colorado Springs Utilities, Platte River Power Authority, and CORE Electric Cooperative have all submitted CEPs, or in the case of Tri-State, an ERP, to the Air Pollution Control Division (“Division”) of the State Department of Public Health and Environment for verification that the plans are forecast to achieve at least an 87% reduction in GHG emissions by 2030 from a 2005 baseline.

19. The State’s Division was statutorily directed to develop a workbook that utilities are required to complete and submit to the Division for verification of the emissions reductions. Based on plans that have been approved and submitted to the State, the seven utilities currently required to have CEPs will achieve an 84%-87% reduction in GHG emissions by 2030 from a 2005 baseline.⁴¹ For all of the state’s major electric utilities, adding low cost wind and solar and using gas

⁴⁰ Colo. Public Utilities Commission Decision No. C24-0052, issued on January 23, 2024, in Proceeding No. 21A-0141E, ¶ 20.

⁴¹ Governor Jared Polis, [Colorado Greenhouse Gas Pollution Reduction Roadmap 2.0: Policy Priorities through 2026](#) (Feb. 2024), at 59.

generation as a capacity resource that complements the renewable generation has proven to be an economically preferable and reliable approach to replace retiring coal generation.

20. For example, Black Hills recently filed its 120-Day Report with the PUC stating, “[o]ur 2030 Ready Preferred Portfolio [the company’s CEP] meets and exceeds the State’s emission reduction target of 80% by 2030 by achieving an emission reduction of 89% by 2030. Due to the highly competitive bid process and support from the Inflation Reduction Act (“IRA”), our Preferred Portfolio’s Net Present Value (“NPV”) Revenue Requirement is less than originally estimated, providing \$595 million of savings to customers. Furthermore, the Company has thoughtfully crafted a cost recovery proposal that results in bill stability through 2030. While customers will see a new surcharge on their bill beginning in 2025, the Company is proposing to reduce the Renewable Energy Standard Adjustment surcharge, and the additional renewable energy will displace natural gas cost resulting in a net neutral impact to customer bills through 2030.”⁴²

⁴² Black Hills Colorado Electric, LLC, [2030 Ready: Our Colorado Clean Energy Plan](#), at 6.

21. Likewise, in Public Service’s 2016 ERP, the PUC found that the early retirement of two of Public Service’s coal plants were in the public interest “because it allows Public Service to take advantage of the exceptionally low bid prices from its competitive solicitation in this ERP. The competitive response to the [request for proposals] far exceeded all previous ERP solicitations and provides a rare opportunity to capture some of the lowest resource bids ever experienced in Colorado. We note that wind bids are exceptionally low as compared to the pricing information provided in Public Service’s previous wind resource proceedings.”⁴³

⁴³ Colo. Public Utilities Commission Decision No. C18-0761, issued on September 10, 2018, in Proceeding No 16A-0396E, ¶ 103.

22. Notably, challenges to coal plant closures have been primarily political in nature rather than technical or economic. The most prominent example involves Tri-State. Prior to 2019, Tri-State's position was that retiring their coal generation would be catastrophic to reliability and drive costs sharply upwards. However, Tri-State had a leadership change in the spring of 2019, and within a year had announced plans to retire all their coal generating units in New Mexico and Colorado, replacing these primarily with renewable generation, and were able to reduce the rates offered to their retail cooperative members by 8% due to the cost savings.

Modeling of Colorado's Electric Sector Past 2030

23. As we look past 2030, the Energy Office released a study, [*Pathways to Deep Decarbonization in Colorado's Electric Sector by 2040*](#), that assessed seven different scenarios to achieve decarbonization of the State's electrical grid by 2040.⁴⁴ It evaluates a business-as-usual scenario (which was not required to achieve a 100% reduction in emissions) and six different pathways that each achieve a 100% carbon free electrical

⁴⁴ [*Pathways to Deep Decarbonization in Colorado's Electric Sector by 2040: An Analysis of Colorado's Energy System in Meeting the State's Clean Energy Goals , Rev. 1.*](#)

grid by 2040.⁴⁵ The results of the business-as-usual scenario are particularly instructive.

24. The business-as-usual scenario is based on the implementation of existing state and federal policies and utility electric resource plans (including CEPs). In this scenario, the model selected resources based on lowest costs while still meeting NERC reliability requirements of a loss of load probability of one day in 10 years and accounting for a 2040 load that grows by 40%.⁴⁶ The model selected solar, wind, and batteries as the primary providers of electricity, with decreasing levels of gas remaining on the system to ensure reliability.⁴⁷ By 2040, gas-fired generators are projected to run at a low average capacity factor of around 2%, and gas resources will provide only 1.7% of the electricity load.⁴⁸ This low capacity factor for gas is driven by the higher cost of gas (i.e., the commodity price) compared to the lower cost of renewable generation.⁴⁹ Because of the overall low capacity factor of gas, even with 8,215 MW of gas remaining on the system, the Colorado

⁴⁵ *Id.* at 10-11.

⁴⁶ *Id.* at 10.

⁴⁷ *Id.* at 30-31.

⁴⁸ *Id.* at 19, 70.

⁴⁹ *Id.* at 70.

grid achieves a roughly 97% reduction in in-state GHG emissions with an overall emissions reduction (including emissions associated with imported electricity) of 94%.⁵⁰

25. Colorado's extensive energy policies that are already in place to help the State move toward decarbonization will greatly assist Colorado in ensuring that any new and reconstructed gas-fired units will comply with the new Rule. These policies, and the simple economics that renewables are substantially lower cost than legacy coal generation, have already ensured that Colorado's existing coal units will retire early enough so as to not be affected by this Rule. The modeling done by the Energy Office also indicates that Colorado will follow a trajectory of decarbonization and lower capacity factors for gas units that will naturally result in compliance with federal power plant rules such as this Rule.

Standards for Generating Units Under the Rule

26. The Rule repeals the Affordable Clean Energy Rule; sets emission guidelines for GHG emissions from existing fossil fuel-fired steam generating units; revises the New Source Performance Standards

⁵⁰ *Id.* at 10.

“NSPS”) for GHG emissions from new and reconstructed electric generating units; and revises NSPS for GHG emissions from fossil-fuel fired steam generating units that undertake a large modification.⁵¹ The Rule does not finalize emission guidelines for GHG emissions from existing fossil fuel-fired stationary combustion turbines.⁵²

a. Emission Guidelines for Existing Coal-Fired Steam Generating Units

27. The Rule divides existing coal-fired steam generating units into two subcategories: medium-term existing coal-fired steam generating units (“medium term coal units”) and long-term existing coal-fired steam generating units (“long-term coal units”).⁵³ Medium-term coal “units are units that have demonstrated that they plan to permanently cease operations after December 31, 2031, but before January 1, 2039.”⁵⁴ Long-term coal units plan to operate on or after January 1, 2039.

28. The Rule includes “an applicability exemption for coal-fired steam generating units that demonstrate they plan to permanently cease

⁵¹ New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule, 89 Fed. Reg. 39,798 (May 9, 2024) (to be codified at 40 C.F.R. Part 60).

⁵² *Id.*

⁵³ *Id.* at 39, 841.

⁵⁴ *Id.*

operation before January 1, 2032.”⁵⁵ This means that coal-fired steam generating units that commit to cease operation by January 1, 2032, are not subject to the Rule.

b. Emission Guidelines for Existing Natural Gas-Fired Steam Generating Units

29. Existing natural gas fired steam generating units are divided into three subcategories. The degree of emission limitation for all three subcategories is no increase in emission rate, with a compliance date of January 1, 2030.⁵⁶ The best system of emissions reduction (“BSER”) for base and intermediate load units is routine methods of operation and maintenance with the associated degree of emission limitations.⁵⁷

c. Standards of Performance for New and Reconstructed Fossil Fuel-Fired Stationary Combustion Turbines

30. New and reconstructed stationary combustion turbines under this Rule are sources that commence construction or reconstruction after May 23, 2023.⁵⁸ The Rule divides new gas-fired turbines into three subcategories. All three subcategories are required to comply with a

⁵⁵ *Id.*

⁵⁶ *Id.* at 39,841-842.

⁵⁷ *Id.*

⁵⁸ *Id.* at 39,902.

BSER of highly efficient design.⁵⁹ However, base load units, which are units that operate at a capacity factor greater than 40%, also need to implement a second phase based on carbon capture and sequestration by January 1, 2032.⁶⁰

Impact of the Rule in Colorado: Existing Coal-Fired Generating Units

31. As noted above, the Rule requires States with coal-fired generating units that meet certain criteria to establish performance standards that limit carbon dioxide emissions from those units. Based on approved utility ERPs, the Energy Office anticipates that all of the remaining coal generating units in the State will fall outside of the Rule’s purview by retiring prior to 2032. These retirements were planned through Colorado’s existing resource and clean energy planning processes reflecting resource costs and State policies, not in response to the upcoming publication of the Rule.

Table 1: Closure Dates of Existing Coal-Fired Power Plants in Colorado

Plant	Owner	Closure Date	Capacity
Pawnee Station	Public Service (converting to natural gas plant)	2025 (approved)	505 MW

⁵⁹ *Id.* at 39,917.

⁶⁰ *Id.*

Craig Unit 1	Operated by Tri-State but co-owned by PacifiCorp, Platte River Power Authority, Salt River Project, Tri-State and Public Service	12/31/25 (approved)	42 MW
Comanche 2	Public Service	12/31/25 (approved)	335 MW
Hayden Unit 2	Co-owned by Public Service, Salt River Electric Cooperative, and PacifiCorp	12/31/27 (approved)	135 MW
Hayden Unit 1	Co-owned by Public Service, Salt River Electric Cooperative, and PacifiCorp	12/31/28 (approved)	98 MW
Craig Unit 2	Co-owned by PacifiCorp, Platte River Power Authority, Salt River Project, Tri-State and Public Service	9/30/28 (approved)	410 MW
Craig Unit 3	Tri-State	12/31/29 (approved)	448 MW
Ray Nixon	Colorado Springs	12/31/29 (approved)	207 MW
Rawhide	Platte River Power Authority	12/31/29 (approved)	293 MW
Comanche 3	Public Service	1/1/31 (approved)	750 MW

32. As shown in the above table, all coal-fired power plants currently operating in Colorado are projected to close by January 1, 2031, pursuant to ERPs or CEPs approved by or in the process of being approved by the PUC or validated by the Division. Comanche Unit 3 will be the last operational plant in the State and is approved as part of Public

Service’s CEP to retire no later than January 1, 2031, which means that all of the plants in operation will be closed by the Rule’s operative date of January 1, 2032.⁶¹ Since none of these units plan to be operating as of January 1, 2032, none of Colorado’s coal-fired units will be subject to the Rule’s standards.

Impact of the Rule in Colorado: Existing Natural Gas-Fired Steam Generating Units

33. Colorado currently only has one natural gas-fired steam generating unit that is currently operating. However, it is planned to shut down before 2030 and will therefore be in compliance with the Rule by retiring before the compliance date.

34. However, Colorado has a coal-fired steam generating unit that is approved to convert to a natural gas-fired steam generating unit and will continue to operate after January 1, 2031. The Pawnee Station is currently a coal-fired steam generating unit, but the Colorado PUC approved its transition to a natural gas-fired steam combustion unit in 2025. Based on the information we have now, I understand that this unit will continue to be categorized as an existing steam generating unit

⁶¹ Colo. Public Utilities Commission Decision No. C22-0459, issued on August 3, 2022, in Proceeding No. 21A-0141E, ¶¶ 68, 75-76 (approving January 1, 2031, closure date of Comanche Unit 3).

under the Clean Air Act and this Rule. Colorado currently expects that this unit will be initially categorized as a base load unit, and it will be able to meet the presumptively approvable standard of performance for load units of 1,400 pounds of carbon dioxide per megawatt hour (“lb CO₂/MWh-gross”).

35. The Energy Office does not believe that Colorado currently has any other gas-fired steam generating units operating.

Impact of the Rule in Colorado: New Natural Gas-Fired Combustion Turbines

36. As discussed above, the Rule also establishes performance standards for new, modified, and reconstructed natural gas-fired stationary combustion turbines based on generating capacity.⁶²

37. Colorado anticipates the construction of new gas-fired generation as well as the potential reconstruction of gas units that would make them subject to this Rule. Several Colorado utilities have proposed new gas-fired combustion units as part of their ERPs or CEPs. These proposed gas units would be built after May 2023, and therefore the Rule’s performance standards would apply to those units. For example,

⁶² 89 Fed. Reg. at 39,978.

in Public Service's recent ERP/CEP,⁶³ the PUC approved the construction of a new 219 MW gas-fired unit. While that bid did not come to fruition, Public Service continues to seek Commission approval for a similarly sized gas-fired unit. In its recently filed ERP, which is currently before the Colorado PUC, Tri-State is seeking approval for a 290 MW natural gas combined cycle resource to be brought online in 2028.

38. While the Energy Office does not know whether future plants such as the ones above will be operated as intermediate or base load plants for the purposes of assessing which standard they will be subject to, the Energy Office believes that the plants could meet either standard. Even if they are classified as base load plants, which have the strictest standards, new gas-fired combustion turbines being built today can readily meet the phase one and phase two performance standard in the Rule due to the various legislation supporting clean energy that Colorado already has in place. For example, the Energy Office is already statutorily instructed to promote CCS and other forms of carbon management,⁶⁴ and Tri-State's plan for the 290 MW natural gas

⁶³ See generally Colo. Public Utilities Commission Decision No. C24-0161, issued on March 13, 2024, in Proceeding No. 21A-0141E.

⁶⁴ Colo. Rev. Stat § 24-38.5-102(1)(a)(XIII).

combined cycle resource calls for adding CCS to the combined cycle resource in 2031.

39. However, it should be noted that as discussed throughout this Declaration, the Energy Office's modeling indicates that by the mid-2030s, Colorado's gas plants will operate at an average capacity factor of 2%,⁶⁵ which would place all of the plants into the low load category, and only require them to meet the low emitting fuel standard.

Grid Reliability Under the Rule

40. The final Rule responded to the input and feedback on the need to accommodate grid reliability needs from balancing authorities, independent system operators and regional transmission organizations, State regulators, power companies, and other stakeholders by finalizing several programmatic mechanisms specifically designed to address reliability concerns.⁶⁶ The EPA developed a four-point plan to address reliability throughout the implementation period and incorporated that plan into the Rule. First, two additional years were added to the compliance timeframe for coal-fired units. This provides more time to

⁶⁵ [Pathways to Deep Decarbonization in Colorado's Electric Sector by 2040: An Analysis of Colorado's Energy System in Meeting the State's Clean Energy Goals , Rev. 1](#), at 19.

⁶⁶ *Id.* at 39,803.

install carbon capture and sequestration (“CCS”) for long-term coal units.⁶⁷ Second, the Rule describes how states can use the Remaining Useful Life and Other Factors (“RULOF”) provisions to ensure reliability if circumstances of individual units change.⁶⁸ Third, the Rule contains several compliance flexibilities. A flexible annual average compliance period, emissions trading and averaging, and mass-based compliance equivalency are all permitted in certain circumstances.⁶⁹ Further, a one-year compliance extension is available for both new and existing units if the owner or operator demonstrates that implementation delays were outside of their control.⁷⁰ Fourth, the Rule contains two optional reliability-related instruments. One is a short-term mechanism available to both new and existing units that provides flexibility for units responding to grid emergencies that threaten reliability.⁷¹ The other is a reliability assurance mechanism that allows existing units to

⁶⁷ *Id.*

⁶⁸ *Id.* at 39,836.

⁶⁹ *Id.* at 39,978.

⁷⁰ *Id.* at 40,012.

⁷¹ *Id.*

temporarily remain online after their intended cease-operating data to support reliability.⁷²

41. As demonstrated in the Rule's final technical support document, *Resource Adequacy Analysis*, modeled scenarios that comply with the Rule are able to meet resource adequacy needs and respect NERC reliability constraints.⁷³ The EPA evaluated an emission limit based on CCS with 90% capture and determined it would not reasonably impact the reliability of electricity, and that the compliance deadline provides sufficient time for adequate resource planning.⁷⁴

42. Third-party entities such as the Analysis Group and Energy Innovations have also confirmed that compliance with the Rule should not result in reliability issues.⁷⁵ And, as outlined in the Comments of the Attorneys General of several states and cities filed in response to the Proposed Rule on August 8, 2023, it is the experience of many states that compliance with federal air pollution requirements does not cause

⁷² *Id.*

⁷³ *Id.* at 40,025.

⁷⁴ *Id.* at 39,886.

⁷⁵ Analysis Group, [Electric System Reliability and EPA Regulation of GHG Emissions from Power Plants](#) (Nov. 7, 2023) ("Analysis Group Report") at 4, 15-22; Energy Innovation, [Maintaining a Reliable Grid Under EPA's Proposed 111 Rules Restricting Power Plant Emissions](#) (Nov. 2023), at 10.

problems with grid reliability.⁷⁶ States work with the federal government to ensure that sufficient generation resources are available, and that if unforeseen circumstances result in reliability concerns, exceptions are applied.⁷⁷

Grid Reliability in Colorado

43. Colorado’s “renewable electricity net generation has more than quadrupled [since 2010,] and accounted for 37% of the [S]tate’s total electricity generation in 2022.”⁷⁸ This trend began with the State’s adoption of a Renewable Portfolio Standard in 2004, which required that the state’s investor owned utilities achieve 10% renewable generation by 2020, but accelerated as utilities increasingly realized that lower cost renewables could replace higher cost legacy coal generation without decreasing reliability. This trend will continue as the Energy Office’s 2040 modeling indicates that the decreasing cost of wind and solar will

⁷⁶ *Comments of the Attorneys General of New York, Arizona, California, Connecticut, Hawaii, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Mexico, North Carolina, Oregon, Pennsylvania, Rhode Island, Vermont, Washington, Wisconsin, and the District of Columbia and the Chief Legal Officers of the City and County of Denver, and the Cities of Boulder (CO) Chicago, Los Angeles, New York, and Philadelphia on the U.S. Environmental Protection Agency’s Proposed New Source Performance Standards for Greenhouse Gas Emissions for New Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Generating Units; and Repeal of the Affordable Clean Energy Rule, 88 Fed. Reg. 33,240 (May 23, 2023) EPA-HQ-OAR-2023-0072* (August 8, 2023), at 52.

⁷⁷ *Id.* at 52.

⁷⁸ U.S. Energy Information Administration, *Colorado State Energy Profile* (May 18, 2023).

make them the most cost-effective energy options for meeting growing load.⁷⁹ Ensuring that reliability is maintained as Colorado's resource mix changes is an ongoing priority for Colorado as it pursues decarbonization.

44. Colorado is working to build out interregional transmission to both minimize costs to electricity consumers and increase the reliability and resilience of the grid. In addition to working on interregional transmission, Colorado is actively working to increase in-state transmission to reduce the time it takes to interconnect new clean energy resources and to align with the growth in wind and solar needed to achieve deep decarbonization of the State's electrical grid by 2040. Public Service, Colorado's largest utility, has received PUC approval to build a new transmission network, known as the Power Pathway Project, that will connect several of the best wind and solar resources in the State to the load centers along the Front Range, including Denver and Colorado Springs.⁸⁰ The project received approval in June 2022, and is scheduled to come into service in 2027.⁸¹ The Power Pathway will carry a projected

⁷⁹ [*Pathways to Deep Decarbonization in Colorado's Electric Sector by 2040: An Analysis of Colorado's Energy System in Meeting the State's Clean Energy Goals, Rev. 1*](#), at 30.

⁸⁰ Xcel Energy, [*Project Description*](#) (2024).

⁸¹ *Id.*

5,500 megawatts of new wind, solar, and other resources that Public Service plans to add through 2030.⁸² Further, the Colorado Electric Transmission Authority (“CETA”) is currently undertaking a transmission capacity expansion study that will take a long-run, holistic approach to identifying the need for additional transmission in Colorado, including through new transmission line construction, improvements to existing transmission lines, and connections to organized wholesale electricity markets.⁸³ The study is considering the use of advanced transmission technologies, grid enhancing technologies, and electricity storage as well as options for limiting land impacts, such as using existing rights-of-way, reconductoring existing transmission lines, and establishing new transmission corridors.⁸⁴

45. The Energy Office has also submitted an application to the U.S. Department of Energy for almost \$800,000,000 in funding to support the 3 Corners Connector (“3CC”), which is a 300-mile high voltage direct current, 525 kilovolt (“kV”) interregional transmission line planned from Pueblo, Colorado to Guymon, Oklahoma that will be able to carry 1,500

⁸² *Id.*

⁸³ Colorado Electric Transmission Authority, [Transmission Study](#) (2023).

⁸⁴ *Id.*

MW megawatts (“MW”).⁸⁵ 3CC is expandable to 3,000 MW and forms a connection between the Eastern Interconnection and Western Interconnection, fulfilling a critical need highlighted in the Department of Energy’s 2023 National Transmission Needs Study.⁸⁶

46. Colorado also uses its ERP and CEP framework discussed above to protect reliability while Colorado pursues decarbonization. Under State law, the PUC “shall not approve any [CEP] that does not protect system reliability.”⁸⁷ Further, a CEP may be changed if necessary to ensure the reliability of the system.⁸⁸ These plans also allow utilities to plan several years ahead for the retirement of their coal-fired units so that retirements will not adversely impact system reliability.⁸⁹

47. The Energy Office’s 2040 Study on deep decarbonization in the electric sector evaluated all of its scenarios against a reliability requirement of a loss of load probability of one day in ten years.⁹⁰ The “Economic Deployment” scenario, which selects resources based on

⁸⁵ Three Concerns Connection, [Building America's Next Generation Energy Infrastructure](#) (2024).

⁸⁶ U.S. Department of Energy, [National Transmission Needs Study](#) (Oct. 2023).

⁸⁷ Colo. Rev. Stat. § 40-2-125.5(4)(d)(II).

⁸⁸ Colo. Rev. Stat. § 40-2-125.5(5)(e).

⁸⁹ Colo. Rev. Stat. § 40-2-125.5(4)(a)(VII).

⁹⁰ [Pathways to Deep Decarbonization in Colorado's Electric Sector by 2040: An Analysis of Colorado's Energy System in Meeting the State's Clean Energy Goals](#), Rev. 1, at 10.

optimizing cost while still maintaining reliability, was not required to meet a 2030 carbon emission reduction target and is essentially a business-as-usual projection.⁹¹ The Study demonstrates that in the Economic Deployment scenario, gas generation was needed on the system through 2050, largely for capacity and reliability after 2030.⁹² By the mid-2030s, the gas units on the system were modeled to operate at an average of a 2% capacity factor.⁹³ The Report indicates that even in the Economic Deployment scenario, where some gas remains on the system for reliability, Colorado achieves in-state carbon emissions reductions of 97.7%.⁹⁴

48. While resources such as coal and gas have traditionally provided attributes such as dispatchability, capacity and energy during peak demand, ramping, operating reserves, frequency regulation, voltage control, system inertia for stability, resilience against disruptions, and buffering against variable energy source in one package, many utilities and grid operators, including Colorado's, are finding that other resources

⁹¹ *Id.* at 30.

⁹² *Id.* at 31.

⁹³ *Id.* at 10.

⁹⁴ *Id.* at 32.

are able to provide these attributes as well. For example, battery storage systems can provide these services and often at shorter timescales and with faster response than coal. At longer timescales, geothermal resources can provide many of the long-duration, ramping, and inertial attributes that shorter-duration resources may not be able to provide as cost-effectively.

49. Colorado does not believe that this Rule would have a negative impact on electricity reliability in Colorado. The Rule does not impact any of Colorado's existing coal units, and the Rule should have a minimal impact on any new gas combustion units due to the anticipated capacity factors of all gas-fired units in Colorado. The Clean by 2040 Report, as described above, projects that all natural gas units in Colorado will be operating at an average capacity factor of 2% by 2040.⁹⁵ The Report's modeling shows a significant reduction in the capacity factor of new and existing gas-fired power plants by 2040 because of the increased use of renewable energy and battery storage. The small amount of gas generation that will be required to maintain reliability will be able to comply with the Rule, particularly because the gas units are anticipated

⁹⁵ *Id.*

to be operating at a very low capacity factor. Therefore, Colorado's own modeling demonstrates that the Rule should have no impact on Colorado's reliability.

50. Further, Colorado's experience with retiring and planning for the retirement of its coal units demonstrates that other states can pursue retirement of their coal units without risking reliability. The first step is to have utilities plan retirement dates for their coal units and plan for the resources that will replace the generation from coal units so that utilities are able to plan and manage the transition. As part of this planning, utilities should model both natural load growth and load growth from state and federal policies. Utilities should also model the system under extreme weather conditions to ensure that reliability can be maintained in all circumstances. Finally, utilities should use competitive bidding as part of the planning process. This allows the cost of new generation to be controlled. Every state should be able to carry out these steps to help them comply with this Rule without risking reliability.

The Court Should Deny the Request to Stay the Rule

51. As noted above, this Rule will not impact reliability in Colorado. The Rule will not apply to Colorado's coal generating units

because they are all approved to retire prior to January 1, 2032, and the majority of Colorado's existing gas-fired units are not covered by the Rule. Colorado law discussed in this Declaration already prepares new or reconstructed gas plants to comply with the Rule. Therefore, a stay of this Rule is not necessary to maintain reliability in Colorado.

52. Further, delaying this Rule will only cause a delay in vital nationwide efforts to reduce the GHG emissions that are currently contributing to the extreme weather events that are causing billions of dollars in damages and increased power outages in Colorado.

53. Finally, delaying the Rule may create confusion and uncertainty for State and utility planning efforts. The states have been aware of this Rule for over a year. Many states, including Colorado, have begun preparation to comply with these new emissions standards. A stay of the Rule would only leave these states confused and unsure how to proceed as litigation over the Rule goes on for an unspecified amount of time.

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

Executed in Denver, Colorado on June 10, 2024.

A handwritten signature in black ink that reads "Will Toor". The signature is written in a cursive style with a large initial "W" and "T".

Will Toor

Executive Director

Colorado Energy Office

Exhibit N

Declaration of Sean Wenrich Environmental Engineer Manager, Pennsylvania Department of Environmental Protection

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

State of West Virginia, et al.,

Petitioners,

v.

**United States Environmental
Protection Agency, et al.,**

Respondents.

Case No. 24-1020 (and
consolidated cases)

DECLARATION OF SEAN WENRICH, P.E.

I, Sean Wenrich, P.E., pursuant to 28 U.S.C § 1746, state and declare as follows:

1. I am an Environmental Engineer Manager for the Division of Permits in the Bureau of Air Quality (“BAQ”), Commonwealth of Pennsylvania, Department of Environmental Protection’s (“PADEP”), Central Office, Rachel Carson State Office Building, 400 Market Street, Harrisburg, Pennsylvania 17101. PADEP is the Commonwealth executive branch agency responsible for regulating air pollution in Pennsylvania under the Air Pollution Control Act (“APCA”) (35 P.S. §§ 4001-4015) and implementing the provisions of the federal Clean Air Act (“CAA”), 42 U.S.C. §§ 7401- 7671q.

2. I submit this declaration on behalf of the Commonwealth of Pennsylvania (“Commonwealth”) as a state intervenor in opposition to Petitioners’ motions to stay the U.S. Environmental Protection Agency’s (“EPA”) final rulemaking action entitled “New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule,” 89 Fed. Reg. 39,798 (May 9, 2024) (“GHG EGU Rule”).

3. Unless otherwise noted, the statements made in this declaration are based on my review of various publicly available records, reports, statements, and data compilations prepared by public agencies of the federal government and/or the Commonwealth.

PERSONAL BACKGROUND AND QUALIFICATIONS

4. I received a Bachelor of Science in Chemical Engineering from Widener University in Chester, Pennsylvania in December 2001. I am a licensed professional engineer in Pennsylvania.

5. I have served as an Environmental Engineer Manager for PADEP since September 2016. I have been employed by PADEP in the Air Quality Program in both the Northcentral Regional Office in Williamsport, Pennsylvania and the Central Office in Harrisburg, Pennsylvania for a total of over 21 years.

6. I previously served at PADEP as an Air Quality Engineering Specialist

from 2004 to 2012 and as an Air Quality Engineer from 2012 to 2016. These roles involved implementation of permitting program requirements under the APCA, the CAA and implementing state and federal regulations. These responsibilities involved the review of air quality permit applications and determinations of pollution control technologies for sources and facilities in Pennsylvania, including coal-fired electric generating units (“EGU”).

7. In my current role as an Environmental Engineer Manager with PADEP, I supervise employees in the Bureau of Air Quality, Division of Permits, New Source Review Section located in PADEP’s Central Office.

8. My current duties at PADEP involve administration of the APCA and implementing Title 25, Part I, Article III regulations (relating to air resources) and the federal CAA and implementing EPA regulations.

9. As an Environmental Engineer Manager, I am responsible for assisting in the management of the daily administration and implementation of PADEP’s plan approval and operating permit programs under 25 Pa. Code Chapter 127, which includes implementation of the Title V permitting program applicable to EGUs.

10. My duties further entail administration and implementation of EPA’s Standards of Performance for New Stationary Sources (“NSPS”) and Emission Guidelines for Existing Sources (“EG”) promulgated in 40 CFR part 60, as incorporated by reference in 25 Pa. Code § 122.3 (relating to adoption of standards).

CLIMATE HARMS AND PENNSYLVANIA'S PRIORITY CLIMATE ACTION PLAN

11. Pennsylvania is facing numerous harms related to climate change, as detailed in the 2021 report entitled “Pennsylvania Climate Impacts Assessment 2021.”¹ Some of the adverse impacts highlighted in the 2021 report included: more frequent and intense extreme heat events, more frequent extreme rainfall events, and more coastal flooding. These impacts, among others, are expected to harm the Commonwealth’s natural resources and infrastructure, as well as the health of its residents.

12. Regarding infrastructure impacts, the 2021 report noted that the Commonwealth is facing potential catastrophic impacts from landslides due to greater frequency and intensity of heavy precipitation events, and that energy and transportation systems infrastructure, especially in Southwestern Pennsylvania, “may be particularly vulnerable.”² Specifically, nearly 50% of miles of electric transmission lines and natural gas pipelines and 41% of electric substations are located in landslide hazard zones.³

13. In response to the growing threats from climate change, in 2019

¹ Pennsylvania Department of Environmental Protection, et al., *Pennsylvania Climate Impacts Assessment 2021* (May 2021), <https://greenport.pa.gov/elibrary//GetDocument?docId=3667348&DocName=PENNSYLVANIA%20CLIMATE%20IMPACTS%20ASSESSMENT%202021.PDF%20%20%3cspan%20style%3D%22color:green%3b%22%3e%3c/span%3e%20%3cspan%20style%3D%22color:blue%3b%22%3e%28NEW%29%3c/span%3e%204/30/2023>.

² *Id.* at 85.

³ *Id.* at 86.

Pennsylvania established a goal of reducing greenhouse gas emissions by 26 percent by 2025 compared to 2005 levels, and by 80 percent by 2050, compared to 2005.⁴ Relevant to the GHG EGU Rule, the Pennsylvania 2024 Priority Action Climate Plan (“PACP”) identifies approaches the Commonwealth is considering, including Priority GHG Reduction Measures for the industrial and power sectors. These include Carbon Capture, Use and Storage (“CCUS”) and Net-Zero Electricity Grid measures.⁵

14. The CCUS measure aims to reduce GHG emissions through point source CCUS and natural land-based storage and sequestration efforts. Section 4.5.4 of the PACP provides that in the power sector, CCUS can provide a means for fossil-fueled plants to continue operating while substantially lowering their greenhouse gas emissions.⁶

15. Section 4.5.6 of the PACP describes another strategy Pennsylvania is pursuing, its Net-Zero Electricity Grid measure, which “aims to transition to a clean energy grid while ensuring grid reliability and resilience.”⁷ This measure could be met through a combination of resources including nuclear, solar, wind, hydroelectric, biomass, coal or gas-fired power plants equipped with CCUS, or gas-fired power plants

⁴⁴ Pennsylvania Department of Environmental Protection, *Pennsylvania’s Priority Climate Action Plan* (March 1, 2024) at 12, [greenport.pa.gov/elibrary/GetDocument?docId=8188822&DocName=PA PRIORITY CLIMATE ACTION PLAN.PDF](https://greenport.pa.gov/elibrary/GetDocument?docId=8188822&DocName=PA%20PRIORITY%20CLIMATE%20ACTION%20PLAN.PDF) %28NEW%29

⁵ *Id.* at 27.

⁶ *Id.*

⁷ *Id.* at 48.

utilizing low carbon fuels such as biomethane or hydrogen.⁸

THE GHG EGU RULE WILL ACHIEVE FURTHER REDUCTIONS OF GHG EMISSIONS IN PENNSYLVANIA

16. I am personally familiar with and have reviewed the EPA’s GHG EGU Rule.

17. Under the GHG EGU Rule’s requirements at 40 CFR part 60, subpt. UUUUb (Emission Guidelines for Greenhouse Gas Emissions for Electric Utility Generating Units) (“UUUUb EG”), Pennsylvania must develop a state plan to limit carbon dioxide (“CO₂”) pollution from designated steam generating units; including any affected EGU that commenced construction on or before January 8, 2014 and any affected coal-fired steam generating units that commenced a modification on or before May 23, 2023. 89 Fed. Reg. at 40,057. The UUUUb EG provides presumptive standards to limit emissions of CO₂ from EGUs as well as requirements for states to follow under CAA section 111(d) (42 U.S.C. § 7411(d)) in developing, submitting and implementing state plans. 89 Fed. Reg. at 39,798.

18. Under the UUUUb EG, Pennsylvania has until May 11, 2026 to develop and submit a state plan to EPA for their final approval, which at minimum, adopts the UUUUb EG presumptive standards. 89 Fed. Reg. at 40,056. If PADEP does not submit a state plan to EPA by May 11, 2026, EPA will develop a federal plan to cover the affected EGUs in Pennsylvania. 89 Fed. Reg. at 40,048.

⁸ *Id.* at 39, 48.

19. Based on currently available information, PADEP anticipates that there will be coal-fired steam generating units within Pennsylvania that will be subject to a state plan or federal plan developed under the UUUUb EG. As of May 16, 2024, PADEP anticipates that these will include the following waste coal EGUs below in Table 1.

Table 1: Waste Coal EGUs in Pennsylvania			
Plant	County	Source Name	Nameplate Capacity (MW)
Ebensburg Power	Cambria	Fluidized Bed Boiler	57.6
Foster Wheeler Mt Carmel Cogen	Northumberland	CFB Boiler (Cogen)	47.3
Gilberton John B Rich	Schuylkill	Pyropower CFB Boiler	44.2
Gilberton John B Rich	Schuylkill	Pyropower CFB Boiler	44.2
Inter-Power Ahlcon Colver	Cambria	Circulating Fluidized Bed Boiler	118.0
Northampton Generating	Northampton	CFB Boiler	134.1
Panther Creek	Carbon	Pyropower Unit 1	47.0
Panther Creek	Carbon	Pyropower Unit 2	47.0
Scrubgrass Kennerdell	Venango	#1 CFB Boiler	47.4
Scrubgrass Kennerdell	Venango	#2 CFB Boiler	47.4
Seward	Indiana	CFB Boiler 1	292.5
Seward	Indiana	CFB Boiler 2	292.5
St Nicholas Cogen	Schuylkill	CFB Boiler	99.2
Westwood Generation	Schuylkill	Fluidized Bed Boiler	36.0

20. Based on existing Title V operating permit conditions, PADEP also anticipates that there will be affected EGUs that do not retain the capability to fire coal after December 31, 2029. To the extent these existing EGUs continue to operate, they may be subject to UUUUb EG standard as established in a state or federal plan. As of May 16, 2024, PADEP anticipates that the EGUs listed in Table 2 below will not fire coal after December 31, 2029.

Table 2: Anticipated EGUs Not Firing Coal After December 31, 2029

Plant	County	Source Name	Nameplate Capacity (MW)
Brunner Island	York	Unit 1	363.3
Brunner Island	York	Unit 2	405.0
Brunner Island	York	Unit 3	847.8
Conemaugh	Indiana	Main Boiler 1	936.0
Conemaugh	Indiana	Main Boiler 2	936.0
Keystone	Armstrong	Boiler 1 with Low NOx Burner	936.0
Keystone	Armstrong	Boiler 2 with Low NOx Burner	936.0
Montour	Montour	CE Boiler - Unit 1	864.9
Montour	Montour	CE Boiler - Unit 2	893.0
New Castle	Lawrence	Babcock & Wilcox - Boiler 3	98.0
New Castle	Lawrence	Babcock & Wilcox - Boiler 4	114.0
New Castle	Lawrence	Babcock & Wilcox - Boiler 5	136.0
Shawville	Clearfield	Utility Boiler - Unit 1	125.0

Shawville	Clearfield	Utility Boiler - Unit 2	125.0
Shawville	Clearfield	Utility Boiler - Unit 3	188.0
Shawville	Clearfield	Utility Boiler - Unit 4	188.0

21. At present, PADEP is deciding whether to prepare a state plan to implement the Rule's requirements or to have EPA adopt a federal plan. If Pennsylvania decides to adopt a state plan by May 11, 2026, PADEP would develop a proposed state plan consistent with the UUUUb EG requirements and existing authority under the APCA and implementing state regulations. This process would entail engaging the owners and operators of affected EGUs to solicit input and providing the opportunity for public participation regarding the proposed state plan through notice in the *Pennsylvania Bulletin*. PADEP would then take the comments and recommendations received from stakeholders and the public into consideration in developing a final state plan. Notice of the final state plan would then be published in the *Pennsylvania Bulletin* and sent to EPA for approval. PADEP would then incorporate the final applicable state plan requirements would into each EGU's Title V operating permit.

22. If Pennsylvania opts for a federal plan, PADEP would incorporate the applicable federal plan requirements into each EGU's Title V operating permit once EPA has established them.

23. As a result of the GHG EGU Rule’s applicability to coal-fired EGUs in Pennsylvania, PADEP expects that there will be reductions in CO₂ emissions from implementation of the UUUUb EG presumptive standards whether through a state or federal plan. *See e.g.* 89 Fed. Reg. at 39,801, 39,841 and 39,842. A delay in emission reductions as a result of a stay of the Rule would be contrary to Pennsylvania’s interest in reducing greenhouse gas emissions from power plants to mitigate the impacts of climate change.⁹

I declare under penalty of perjury under the laws of the United States of America that I believe the foregoing to be true and correct to the best of my knowledge and belief.

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:


SEAN WENRICH

Sean Wenrich, P.E.
Environmental Engineer Manager Division of Permits
Bureau of Air Quality

Executed in Harrisburg, PA on June 7, 2024.

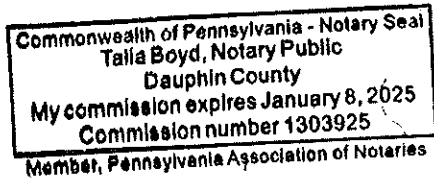
⁹ *Pennsylvania’s Priority Climate Action Plan* at 20

Commonwealth of Pennsylvania

County of Dauphin

Signed (or attested) before me on June 7, 2024 (date)

by Sean Wenrick (name(s) of individual(s)).



Talia Boyd
Notary Public

My commission expires: 1/8/25