

Nos. 15-1277 & 15-1284

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

IN RE: WEST VIRGINIA, et al.,

Petitioners.

IN RE: PEABODY ENERGY CORP.,

Petitioner.

On Petitions For Extraordinary Writ

UNOPPOSED MOTION OF NATURAL RESOURCES DEFENSE
COUNCIL, ENVIRONMENTAL DEFENSE FUND, SIERRA CLUB,
CENTER FOR BIOLOGICAL DIVERSITY, CLEAN AIR COUNCIL,
CLEAN WISCONSIN, AND CONSERVATION LAW FOUNDATION
FOR LEAVE TO INTERVENE IN SUPPORT OF RESPONDENT, AND
FOR LEAVE TO FILE AN OPPOSITION TO PETITIONS FOR
EXTRAORDINARY WRIT

Sean H. Donahue
Donahue & Goldberg, LLP
1130 Connecticut Avenue, N.W.,
Suite 950
Washington, D.C. 20036
(202) 277-7085
sean@donahuegoldberg.com
*Counsel for Environmental Defense
Fund*

David Doniger
Benjamin Longstreth
David R. Baake
Jared E. Knicley
Natural Resources Defense Council
1152 15th Street NW, Suite 300
Washington, DC 20005
(202) 513-6256
ddoninger@nrdc.org
blongstreth@nrdc.org
*Counsel for Natural Resources
Defense Council*

August 31, 2015

Additional Counsel Listed on
Following Page

Tomás Carbonell
Vickie Patton
Environmental Defense Fund
1875 Connecticut Ave. NW Suite 600
Washington, D.C. 20009
(202) 572-3610
tcarbonell@edf.org
vpatton@edf.org
Counsel for Environmental Defense Fund

Joanne Spalding
Andres Restrepo
Sierra Club
85 Second Street, Second Floor
San Francisco, CA 94105
(415) 977-5725
joanne.spalding@sierraclub.org
andres.restrepo@sierraclub.org
Counsel for Sierra Club

Ann Brewster Weeks
James P. Duffy
Clean Air Task Force
18 Tremont St., Suite 530
Boston, MA 02108
(617) 624-0234, ext. 156
aweeks@catf.us
jduffy@catf.us
*Counsel for Clean Air Council, Clean
Wisconsin, and Conservation Law
Foundation*

Vera P. Pardee
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612
(415) 632-5317
vpardee@biologicaldiversity.org
Counsel for Center for Biological Diversity

Natural Resources Defense Council, Environmental Defense Fund, Sierra Club, Center for Biological Diversity, Clean Air Council, Clean Wisconsin, and Conservation Law Foundation (“movants”) move under Fed. R. App. P. 15(d) to intervene in support of respondent Environmental Protection Agency (“EPA”) in the above-captioned cases, and for leave to file the accompanying opposition to the two Emergency Petitions submitted in this matter, which has been lodged as Exhibit 1 to this motion.

All parties (petitioners and EPA) have indicated they do not oppose this motion.

INTRODUCTION

Petitioners seek emergency writs under the All Writs Act, 28 U.S.C. § 1651 staying, pending judicial review, EPA’s final rule entitled “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units” (“Clean Power Plan”).¹ The Clean Power Plan establishes a framework for setting carbon dioxide (“CO₂”) emission standards for existing fossil fuel-fired power plants pursuant to Clean Air Act section 111(d), 42 U.S.C. § 7411(d). The Plan provides a schedule for states that so choose to submit implementation plans establishing CO₂ emission standards for existing

¹ EPA-HQ-OAR-2013-0602, *available at* <http://www2.epa.gov/sites/production/files/2015-08/documents/cpp-final-rule.pdf>.

fossil fuel-fired power plants. States opting to develop plans have until September 2018 to submit complete plans for EPA review and approval, after a very basic, nonbinding initial submittal in September 2016. Clean Power Plan at 37–39. If a state does not submit a timely plan, or submits one that EPA cannot approve, EPA must develop and directly administer a federal plan that establishes CO₂ emission standards for existing power plants in that state. 42 U.S.C. § 7411(d)(2)(A). Emission reduction standards for power plants will not take effect until 2022 under either a state- or EPA-implemented plan. Clean Power Plan at 418–20.

The Clean Air Act makes final EPA rules, including the Clean Power Plan, reviewable during a 60-day period beginning with publication in the *Federal Register*. 42 U.S.C. § 7607(b)(1); *see also Horsehead Res. Dev. Co. v. EPA*, 130 F.3d 1090, 1092–93 (D.C. Cir. 1997). Movants seek to intervene in order to argue that these petitions improperly circumvent Clean Air Act procedures for judicial review, and that petitioners have failed to show any emergency that would justify the extraordinary relief they demand. Movants' participation will not delay the proceedings or prejudice any party, and movants are prepared to submit any subsequent briefs the Court may require on such schedule as the Court sets.

STATEMENT OF INTERESTS AND GROUNDS FOR INTERVENTION

Federal Rule of Appellate Procedure 15(d) “requires the intervenor to file a [timely] motion setting forth its interest and the grounds on which intervention is sought.” *Synovus Fin. Corp. v. Bd. of Governors of Fed. Reserve Sys.*, 952 F.2d 426, 433 (D.C. Cir. 1991).

Movants are not-for-profit environmental organizations committed to protecting their members and others from the impacts of dangerous air pollution from existing power plants, including climate change and public health impacts.² This Court previously granted several of the movants leave to intervene in the premature challenges to the Clean Power Plan in *In re Murray Energy Corp.*, 788 F.3d 330 (D.C. Cir. 2015). Additionally, the Court has regularly allowed movants to intervene to defend EPA’s Clean Air Act regulations addressing greenhouse gas pollution and climate change.³ The

² See Ex. 2, Decl. of Douglas I. Foy ¶¶ 3–6 (Conservation Law Foundation); Ex. 3, Decl. of Mary Anne Hitt ¶¶ 3, 5–6, 9–12 (Sierra Club); Ex. 4, Decl. of Joseph Minott ¶ 5 (Clean Air Council); Ex. 5, Decl. of Sara Molyneaux ¶¶ 2–14 (Conservation Law Foundation); Ex. 6, Decl. of Keith A. Reopelle ¶¶ 3–6 (Clean Wisconsin); Ex. 7, Decl. of Kassia R. Siegel ¶¶ 2–9 (Center for Biological Diversity); Ex. 8, Decl. of John Stith ¶¶ 3–6 (Environmental Defense Fund); Ex. 9, Decl. of Gina Trujillo ¶¶ 6–7 (Natural Resources Defense Council).

³ See, e.g., *Util. Air Regulatory Grp. v. EPA*, No. 11-1438 (D.C. Cir. dismissed July 24, 2014) (Environmental Defense Fund, Natural Resources Defense Council, and Sierra Club intervened in support of EPA); *Plant Oil Powered Diesel Fuel Sys., Inc. v. EPA*, No. 12-1428 (D.C. Cir. dismissed Apr. 3, 2014)

Court's practice of granting intervention in cases like this one recognizes that movants have a right to defend government action that protects their concrete interests and offer a distinct perspective that assists the process of judicial review.

Movants have a significant interest in reducing CO₂ and other dangerous air pollution from power plants to protect the health, welfare, economic, and aesthetic interests of their members.⁴ EPA has determined that emissions of greenhouse gases such as CO₂ threaten public health and welfare. *See* Endangerment Finding, 74 Fed. Reg. 66,496 (Dec. 15, 2009); *see also Coal. for Responsible Regulation*, 684 F.3d at 121 (upholding Endangerment Finding). Power plants are responsible for approximately 40 percent of the nation's anthropogenic CO₂ emissions—more than any kind of other source.⁵

(same); *Las Brisas Energy Ctr., LLC v. EPA, et al.*, No. 12-1248 (D.C. Cir. dismissed Nov. 5, 2012) (Environmental Defense Fund, Natural Resources Defense Council, Sierra Club, Conservation Law Foundation, and others intervened in support of EPA); *Coal. for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102 (D.C. Cir. 2012), *aff'd in part, rev'd in part on other grounds*, 134 S. Ct. 2427 (2014) (same).

⁴ *See, e.g.*, Ex. 10, Decl. of Art Cooley ¶¶ 2–15; Ex. 11, Decl. of Elizabeth Coplon ¶¶ 4–5; Ex. 12, Decl. of Denise Fort ¶¶ 5, 10–13; Foy Decl. ¶¶ 3–18; Ex. 13, Decl. of Dolores V. Leonard, ¶¶ 3, 9–19; Minott Decl. ¶¶ 7, 16–22; Molyneaux Decl. ¶¶ 4–20; Ex. 14, Decl. of Joanne Pannone ¶¶ 10–20; Reopelle Decl. ¶¶ 4–19; Ex. 15, Decl. of Jenny E. Ross ¶¶ 31–35;.

⁵ *See* EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2012*, EPA 430-R-14-003, at 2-4 tbl. 2-1 (Apr. 2015), *available at*

Emissions of CO₂ from power plants contribute to climate change immediately and continue to do so for as long as they remain and accumulate in the atmosphere—up to several centuries after they are emitted. 74 Fed. Reg. at 66,518–19. The Clean Power Plan will help to reduce the growth of atmospheric CO₂ concentrations and thereby reduce the risks of climate change to the health, welfare, economic, and aesthetic interests of movants' members.⁶ Any delay in implementing the Clean Power Plan would harm movants' members by exacerbating the impacts of climate change.

The Clean Power Plan also will reduce existing power plants' emissions of smog- and soot-forming pollutants such as sulfur dioxide, nitrogen oxides, and fine particulate matter. *See* Clean Power Plan at 44–45, 95. These emissions reductions will lower the rates of asthma attacks, respiratory disease, heart attacks, and premature death that occur each year as a result of exposure

<http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2014-Main-Text.pdf>.

⁶ *See, e.g.*, Cooley Decl. ¶¶ 10–11, 13–14; Coplon Decl. ¶¶ 4–5; Leonard Decl. ¶¶ 9, 16–19; Minott Decl. ¶¶ 13–15, 23; Foy Decl. ¶¶ 15–18; Molyneaux Decl. ¶¶ 14–20; Reopelle Decl. ¶¶ 14–19; Pannone Decl. ¶¶ 12–16; Ross Decl. ¶¶ 31–35.

to atmospheric smog and soot,⁷ and reduce the risk of these serious illnesses to movants' members and their families.⁸

For years, movants have advocated for federal control of CO₂ pollution, and they participated extensively in the regulatory and legal proceedings leading up to EPA's issuance of the Clean Power Plan. For example, several of movants were petitioners in *Massachusetts v. EPA*, in which the Supreme Court held that greenhouse gases are air pollutants subject to control under the Clean Air Act. *See* 549 U.S. 497, 534 (2007). Several movants also challenged EPA's 2006 refusal to set CO₂ emission standards for power plants, which this Court remanded to EPA for action consistent with *Massachusetts*. *See New York v. EPA*, No. 06-1322, Order on Motion to Govern (D.C. Cir. Sept. 24, 2007). All movants also participated in the rulemaking process for the Clean Power Plan.⁹

⁷ In 2030, when the pollution reductions are fully in effect, the Clean Power Plan will result in avoiding up to 3,500 premature deaths, 90,000 asthma attacks in children, and 160,000 lost work days. *See* EPA, *Regulatory Impact Analysis for the Clean Power Plan Final Rule*, EPA-452/R-15-003, at 4-31 tbl. 4-24 (Aug. 2015), available at <http://www.epa.gov/airquality/cpp/cpp-final-rule-ria.pdf>. Monetized non-climate health benefits in 2030 will total between \$12 billion and \$34 billion. *See id.* 4-45, tbl. 4-31.

⁸ *See, e.g.*, Cooley Decl. ¶ 13; Fort Decl. ¶ 11; Leonard Decl. ¶¶ 10–17; Minott Decl. ¶ 11; Molyneaux Decl. ¶¶ 9–11, 17–18; Pannone Decl. ¶¶ 10–11; Reopelle Dec. ¶¶ 12.

⁹ *See* EPA Docket ID No. EPA-HQ-OAR-2013-0602-26818 (Natural Resources Defense Council); EPA Docket ID No. EPA-HQ-OAR-2013-0602-23140 (Environmental Defense Fund); EPA Docket ID No. EPA-HQ-OAR-

Movants' success in advocating for CO₂ emission standards for power plants underscores their interest in intervening to defend the Clean Power Plan. *Cf. Int'l Union v. Scofield*, 382 U.S. 205, 216 (1965).

Movants clearly have Article III standing. Petitioners are seeking an immediate stay of the Clean Power Plan, a suspension of the rule's deadlines for action pending judicial review, and ultimately invalidation of the Rule. Any of these outcomes would substantially injure movants and their members. Movants' members use, own, and enjoy property and natural resources that are harmed by or are at risk of harm from climate change.¹⁰ A delay in the rule's implementation would delay its climate protection benefits and thereby exacerbate the potential harm to movants' members' use and enjoyment of their property, the pursuit of their professions, and their interests in the use and enjoyment of natural resources. This fact alone is sufficient to establish injury. *See, e.g., Friends of the Earth, Inc. v. Laidlaw Env'tl. Servs. (TOC), Inc.*, 528 U.S.

2013-0602-24029 (Sierra Club); EPA Docket ID No. EPA-HQ-OAR-2013-0602-25292 (Center for Biological Diversity); EPA Docket ID No. EPA-HQ-OAR-2013-0602-23034 (Clean Air Council); EPA Docket ID Nos. EPA-HQ-OAR-2013-0602-23120 & -22711 (Clean Wisconsin and Clean Wisconsin as part of the Midwest Climate Collaborative); EPA Docket ID No. EPA-HQ-OAR-2013-0602-23369 (Conservation Law Foundation). Thousands of movants' members also submitted individual comments on these proposals.

¹⁰ *See* Cooley Decl. ¶¶ 12–13; Coplon Decl. ¶ 4; Fort Decl. ¶¶ 11–13; Minott Decl. ¶¶ 17–19; Foy Decl. ¶ 16; Molyneaux Decl. ¶ 16–18; Pannone Decl. ¶¶ 6-9, 14–16; Reopelle Decl. ¶¶ 15–18; Ross Decl. ¶¶ 31–35.

167, 181–85 (2000) (disrupted enjoyment of natural resources and decreased property values are injuries in fact); *Sierra Club v. EPA*, 129 F.3d 137, 138–39 (D.C. Cir. 1997) (organization has standing to challenge delay of pollution-control measures that would benefit its members).

Movants' members would also be harmed by delay in the emission reductions of smog- and soot-forming pollutants that will result from the Clean Power Plan's implementation. Movants' members suffer from, or have family members that suffer from, conditions such as asthma, chronic obstructive pulmonary disease, and other respiratory ailments, which are aggravated by these pollutants.¹¹ Movants also have members who are part of minority, low-income, and/or indigenous communities, which bear a disproportionate impact of environmental harms such as climate change and air quality degradation.¹² This Court has repeatedly held that environmental organizations have standing to sue to protect their members from pollution. *See, e.g., Natural Res. Def. Council v. EPA*, 755 F.3d 1010 (D.C. Cir. 2014); *Ass'n of Battery Recyclers, Inc. v. EPA*, 716 F.3d 667, 672–73 (D.C. Cir. 2013).

Because movants' "injur[ies] suffice[] for standing purposes," causation and redressability "rationally follow[]." *Crossroads Grassroots Policy Strategies v.*

¹¹ *See* Cooley Decl. ¶ 13; Fort Decl. ¶ 11; Leonard Decl. ¶¶ 11, 13–14; Minott Decl. ¶¶ 19–21; Pannone Decl. ¶ 6; Molyneaux Decl. ¶ 17–19.

¹² Leonard Decl. ¶¶ 2–4, 6–8, 18.

FEC, 788 F.3d 312, 316 (D.C. Cir. 2015). The potential injuries to movants' interests are "directly traceable" to the outcome of this proceeding and redressable by a decision of this Court denying the requested relief. *See id.*

CONCLUSION

For the reasons above, the Court should grant movants leave to intervene in support of EPA and leave to file the lodged response to the petitions in these cases.

Respectfully submitted,

/s/ Benjamin Longstreth

Sean H. Donahue
Donahue & Goldberg, LLP
1130 Connecticut Avenue, N.W.,
Suite 950
Washington, D.C. 20036
(202) 277-7085
sean@donahuegoldberg.com
*Counsel for Environmental Defense
Fund*

David Doniger
Benjamin Longstreth
David R. Baake
Jared E. Knicley
Natural Resources Defense
Council
1152 15th Street NW, Suite 300
Washington, DC 20005
(202) 513-6256
ddoninger@nrdc.org
blongstreth@nrdc.org
*Counsel for Natural Resources
Defense Council*

Tomás Carbonell
Vickie Patton
Environmental Defense Fund
1875 Connecticut Ave. NW,
Suite 600
Washington, D.C. 20009
(202) 572-3610

Joanne Spalding
Andres Restrepo
Sierra Club
85 Second Street, Second Floor
San Francisco, CA 94105
(415) 977-5725
joanne.spalding@sierraclub.org

tcarbonell@edf.org
vpatton@edf.org
*Counsel for Environmental Defense
Fund*

andres.restrepo@sierraclub.org
Counsel for Sierra Club

Ann Brewster Weeks
James P. Duffy
Clean Air Task Force
18 Tremont St., Suite 530
Boston, MA 02108
(617) 624-0234, ext. 156
aweeks@catf.us
jduffy@catf.us
*Counsel for Clean Air Council, Clean
Wisconsin, and Conservation Law
Foundation*

Vera P. Pardee
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612
(415) 632-5317
vpardee@biologicaldiversity.org
*Counsel for Center for Biological
Diversity*

Dated: August 31, 2015

CERTIFICATE OF SERVICE

I hereby certify that on August 31, 2015, the foregoing UNOPPOSED MOTION OF NATURAL RESOURCES DEFENSE COUNCIL, ENVIRONMENTAL DEFENSE FUND, SIERRA CLUB, CENTER FOR BIOLOGICAL DIVERSITY, CLEAN AIR COUNCIL, CLEAN WISCONSIN, AND CONSERVATION LAW FOUNDATION FOR LEAVE TO INTERVENE IN SUPPORT OF RESPONDENT, AND FOR LEAVE TO FILE AN OPPOSITION TO PETITIONS FOR EXTRAORDINARY WRIT, associated exhibits, and RULE 26.1 DISCLOSURE STATEMENT, were served upon all registered counsel via the Court's ECF system.

/s/ Benjamin Longstreth

Dated: August 31, 2015

Nos. 15-1277 & 15-1284

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On Petitions For Extraordinary Writ

RULE 26.1 DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure and D.C. Circuit Rule 26.1, movants Natural Resources Defense Council, Environmental Defense Fund, Sierra Club, Center for Biological Diversity, Clean Air Council, Clean Wisconsin, and Conservation Law Foundation state that their organizations are not-for-profit non-governmental organizations whose missions include protection of the environment and conservation of natural resources. None of the organizations have any outstanding shares or debt securities in the hands of the public nor any parent, subsidiary, or affiliates that have issued shares or debt securities to the public.

Respectfully submitted,

/s/ Benjamin Longstreth

Sean H. Donahue
Donahue & Goldberg, LLP
1130 Connecticut Avenue, N.W.,
Suite 950
Washington, D.C. 20036
(202) 277-7085
sean@donahuegoldberg.com
*Counsel for Environmental Defense
Fund*

David Doniger
Benjamin Longstreth
David R. Baake
Jared E. Knicley
Natural Resources Defense
Council
1152 15th Street NW, Suite 300
Washington, DC 20005
(202) 513-6256
ddoninger@nrdc.org
blongstreth@nrdc.org
*Counsel for Natural Resources
Defense Council*

Tomás Carbonell
Vickie Patton
Environmental Defense Fund
1875 Connecticut Ave. NW,
Suite 600
Washington, D.C. 20009
(202) 572-3610
tcarbonell@edf.org
vpatton@edf.org
*Counsel for Environmental Defense
Fund*

Joanne Spalding
Andres Restrepo
Sierra Club
85 Second Street, Second Floor
San Francisco, CA 94105
(415) 977-5725
joanne.spalding@sierraclub.org
andres.restrepo@sierraclub.org
Counsel for Sierra Club

Ann Brewster Weeks
James P. Duffy
Clean Air Task Force
18 Tremont St., Suite 530
Boston, MA 02108
(617) 624-0234, ext. 156
aweeks@catf.us
jduffy@catf.us
Counsel for Clean Air Council, Clean

Vera P. Pardee
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612
(415) 632-5317
vpardee@biologicaldiversity.org
*Counsel for Center for Biological
Diversity*

*Wisconsin, and Conservation Law
Foundation*

Dated: August 31, 2015

Exhibit 1

Opposition of Intervenor-Respondents Natural Resources Defense Council, Environmental Defense Fund, Sierra Club, Center for Biological Diversity, Clean Air Council, Clean Wisconsin, and Conservation Law Foundation to Petitions for Extraordinary Writ

Nos. 15-1277 & 15-1284

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On Petitions For Extraordinary Writ

OPPOSITION OF INTERVENOR-RESPONDENTS NATURAL
RESOURCES DEFENSE COUNCIL, ENVIRONMENTAL DEFENSE
FUND, SIERRA CLUB, CENTER FOR BIOLOGICAL DIVERSITY,
CLEAN AIR COUNCIL, CLEAN WISCONSIN, AND CONSERVATION
LAW FOUNDATION TO PETITIONS FOR EXTRAORDINARY WRIT

Sean H. Donahue
Donahue & Goldberg, LLP
1130 Connecticut Avenue, N.W.,
Suite 950
Washington, D.C. 20036
(202) 277-7085
sean@donahuegoldberg.com
*Counsel for Environmental Defense
Fund*

David Doniger
Benjamin Longstreth
David R. Baake
Jared E. Knicley
Natural Resources Defense Council
1152 15th Street NW, Suite 300
Washington, DC 20005
(202) 513-6256
ddoninger@nrdc.org
blongstreth@nrdc.org
*Counsel for Natural Resources
Defense Council*

August 31, 2015

Additional Counsel Listed on
Following Page

Tomás Carbonell
Vickie Patton
Environmental Defense Fund
1875 Connecticut Ave. NW Suite 600
Washington, D.C. 20009
(202) 572-3610
tcarbonell@edf.org
vpatton@edf.org
Counsel for Environmental Defense Fund

Joanne Spalding
Andres Restrepo
Sierra Club
85 Second Street, Second Floor
San Francisco, CA 94105
(415) 977-5725
joanne.spalding@sierraclub.org
andres.restrepo@sierraclub.org
Counsel for Sierra Club

Ann Brewster Weeks
James P. Duffy
Clean Air Task Force
18 Tremont St., Suite 530
Boston, MA 02108
(617) 624-0234, ext. 156
aweeks@catf.us
jduffy@catf.us
*Counsel for Clean Air Council, Clean
Wisconsin, and Conservation Law
Foundation*

Vera P. Pardee
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612
(415) 632-5317
vpardee@biologicaldiversity.org
Counsel for Center for Biological Diversity

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to D.C. Circuit Rule 28(a)(1), intervenor environmental organizations state as follows:

A. Parties and Amici

All parties and amici are listed in the respective petitions, except for Center for Biological Diversity, Clean Air Council, Clean Wisconsin, Conservation Law Foundation, Environmental Defense Fund, Natural Resources Defense Council, and Sierra Club.

B. Rulings Under Review

Petitioners seek review of “Carbon Pollution Emission Guidelines for Stationary Sources: Electric Utility Generating Units,” EPA-HQ-OAR-2013-0602, <http://www2.epa.gov/sites/production/files/2015-08/documents/cpp-final-rule.pdf>, a rule that was signed on August 3, 2015, but which has not yet been published in the Federal Register.

C. Related Cases

All of the Petitioners here except Florida and Michigan sought an injunction of the proposed version of this rule in *In Re: Murray Energy Corp.*, No. 14-1112, *West Virginia v. EPA*, No. 14-1146, or *Murray Energy Corp. v. EPA*, No. 14-1151. The Court ruled that it lacked authority over those petitions. *See In Re: Murray Energy Corp.*, 788 F.3d 330, 335 (D.C. Cir. 2015).

In *Oklahoma v. McCarthy*, Petitioner Oklahoma sought an injunction of the proposed version of this rule. The Northern District of Oklahoma dismissed the suit for lack of jurisdiction. No. 15-cv-0369, 2015 WL 4414384 (N.D. Okla. July 17, 2015). Oklahoma appealed to the Tenth Circuit, and sought an injunction pending appeal. The Tenth Circuit denied Oklahoma's injunction motion on August 24, 2015. *See* Order Denying Injunction Pending Appeal, in No. 15-5066.

RULE 26.1 DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure and D.C. Circuit Rule 26.1, intervenors Center for Biological Diversity, Clean Air Council, Clean Wisconsin, Conservation Law Foundation, Environmental Defense Fund, Natural Resources Defense Council, and Sierra Club state that their organizations are not-for-profit non-governmental organizations whose missions include protection of the environment and conservation of natural resources. None of the organizations has any outstanding shares or debt securities in the hands of the public nor any parent, subsidiary, or affiliates that have issued shares or debt securities to the public.

/s/ Benjamin Longstreth

Dated: August 31, 2015

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* Authorities chiefly relied upon are marked with an asterisk.

INTRODUCTION

On August 3, 2015, EPA Administrator McCarthy signed the Clean Power Plan, “Carbon Pollution Emission Guidelines for Stationary Sources: Electric Utility Generating Units” (“Clean Power Plan” or “the Plan”),² a rule under section 111(d) of the Clean Air Act (42 U.S.C. § 7411(d)) that establishes a framework for controlling carbon dioxide pollution from fossil fuel-fired power plants, the largest domestic source of this climate-disrupting pollution. In filings styled “Emergency Petition[s] for Extraordinary Writ,” Petitioners seek review, and a stay, of this rule. These petitions should be dismissed or denied.

SUMMARY OF ARGUMENT

Earlier this year, in rejecting an effort by most of the current Petitioners³ to block the proposed version of the Clean Power Plan, this Court held that the All Writs Act (28 U.S.C. § 1651(a)) could not be used to circumvent the Clean Air Act’s judicial review regime. *In re: Murray Energy Corp.*, 788 F.3d 330, 335 (D.C. Cir. 2015). Undeterred, Petitioners once again invoke the All Writs Act, this time attempting to circumvent the Clean Air Act’s requirement that

² EPA-HQ-OAR-2013-0602, <http://www2.epa.gov/sites/production/files/2015-08/documents/cpp-final-rule.pdf>.

³ Of the parties petitioning in this case, all but Florida and Michigan were parties in *In re: Murray Energy Corp.*

judicial review await publication of EPA's final action in the Federal Register.

See 42 U.S.C. § 7607(b)(1).

Petitioners fail to identify any emergency that would justify bypassing the statutory procedure for obtaining judicial review. State Petitioners' objection that the Clean Power Plan's "extremely aggressive schedule" will require them to make "massive expenditures of time and resources" in the immediate future (WV. Pet. 7, 13) is simply not credible. *See* Tierney Decl. ¶ 11 (action required of states before September 6, 2016 is "minimal and uncomplicated"). The Plan establishes a three-year timeline for state planning and a seven-year timeline for power companies to prepare for compliance—timeframes that are consistent with, or more generous than, those Congress provided for states to implement other Clean Air Act regulations of comparable size and complexity. Moreover, states are free to opt out of the planning process entirely. In short, the Plan does not require State Petitioners to take any action during the ordinary period for review by this Court (let alone during the much shorter period before Federal Register publication) that would justify an award of extraordinary injunctive relief.

Peabody's allegations of harm are likewise not credible. Whatever economic losses Peabody is now experiencing are attributable to current

market and regulatory conditions, not to the prospect that power plants will be subject to carbon pollution standards in seven years' time.

ARGUMENT

A. The All Writs Act is Not a Means to Circumvent the Clean Air Act's Judicial Review Requirements.

Congress has the authority to “prescribe the procedures and conditions under which . . . judicial review of administrative orders may be had.” *City of Tacoma v. Taxpayers of Tacoma*, 357 U.S. 320, 336 (1958). The Clean Air Act establishes a detailed, comprehensive, and exclusive regime for judicial review of regulations promulgated under the Act. *See* 42 U.S.C. § 7607(b)(1), (d), (e). This regime specifically applies to the type of regulations at issue here (i.e., rules promulgated under 42 U.S.C. § 7411), and requires petitioners to seek judicial review of such rules “within sixty days from the date notice of such promulgation, approval, or action appears in the Federal Register.” *Id.* § 7607(b)(1). Petitioners acknowledge that the Clean Power Plan is “not yet reviewable” under the Act because it has not yet been published in the Federal Register. *See* WV Pet. at 10. *See also* *Horsehead Res. Dev. Co. v. EPA*, 130 F.3d 1090, 1092–93 (D.C. Cir. 1997).

Petitioners invoke the All Writs Act in an attempt to bypass the Clean Air Act's procedure for obtaining judicial review. But this Court has already held that the All Writs Act cannot be used to “circumvent” the Clean Air Act's

judicial review requirements. *In re: Murray Energy Corp.*, 788 F.3d at 335 (All Writs Act does not authorize “ad hoc writs whenever compliance with statutory procedures appears inconvenient or less appropriate.”) (quoting *Penn. Bureau of Corr. v. U.S. Marshals Serv.*, 474 U.S. 34, 43 (1985)). Petitioners’ latest efforts at circumvention are equally groundless, and would, if accepted, upend the orderly process that Congress established, and that this Court has always followed, for judicial review of Clean Air Act regulations.

B. State Petitioners Have Not Identified Any Emergency That Would Justify a Departure From the Statutory Procedure For Judicial Review.

Section 111(d) of the Clean Air Act authorizes EPA “to regulate carbon-dioxide emissions from power plants.” *Am. Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527, 2538 (2011); *see id.* at 2537 (section 111(d) “‘speaks directly’ to emissions of carbon dioxide from [existing power] plants”). The statute contemplates that states will have the first opportunity to regulate these emissions, “in compliance with [federal] guidelines and subject to federal oversight.” *Id.* at 2537–38.

Consistent with this cooperative federalism framework, the Clean Power Plan invites states to cooperate with EPA to reduce carbon dioxide pollution from power plants, or not, as they wish. The Plan establishes carbon pollution limits for existing fossil fuel-fired power plants, gives states the opportunity to develop plans to apply the limits to those plants, and provides for direct federal

regulation of those sources if a state declines to submit an approvable plan. *See generally* Clean Power Plan at 9–11, 856–57. A state that chooses to submit an implementation plan has up to three years to do so, *id.* at 1475 (to be codified at 40 C.F.R. § 60.5760(b))—the same amount of time Congress provided for states to develop plans for controlling emissions of new “criteria” air pollutants from *all* sectors of the economy, and eighteen months *more* than Congress provided for states to prepare detailed “non-attainment” plans.⁴

State Petitioners focus on the only Plan deadline that occurs in the next year, namely the requirement that states prepare an “initial submittal” by September 6, 2016 if they intend to submit a final plan by September 6, 2018. State Petitioners’ claim that this requirement will cause them irreparable harm (WV Pet. 7) is utterly unconvincing. An initial submittal need include only three elements: (1) “[a]n identification of final plan approach or approaches under consideration, including a description of progress made”; (2) “[a]n appropriate explanation of why the State requires additional time to submit a final plan by September 6, 2018”; and (3) a “[d]emonstration or description of

⁴ *See* 42 U.S.C. § 7410(a)(1) (requiring states to adopt implementation plans for new criteria pollutants “within 3 years (or such shorter period as the Administrator may prescribe)”; *id.* § 7513a(a)(2)(B) (requiring states to submit non-attainment plans for particulate matter within 18 months); *id.* § 7514(a) (requiring states to submit non-attainment plans for sulfur oxides, nitrogen dioxide, and lead within 18 months).

opportunity for public comment on the initial submittal and meaningful engagement with stakeholders” Clean Power Plan at 1476 (to be codified at 40 C.F.R. § 60.5765(a)). An initial submittal does not bind the state to adopt any particular approach in its final plan, and need not contain any proposed regulations or legislation. *Id.* at 1010–11. A state’s initial submittal will be automatically approved, unless EPA notifies the state that it failed to include one of the required elements. *Id.* at 1022.

State Petitioners grossly overstate the cost and difficulty of complying with this requirement. Any state can prepare an adequate submittal within a matter of months—certainly by September of next year. *See* Tierney Decl. ¶ 11. If a state considers even this task too burdensome, it can forgo the initial submittal entirely without forfeiting the right to submit an approvable plan at a later date. *See* Clean Power Plan at 1451 (to be codified at 40 C.F.R. § 60.5720(b)) (“After a Federal plan has been implemented in your State, it will be withdrawn when your State submits, and the EPA approves, a final plan.”).

State Petitioners’ objection to these minimal planning requirements appears to rest on the premise that any version of cooperative federalism is inherently harmful to the states. *See* WV Pet. 12 (option to prepare an initial submittal threatens “permanent disruption to sovereign priorities”). But, as the Supreme Court observed in *American Electric Power*, section 111(d) reflects

Congress' determination that states should have the option to regulate pollution from existing industrial sources "in compliance with [federal] guidelines and subject to federal oversight." 131 S. Ct. at 2537–38. Regulating air pollution that affects the whole nation (and other countries) lies and that is emitted from large facilities affecting interstate electricity markets lies at the heart of Congress' regulatory powers, and cooperative federalism arrangements addressing such matters are familiar and constitutionally unproblematic. *See, e.g., Miss. Comm'n on Env'tl. Quality v. EPA*, 790 F.3d 138, 175 (D.C. Cir. 2015) (upholding provision of the Clean Air Act against Tenth Amendment challenge); *see also New York v. United States*, 505 U.S. 144, 167–68, 173–74 (1992) (affirming that cooperative federalism arrangements do not violate states' sovereign rights). If State Petitioners object to the Clean Power Plan, they can decline to participate and leave regulation of power plants' carbon pollution to EPA. But they cannot leverage their option to participate into a basis for thwarting Congress' command that EPA regulate dangerous emissions from power plants.

C. Peabody's Claims of Harm are Patently Inadequate.

Peabody fails to show that the Clean Power Plan is causing it *any* concrete harm, let alone the type of immediate, extraordinary, and grievous injury that would justify bypassing the statutory review process. Peabody offers

a hodge-podge of allegations that the current market and regulatory conditions affecting the coal industry are somehow attributable to regulatory requirements under the Clean Power Plan that do not take effect until 2022. Nothing Peabody puts forward remotely supports this thesis.⁵

There is no basis for Peabody's assertion (Pet. 24) that the Clean Power Plan will result in the 2016 closure of three units in Texas (the Big Brown plant and two units at the Monticello plant). Peabody's claim is based solely on out-of-date modeling of the *proposed* Clean Power Plan. *See* Tierney Decl. ¶ 24.

Peabody's assertion that the Clean Power Plan is responsible for the closure of Taconite Harbor Energy Center is similarly baseless. Minnesota Power announced its plan to close the Taconite plant before the Clean Power Plan was finalized, and publicly available documents filed with the Minnesota Public Utility Commission indicate that the company's decision was driven by a broad set of considerations. *See* Tierney Decl. ¶ 25. Moreover, the Taconite plant has been a candidate for retirement since well before the Clean Power Plan was proposed, with the company deciding to retire one unit at the plant in 2013 as part of a baseload diversification strategy. *See id.*

⁵ Because Peabody fails to identify any concrete, particularized injury that is fairly traceable to the Clean Power Plan, it lacks Article III standing. *See Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992).

Nor is there any basis for Peabody's assertion (Pet. 24) that the Plan "will force coal-fueled power plants to close (or lock in the closure process) before judicial review is complete." *See* Tierney Decl. ¶ 22 (explaining that "power plant owners need not make final commitments in 2015 and 2016 about how their individual power plants will comply with the Clean Power Plan in 2022").

Neither is there any basis for Peabody's claim (Galli Decl. ¶28) that EPA's unveiling of the Plan damaged the company by causing a \$90 million decline in Peabody's stock value on August 3, 2015. *See* Tierney Decl. ¶ 26 (noting that the stock market as a whole lost value that day, that "coal stocks in particular might have been affected by the entirely coincidental bankruptcy declaration of Alpha Resources on the same day," and that Peabody's stock recovered after August 4, 2015).

CONCLUSION

As with any other Clean Air Act rulemaking, interested parties can petition for judicial review of the Clean Power Plan within sixty days from the date it is published in the Federal Register. If a party believes it has grounds for a stay of the rule, notwithstanding the Plan's flexible implementation framework and protracted timeframes for state planning and private-sector compliance, the party will be able to move for a stay at that time. But granting

review of this important rule on the basis of these extraordinary, inaptly-named “emergency” filings would bypass the orderly process Congress established and on which many stakeholders are relying.

Therefore, these petitions should be dismissed or denied.

Respectfully submitted,

/s/ Benjamin Longstreth

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Sean H. Donahue
Donahue & Goldberg, LLP
1130 Connecticut Avenue, N.W.,
Suite 950
Washington, D.C. 20036
(202) 277-7085
sean@donahuegoldberg.com
*Counsel for Environmental Defense
Fund*

Tomás Carbonell
Vickie Patton
Environmental Defense Fund
1875 Connecticut Ave. NW,
Suite 600
Washington, D.C. 20009
(202) 572-3610
tcarbonell@edf.org
vpatton@edf.org
*Counsel for Environmental Defense
Fund*

Ann Brewster Weeks
James P. Duffy
Clean Air Task Force
18 Tremont St., Suite 530
Boston, MA 02108
(617) 624-0234, ext. 156
aweeks@catf.us
jduffy@catf.us
*Counsel for Clean Air Council, Clean
Wisconsin, and Conservation Law
Foundation*

David Doniger
Benjamin Longstreth
David R. Baake
Jared E. Knicley
Natural Resources Defense
Council
1152 15th Street NW, Suite 300
Washington, DC 20005
(202) 513-6256
ddoninger@nrdc.org
blongstreth@nrdc.org
*Counsel for Natural Resources
Defense Council*

Joanne Spalding
Andres Restrepo
Sierra Club
85 Second Street, Second Floor
San Francisco, CA 94105
(415) 977-5725
joanne.spalding@sierraclub.org
andres.restrepo@sierraclub.org
Counsel for Sierra Club

Vera P. Pardee
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612
(415) 632-5317
vpardee@biologicaldiversity.org
*Counsel for Center for Biological
Diversity*

CERTIFICATE OF COMPLIANCE

I hereby certify that the foregoing brief is printed in 14-point font and, according to the word-count function in Microsoft Office 2010, is 2,103 words in length.

CERTIFICATE OF SERVICE

I hereby certify that on August 31, 2015, the foregoing brief was served upon all registered counsel via the Court's ECF system.

/s/ Benjamin Longstreth

Dated: August 31, 2015

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

IN RE WEST VIRGINIA, et. al.)	
)	
Petitioners)	
	)	Case No. 15-1277, et al.
)	

**On Petition for Extraordinary Writ to the
United States Environmental Protection Agency**

DECLARATION OF SUSAN F. TIERNEY, Ph.D.

I, Susan F. Tierney, declare as follows:

1. I am a Senior Advisor at Analysis Group Inc., 111 Huntington Avenue, 10th Floor, Boston, Massachusetts, 02199, where I provide policy, economic and strategy consulting in the electric industry. I hold a Ph.D. in Regional Planning (1980) and Masters in Regional Planning (1976) from Cornell University.
2. I have worked for more than thirty years in areas relevant to the agency rulemaking at issue, including as a federal and state official with regulatory and policymaking responsibilities, and as a university professor and consultant. My work has involved implementation of utility and environmental statutes and regulations by state governments; economic

analysis of issues affecting electric utilities, wholesale power markets and consumers' utility rates; reliability of the electric industry; the design of environmental policies to control emissions of air pollutants from the power sector; and the implications of different kinds of regulation for costs to power producers and to consumers.¹

3. Portions of my declaration are based on my direct experience as a former state cabinet officer responsible for air pollution control and as a former state utility regulator responsible for implementing state and federal statutes and regulations relating to electric utilities and power plants. Among many other things, my state service included: responsibility for development and submission of Massachusetts' State Implementation Plan for ozone, a process which involved working with other state agencies responsible for different elements of the ultimate state plan; working with other states to develop designs for certain air pollution control programs whose impacts affected other states (and vice versa); and reviewing and approving proposals to site utility and non-utility energy infrastructure projects and contracts for power supply.
4. Other portions of my statement are based on my extensive experience as an advisor to a wide variety of parties (including owners of power plants, state

¹ My experience is further discussed in an appendix to this declaration.

government agencies, non-governmental organizations, grid operators, transmission companies, local distribution utilities, and others) on matters relating to utility and air regulation, power plant projects, and the costs, environmental impacts, and reliability of the electric power system.

5. I am supplying this declaration at the request of movant-intervenors Natural Resources Defense Council, Clean Air Council, Center for Biological Diversity, Clean Wisconsin, Conservation Law Foundation, Environmental Defense Fund, and Sierra Club.
6. The purpose of my declaration is to provide information to the court relating to the question of whether states or other parties will suffer irreparable harm absent an emergency stay of the U.S. Environmental Protection Agency's ("EPA") Emission Guideline for carbon-dioxide pollution from existing power plants (known as the Clean Power Plan).²
7. In preparation for this declaration, I have reviewed: (a) the Clean Power Plan; (b) the States' Emergency Petition for Extraordinary Writ and the declarations of state officials attached to that petition (the "State Declarants"); and (c) the Emergency Renewed Petition for Extraordinary Writ by Peabody Energy Corporation, along with the declarations attached to

² EPA, Clean Power Plan, available at <http://www2.epa.gov/sites/production/files/2015-08/documents/cpp-final-rule.pdf>.

it (“Peabody Declarants”). In addition, I have reviewed other documents cited in this declaration.

8. The Clean Power Plan provides each state the opportunity to develop a state plan to implement carbon dioxide emission limits for fossil fuel-fired electric generating units. States are not required to develop state plans. If a state elects not to do so, then Section 111(d) provides for the EPA to regulate fossil-fueled power plants’ carbon dioxide emissions in that state directly through a federal plan. At any point, a state can avoid or supplant a federal plan by submitting an approvable state plan. This structure, known as “cooperative federalism,” has been a prominent architectural feature of the Clean Air Act since 1970. In most instances, states have elected to develop their own plans. In some situations, EPA has been required to implement a federal plan directly regulating pollutant-emitting sources. Federal plans are superseded when states adopt and submit approvable state plans and EPA approves them, although some states have opted to leave federal plans in place for long periods.
9. For states that elect to develop and submit their own state plans, the Clean Power Plan provides three years to do. Such a state must make an initial submittal by September 6, 2016. I anticipate that some states may submit complete plans by that date. But any state may instead request a two-year

extension, until September 6, 2018, to submit a complete plan. The criteria for an extension are very modest. To request an extension, a state's initial September 2016 submission must include three elements: "[a] An identification of final plan approach or approaches under consideration, including a description of progress made to date. [b] An appropriate explanation for why the state requires additional time to submit a final plan by September 6, 2018. [c] Demonstration or description of opportunity for public comment on the initial submittal and meaningful engagement with stakeholders, including vulnerable communities, during the time in preparation of the initial submittal and plans for engagement during development of the final plan."³ The Clean Power Plan specifically states: "EPA is not requiring the adoption of any enforceable measures or final decisions in order for the state to address any of the initial submittal components by September 6, 2016."⁴ EPA states that it will grant extension requests if these three elements are included. EPA further indicates that states may obtain an extension based on "other appropriate explanations."⁵ If EPA does not inform the state within 90 days that it cannot grant the

³ EPA, Clean Power Plan, page 1009 (footnote omitted).

⁴ EPA, Clean Power Plan, page 1011.

⁵ EPA, Clean Power Plan, page 1012.

extension, the extension will be deemed automatically approved.⁶ As EPA states, the task of providing “an appropriate explanation for an extension is easily achievable by 2016.”⁷ It is plain that this regime is designed to ensure that any state that desires more time to develop its state plan will be able to secure a two-year extension.

10. The States’ Declarations largely overlook that EPA has made it very clear that no state is required to submit anything in September 2016. Nor do they acknowledge that no state must make binding commitments or adopt regulations or legislation in its September 2016 initial submission, if the state chooses to submit one.
11. The actions required by September 2016 to secure the full three-year period to prepare a state plan are minimal and uncomplicated. Principally, the state need only write a description of the process it is undertaking and the options it is considering after seeking stakeholder and public input. A state may indicate that it is considering more than one implementation approach. The state may cite a wide variety of reasons for requesting the extension, including the very factors cited now by State Declarants, such as the need to

⁶ EPA, Clean Power Plan, page 1022.

⁷ EPA, Clean Power Plan, page 1012.

perform analyses, conduct further stakeholder discussions, or design and draft needed regulations or legislation.

12. From my experience as a senior environmental and energy official in both state and federal government agencies, I observe that every state has extensive experience conducting public processes and seeking public comment on proposed actions, including sponsoring formal stakeholder meetings, holding public hearings, and soliciting written comments. Given that experience, the requirement to engage the public as states begin to evaluate their options will not be burdensome.
13. In short, the contents of a state's request by September 2016 for a two-year extension are quite minimal. And EPA's approval process for such extensions is expressly designed to be efficient and rapid. As noted, if a state has not heard otherwise within 90 days, its filing will be deemed approved.
14. Furthermore, a state is free to decide to do nothing – not even to ask for a two-year extension – and to make no filing at all by September 2016. In such a case, the responsibility for limiting the carbon dioxide emissions of power plants in that state will rest with the EPA under a federal plan. The Clean Power Plan indicates that a federal plan will be issued within twelve months after a state fails to make a required submission. As noted, any state that

does not submit a plan or extension request may at any later point submit an approvable plan, which would supersede the federal plan once approved.

15. The State Declarants generally overstate the complexity entailed in developing final state plans by 2018. First, the State Declarants appear to base their comments principally on EPA's June 2014 proposed rule, not the final Clean Power Plan. The final Clean Power Plan clarifies and simplifies the options available to the states, and provides detailed guidance to assist the states in crafting approvable plans. Among other things, the analytic and regulatory steps associated with developing state plans are much more straightforward and less complex under the final Clean Power Plan than as portrayed by many of the State Declarants. For instance the final Clean Power Plan makes it much easier for states to adopt cost-reducing approaches, such as emissions-trading among power plants in different states with compatible plans, without the need for states to negotiate any interstate agreements. In addition, EPA has proposed detailed draft model state plans along with the Clean Power Plan, which – once finalized – will greatly assist the states in crafting approvable plans. Such clarifications are directly responsive to concerns similar to those in the State Declarations that were expressed by states and others during the comment period on EPA's proposed rule.

16. Contrary to assertions by the State Declarants, the option of using emissions-trading mechanisms for power plants to comply with their emission limits is hardly unorthodox or unfamiliar to state officials. Since 1990, Title IV of the Clean Air Act has required power plants that emit sulfur dioxide (i.e., coal-fired power plants and oil-fired power plants) to comply with a national emissions-trading program to control this pollutant in a cost-efficient, market-based manner that allows some power plants to emit above their nominal emission limits by buying credits from companies that emit below those limits. Under EPA's Cross-State Air Pollution Rule, twenty-seven states in the Eastern United States are using similar emissions trading programs to limit sulfur dioxide and nitrogen oxide emissions from fossil fuel-fired power plants. Existing emissions-trading programs include mechanisms to credit a variety of activities that reduce emissions from fossil fuel-fired power plants, such as end-use energy efficiency measures. Such approaches operate seamlessly in the daily operations of power plants and power markets and do not raise operational or reliability issues. All states have the ability under the Clean Power Plan to adopt an approach that allows power plants to engage in emissions trading with power plants in other states.
17. Contrary to suggestions by some of the State Declarants, the final Clean Power Plan provides mechanisms that support reliable electric operations

through, among other things, its inclusion of a “reliability safety valve,” which EPA believes will only be needed in extraordinary circumstances – a conclusion with which I concur, after performing various studies on these reliability issues.⁸

18. The State Declarants acknowledge, indirectly, that states are not starting from scratch. For one thing, EPA’s original June 2014 proposal served to alert the states of the upcoming final rule. The states’ extensive comments provided insights that EPA has said were helpful and were taken into consideration as EPA revised the proposed rule and issued the final one. I have personally participated in and am aware of substantial conversations, meetings, analyses, studies, and stakeholder meetings in various parts of the country and in national meetings and industry forums about the Clean Power Plan during the past year. Many states with power plants that participate in regional, multi-state markets (e.g., Indiana, West Virginia, Wisconsin, Ohio, Kentucky) have existing organizations (e.g., the Organization of PJM States;

⁸ Susan Tierney, Paul Hibbard and Craig Aubuchon, “Electric System Reliability and EPA’s Clean Power Plan: Tools and Practices,” February, 2015; Susan Tierney, Paul Hibbard and Craig Aubuchon, “Electric System Reliability and EPA’s Clean Power Plan: The Case of PJM,” March 16, 2015; Susan Tierney, Eric Svenson, and Brian Parsons, “Ensuring Electric Grid Reliability Under the Clean Power Plan: Addressing Key Themes from the FERC Technical Conferences,” April 2015; Susan Tierney, Paul Hibbard and Craig Aubuchon, “Electric System Reliability and EPA’s Clean Power Plan: The Case of MISO,” June 8, 2015.

the Organization of MISO States) which facilitate interstate collaboration, discussions, education, advocacy, and so forth. Other states (e.g., Western states; the Midwest States Energy and Environmental Regulators group) have begun to confer in ad-hoc meeting groups to understand the options available to them. In short, the states are well positioned to file a simple extension request, if needed, by September 2016 and to develop final plans by 2018.

19. Several State Declarants make assertions about various aspects of the power system that they believe renders the Clean Power Plan harmful. These concerns relate to the period well beyond 2018, and are not grounded in facts. For example, the Kansas declaration states that there are a “limited number of viable sites for wind energy development in Kansas.”⁹ This assertion is inconsistent with the wind resource data from the U.S. Department of Energy’s National Renewable Energy Laboratory (“NREL”), which indicates substantial wind resources exist across nearly the entire state of Kansas, even taking many land use restrictions into account.¹⁰ The

⁹ Declaration of Thomas Gross, Chief of the Monitoring and Planning Section, Kansas Department of Health and Environment Bureau of Air Quality, pages 3-4.

¹⁰ U.S. Department of Energy, WINDEXchange: Kansas Wind Resources Map and Potential Wind Capacity, http://apps2.eere.energy.gov/wind/windexchange/wind_resource_maps.asp?stateab=ks; U.S. Department of Energy, National Renewable Energy Laboratory, Estimates of Land Area and Wind Energy Potential, by State (Feb. 2015),

Wisconsin declaration asserts that the Clean Power Plan will introduce electric-system reliability challenges associated with integrating renewable energy facilities.¹¹ This statement is inconsistent with the literature as well as the empirical experience of the many states and regional grid operators (including in the mid-continent portion of the U.S.) that have already introduced significant wind generating capacity.¹² The Indiana declaration states that the timeline for bringing renewable resources on line is too long to meet the Clean Power Plan requirements.¹³ This assertion is inconsistent with actual project experience around the country in which wind and solar projects have come on line in time periods as short as two to three years and well shorter than many large-scale fossil energy projects.¹⁴

http://apps2.eere.energy.gov/wind/windexchange/docs/wind_potential_80m_110m_140m_35percent.xlsx.

¹¹ Declaration of Ellen Nowak, Chair, Public Service Commission of Wisconsin, pages 7-10.

¹² Nivad Navid, Midwest ISO, Multi-faceted Solution for Managing Flexibility with High Penetration of Renewable Resources, available at <http://www.ferc.gov/CalendarFiles/20140411130433-T1-A%20-%20Navid.pdf>.

¹³ Declaration of Thomas W. Easterly, Commissioner, Indiana Department of Environmental Management, page 6-7.

¹⁴ See, e.g., Iowa Energy Center, MidAmerican Energy announces 5 new Iowa wind farms (Aug. 13, 2013), <http://www.iowaenergycenter.org/2013/08/midamerican-energy-announces-5-new-iowa-wind-farms/>; U.S. Energy Information Administration, *Renewable Electricity Production Grows in Texas*, Today in Energy (Dec. 2, 2013), <http://www.eia.gov/todayinenergy/detail.cfm?id=13991>.

20. The Peabody Declarants fail to show that the Clean Power Plan is currently causing or about to cause the irreparable harms they claim. To illustrate the weakness of these claims, I respond below to several of the statements in the declaration by Peabody executive Mr. Galli.¹⁵ As a general matter, it is important to emphasize that the Clean Power Plan does not go into effect for seven years, in 2022. No existing coal-fired power plants will be required to meet carbon pollution emission standards until that time. Mr. Galli greatly overstates the effect of the 2022 standards on near-term demand for coal.
21. Mr. Galli implies that the Clean Power Plan will require a new and unprecedented resource planning process.¹⁶ Mr. Galli fails to acknowledge that utilities and other grid operators undertake continuous planning activities to ensure grid reliability. This is true under many states' own resource-planning processes for electric utilities as well as regulatory policies of the Federal Energy Regulatory Commission (e.g., FERC Order 1000, which requires transmission planning by all transmission owners and with stakeholders on their system (e.g., utility and non-utility owners of power plants)). Owners of power plants do not need to start from scratch to plan for changes in the electricity system. Various parties (including grid operators,

¹⁵ Declaration of Mr. Bryan A. Galli, Group Executive Marketing & Trading of Peabody Energy Corporation (hereafter "Galli Declaration (Peabody)").

¹⁶ Galli Declaration (Peabody), page 3.

utility companies, project developers, others) are constantly looking forward and undertaking planning and other actions, in light of changing economic conditions (e.g., fuel costs). Even if some infrastructure (e.g., some wholly new transmission lines) requires multiple years to construct, there are numerous options to reduce pollution at high-emitting power plants (e.g., through increasing output at under-utilized generating capacity at existing power plants, developing new peaking power plants, adding ‘demand-response’ resources, installing solar panels) that do not require long lead times. Many options (e.g., emission trading) might not necessitate construction of any new infrastructure, at all. A state’s planning process and the industry’s own planning will not be harmed if the rule is not stayed. Those can continue.

22. Furthermore, contrary to Mr. Galli’s assertions, power plant owners need not make final commitments in 2015 and 2016 about how their individual power plants will comply with the Clean Power Plan in 2022.¹⁷ The Clean Power Plan provides states with flexibility to choose among multiple approaches to structuring state plans. The owner of a power plant (or multiple power plants) can participate in its state’s (or states’) stakeholder processes, weigh in on its preferred approach(es), monitor the discussions, and begin to

¹⁷ Galli Declaration (Peabody), pages 3-4.

understand its options. Mr. Galli and some State Declarants express a misplaced concern that the lead time required for some compliance pathways, such as the construction of wholly new plants, could force them to make irrevocable commitments in 2016. Their concern is misplaced: first, because they are overstating the reasonable lead times and understating the amount of flexibility that is available; and second, because the Clean Power Plan allows power plant owners many other compliance options with even shorter lead times. These include, but are not limited to, complying by accessing markets for emissions credits or allowances. In short, there is ample time for state plan development through 2018, and no one will be forced to make decisions in 2016 that amount to irreparable harm from the Clean Power Plan. Indeed, many power plant owners will find it advantageous to wait until states have determined the architecture of their plans before making compliance decisions. They will have ample time after that to make and implement those compliance decisions given the 2022 start date, the possibility to allow averaging of emissions across years, and the gradual nature of the required emissions reductions.

23. Mr. Galli's statements that the Clean Power Plan is already causing retirements of coal-fired power plants have no factual basis.¹⁸ His declaration does not acknowledge the well-documented conditions that have existed in the electric industry since 2007-2008 as a result of fundamental changes in energy markets and the electric sector. The "shale gas revolution" has resulted in low natural gas prices, providing significant cost advantages for power plants that operate on natural gas relative to many coal-fired power plants. This has caused power companies and grid operators to dispatch gas-fired power plants ahead of coal-fired power plants.¹⁹ Further, relatively flat electricity demand and the introduction of increasing amounts of renewable energy over the last decade (in part driven by state policies) have also led to decreased coal generation. Many of the coal plants that have retired in recent years are very old and relatively inefficient. These factors are substantially responsible for the reduced utilization and retirement of coal-fired power plants that has occurred over this period and that is projected to continue over the next year (the period of this litigation). These recent and current events

¹⁸ Galli Declaration (Peabody), page 3 and generally.

¹⁹ See, e.g., U.S. Energy Information Administration, *Scheduled 2015 Capacity Additions Mostly Wind and Natural Gas; Retirements Mostly Coal*, Today in Energy (Mar. 10, 2015), <http://www.eia.gov/todayinenergy/detail.cfm?id=20292&src=email>; Susan Tierney, "Why Coal Plants Retire: Power Market Fundamentals as of 2012," February 16, 2012.

cannot be causally linked to the Clean Power Plan, given that its first compliance deadline does not come until 2022, and plant-specific emission limits have not even been set yet in state or federal plans.

24. For example, Mr. Galli errs in stating that “EPA expects its plan will cause the 2016 closure of the Big Brown Plant in Fairfield Texas” and “the 2016 partial closure of two [electric generating units] at the Monticello plant in Mount Pleasant, Texas.”²⁰ Mr. Galli fails to mention that these power plants have been at risk of retirement for several years. Mr. Galli cites EPA modeling results pertaining to the *proposed* Clean Power Plan released in June 2014 and ignores the fact that the final Clean Power Plan made significant changes including moving the first compliance deadline to 2022 (as compared with 2020 in the proposal) and phasing in emission limitations more gradually in the subsequent years, compared to the proposal. EPA explicitly states that modeling relating to the final rule should not be used to identify plant-specific impacts because that modeling is only illustrative.²¹ Actual impacts on specific plants cannot be known until final plans are submitted and after the affected power plant owners and other market

²⁰ Galli Declaration (Peabody), page 8.

²¹ EPA, Clean Power Plan, pages 91-98, 1379-80.

participants respond to those plans in light of the then-current outlook for energy prices, technology costs and other market-driven factors.

25. Mr. Galli also incorrectly asserts that utilities are already making irreversible and significant decisions to comply with the Final Rule and cites the July 2015 announcement by Minnesota Power to indefinitely suspend its Taconite Harbor Energy Center plant in third quarter 2016 and retire it in 2020.²² Other documents, however, filed before the Minnesota Public Utility Commission by the utility itself and by state agencies from as early as 2010 indicate that the company's decision was the result of a much broader set of considerations, that the Taconite power plant has been a potential candidate for retirement long before the Clean Power Plan was even proposed (with one unit at that facility having already retired), and that the company's decision is part of a larger company strategy to reduce its reliance on coal-fired generation.²³
26. Additionally, Mr. Galli errs in assigning the Clean Power Plan responsibility for the changes in Peabody's stock prices and market capitalization from the day before August 3rd (the day the Clean Power Plan became public) to

²² Galli Declaration (Peabody), pages 6-7.

²³ See: Minnesota Power, *EnergyForward*, <http://www.mnpower.com/EnergyForward>.

August 4th.²⁴ He neglects to note that there had been a relatively steady decline in Peabody's stock price for quite some time, or that the overall stock market dropped on that day, or that Peabody's stock price increased after August 4th, or that coal stocks might have been affected by the entirely coincidental bankruptcy declaration of Alpha Natural Resources, Inc. (a major coal producer), on August 3rd.²⁵ Without a specific event study or other analysis to understand these and other factors, there is no basis to claim a causal relationship between the Clean Power Plan and the transitory change in Peabody stock price between August 3rd and August 4th 2015.

27. The economic studies described by Mr. Galli²⁶ also provide no valid basis for conclusions about the impacts of the Clean Power Plan, especially regarding whether there will be impacts (positive or negative) in the upcoming three years. Neither the IHS study nor the EVA studies – the studies Mr. Galli cites – address costs incurred in the years between the finalization of the Clean Power Plan and the date when it requires emission reductions at fossil-fueled power plants. The IHS study was prepared before the *proposed* Clean

²⁴ Galli Declaration (Peabody), page 12.

²⁵ Matt Jarzemsky & Joseph Checkler, *Alpha Natural Resources Files for Chapter 11*, Wall Street Journal, Aug. 3, 2015, available at <http://www.wsj.com/articles/alpha-natural-resources-to-seek-chapter-11-1438557901>.

²⁶ Galli Declaration (Peabody), pages 13-14.

Power Plan was even released, and its modeling assumed an emission-reduction program substantially more stringent than the final Clean Power Plan that would have taken effect four years earlier. The EVA studies are based on the proposed Clean Power Plan, and do not take account of the multiple changes that EPA made in the final rule in response to comments. Further, both the IHS and EVA studies base their analyses on a narrow set of technologies and options that states and the industry might rely upon, and misstate costs as a result. The EVA study does not even focus only on the incremental impacts of the proposed rule, but rather includes other programs as well (e.g., other environmental regulations that are separate from the Clean Power Plan and that do not incorporate the flexibility that it allows for cost-effective compliance by states and power plants). Finally, the studies' methodologies focus only on potential costs of the proposed rule over its entire life, and do not address the potential benefits of implementing the Clean Power Plan. Over the life of the Clean Power Plan, such impacts could include: significant public health benefits related to lower ground level air pollution from reduced power production at certain power plants; and positive job impacts resulting from changes in fuel production and new power plant construction. EPA's economic analysis of the final rule concluded that as the Clean Power Plan goes into effect, it will have net

positive benefits amounting to billions of dollars per year, taking the quantifiable public health and climate protection benefits into account.²⁷

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed this 31st day of August, 2015, in Boston, Massachusetts.



Susan F. Tierney

²⁷ EPA, Clean Power Plan, pages 92-99.

Appendix

Bio of Susan F. Tierney, Ph.D.

Susan Tierney is a Senior Consultant at Analysis Group, an economic, financial, and business strategy consulting firm with more than 600 professionals, with offices in Boston and 10 other cities in the U.S., Canada and China. She is the lead consultant for many of Analysis Group's engagements relating to the electric and natural gas industries.

Over her 30+-year career as a regulator, policymaker, university professor, consultant, and expert witness, she has been directly involved in issues relevant to this matter; implementing utility and environmental statutes and regulation; economic analysis of issues affecting electric utilities, wholesale power markets and consumers' utility rates; the design of environmental policies to control emissions of air pollutants from the power sector and the implications of different policy designs for costs to power producers and to consumers.

She previously served as the Assistant Secretary for Policy at the U.S. Department of Energy, a Presidential appointment subject to Senate confirmation. Before that, she held senior positions in the Massachusetts state government as: Secretary of Environmental Affairs (a cabinet officer reporting to the Governor); Commissioner of the Department of Public Utilities; Executive Director of the Energy Facilities Siting Council; and Senior Economist for the Executive Office of Energy Resources. When she was in state government, she was a member of the EPA Clean Air Act Advisory Committee and a founding member of the Ozone Transport Commission. In those positions she has had direct experience in planning for, designing and implementing state and federal energy, utility-regulatory and air, water and waste-management statutes and regulations. She was appointed to those positions by elected officials from both political parties.

Prior to her work in state and federal government, she was an assistant professor for 3.5 years at the University of California at Irvine. Five years ago, she taught a course at the Massachusetts Institute of Technology. Over the past two decades, she has lectured at the law schools and graduate schools of numerous universities, including Harvard University, Yale University, MIT, New York University, Tufts University, Northwestern University, and University of Michigan.

She holds a Ph.D. in regional planning (1980) and a Masters in Regional Planning (1976), both from Cornell University. She has authored numerous articles, reports and analyses; spoken frequently at industry conferences; and served on a number of boards of directors of private corporations and non-governmental organizations. She currently chairs the External Advisory Council of the National Renewable Energy Laboratory. She was a member of the Secretary of Energy's Advisory Board, and has recently been appointed to serve on another Department of Energy federal advisory committee (the Electricity Advisory Board). She has served on several National Academy of Sciences expert panels relating to energy industries; and was the co-lead author of the energy chapter of the National Climate Assessment. She has previously testified before utility regulatory agencies in many states, the Federal Energy Regulatory Commission, the U.S. Congress, state legislatures, arbitration panels, and federal and state courts.

Exhibit 2

Declaration of Douglas I. Foy

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

<hr/>)	
In re: State of West Virginia, et al.,)	
)	
Petitioners.		)	No. 15-1277
		)	(consolidated with
		)	No. 15-1284)
<hr/>)	

Suffolk County)
)
 Commonwealth of Massachusetts)

DECLARATION OF DOUGLAS I. FOY

I, Douglas I. Foy, hereby declare and state as follows:

1. This declaration is based on my personal knowledge. I am over the age of eighteen (18) and suffer no legal incapacity. I submit this declaration in support of the Motion for Intervention by Conservation Law Foundation (“CLF”) in the above-referenced matter.

2. I currently serve on the CLF Board of Directors and have been a CLF member for thirty-seven years. I previously served as the CLF President and Chief Executive Officer for twenty-five years. My long-standing roles at CLF

have required me to be responsible for achieving the organization's goals and mission, and to be familiar with CLF's structure, activities, and membership.

3. Founded in 1966, CLF is a 501(c)(3) non-profit, member-supported corporation, organized and existing under the laws of Massachusetts, and headquartered at 62 Summer Street, Boston, Massachusetts 02110. CLF maintains offices in Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. CLF's membership consists of approximately 3,130 individuals, residing in thirty states and the District of Columbia, with the largest concentrations in the New England region.

4. CLF's mission is to work to solve the most significant environmental challenges facing New England. CLF relies on sound science and uses the law to create and advocate for innovative strategies to conserve natural resources, protect public health, and promote vital communities in our region. Working to promote effective climate change policies, including defending the U.S. Environmental Protection Agency's ("EPA's") authority to regulate greenhouse gas emissions under the Clean Air Act, constitutes a core element of CLF's mission.

6. My role at CLF requires me to be up-to-date and knowledgeable about current and future threats to the environment in Massachusetts, and more broadly, to the New England region.

7. Among the most important current and future threats to Massachusetts' natural and built environment is the ongoing damage due to a changing climate in the region. I am aware of the science documenting the existence of climate change, its causes, and its potential adverse impacts on public health and welfare and the environment – specifically to the natural and built environment in the New England region. I understand that human activities, especially the burning of fossil fuels to generate electric power, have resulted in elevated levels of carbon dioxide pollution. Carbon dioxide and other greenhouse gases trap heat in the Earth's atmosphere that would otherwise escape, and that "greenhouse effect" is now causing a variety of climatic and environmental changes, including, but not limited to, increased temperatures, sea level rise, and increases in the frequency and intensity of extreme weather events, including increased precipitation and heavy downpours in the northern United States.

8. I understand that 2014 had the highest average temperatures of any year in recorded U.S. history, and that this is part of a pattern of increased warming globally and in my region. Between 1895 and 2011, average annual temperatures in Massachusetts, indeed the entire Northeast United States, increased by approximately 2°F and precipitation increased by more than ten percent. I understand that sea level rise is already documented in

Massachusetts and that global sea levels are projected to rise one to four feet by 2100, substantially increasing coastal flooding risks in my region.

9. I know that urban areas, such as Boston, Massachusetts, have significantly more impermeable surfaces, including concrete and asphalt and less vegetation than surrounding areas, and therefore suffer from a “heat island” effect, whereby average temperatures are several degrees warmer than in the surrounding regions. The “heat island” effect poses a direct health risk because extreme heat events can cause health problems, including heat exhaustion, heat stroke, and even death, particularly among at-risk populations, such as children, the elderly, or those with low socio-economic factors. This “heat island” effect also contributes to greater concentrations of ground-level ozone, which forms when warm polluted air mixes with sunlight. Hotter areas experience higher localized concentrations of ground-level ozone than cooler areas. In turn, ground-level ozone combines with particulate matter to create smog. Smog is a particular problem in urban areas because of the increased presence of vehicles and industry, as well as the “heat island” effect.

10. Ozone smog irritates the respiratory system, reduces lung function, inflames and damages cells that line your lungs, makes your lungs more susceptible to infections, aggravates asthma, aggravates chronic lung disease

and can cause permanent lung damage. Increasing temperatures associated with climate change will exacerbate ground-level ozone and ozone smog and associated health problems. CLF's members residing in urban areas are experiencing the effects of summer smog now, which will continue and intensify if greenhouse gas accumulations in the atmosphere remain unchecked and average temperatures continue to rise.

11. I know that climate change results in more frost-free days and can contribute to shifts in flowering time and pollen initiation from allergenic plants. Increases in carbon dioxide itself can elevate plant-based allergens, resulting in longer allergy seasons.

12. I am familiar with the final rule at issue in this litigation: "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," signed by the EPA Administrator on August 3, 2015, but not as yet published in the Federal Register. On December 1, 2014, CLF submitted comments on the proposed Guidelines. In my opinion, and based on my experience at CLF, the final Guidelines are a significant step forward in reducing greenhouse gas emissions in the United States and confirm the country's international leadership in the global effort to address climate change.

13. The final Guidelines will require states, including Massachusetts, to impose carbon pollution emissions standards requiring reduced carbon dioxide emissions from the fleet of existing fossil fuel-fired power plants. Fossil fuel-fired power plants are by far the largest source of U.S. carbon dioxide emissions, making up nearly forty (40) percent of U.S. anthropogenic carbon dioxide and thirty-one (31) percent of U.S. total anthropogenic greenhouse gas emissions. The Guidelines will result in thirty-two (32) percent less carbon pollution from power plants than in 2005, or 870 million short tons. The Guidelines will also reduce exposure to particulate matter and ozone because they will have the incidental effect of reducing fossil fuel-fired power plant emissions of precursor pollutants.

14. CLF's members live and recreate in areas throughout New England that are now, and will be in the future, impacted by climate change, rendering them at risk for the adverse public health effects of climate change. CLF's members also include persons owning property and recreating in coastal areas that have already experienced sea level rise, as well as the accompanying erosion, direct loss of coastal property, and compromised wetland areas. CLF's members further include elderly persons and others living in urban areas with high concentrations of ground-level ozone, making them particularly

vulnerable to the adverse health impacts associated with exposure to these elevated concentrations.

15. In addition to my role at CLF, I have been a resident of Massachusetts for 45 years. I am 68 years old. I live at 40 Battery Street, Boston, MA, which is located in Suffolk County. I have lived at this address for 12 years. I also own property at 65 East India Row, Boston, MA, which is located in Suffolk County.

16. Both my home and my property are located on the waterfront and are in high-risk flood areas according to the U.S. Federal Emergency Management Agency. I am aware that increased global temperatures cause increased flooding, due to a combination of sea level rise, storm surge, and extreme precipitation events. Because my home and my property are within close proximity to Boston Harbor, they are vulnerable to damage from such flooding.

17. I have children, as well as a two year-old grandchild and another on the way, living in the Boston area and visiting me regularly. They are an important reason why I am so concerned about the issue of climate change. I worry about how the changing climate will impact their health and their futures. I believe we must do everything we can to protect them from the adverse effects of climate change.

18. The Guidelines at issue in the above-referenced matter, along with the “Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units,” finalized on the same day, will be a significant step toward addressing climate change and its effect on rising waters, increasing bad ozone, allergens, and our children’s future planet. I believe the Guidelines will also make the air that I, my children, and my grandchildren breathe cleaner and safer. CLF seeks to intervene on EPA’s behalf to defend the Guidelines. I support EPA’s promulgation of the Guidelines, and I support CLF’s efforts to intervene on EPA’s behalf.

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

Executed this 30th day of August, 2015.

/s/ Douglas I. Foy

Douglas I. Foy
40 Battery Street
Boston, MA 02109

Exhibit 3

Declaration of Mary Anne Hitt

DECLARATION OF MARY ANNE HITT

I, MARY ANNE HITT, declare under penalty of perjury that the following is true and correct and within my personal knowledge.

1. I am the Director of the Sierra Club's Beyond Coal Campaign, and have held this position since 2010. I joined the Sierra Club staff in 2008, as the Deputy Director of the Beyond Coal Campaign (I was also employed by Sierra Club for a short period prior to that). I have been a member of Sierra Club since March 2001.
2. I am familiar with Sierra Club's general goals, its projects, and its membership information, as well as its activities surrounding the settlement agreement that EPA reached in late 2010 with Sierra Club, Natural Resources Defense Council, Environmental Defense Fund, and a coalition of state and local governments.
3. Sierra Club's mission is "to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; to educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives."

4. While at the Sierra Club, I have worked on numerous matters involving federal air pollution regulations and rulemakings promulgated by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act.
5. The Sierra Club was significantly involved in the regulatory and legal events that led to the decision authorizing EPA to regulate greenhouse gases. The Sierra Club, along with two other organizations, filed a lawsuit against EPA in 2002, requesting that the agency regulate greenhouse gases from motor vehicles. EPA settled that lawsuit and responded to the petition in 2003, stating that the agency lacked authority to regulate greenhouse gases under the Clean Air Act. The Sierra Club and numerous states and environmental organizations challenged that denial, ultimately leading to the Supreme Court ruling in *Massachusetts v. EPA*.
6. The Sierra Club has been advocating EPA regulation of greenhouse gases from power plants for many years. In 2003, Sierra Club filed a lawsuit to require EPA to update its new source performance standards (NSPS) for electric generating units under section 111 of the Clean Air Act. Pursuant to a settlement of that lawsuit, EPA revised the NSPS for electric generating units in 2006 but failed to include standards for greenhouse gas emissions. Consequently, the Sierra Club and numerous states and environmental

organizations challenged that rule. The D.C. Circuit Court of Appeals remanded the rule to EPA in light of the Supreme Court's decision in *Massachusetts v. EPA*.

7. In 2010, after EPA had failed to act on the remand order for three years, Sierra Club, along with NRDC and EDF, sent a demand letter to EPA which led to a negotiated settlement. EPA ultimately committed to proposing NSPS rules under section 111 for both new and existing power plants by September 2011.
8. EPA did not meet these deadlines, but ultimately proposed a new source rule on January 8, 2014 and an existing source rule on June 18, 2014. Both rules were finalized on August 3, 2015.
9. Sierra Club and its members have a strong interest in ensuring that EPA's greenhouse gas regulations for power plants are successfully and timely implemented and that they achieve the greatest emission reduction benefits possible. To that end, the Club and its members would be injured if any legal challenges to these rules succeed, or if the rules' implementation were either halted or delayed, or if the rules' benefits were weakened in any way.

10. Fossil fuel-fired power plants account for over one-third of total greenhouse gas emissions and are the largest stationary source of air pollution in the United States. They are also significant sources of harmful smog- and soot-forming pollutants, including sulfur dioxide, nitrogen oxides, and fine particulate matter, as well as hazardous air pollutants like mercury and hydrogen chloride. Measures that reduce greenhouse gas emissions from fossil fuel-fired power plants have the co-benefit of reducing these other air pollutants as well.
11. The Sierra Club has members throughout the country who live in close proximity to fossil fuel-fired power plants and are harmed by the air pollution these plants emit. Sierra Club members are also harmed by the various effects of climate change that is caused by greenhouse gas emissions.
12. The Beyond Coal Campaign promotes the use of clean energy sources by encouraging utilities and power companies nationwide to retire existing coal-fired plants and switch to cleaner energy sources.

Dated this 18th day of August, 2015.

Mary Anne Hitt

Mary Anne Hitt

Exhibit 4

Declaration of Joseph O. Minott

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

_____)	
In re: State of West Virginia, et al.,)	
)	
Petitioners.	)	No. 15-1277
	)	(consolidated with
_____	)	No. 15-1284)
)	

Philadelphia County)
)
Commonwealth of Pennsylvania)

DECLARATION OF JOSEPH O. MINOTT

I, Joseph O. Minott, hereby declare and state as follows:

1. This declaration is based on my personal knowledge. I am over the age of eighteen (18) and suffer no legal incapacity. I submit this declaration in support of the Motion to Intervene of Clean Air Council (“CAC”) in the above-referenced matter.

2. I am currently the Executive Director of CAC and have served in this position for twenty-nine (29) years. Before serving as Executive Director I was a staff attorney at CAC for four years. My position at CAC requires me to be

responsible for achieving CAC's goals and mission, and to be familiar with CAC's structure, activities and membership.

3. The Delaware Valley Citizens' Council for Clean Air, now known as Clean Air Council, was established in 1967. CAC is a 501(c)(3), non-profit, membership organization incorporated in Pennsylvania and headquartered at 135 South 19th Street, Suite 300, Philadelphia, Pennsylvania 19103.

4. CAC currently has nearly 9,000 members, in the Mid-Atlantic regions, most of whom live in the Philadelphia, Pennsylvania area.

5. CAC works to achieve its mission through advocacy and legal action to protect everyone's right to breathe clean air. Among CAC's programmatic activities is its "Global Warming Program." CAC's work on this issue began in 2001 when it convened the Mid-Atlantic States Conference on Climate Change. Specifically, CAC works for strong state and federal policies to address climate change pollution, including defending the U.S. Environmental Protection Agency's ("EPA's") authority to regulate greenhouse gas emissions under the Clean Air Act. CAC's climate change work includes a focus on steps to ameliorate the public health damages due to a warmer climate and rising sea levels.

6. My position at CAC requires me to be up-to-date and knowledgeable about current and future threats to the environment in Pennsylvania, and more broadly, to the Mid-Atlantic region in which Pennsylvania is centrally located.

7. Among the most important current and future threats to Pennsylvania's natural and built environment is the ongoing damage due to a changing climate in the region. I am aware of the science documenting the existence of climate change, its causes, and its potential adverse impacts on public health and welfare and the environment – specifically to the natural and built environment in the Mid-Atlantic region. I understand that human activities, especially the burning of fossil fuels to generate electric power have resulted in elevated levels of carbon dioxide pollution. Carbon dioxide and other greenhouse gases trap heat in the Earth's atmosphere that would otherwise escape, and that "greenhouse effect" is now causing a variety of climactic and environmental changes, including, but not limited to, increased temperatures, sea level rise, and increases in the frequency and intensity of extreme weather events, including increased precipitation and heavy downpours in northern United States.

8. I understand that 2014 had the highest average temperatures of any year in recorded U.S. history, and that this is part of a pattern of increased warming globally and in my region. Between 1895 and 2011, average annual

temperatures in Pennsylvania, indeed the entire Northeast U.S., increased by almost 2°F and precipitation increased by more than ten percent.

9. Additionally, I know that global sea levels are projected to rise one to four feet by 2100; a rise of two feet, without any changes in storms, would more than triple the frequency of coastal flooding in the Mid-Atlantic, including along the Schuylkill River, the largest tributary of the Delaware River, which enters the Atlantic Ocean in southern New Jersey. The Schuylkill River in Philadelphia is tidal, with a six-foot tidal range, meaning that water levels are six feet higher at high tide than at low tide.

10. I know also that Philadelphia, as a modern large city, has significantly more impermeable surfaces, such as concrete and asphalt and less vegetation than surrounding areas, and therefore suffers from a “heat island” effect, whereby average temperatures are several degrees warmer than in the surrounding regions. The “heat island” effect poses a direct health risk because extreme heat events can cause health problems including heat exhaustion, heat stroke, and even death, particularly among at-risk populations such as children, the elderly, or those with low socio-economic factors. The “heat island” effect also contributes to greater concentrations of ground-level ozone, which forms when warm polluted air mixes with sunlight. Hotter areas experience higher localized concentrations of ground-level ozone than cooler

areas. In turn, ground-level ozone combines with particulate matter to create smog. Smog is a particular problem in urban areas because of the increased presence of vehicles and industry, as well as the “heat island” effect.

11. Ozone smog irritates the respiratory system, reduces lung function, inflames and damages cells that line your lungs, makes your lungs more susceptible to infections, aggravates asthma, aggravates chronic lung disease and can cause permanent lung damage. Increasing temperatures associated with climate change will exacerbate ground-level ozone and ozone smog and associated health problems. CAC’s members residing in the Philadelphia region are experiencing the effects of summer smog now and this will continue and intensify if greenhouse gas accumulations in the atmosphere remain unchecked and average temperatures continue to rise.

12. I also know that climate change results in more frost-free days and can contribute to shifts in flowering time and pollen initiation from allergenic plants. Increases in carbon dioxide itself can elevate plant-based allergens, resulting in longer allergy seasons.

13. I am familiar with the final rule at issue in this litigation: “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” signed by the EPA Administrator on August 3, 2015, but not as yet published in the Federal Register. On December 1, 2014, I submitted

comments on the proposed Guidelines on behalf of CAC. In my opinion, and based on my experience at CAC and with this rulemaking, the final Guidelines are a significant step forward in reducing greenhouse gas emissions in the United States and confirm the country's international leadership in the global effort to address climate change.

14. The final Guidelines will require states, including Pennsylvania, to impose carbon pollution emissions standards requiring reduced carbon dioxide emissions from the fleet of existing fossil fuel-fired power plants. The Guidelines will result in thirty-two (32) percent less carbon pollution from power plants than in 2005, or 870 million short tons. The Guidelines will also reduce exposure to particulate matter and ozone because they will have the incidental effect of reducing fossil fuel-fired power plant emissions of precursor pollutants.

15. Fossil fuel-fired power plants are by far the largest source of U.S. carbon dioxide emissions, making up nearly forty (40) percent of U.S. anthropogenic carbon dioxide and thirty-one (31) percent of U.S. total anthropogenic greenhouse gas emissions. The power plants in Pennsylvania covered by the final Guidelines emitted more carbon dioxide in 2012 than all but those in two other states. Under the Guidelines Pennsylvania's existing

power plants must reduce their carbon emissions by nearly twenty-seven (27) million short tons by 2030.

16. In addition to my professional role at CAC, I also have been a CAC member for over twenty (20) years. I am sixty-one (61) years old. I own the property at which I live, located at 2301 Cherry Street, 4J, Philadelphia, Pennsylvania 19103, in Philadelphia County. I have been a resident of Philadelphia or its suburbs, for forty-three (43) years.

17. My property is located less than one block from the Schuylkill River and is in a high-risk flood area according to the U.S. Federal Emergency Management Agency. I am aware that increased global temperatures cause increased flooding on tidal rivers like the Schuylkill, due to a combination of sea level rise, storm surge, and extreme precipitation events. Because my property is low-lying and within close proximity to a major river, it is vulnerable to damage from such flooding.

18. Indeed, it is my personal impression that strong storms and flooding events on the Schuylkill have increased in recent years. When my wife and I purchased our condominium four years ago, we thought it would be a beautiful home overlooking the river. Now, however we are concerned about our investment because twice in the last two years the river came up over its banks and flooded the basement, garage and elevator shafts of the

condominium complex, rendering them inaccessible. I am concerned that climate change will increase these flooding incidents and undermine our comfort and investment in our home.

19. I suffer from a chronic medical condition called sarcoidosis, which causes shortness of breath, wheezing, and chest pain. The symptoms of sarcoidosis are aggravated by ground-level ozone and ozone smog. I am therefore directly impacted by climate change because increased temperatures lead to more frequent bad ozone days which exacerbate my medical condition.

20. Further, I do not own a car, so I walk around Philadelphia on a daily basis. I also enjoy running, sitting outdoors, and spending time on the patio and roof of my apartment building. More frequent and intense bad ozone days will make it harder for me to breathe when I attempt to walk and exercise outdoors, and will force me to curtail these activities. More frequent and intense bad ozone days are already occurring in Philadelphia and likely to increase if climate change-related temperature increases remain unchecked.

21. I also suffer from seasonal allergies in the spring, due to increased pollen in the air at that time of year. My symptoms include runny eyes, stuffy nose, headache and a “spacey” feeling. Among the effects of climate change in the Mid-Atlantic region is a lengthening of the allergy season, which already is causing me to suffer from these symptoms more often.

22. I have children and two small grandchildren; one newborn and one who is almost three years old. They visit me in Philadelphia often and are an important reason why I am so concerned about the issue of climate change. I worry about how the changing climate will impact their futures and believe we must do everything we can to protect them from its effects.

23. The Guidelines at issue in the above-referenced matter, along with the “Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units,” finalized on the same day, will be a significant step toward addressing climate change and its effect on rising waters, increasing bad ozone, allergens, and our children’s future planet. I believe the Guidelines will also make the air that I, my children and my grandchildren breathe cleaner and safer. The Clean Air Council seeks to intervene on EPA’s behalf to defend the Guidelines. I support EPA’s promulgation of the Guidelines and I support CAC’s efforts to intervene on EPA’s behalf.

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

Executed this 26th day of August, 2015.

/s/ Joseph O. Minott

Joseph O. Minott
2301 Cherry Street, 4J
Philadelphia, PA 19103

Exhibit 5

Declaration of Sara Molyneaux

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

_____)	
In re: State of West Virginia, et al.,)	
)	
Petitioners.	)	No. 15-1277
	)	(consolidated with
_____	)	No. 15-1284)

Norfolk County)
)
Commonwealth of Massachusetts)

DECLARATION OF SARA MOLYNEAUX

I, Sara Molyneaux, hereby declare and state as follows:

1. This declaration is based on my personal knowledge. I am over the age of eighteen (18) and suffer no legal incapacity. I submit this declaration in support of the Motion for Intervention by Conservation Law Foundation (“CLF”) in the above-referenced matter.

2. I am currently the Chair of the CLF Board of Trustees. I have served on the CLF Board and have been a CLF member for seventeen years. My role at CLF requires me to be responsible for achieving the organization’s goals and mission, and to be familiar with CLF’s structure, activities, and membership.

3. Founded in 1966, CLF is a 501(c)(3) non-profit, member-supported corporation, organized and existing under the laws of Massachusetts, and headquartered at 62 Summer Street, Boston, Massachusetts 02110. CLF maintains offices in Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. CLF's membership consists of approximately 3,130 individuals, residing in thirty states and the District of Columbia, with the largest concentrations in the New England region.

4. CLF's mission is to work to solve the most significant environmental challenges facing New England. CLF relies on sound science and uses the law to create and advocate for innovative strategies to conserve natural resources, protect public health, and promote vital communities in our region. Working to promote effective climate change policies, including defending the U.S. Environmental Protection Agency's ("EPA's") authority to regulate greenhouse gas emissions under the Clean Air Act, constitutes a core element of CLF's mission.

6. My role at CLF requires me to be up-to-date and knowledgeable about current and future threats to the environment in Massachusetts, and more broadly, to the New England region.

7. Among the most important current and future threats to Massachusetts' natural and built environment is the ongoing damage due to a

changing climate in the region. I am aware of the science documenting the existence of climate change, its causes, and its potential adverse impacts on public health and welfare and the environment – specifically to the natural and built environment in the New England region. I understand that human activities, especially the burning of fossil fuels to generate electric power, have resulted in elevated levels of carbon dioxide pollution. Carbon dioxide and other greenhouse gases trap heat in the Earth’s atmosphere that would otherwise escape, and that “greenhouse effect” is now causing a variety of climatic and environmental changes, including, but not limited to, increased temperatures, sea level rise, and increases in the frequency and intensity of extreme weather events, including increased precipitation and heavy downpours in the northern United States.

8. I understand that 2014 had the highest average temperatures of any year in recorded U.S. history, and that this is part of a pattern of increased warming globally and in my region. Between 1895 and 2011, average annual temperatures in Massachusetts, indeed the entire Northeast United States, increased by approximately 2°F and precipitation increased by more than ten percent. I understand that sea level rise is already documented in Massachusetts and that global sea levels are projected to rise one to four feet by 2100, substantially increasing coastal flooding risks in my region.

9. I know that urban areas, such as the Greater Boston metropolitan area in Massachusetts, have significantly more impermeable surfaces, including concrete and asphalt and less vegetation than surrounding areas, and therefore suffer from a “heat island” effect, whereby average temperatures are several degrees warmer than in the surrounding regions. The “heat island” effect poses a direct health risk because extreme heat events can cause health problems, including heat exhaustion, heat stroke, and even death, particularly among at-risk populations, such as children, the elderly, or those with low socio-economic factors. This “heat island” effect also contributes to greater concentrations of ground-level ozone, which forms when warm polluted air mixes with sunlight. Hotter areas experience higher localized concentrations of ground-level ozone than cooler areas. In turn, ground-level ozone combines with particulate matter to create smog. Smog is a particular problem in urban areas because of the increased presence of vehicles and industry, as well as the “heat island” effect.

10. Ozone smog irritates the respiratory system, reduces lung function, inflames and damages cells that line your lungs, makes your lungs more susceptible to infections, aggravates asthma, aggravates chronic lung disease and can cause permanent lung damage. Increasing temperatures associated with climate change will exacerbate ground-level ozone and ozone smog and

associated health problems. CLF's members residing in urban areas are experiencing the effects of summer smog now, which will continue and intensify if greenhouse gas accumulations in the atmosphere remain unchecked and average temperatures continue to rise.

11. I know that climate change results in more frost-free days and can contribute to shifts in flowering time and pollen initiation from allergenic plants. Increases in carbon dioxide itself can elevate plant-based allergens, resulting in longer allergy seasons.

12. I am familiar with the final rule at issue in this litigation: "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," signed by the EPA Administrator on August 3, 2015, but not as yet published in the Federal Register. On December 1, 2014, CLF submitted comments on the proposed Guidelines. In my opinion, and based on my experience at CLF, the final Guidelines are a significant step forward in reducing greenhouse gas emissions in the United States and confirm the country's international leadership in the global effort to address climate change.

13. The final Guidelines will require states, including Massachusetts, to impose carbon pollution emissions standards requiring reduced carbon dioxide emissions from the fleet of existing fossil fuel-fired power plants. Fossil fuel-

fired power plants are by far the largest source of U.S. carbon dioxide emissions, making up nearly forty (40) percent of U.S. anthropogenic carbon dioxide and thirty-one (31) percent of U.S. total anthropogenic greenhouse gas emissions. The Guidelines will result in thirty-two (32) percent less carbon pollution from power plants than in 2005, or 870 million short tons. The Guidelines will also reduce exposure to particulate matter and ozone because they will have the incidental effect of reducing fossil fuel-fired power plant emissions of precursor pollutants.

14. CLF's members live and recreate in areas throughout New England that are now, and will be in the future, impacted by climate change, rendering them at risk for the adverse public health effects of climate change. CLF's members also include persons owning property and recreating in coastal areas that have already experienced sea level rise, as well as the accompanying erosion, direct loss of coastal property, and compromised wetland areas. CLF's members further include elderly persons and others living in urban areas with high concentrations of ground-level ozone, making them particularly vulnerable to the adverse health impacts associated with exposure to these elevated concentrations.

15. In addition to my role at CLF, I have been a resident of Massachusetts for 38 years. I live at 7 Wilsondale Street, Dover, MA, which is

located in Norfolk County. I also own property at 595 Old Post Road, Cotuit, MA, which is located in Barnstable County on Cape Cod.

16. My property in Cotuit, MA is located on the waterfront and is in a high-risk flood area according to the U.S. Federal Emergency Management Agency. I am aware that increased global temperatures cause increased flooding, due to a combination of sea level rise, storm surge, and extreme precipitation events. Because my property is within close proximity to the Atlantic Ocean, it is vulnerable to damage from such flooding.

17. My husband of thirty-five years is a native New Englander and suffers from chronic asthma, which causes shortness of breath, wheezing, coughing, and chest pain. These symptoms are aggravated by ground-level ozone and ozone smog. My husband is, therefore, directly impacted by climate change because increased temperatures lead to more frequent bad ozone days, exacerbating his symptoms.

18. My husband enjoys spending time outdoors and participating in recreational activities. Based on the heightened frequency and intensity of bad ozone days, my husband has been forced to curtail these activities. If climate-related temperature rises remain unchecked, these bad ozone days will only continue to increase, and the associated adverse health impacts will be compounded.

19. I have two children living in the Boston area. They are an important reason why I am so concerned about the issue of climate change. I worry about how the changing climate will impact their health and their futures. I believe we must do everything we can to protect them from the adverse effects of climate change.

20. The Guidelines at issue in the above-referenced matter, along with the “Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units,” finalized on the same day, will be a significant step toward addressing climate change and its effect on rising waters, increasing bad ozone, allergens, and our children’s future planet. I believe the Guidelines will also make the air that I, my children, and my grandchildren breathe cleaner and safer. CLF seeks to intervene on EPA’s behalf to defend the Guidelines. I support EPA’s promulgation of the Guidelines, and I support CLF’s efforts to intervene on EPA’s behalf.

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

Executed this 30th day of August, 2015.

/s/ Sara Molyneaux

Sara Molyneaux
7 Wilsondale Street
Dover, MA 02030

Exhibit 6

Declaration of Keith A. Reopelle

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

<hr/>)	
In re: State of West Virginia, <i>et al.</i> ,)	
)	
Petitioners.		)	No. 15-1277
		)	(consolidated with
		)	No. 15-1284)
<hr/>)	

Dane County)
)
State of Wisconsin)

DECLARATION OF KEITH A. REOPELLE

I, Keith A. Reopelle, hereby declare and state as follows:

1. This declaration is based on my personal knowledge. I am over the age of eighteen (18) and suffer no legal incapacity. I submit this declaration in support of the Motion to Intervene of Clean Wisconsin in the above-referenced matter.

2. I am the Senior Policy Director for Clean Wisconsin, where I have served in a variety of positions, including as Clean Wisconsin’s Executive Director, for 30 years. In my current position I lead all of the organization’s programs related to climate and energy policies. Due to my current position

and my previous experience, I am knowledgeable about Clean Wisconsin's mission, and as well about how energy policy and climate change impacts the state of Wisconsin, including impacts to public health, natural resources and the built environment.

3. Clean Wisconsin, founded as Wisconsin Environmental Decade, was established in 1970. Clean Wisconsin is a 501(c)(3), non-profit, membership organization incorporated in Wisconsin and headquartered at 634 W. Main Street, Suite 300, Madison, Wisconsin 53703.

4. Clean Wisconsin currently has 6,000 members in the Midwest region most of whom live in the state Wisconsin.

5. Clean Wisconsin works to achieve its mission through education, advocacy and legal action to protect Wisconsinites' right to breathe clean air and drink clean water. Among Clean Wisconsin's programmatic activities is its Global Warming Program, and this kind of programmatic work to protect clean air and promote clean energy has been a continual focus of the organization since its beginning in 1970. Specifically, Clean Wisconsin is helping to ensure that Wisconsin's economy stays strong and is powered by clean, safe, reliable energy as Clean Wisconsin works for strong state and federal policies to address climate change pollution, including defending the

U.S. Environmental Protection Agency's (EPA's) authority to regulate greenhouse gas emissions under the Clean Air Act.

6. I am familiar with the final rule at issue in this litigation: "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electricity Utility Generating Units," signed by EPA Administrator McCarthy on August 3, 2015 (the Clean Power Plan), but not as yet published in the Federal Register. Clean Wisconsin filed comments with EPA just prior to the December 1, 2014 deadline for those comments last year. Clean Wisconsin has also submitted three sets of comments to EPA, jointly with other non-governmental organizations (NGOs) and with several coal-based utilities from across the Midwest including multiple Wisconsin utilities.

7. Clean Wisconsin began its collaborative outreach with Midwest utilities on the Clean Power Plan rules in 2011 in an effort to better understand their concerns, needs, challenges and opportunities in relation to this regulation. We submitted our first of three joint comments with utilities prior to the proposed rule in June of 2014, a second set of joint comments prior to the comment deadline on the proposed rule in December of 2014, and we followed up with EPA in April of 2015. I am very impressed and happy to see that EPA took those comments into full consideration and made multiple changes to the rule to address the common concerns of the NGO community

and many of the coal-based utilities in the Midwest. I also am very impressed by the reaction to the proposed and final rule by utilities in Wisconsin.

Throughout this rulemaking process their response has been one of rolling up their sleeves and doing the collaborative work to find the best solutions, not a “just say no” response.

8. I understand that human activities, and the burning of fossil fuels to generate electricity in particular, have resulted in elevated levels of carbon dioxide pollution in the atmosphere. I am well aware that carbon dioxide and other greenhouse gases trap heat in the Earth’s atmosphere that would otherwise escape, and that “greenhouse effect” is now causing a variety of climatic and environmental changes, including, but not limited to, increased temperatures, sea level rise, longer and more severe droughts and increases in the frequency and intensity of extreme weather events including increased intensity in precipitation events. I am also aware that the increase in average temperatures tends to be higher in the interior of large continents such as North American that that has been the case in the Midwestern portion of the United States. I understand that 2014 had the highest average temperatures of any year in recorded U.S. history, and that this is part of a pattern of increased warming globally and in the Midwest.

9. I am also aware that fossil fuel generating power plants are the largest sources of carbon pollution emission in the United States and account for more than 40 percent of all the carbon pollution emissions in the state of Wisconsin.

10. I am also aware that rigorous analysis shows that under the expert International Panel on Climate Change's (IPCC's) scenario A1B (which models reductions in greenhouse gas emissions greater than is the case under the status quo in the United States), there is a 90 percent likelihood that the annual mean temperatures in Wisconsin will rise to somewhere between 3 and 9 degrees Fahrenheit above 1980 levels by the year 2055. I am aware that this analysis also shows that there is a 90 percent likelihood that the annual mean temperature in Wisconsin will rise to somewhere between 5 and 13 degrees Fahrenheit above 1980 levels by the year 2090, and that the number of days that the daytime high will exceed 90 degrees Fahrenheit is likely to increase by 20 (over 1980 levels) by 2055. I am also aware that the number of rainfall events in excess of 2 inches is likely to increase by 6 days per decade by the year 2055.

11. I am further aware that the impacts of these and other changes in the climate, as a result of human-induced global warming due to carbon dioxide and other greenhouse gas emissions, is already producing and will

produce serious harmful impacts to Wisconsin's natural environment, built environment and public health over the coming centuries. I know that in Wisconsin droughts are already more frequent and will become more severe and longer in duration; we know that rain and storm events, while occurring less frequently are now and will become more intense and severe; I know that warming is now and will be greatest in winter months resulting in less consistent snow cover and more icy conditions; I know that in Wisconsin cities, which have more paved and built-up surfaces and less vegetation than in rural areas, a heat island effect is now causing and will lead to even more severe hot-weather days.

12. I know that insect-borne diseases such as Lyme disease are already spreading into regions of the country (including areas in Wisconsin), where they previously had not occurred, due to warming winters that no longer kill off the insect hosts; and that Lyme disease will continue to spread, and the season when ticks are able to transmit the disease to humans will continue to lengthen, unless something is done to reduce climactic warming. I know that the incidence and intensity of ozone smog is already increasing and will continue to increase, and ozone smog seasons will lengthen in Wisconsin, with increased temperatures that drive the chemical reaction that forms ground-level ozone. I know that streams and rivers in Wisconsin already are warming, and

this will greatly reduce the range and incidence of native cold-water fisheries in Wisconsin, especially brook trout. I know that higher summer temperatures are already causing stress to dairy cows and increase the cost of producing quality milk, which is vital to the economic health of Wisconsin's dairy industry, one of the country's most important sources of milk and other dairy products. I know that because rainfall events are both less frequent but more intense when they do occur, both droughts and flooding are increasing, and this situation already is adding risk and expense to many types of Wisconsin crop farming including grains, fruits, vegetables, herbs, and livestock feed. I know that shorter snow-cover durations resulting from increases in winter thaws are now and will continue to have major impacts on the tourism industry in Wisconsin and increase costs for Wisconsin's timber industry.

13. I know that it is critical to adapt to these changes and that adaptation will come at a great cost to Wisconsin's economy; moreover it is also critical to take steps now to reduce carbon dioxide and other air pollution that causes climate change in order to mitigate those costs. I know that the combined costs of the impacts of climate change and the costs of adapting to minimize those impacts, will be far higher than the cost of mitigating the impacts, particularly from the largest sources such as electric generating units.

14. In addition to my professional role with Clean Wisconsin I have also been a dues paying member of Clean Wisconsin for the past 33 years. I am 57 years old, and my wife and I own the property where we live at 579 Fisch Road, Marshall Wisconsin. I have been a resident of the state of Wisconsin (and a Green Bay Packer fan) all of my life. My wife and I have two daughters.

15. I am and have been an avid fisherman all of my life. I fish extensively in Wisconsin for everything from panfish to muskies, including bass, walleyes, brook, rainbow and brown trout, northern pike and salmon. I spend many weekends every year in Vilas and Oneida Counties fishing for walleyes and muskies. I spend what, for me, is a lot of money in those counties buying tackle and bait and buying food in grocery stores and restaurants. I also fish for trout in southern and southwestern Wisconsin and I am familiar with studies that show that trout fishing in Southwest Wisconsin is major part of that region's economy. I am aware due to my professional work that unless we take significant steps to reduce current levels of carbon dioxide emissions, it is clear that Wisconsin will lose the majority of its brook trout habitat, and the habitat for rainbow and brown trout will be significantly diminished. This will be a great personal loss to me and will forfeit

recreational opportunities for my daughters. Just as importantly, it will be a major economic and cultural blow to the state of Wisconsin.

16. I also spend a good deal of time ice fishing. I love ice fishing and I love being a part of the community of Wisconsinites that gathers on lakes in both southern and northern Wisconsin partaking in a cultural phenomenon that helps define Wisconsin's identity (not to mention taking home a very tasty meal!). I am aware from my professional work and my years as a fisherman that Lake Mendota in Madison Wisconsin is one of the most studied lakes in the world and has one of the world's largest/longest set of ice-cover data, dating back to 1855. It is clear from that data that unless we take steps to reduce greenhouse gas emissions and the resulting climate change, ice fishing in Wisconsin will become a thing of the past. I am already seeing this happen in my lifetime. In 2001, Lake Mendota in Madison Wisconsin was covered by ice for just a total of three weeks, far less time than was the case in my childhood. Additionally, this causes unsafe conditions on the ice, particularly for those who are less aware of the warming situation than I am. And, between now and that day when ice fishing becomes a thing of the past and Wisconsin loses a major source of its winter economic activity (especially in rural areas and the north), many unsafe ice conditions will continue to exist and lives will be lost.

17. My wife and I own 40 acres of land, of which we lease 7 acres to grow corn and soybeans. We also own and maintain a small alpaca herd for fiber production. The impacts of climate change on our modest farming operation give me a better understanding how the impacts of climate change is already hitting and will continue to impact farmers in Wisconsin. Farmers depend on predictable seasons and weather for their livelihood. The drought of 2012 had a negative impact on our farm and other farming operations across southern Wisconsin, including a reduced hay harvest and the resulting price spike in hay for livestock feed.

18. We have two daughters, both of whom share our love for the outdoor recreational opportunities Wisconsin has to offer, and I am aware that their lives and their children's lives will be affected even more profoundly – in a negative way – than ours by climate change impacts to Wisconsin. This fact, more than anything else, is my motivation for working to address climate change and mitigate its impacts on Wisconsin.

19. The carbon dioxide pollution rules at issue in the above-referenced matter, along with the “Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units” (the power plant NSPS) finalized on the same day, are a very significant step toward addressing climate change and its

effect on Wisconsin's air quality, lakes, rivers, ground water, farms, businesses, public health, culture and heritage. I believe the carbon pollution rules will also make the air that I, my wife, my children, and my grandchildren breathe cleaner and safer. Clean Wisconsin seeks to intervene on EPA's behalf to defend the rules. I support EPA's promulgation of the Clean Power Plan and the power plant NSPS and I support Clean Wisconsin's efforts to intervene on EPA's behalf.

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

Executed this 31st day of August, 2015:

/s/ Keith A. Reopelle
Keith A. Reopelle
579 Fisch Road
Marshall, WI 53559

Exhibit 7

Declaration of Kassia R. Siegel

DECLARATION OF KASSIA R. SIEGEL

I, Kassia R. Siegel, declare as follows:

1. I am the director of the Center for Biological Diversity's Climate Law Institute. I have personal knowledge of the facts and statements contained herein and, if called as a witness, could and would competently testify to them.

2. The Center for Biological Diversity (the "Center") is a non-profit corporation with offices in California and throughout the United States. The Center works to protect wild places and their inhabitants. The Center believes that the health and vigor of human societies and the integrity and wildness of the natural environment are closely linked. Combining conservation biology with litigation, policy advocacy, and strategic vision, the Center is working to secure a future for animals and plants hovering on the brink of extinction, for the wilderness they need to survive, and by extension, for the spiritual welfare of generations to come. In my role as director of the Center's Climate Law Institute, I oversee all aspects of the Center's climate and air quality work.

3. The Center works on behalf of its members, who rely upon the organization to advocate for their interests in front of state, local and federal entities, including EPA and the courts. The Center has more than 50,000 members.

4. The Center has developed several different practice areas and programs, including the Climate Law Institute, an internal institution with the primary mission of curbing global warming and other air pollution, and sharply limiting its damaging effects on endangered species, their habitats, and human health for all of us who depend on clean air, a safe climate, and a healthy web of life.

5. Global warming represents the most significant and pervasive threat to biodiversity worldwide, affecting both terrestrial and marine species from the tropics to the poles. Absent major reductions in greenhouse gas emissions, by the middle of this century upwards of 35 percent of the earth's species could be extinct or committed to extinction as a result of global warming. With even moderate warming scenarios producing sufficient sea level rise to largely inundate otherwise "protected" areas like the Everglades and the Northwest Hawaiian Islands, global

1 warming threatens to render many other biodiversity conservation efforts either futile or irrelevant.
2 To prevent extinctions from occurring at levels unprecedented in the last 65 million years,
3 emissions of carbon dioxide and other greenhouse gases must be reduced deeply and rapidly.
4 Given the lag time in the climate system and the likelihood that positive feedback loops will
5 accelerate global warming, leading scientists have warned that we have only a few decades, at
6 most, to significantly reduce greenhouse gas emissions if we are to avoid catastrophic effects.
7 Deep and immediate greenhouse gas reductions are required if we are to save many species which
8 the Center is currently working to protect, including but not limited to the polar bear, Pacific
9 walrus, ribbon seal, Kittlitz's murrelet, American pika, Emperor penguin, and many species of
10 corals. Leading scientists have also stated that levels of carbon dioxide, the most important
11 greenhouse gas, must be reduced to no more than 350 parts per million (ppm) and likely less than
12 that, "to preserve a planet similar to that on which civilization developed and to which life on
13 Earth is adapted" (J. Hansen et al., *Target Atmospheric CO₂: Where Should Humanity Aim?*, 2
14 *Open Atmospheric Sci. J.* 217, 218 (2008)).

15 6. One of the Climate Law Institute's top priorities is the full and immediate use of
16 the Clean Air Act to rein in greenhouse gases and other pollutants. The Clean Air Act is our
17 strongest and best existing tool for doing so, and we have long worked to enforce the Clean Air
18 Act's mandates to accomplish this goal. For example, the Center was a Plaintiff in *Massachusetts*
19 *vs. EPA*, which resulted in the landmark Supreme Court decision finding that greenhouse gases are
20 pollutants under the Clean Air Act, which ultimately led to EPA's first-ever rulemaking to reduce
21 greenhouse gas emissions from passenger cars and light trucks under section 202. That rulemaking
22 is comprised of the *Endangerment and Cause or Contribute Findings for Greenhouse Gases*
23 *Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66,496 (Dec. 15, 2009) ("Endangerment
24 Finding"), and the *Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate*
25 *Average Fuel Economy Standards*, 75 Fed. Reg. 25,324, 25,397 (May 7, 2010), updated twice
26 since then. The Center also submitted or is submitting comments to each of those successor light
27 duty vehicle rules, as well as to the first medium duty/heavy duty vehicle rule and its proposed
28

1 successor, the *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-*
2 *Duty Engines and Vehicles, Phase 2; Proposed Rule*, 80 Fed. Reg. 40138 (July 13, 2015).

3 7. EPA's rulemaking to reduce greenhouse gases from passenger vehicles preceded
4 significant additional regulatory activity for greenhouse gases under other Clean Air Act
5 programs, including rulemakings that enforce the Clean Air Act's PSD permitting program and
6 best available control technology ("BACT") requirements for greenhouse gases emitted by
7 stationary sources and implementation of New Source Performance Standards for various
8 industrial facilities. *E.g.*, *Prevention of Significant Deterioration and Title V Greenhouse Gas*
9 *Tailoring Rule*, 75 Fed. Reg. 31,514 (2010). EPA's rulemakings were upheld in 2012 in *Coalition*
10 *for Responsible Regulation v. EPA* (D.C. Cir. 2012) 684 F.3d 102, a matter in which the Center
11 submitted an amicus brief. The Supreme Court affirmed *Coalition for Responsible Regulation* in
12 part, upholding EPA's authority to require BACT for greenhouse gas emissions from facilities that
13 must obtain PSD permits due to their potential to emit non-greenhouse gas pollutants. *See Util.*
14 *Air Reg. Group v. EPA*, 573 U.S. ___, 134 S. Ct. 2427, 2449 (2014).

15 8. We commented on EPA's proposed rulemakings to set standards and guidelines for
16 greenhouse gas emissions from new, modified/reconstructed, and existing power plants under
17 Clean Air Act sections 100(b) and 111(d), the rulemakings here at issue. (Center comments, EPA-
18 EPA-HQ-OAR-2011-0660-10171 [June 22, 2012]; HQ-OAR-2013-0495-10119 [May 9, 2014];
19 EPA-HQ-OAR-2013-0602-25292 [Dec. 1, 2014].) We have also been involved in numerous other
20 Clean Air Act administrative proceedings and legal actions seeking to enforce the Act's provisions
21 for greenhouse gases. For example, we successfully challenged EPA's exemption of "biogenic"
22 CO₂ – that is, CO₂ emitted from burning wood and other "biomass" materials – from the Clean Air
23 Act's PSD and Title V permitting programs. *Center for Biological Diversity v. EPA*, 722 F.3d 401
24 (D.C. Cir. 2013). We have participated in numerous other legal actions, including but not limited
25 to *Sierra Club v. EPA*, 762 F.3d 971 (9th Cir. 2014) (challenging EPA's decision to exempt the
26 Avenal power plant from Clean Air Act requirements applicable at the time of permit issuance),
27 *Resisting Environmental Destruction on Indigenous Lands v. EPA*, 716 F.3d 1155 (9th Cir. 2013)
28 (challenging errors in air permits that would allow Shell to conduct exploratory drilling in the

1 Arctic ocean), and *Center for Biological Diversity v. EPA* (D.D.C. 2011) 794 F. Supp. 2d 151
2 (seeking to compel a response from EPA on petitions to issue greenhouse gas standards for ships,
3 aircraft, and offroad engines). In September, 2010, we petitioned EPA to issue greenhouse gas
4 standards for locomotive engines pursuant to Clean Air Act section 213(a)(5). *Petition for*
5 *Rulemaking Under the Clean Air Act to Reduce Greenhouse Gas and Black Carbon Emissions*
6 *from Locomotives* (Sept. 21, 2010). In December 2009, we petitioned EPA to designate
7 greenhouse gases as criteria air pollutants under Clean Air Act section 108 and to issue National
8 Ambient Air Quality Standards (NAAQS) sufficient to protect public health and welfare. *Petition*
9 *to Establish National Pollution Limits for Greenhouse Gases Pursuant to the Clean Air Act* (Dec.
10 2, 2009). In 2007, we petitioned EPA to issue greenhouse gas standards for aircraft under Clean
11 Air Act section 231; we obtained a court order mandating EPA to make an endangerment finding
12 for aircraft from the district court for the District of Columbia in 2011, and as a result, EPA
13 recently released a proposed endangerment finding and an advanced notice of proposed
14 rulemaking for aircraft greenhouse gases, *Proposed Finding That Greenhouse Gas Emissions from*
15 *Aircraft Cause or Contribute to Air Pollution That May Reasonably Be Anticipated To Endanger*
16 *Public Health and Welfare and Advance Notice of Proposed Rulemaking, Proposed Rule*, 80 Fed.
17 Reg. 37758 (July 1, 2015). Again, these examples are illustrative of our advocacy in this area, not
18 exhaustive.

19 9. In addition to our work on greenhouse pollution, the Center has worked through the
20 Clean Air Act to address other pollutants that adversely impact biodiversity and human health.
21 For example, we filed suit against EPA for failing to review and revise the air quality criteria for
22 oxides of nitrogen and sulfur oxides and the NAAQS for nitrogen dioxide and sulfur dioxide. This
23 case resulted in a court-ordered settlement agreement setting forth deadlines for EPA to update
24 these critically important standards. On February 9, 2010, EPA issued updated primary NAAQS
25 for nitrogen dioxide. Primary National Ambient Air Quality Standards for Nitrogen Dioxide; Final
26 Rule, 75 Fed. Reg. 6474 (February 9, 2010). On June 22, 2010, EPA issued updated primary
27 NAAQS for sulfur dioxide. Primary National Ambient Air Quality Standard for Sulfur Dioxide;
28 Final Rule, 75 Fed. Reg. 35520 (June 22, 2010). On April 3, 2012, EPA decided *not* to revise the

1 40-year-old secondary NAAQS for sulfur and nitrogen oxides, despite acknowledging ongoing
2 harm to terrestrial and aquatic ecosystems from acid rain and other depositional pollution.
3 Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur, 77 Fed.
4 Reg. 20218 (April 3, 2012). We challenged the latter decision as contrary to the Clean Air Act.
5 See *Ctr. for Biological Diversity v. EPA*, 749 F.3d 1079 (D.C. Cir. 2014). We also filed suit in
6 2010 against EPA for failing to meet numerous deadlines for limiting dangerous particle pollution,
7 including deadlines for: (a) determining whether areas in five western states are complying with
8 existing air pollution standards, and (b) ensuring that states are implementing legally required
9 plans to meet the standards. *Ctr. for Biological Diversity v. Jackson*, N.D. Cal. No. CV 10-1846
10 MMC (filed April 29, 2010). This case resulted in another settlement establishing deadlines for
11 EPA to carry out these important duties.

12 10. We here seek intervention to support EPA's rulemakings under Clean Air Act
13 sections 111(b) and 111(d) to set greenhouse gas emission reduction standards and issue
14 guidelines for the nation's new, modified or reconstructed, and existing power plants. Because
15 power plant carbon emissions constitute some 40% of the nation's greenhouse gas emissions and
16 are the largest single source of such emissions, it is crucial that they be sharply reduced, and
17 eventually eliminated, as quickly as possible. Power plant greenhouse gas emissions harm the
18 health, welfare, economic, and aesthetic interests of our members in numerous ways. They are a
19 major contributor to climate change, which is already driving many animals and plants to
20 extinction, increasing temperatures, and causing droughts, flooding and sea level rise, and
21 affecting the livelihoods and property of our members. Our members are increasingly less able to,
22 and sometimes altogether prevented from, viewing and enjoying wildlife threatened by climate
23 change and from recreating in wilderness areas undergoing rapid climate change. They are
24 deprived of the aesthetic enjoyment that stems from such activities, and experience worry, upset
25 and other emotional injury because of it. Some of our members suffer from pulmonary diseases
26 such as asthma from the smog- and soot-forming co-pollutants emitted by power plants, such as
27 sulfur dioxide, nitrogen oxides, and fine particulate matter.

1 11. The Center's members rely on the organization to support EPA's efforts to reduce
2 carbon and other harmful pollution from power plants, to enforce the provisions of the Clean Air
3 Act, and to compel power plants to operate lawfully.

4 12. Any decision by this Court that would delay or impede EPA's ability to enforce
5 Clean Air Act sections 111(b) and 111(d) to reduce carbon and other harmful pollution from
6 power plants would harm the interests of the Center and its members. These interests include the
7 procedural interests in enforcing all aspects of the rulemakings that reduce carbon pollution, about
8 which our members have commented extensively.

9 13. If this Court upholds EPA's rulemakings to reduce carbon and other harmful
10 pollution from power plants, both the substantive and the procedural harm that would come from
11 impeding or delaying those pollution reductions would be addressed and prevented.

12
13 I declare under penalty of perjury under the laws of the United States of America that the
14 foregoing is true and correct. Executed on August 3, 2015, at Arcata, California.

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Kassia R. Siegel

Exhibit 8

Declaration of John Stith

DECLARATION OF JOHN STITH
Submitted In Support of Environmental Defense Fund

I, John Stith, declare as follows:

1. I am a Senior Manager of Database Marketing at Environmental Defense Fund. I have had this position for more than nine years.
2. My duties include maintaining an accurate list of members. My colleagues and I provide information to members, acknowledge gifts and volunteer actions and manage the organization's member databases. My work requires me to be familiar with Environmental Defense Fund's purposes, staffing, activities, and membership.
3. Environmental Defense Fund is a membership organization incorporated under the laws of the State of New York. It is recognized as a not-for-profit corporation under section 501(c)(3) of the United States Internal Revenue Code.
4. Environmental Defense Fund relies on science, economics and law to protect and restore the quality of our air, water and other natural resources. Environmental Defense Fund employs more than 150 scientists, economists, engineers, business school graduates and lawyers to help solve challenging environmental problems in a scientifically sound and cost-effective way.

5. Environmental Defense Fund has a strong organizational interest, and a strong interest that is based in its members' recreational, aesthetic, professional, educational, public health, environmental, and economic interests, in reducing harmful air pollution from the power sector, including greenhouse gas emissions from new, modified, and existing fossil fuel fired electric generating units.

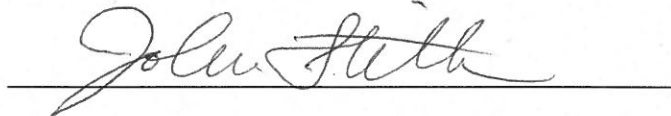
6. Through its programs aimed at protecting human health and the environment, Environmental Defense Fund has long pursued initiatives at the state and national levels designed to reduce emissions of air pollutants from all major sources, including power plants. This work has addressed emissions of greenhouse gases, air pollutants classified as "hazardous air pollutants" under the Clean Air Act, and other harmful air pollutants.

7. When an individual becomes a member of Environmental Defense Fund, his or her current residential address is recorded in our membership database. The database entry reflecting the member's residential address is verified or updated as needed. The database is maintained in the regular course of business and each entry reflecting a member's residential address and membership status is promptly updated to reflect changes. I obtained the information about our membership discussed below from the database.

8. Environmental Defense Fund currently has over 360,000 members in the United States, and we have members in all 50 states and the District of

Columbia. These members likewise have a strong interest in protecting human health and the environment from air pollution. Many live in and near areas affected by air pollution and climate change.

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

A handwritten signature in cursive script, reading "John Stith", is written above a solid horizontal line.

John Stith

Dated: August 7, 2015

Exhibit 9

Declaration of Gina Trujillo

DECLARATION OF GINA TRUJILLO

I, Gina Trujillo, do hereby affirm and state:

1. My name is Gina Trujillo. I have personal knowledge of the matters stated herein.

I am over the age of 18 and suffer from no legal incapacity.

2. I am the Director of Membership for the Natural Resources Defense Council (NRDC). I have been employed at NRDC for over 24 years. My duties as Director of Membership include supervising the maintenance and updating of NRDC's membership database, which is a listing of those persons who are members of NRDC.

3. NRDC is a membership organization incorporated under the laws of New York. It is recognized as a not-for-profit corporation under section 501(c)(3) of the United States Internal Revenue Code.

4. NRDC currently has more than 295,000 members nationwide. NRDC has members in all fifty states and the District of Columbia.

5. When an individual becomes a member of NRDC, the member authorizes NRDC to take legal action on his or her behalf to protect the environment and public health, including interests in water quality.

6. NRDC's mission statement declares that "The Natural Resources Defense Council's purpose is to safeguard the Earth: its people, its plants and animals, and the natural systems on which all life depends." The mission statement goes on to declare that NRDC works "to restore the integrity of the elements that sustain life—air, land, and water—and to defend endangered natural places." NRDC's mission includes the prevention and mitigation of climate change in order to protect and maintain NRDC's members' use and enjoyment of natural resources threatened by climate change.

7. Through its Climate Center, NRDC pursues federal and state policies to curb the pollution that is causing climate change, including emissions of carbon dioxide and other greenhouse gases from the electricity sector, which is responsible for approximately forty percent of the nation's carbon dioxide pollution.

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

Dated: New York, New York
August 26, 2015


Gina Trujillo

Exhibit 10

Declaration of Art Cooley

DECLARATION OF ART COOLEY

I, Art Cooley, hereby declare as follows:

1. I am a member of Environmental Defense Fund and have been a board member since I founded EDF along with several other scientists on Long Island, New York, in 1967. I currently reside in La Jolla, California. I have a graduate degree in biology from Cornell University, and I am a retired high school biology teacher. I have served for 20 years as a Naturalist and Expedition Leader for Lindblad Expeditions, an organization that offers ecological expedition cruises.
2. I am familiar with and concerned about emissions of greenhouse gases, which are causing climate change. I am aware of the latest scientific evidence, which concludes that warming of the climate is unequivocal, that it is extremely likely that human influences have been the dominant cause of this warming since the mid-20th century; and that continued emissions of greenhouse gases will cause additional warming.
3. I understand that climate change poses a significant threat to human health and the environment. I am aware of science suggesting that certain types of extreme weather events—including heat waves, heavy downpours, and, in some areas, floods and draughts—have become more frequent or more

intense due to climate change. Data also shows that warming is causing sea levels to rise; oceans to become more acidic; and snowpack to decline.

4. These changes threaten human health. For example, among other things, climate change can contribute to deteriorating air quality by exacerbating ozone pollution and increasing the risk of wildfires. And rising sea levels can threaten public safety through increased risk of coastal flooding and storm surge.
5. California has experienced many of these impacts. In particular, California is in the middle of a historic drought, and within Southern California alone, studies project climate change will exacerbate diminishing water supplies, further stretching this already scarce resource. Likewise, Southern California currently has some of the worst air quality in the nation. Higher temperatures, due to climate change, will likely worsen these conditions in California. California will likely also experience rising sea levels and increases in storm intensity and other extreme weather events.
6. I understand that immediate action to reduce greenhouse gas emissions is necessary to mitigate the impacts of climate change. Incremental actions addressing significant emissions sources can lessen harms associated with a changing climate and can reduce the risk that the climate system reaches certain “tipping points”—reflecting abrupt or irreversible changes in

climatic conditions. Meaningful actions in the United States can also help to encourage other countries to take similar action.

7. I understand that fossil fuel fired power plants in the United States are the single largest source of greenhouse gas emissions in the nation, contributing almost a third of all greenhouse gas emissions in the U.S. I am aware that in 2013, California power plants emitted approximately 45 million metric tons of carbon pollution. These plants are also significant sources of other harmful air pollutants—like sulfur dioxide and nitrogen oxides—which can cause respiratory diseases and contribute to premature death.
8. I am aware the Administrator of the U.S. Environmental Protection Agency (EPA) has recently signed final carbon pollution standards for new and modified fossil fuel-fired power plants (Carbon Pollution Standards) and emission guidelines for existing power plants (Clean Power Plan). Together, these actions will ensure future power plants are constructed in a way that minimizes greenhouse gas emissions and that existing plants reduce these emissions. Indeed, EPA projects that the Clean Power Plan will reduce CO₂ emission from the power sector approximately 32 percent below 2005 levels by 2030.
9. EPA concluded that these standards will have important public health and climate benefits, including by reducing the health and environmental risks

associated with climate change and by securing additional health improvements due to reductions in harmful co-emitted pollutants like sulfur dioxide and nitrogen oxides. EPA estimated that the Clean Power Plan will prevent up to 3,600 premature deaths and 90,000 asthma attacks in children across the U.S., delivering net benefits ranging from \$26 billion to \$45 billion. I am also aware of a separate study evaluating the proposed Clean Power Plan, concluding the health co-benefits of the Plan would accrue in all of the lower 48 U.S. States, including California.

10. I am aware that numerous parties have filed legal challenges seeking to overturn Clean Power Plan and have sought to stay the applicability of the Rule. These parties will likely also challenge the Carbon Pollution Standards. I am concerned that if these efforts to overturn or weaken the rule are successful, greenhouse gas emissions and other air pollution from power plants will not be reduced, and I will be harmed.

11. If challenges to the Clean Power Plan are successful, I am also concerned that carbon dioxide emissions from power plants will remain high, the risks associated with climate change will persist and intensify, and my ability to use and enjoy my own property and the beaches close to my house will be impaired.

12. La Jolla, California, where I live, is one block from the ocean. The ability to live close to the ocean and the beach was a significant factor in my residential choice and also substantially contributes to the economic value of my property. Approximately three times a week, I visit the ocean where I walk along the beach, and intend to continue to do so. I also visit, examine, and immensely enjoy the biology and ecology of the ocean shore and have a recreational, aesthetic, and personal connection to the particular area of the ocean and beach that I regularly visit. There is documented sea level rise in San Diego Harbor and other low lying beaches close to my house, and the beach on which I take frequent walks is now completely inundated in high surf and high tide conditions. Severe storms also contribute to coastal retreat—both through erosion and from the resulting landslides. I am concerned that I would not be able to continue to enjoy my property and my current recreational activities as I can now if the sea level continues to rise and the current beach changes or disappears.

13. I am also concerned that, if carbon emissions from power plants are left unaddressed, the health benefits associated with reductions in co-emitted pollutants like sulfur dioxide and nitrogen oxides will not be realized and consequently my health and the health of my family will suffer. My wife is affected by poor air quality and takes appropriate medicines to reduce that

effect. That impact, in turn, affects me – for example, in requiring me to change my personal recreational or work activities to assist her or help her avoid impacts, and because of the emotional harm I experience when her health is threatened by poor air quality. I must take similar measures to protect my health during unusually hot days or during high pollution episodes due to wildfires. Absent action, I am concerned that these adverse air quality events will persist and intensify, causing me and my family harm.

14. Finally, I am concerned that if the Carbon Pollution Standards are weakened or overturned, future power plants could be built without modern pollution controls, resulting in additional greenhouse gas emissions. Moreover, if the Carbon Pollution Standards are overturned, I am concerned that the significant reductions attributable to the Clean Power Plan may be imperiled.

15. For all the aforementioned reasons, I am deeply concerned that I will be injured if the Carbon Pollution Standards or Clean Power Plan are weakened or overturned, which would allow greenhouse gas emissions and other air pollution to persist unabated. I strongly support the efforts of the Environmental Defense Fund to ensure that the benefits from the Carbon Pollution Standards and Clean Power Plan are realized.

16.I declare that the foregoing is true and correct to the best of my knowledge,
information and belief.



A handwritten signature in cursive script, appearing to read "Art Cooley", is written above a horizontal line.

Art Cooley

Dated: 8/25/2015

Exhibit 11

Declaration of Elizabeth Coplon

DECLARATION OF ELIZABETH COPLON

I, Elizabeth Coplon, hereby declare as follows under penalty of perjury:

1. I am currently a member of the Natural Resources Defense Council (“NRDC”) and have been since 1995.
2. I support NRDC’s efforts to stop global warming and reduce its impacts. I believe that global warming poses a significant threat to the wellbeing of humans, wildlife, and the natural environment, and that we have a responsibility to maintain the environment to the best of our ability.
3. I live in Malibu, California. My home is located on a piece of property that abuts the Pacific Ocean.
4. I am concerned about the effects that global warming will have on my property and community. It is well-known that global warming will cause a significant rise in sea levels, resulting in increased storm-surge damage and shoreline erosion. My property could be eroded and my home destroyed if sea level rise caused increased erosion of the shoreline. In addition, increased storm-surges could flood my home. Erosion of nearby beaches would also deprive me of recreational opportunities and likely affect the value of my home.
5. I am also concerned about the quality of the air in the Los Angeles area. I understand that global warming could worsen ozone conditions and other air quality problems. In addition, air quality has been extremely bad

during wildfires, which are expected to occur more frequently as a result of global warming.

6. I believe that the regulation of greenhouse gas emissions from power plants and other sources will help prevent global warming, and avoid or lessen sea level rise and other problems associated with global warming. This will protect the economic value of my property and preserve the characteristics that led me to live here.

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

Executed in Malibu, California on August 12, 2015.



Elizabeth Cople

Exhibit 12

Declaration of Denise Fort

DECLARATION OF DENISE FORT

I, Denise Fort, hereby declare as follows:

1. I am currently a member of Environmental Defense Fund (EDF), and I have been a member for many years. I support EDF's efforts to protect human health and the natural environment by taking steps to reduce climate change and its impacts. My family and I reside in Santa Fe County, New Mexico, where we have lived for more than twenty-five years and plan to remain. I am a tenured faculty member at the University of New Mexico School of Law, with the title of Emeritus Professor of Law, and my area of expertise is environmental and natural resources law.
2. Because of my work as an environmental law professor, I am familiar with and deeply concerned about the impacts of climate change due to greenhouse gas emissions. I am aware of the latest scientific evidence, which concludes that warming of the climate is unequivocal, that it is extremely likely that human influences have been the dominant cause of this warming since the mid-20th century; and that continued emissions of greenhouse gases will cause further warming.
3. Climate change is posing a significant threat to the wellbeing of humans, wildlife, and the natural environment. For instance, I am aware of scientific evidence suggesting that certain types of extreme weather events—including

heat waves, heavy downpours, and, in some areas, floods and droughts— have become more frequent and / or intense. Studies also confirm that warming is causing sea levels to rise; oceans to become more acidic; and snowpack to decline.

4. These and other changes threaten human health. For example, more intense heatwaves lead to more heat-related disease and deaths. Increase risk of drought can contribute to water supply shortages and exacerbate wildfires, which can cause personal injury, damage infrastructure, and contribute to worsening air pollution problems. Extreme precipitation events can lead to flooding that can cause injuries and increase the risk of contracting waterborne diseases. And rising sea levels can threaten public safety through increased risk of coastal flooding and storm surge. These are just some of the numerous public health and safety harms associated with climate change.
5. Many of these impacts are occurring in New Mexico, where my family and I live. For instance, New Mexicans are experiencing elevated temperatures, reduced snowfall in the mountains, and an increase in both the occurrence and severity of extreme weather events like drought and heat waves. Projected summertime temperatures for the southwest region due to climate change are higher than the rest of country, making New Mexicans like

myself particularly vulnerable to heat-related diseases and deaths. And New Mexico has experienced an increase in the frequency and severity of wildfires in recent years.

6. I understand that immediate action to reduce greenhouse gas emissions is necessary to mitigate the impacts of climate change. Scientific evidence suggests that incremental actions addressing significant emissions sources can lessen harms associated with a changing climate. Such actions can likewise reduce the risk that the climate system reaches certain “tipping points”—reflecting abrupt or irreversible changes in climatic conditions. And actions in the United States can demonstrate the feasibility and effectiveness of taking similar actions elsewhere, increasing the likelihood that other countries follow suit.
7. In the United States, fossil fuel-fired power plants are by far the largest source of greenhouse gas emissions, responsible for almost a third of climate pollution. I am aware that, in 2013, New Mexico’s power plants emitted approximately 29 million metric tons of carbon dioxide. These power plants are also sources of other harmful air pollutants like sulfur dioxide and nitrogen oxides, which contribute to air pollution that can result in respiratory diseases and deaths.

8. I am aware the Administrator of the U.S. Environmental Protection Agency (EPA) recently signed final carbon pollution standards for new and modified fossil fuel-fired power plants (Carbon Pollution Standards) and emission guidelines for existing power plants (Clean Power Plan). Together, these actions will ensure future power plants are constructed in a way that minimizes greenhouse gas emissions and that existing plants reduce these emissions. Indeed, EPA projects that the Clean Power Plan will reduce power sector CO₂ emission approximately 32 percent below 2005 levels by 2030.
9. EPA concluded that these standards will have important public health and climate benefits, including by reducing the health and environmental risks associated with climate change and by securing additional health improvements due to reductions in harmful co-emitted pollutants like sulfur dioxide and nitrogen oxides. EPA estimated that the Clean Power Plan will prevent up to 3,600 premature deaths and 90,000 asthma attacks in children across the U.S., delivering net benefits ranging from \$26 billion to \$45 billion. I am also aware of a separate study examining the health benefits of the proposed Clean Power Plan and concluding these benefits would accrue in all of the lower 48 U.S. States, including New Mexico.

10. I am aware that numerous parties have filed legal challenges seeking to overturn the Clean Power Plan and have likewise sought to stay the applicability of the Rule. It is likely that parties also file legal challenges seeking to overturn the Carbon Pollution Standards. I am concerned that if these efforts to overturn or weaken the rule are successful, greenhouse gas emissions from power plants will not be reduced, and I will be harmed.
11. In particular, if challenges to the Clean Power Plan are successful, I am concerned that carbon dioxide emissions from power plants will remain high and the risks associated with climate change will persist and intensify. I am also concerned that emissions of other harmful pollutants, like sulfur dioxide and nitrogen oxides, will not be reduced, further increasing the risks to my health and the health of my family. In particular, my daughter had childhood asthma, and I am concerned about her vulnerability to smoke from forest fires.
12. I am also concerned that my ability to use and enjoy both my own property and the public lands I frequent throughout New Mexico will be impaired. I live in an area of New Mexico that is susceptible to wildfires, which can be exacerbated due to persistent heat waves and drought. I am concerned that, absent reductions in greenhouse gas emissions, I will face increased risk of fire-related damage to my property.

13. I also spend significant time with my family enjoying public lands throughout New Mexico. I hike at all elevations in the nearby Santa Fe and Carson National Forests, often accompanied by my daughter and friends, and intend to continue to do in the future. I am concerned that loss of additional forest lands due to drought, heatwave, and wildfires would limit my ability to enjoy hiking and bird watching throughout the region. I also kayak on the Rio Grande and Chama rivers and intend to continue to do so. In recent years, lower flows on these rivers have meant that I kayak less frequently, and I am concerned that later and less snow pack will further limit my ability to enjoy this pastime on New Mexico's rivers. I am also a cross country skier, but find that the season for skiing is becoming shorter and the snow is often too warm (soggy) for skiing now. This has been a dramatic change over the time I have lived in New Mexico.
14. Finally, I am concerned that if the Carbon Pollution Standards are weakened or overturned, future power plants could be built without modern pollution controls, resulting in additional greenhouse gas emissions. Moreover, if the Carbon Pollution Standards are overturned, I am concerned that the significant reductions attributable to the Clean Power Plan may be imperiled.
15. For all the aforementioned reasons, I am deeply concerned that I will be injured if the Carbon Pollution Standards or Clean Power Plan are weakened

or overturned, allowing greenhouse gas emissions to persist unabated and exacerbating the impacts of climate change.

16. I declare that the foregoing is true and correct to the best of my knowledge, information and belief.

A handwritten signature in dark ink, appearing to read "Denise Fort", written over a thin horizontal line.

Denise Fort

Dated: 8/27/15

Exhibit 13

Declaration of Dolores V. Leonard

DECLARATION OF DR. DOLORES V. LEONARD

I, Dr. Dolores V. Leonard, declare as follows:

1. My name is Dolores V. Leonard. I am over 18 years of age and competent to give this declaration. All information herein is based on my own personal knowledge unless otherwise indicated.
2. I live in Detroit in zip code 48217 in Wayne County, Michigan. I have lived at my current residence since 1957, moving to Detroit in 1955 from River Rouge in zip code 48218 where I was born.
3. My house is surrounded by industry; Wayne County is home to the DTE coal-fired power plant, steel mills, oil refineries, waste incineration plants, and other industrial facilities. I live one mile from the Marathon Detroit HOUP oil refinery, about two miles from DTE's River Rouge coal plant, and less than five miles from the AK Steel and US Steel facilities in Detroit and River Rouge. Many of these facilities are located across the street from peoples' homes, and are also close to public schools.
4. I am a member of the Sierra Club, which I joined in 2005 to help with their work on environmental justice. After joining, I volunteered for Sierra Club's Committee on Environmental Justice in its Detroit office, where I conducted research, edited a quarterly newsletter, and helped review permits and draft comments, among other things.

5. Sierra Club is a nationwide non-profit environmental membership organization, which has its purpose to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; to educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives.

6. I am an advocate for environmental justice. I regularly attend permit hearings, public meetings, and rallies to raise awareness about industrial pollution. I am active in the community because I am concerned that industry's focus is on economics and profits, often at the expense of public health. Due in large part to community efforts, some of the worst industrial polluters are addressing air pollution problems they have created. For example, AK Steel will install air filtration systems at the nearby Salina Elementary and Salina Intermediate Schools and pay civil fines under a settlement for past air violations. We want to ensure that these industrial sources, including the county's coal plants, comply with the law and cease emitting harmful air pollution that affects our community's health and well-being.

7. Growing up in the Detroit area, I am well aware that communities of color and low-income communities are disproportionately harmed by the health effects of air pollution from industrial facilities. Zip code 48217—the most polluted zip

code in Michigan—is a predominately African American community. Wayne County has the highest number of pediatric asthma cases in the state, and also the highest state population living in poverty.

8. I also understand that low-income communities and communities of color are disproportionately vulnerable to the threat of climate change. Scientists have estimated that climate change will have large impacts on the Great Lakes region, and there are several cities in this region, including Detroit, which will experience more extreme heat events that will cause premature deaths from climate change. Due to a lack of economic resources and proper healthcare, these communities will be less prepared than others to adapt to climate-related impacts. As climate change worsens, these communities will also bear the burden of spending higher proportions of their income as a result of rising food prices or increased water scarcity.

9. I understand that fossil fuel-fired power plants emit more than one-third of the country's carbon dioxide emissions, making them the largest single source of greenhouse gas pollution that drives climate change.

10. I am aware that coal plants like River Rouge also emit substantial amounts of other harmful air pollution that can have significant impacts on human health. I understand that soot-forming sulfur dioxide and particulate matter pollution from these types of facilities can penetrate deep into the lungs and are linked to a range

of respiratory problems, including bronchitis and asthma. Sulfur dioxide can also aggravate existing heart disease, and lead to increased hospitalizations and premature deaths. I also understand that nitrogen oxide contributes to ozone (or smog) formation, which also causes respiratory illness and premature deaths from heart and lung disease. Researchers have documented numerous deaths, heart attacks, asthma attacks, and other harmful effects from particulate matter pollution from the country's coal plants, including River Rouge. Because I am over the age of 65, I know that I am at a greater risk from the harmful impacts of air pollution from power plants.

11. I have asthma, for which I regularly use an inhaler and take medication when my symptoms worsen. I regularly check the news for ozone levels, and refrain from spending time outdoors when air quality is bad. Due to poor air quality, I rarely open the windows of my house. I have to use a central air system, which I do not like, to help with air circulation and to manage my respiratory problems. I have flower and vegetable gardens, but do not tend to them as much as I would like to because I am concerned about air pollution.

12. I also frequently smell foul odors in my neighborhood, which I believe are primarily due to all of the industrial activity in the area. The smell of kerosene and rotten eggs discourages me from spending time outdoors. The odors are especially

strong when driving on the nearby I-75, a major north to south Interstate Highway.

The stench fills my car even when the windows are closed and can linger for days.

13. Last year my granddaughter moved from East Detroit to River Rouge, to a house less than two miles from DTE's River Rouge coal-fired power plant. Shortly after she moved, her five-year-old son developed a cough and asthma. My granddaughter now has to regularly monitor his breathing.

14. I am aware that increasing temperature from extreme heat events can prolong the allergy season, worsening asthma and other respiratory illnesses. I understand that children and the elderly are among the most vulnerable to these climate-related health effects. I am very concerned about these impacts on my health, and the health of my great grandson and community.

15. I believe that sulfur dioxide, nitrogen oxide, and particulate matter pollution from coal plants and other industrial facilities harm my health, and the health of my family and community. I worry about the negative impacts of continued exposure to this pollution.

16. I understand that the U.S. Environmental Protection Agency (EPA) recently finalized the Clean Power Plan, a new rule under section 111(d) of the Clean Air Act that, when implemented by the states or EPA, will significantly limit the amount of carbon dioxide pollution from existing fossil fuel-fired power plants. I

understand that reducing carbon dioxide emissions will help curb climate change and lower climate change-related risks.

17. In addition, I understand that the Clean Power Plan will have substantial public health benefits because, by decreasing carbon pollution, power plants will also reduce smog- and soot-forming pollutants such as sulfur dioxide, nitrogen oxides, and fine particulate matter emissions. I am aware that EPA has estimated that the rule will substantially reduce these pollutants nationwide. I understand that cutting emissions of these pollutants will help lower the rates of asthma, respiratory diseases, heart attacks, and premature deaths that occur each year because of smog and soot. I believe that this reduction in air pollution will help to protect my health and the health of my family and community. It will also allow me to spend more time outdoors in my garden, adding to my quality of life.

18. I understand that the Clean Power Plan requires states to ensure that communities of color and low-income communities participate meaningfully in the preparation of state plans required to implement the rule, so that these communities suffer no local impacts from the increased operation of fossil fuel-fired plants and also receive the benefits from reduced pollution, which I believe will help improve air quality in Wayne County. I believe this rule is a critical tool in advocating for environmental justice, and I look forward to participating in this process to help bring awareness to the community's concerns about air pollution.

19. If the Clean Power Plan is implemented according to EPA's instructions, I will benefit from the new pollution standards. The rule will reduce emissions of carbon, as well as particulate matter, sulfur dioxide, and nitrogen oxides, helping to protect my health, my family's health, public health, and the environment. On the other hand, if the rule is stopped or delayed, I will suffer an injury by being deprived of the rule's benefits in reduced air pollution and improved public health.

20. If any legal challenges against the Clean Power Plan succeed in halting it, weakening it, or delaying its implementation, my family, community, and I will be injured for the reasons discussed above. I therefore strongly support efforts by the Sierra Club to defend the rule's legality in court.

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

Executed on August 28, 2015.



Dolores V. Leonard, Ed.D., NCC, LPC

Exhibit 14

Declaration of Joanne Pannone

DECLARATION OF JOANNE PANNONE

I, Joanne Pannone, declare as follows:

1. My name is Joanne Pannone. I am over 18 years of age and competent to give this declaration. All information herein is based on my own personal knowledge unless otherwise indicated.
2. I live in Mercer County, New Jersey. My current address is 215 Meadowbrook Road, Robbinsville, New Jersey 08691. I have lived at this address for 28 years.
3. I am a member of the Sierra Club. I joined the Sierra Club in November 2008. I joined the Sierra Club to help bring awareness to environmental problems such as Marcellus Shale fracking and the air and water quality impacts from nuclear and coal-fired power plants in my area.
4. The Sierra Club is a nationwide non-profit environmental membership organization, which has its purpose to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; to educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives.
5. I live approximately 13 miles from PSEG's Mercer Generating Station, a coal-fired power plant located on the Delaware River.

6. I have two grandchildren, aged 10 and 12, and I frequently babysit them while their parents work. My grandchildren spend large portions of the summer with me and I love to spend time outdoors. Both of my grandchildren suffer from asthma. I also live with my mother, who is a non-smoker and suffers from chronic obstructive pulmonary disease (COPD).

7. I am a Wildlife Conservation Corps Volunteer. I have an interest in birds, fish, wildlife and the outdoors. I am also a beekeeper, and have kept bees on my property for the past five years. I also volunteered for six years at the New Jersey Division of Fish and Wildlife's Pequest Trout Hatchery and Natural Resource Education Center, where I taught school-aged children how to fish.

8. I enjoy paddling trips on the Delaware River and overnight camping trips near the river with friends. I am a member of Delaware Riverkeeper Network, an organization dedicated to raising awareness and protecting the river's watershed. I am also a member of the Society for the Education of American Sailors (SEAS) and enjoying sailing on the Navesink River in Monmouth County.

9. I also frequently take beach trips with my grandchildren to Barnegat Bay in Ocean County. During the summer, we go to the beach as often as three times a month. We also visit the area during winter months to see the seals in Sandy Hook that migrate from the North.

10. I am aware that coal-fired power plants, such as the Mercer Generating Station, emit sulfur dioxide and particulate matter pollution that are linked to heart problems, bronchitis cases, and asthma episodes.

11. I believe that sulfur dioxide and particulate matter pollution from the coal-fired Mercer Generating Station harms me and my family. Several times a year, I take my grandchildren to the Abbott Marshlands in Bordentown to hike and view wildlife. The park is located near the Mercer coal plant, and on more than one occasion, we had to leave early when one of my grandchildren began having signs of an impending asthma attack—reddening eyes and difficulty breathing. My grandchildren have suffered from similar symptoms when visiting the Pequest Center. I worry about the negative impacts of continued exposure to this pollution on my health and the health of my grandchildren. If these problems persist, I will be unable to visit and enjoy these places with my grandchildren in the future.

12. I also understand that fossil fuel-fired power plants emit approximately 37% of domestic carbon dioxide emissions, making them the largest single source category of greenhouse gas pollution that drives climate change.

13. I am concerned about the impacts of climate change on my family, my community, public health, and the environment. I understand that climate change is increasing the intensity and frequency of extreme weather events. I am aware that increased coastal storms and storm surges due to sea level rise (also attributable to

climate change) are expected to cause increased drowning and other public health impacts. I understand that children and the elderly are among the most vulnerable to these climate-related health effects.

14. The state of New Jersey is already coping with the negative effects of climate change. I live in the Assunpink Creek watershed. In the late 1960s, the state built a number of dams to prevent flooding in Trenton and the surrounding area. During Hurricane Irene, the dams failed to prevent flooding of the Delaware River and other waterways. Nearby farmlands and tree stands were greatly harmed, residents of Mercer County faced power and water shortages, while some were forced to evacuate their homes. Hurricane Sandy also took a toll on the Trenton area, with fires, power outages, and tree loss. My property sits across the street from a tree preserve, and we lost a lot of trees during these storms, including some that fell into my driveway. These extreme weather events are scary experiences and cause me to fear for the safety of my family and community. I also still suffer aesthetic harm from the tree loss in my neighborhood.

15. I am concerned that sea level rise and future extreme weather events will further harm coastal communities that are still recovering from the devastating impacts of Hurricane Sandy. I also worry that these events will prevent me from visiting the coastal areas where I enjoy recreating with my family.

16. I am also concerned about the impacts of climate change on wildlife, particularly on the bees I keep on my property. I am aware that extreme temperatures attributable to climate change jeopardize the livelihood of bee populations. I am also aware that warmer climates are causing an increase in pests and pesticide use, which pose a serious risk to bees and their habitat. I am concerned that extreme weather events are harming bee populations. For example, some of the trees lost near my house in the wake of the hurricanes were swamp maples—the earliest trees to bud in the area, located along the bees’ route from their hives to my property.

17. I understand that the U.S. Environmental Protection Agency (EPA) recently finalized a new rule under section 111(d) of the Clean Air Act that, when implemented by states and/or EPA, will significantly limit the amount of carbon dioxide pollution from existing fossil fuel-fired power plants. I understand that reducing carbon dioxide emissions will help curb the effects of climate change and lower the risks of extreme temperatures and weather events, improving conditions for my family, communities (both inland and on the coast), wildlife, and the environment.

18. In addition, I understand that the 111(d) rule will have substantial public health co-benefits by reducing smog- and soot-forming pollutants such as sulfur dioxide, nitrogen oxides, and fine particulate matter from these power plants. I am

aware that EPA predicts that the 111(d) rule will substantially reduce these emissions nationwide. I understand that cutting emissions of these pollutants will lower the rates of asthma attack, respiratory disease, heart attack, and premature death that occur each year as a result of atmospheric smog and soot. I believe that this reduction in air pollution will help to protect my health and the health of my grandchildren, mother, and community. It will also allow me to continue recreating in the area with my friends and family.

19. If the final 111(d) rule is implemented according to EPA's instructions, I will benefit from the new pollution standards. The rule will reduce emissions of greenhouse gases, as well as particulate matter, sulfur dioxide, and nitrogen oxides, helping to protect my health, my family's health, public health, and the environment. On the other hand, if the rule is stopped or delayed, I will suffer an injury by being deprived of some or all of the rule's benefits.

20. If any legal challenges against the final 111(d) rule succeed in halting it, weakening it, or delaying its implementation, my family and I will be injured for the reasons discussed above. I therefore support efforts by the Sierra club to defend the rule's legality in court.

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

Executed on August 4, 2015.


Joanne Pannone

Exhibit 15

Declaration of Jenny E. Ross

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DECLARATION OF JENNY E. ROSS

I, Jenny E. Ross, state and declare as follows:

1. I have personal knowledge of the following facts, and if called as a witness could and would testify competently to them.

2. I live in Truckee, California. I received a Bachelor's degree from Stanford University in philosophy, with emphasis and an honors thesis on philosophy of science and biomedical ethics and a minor in biology in 1983, and a J.D. from Harvard Law School in 1986.

3. I care deeply about the natural world and biodiversity. I am a member of the Center for Biological Diversity ("Center") and I rely upon the Center to represent my interests in protection of the environment through advocacy and the enforcement of our environmental laws.

4. I am aware of the promulgation of rulemakings by the U.S. Environmental Protection Agency under Section 111 of the Clean Air Act that aim to reduce greenhouse gas emissions from the nation's fleet of power plants by 32 percent from a 2005 baseline by 2030 (the "Clean Power Plan"). I know that power plants are the largest source of carbon dioxide emissions in the U.S., contributing roughly one-third of all domestic greenhouse gas emissions, and that implementation of the Clean Power Plan would prevent many hundreds of millions of metric tonnes of carbon pollution. The Clean Power Plan would also reduce large amounts of pollutants that contribute to soot and smog, cutting emissions of sulfur dioxide, nitrogen dioxide, and PM_{2.5}. The latter, in the form of black carbon, is deposited in the Arctic and accelerates ice and snow melt, further exacerbating the decline and potential extinction of ice-dependent species. I believe implementation of the Clean Power Plan, by virtue of reducing greenhouse gases and, incidentally, black carbon from the largest U.S. source of greenhouse gas emissions, is essential to combating global warming and its direct effects on my ability to make my livelihood as a photographer of wildlife threatened by that warming.

5. I practiced law for a number of years and I now earn my living as a freelance photographer and writer specializing in wildlife natural history and conservation subjects, and environmental issues. I take photographs that capture the essence of wild animals and wild places, explain scientific research to non-scientists, inspire concern and action for wildlife conservation and

1 ecosystem protection, and elicit a renewed appreciation of the natural world. My images of wildlife
2 and ecosystems and my essays on natural history, conservation, and environmental issues have been
3 displayed in a number of professional exhibitions and are frequently published in magazines,
4 newspapers, and books. I also frequently collaborate with renowned scientists to create presentations
5 and articles that combine photographs with scientifically accurate and engaging information.

6 6. I have won awards for my work including the Nature's Best Award for Wildlife
7 Photography, the Philip Hyde Award for Environmental Photography, and the Vision Award of the
8 North American Nature Photography Association. I have also been honored in the World Press
9 Photo awards, the Pictures of the Year International awards, the BBC Wildlife Photographer of the
10 Year awards, and the Society of Environmental Journalists' Annual Awards for Reporting on the
11 Environment.

12 7. For more than a decade much of my work has focused on arctic species and
13 ecosystems and the transformation underway in the Far North due to climate change. I have
14 observed significant changes in the Arctic as the result of rising temperatures, and my work and my
15 life have been directly affected by the effects of climate change there. I first photographed polar
16 bears and other subjects in the Arctic in 2000, and I became deeply involved in photographing arctic
17 species when I was commissioned in 2002 to create a traveling photographic exhibition about the
18 world's eight living bear species, including polar bears. Following creation of the exhibit I have
19 continued to visit the Arctic to observe and photograph polar bears, a wide variety of other species,
20 arctic sea ice, glaciers, and ice caps including the Greenland Ice Sheet. My visits to the Arctic have
21 also focused on collaborating with scientists who are studying arctic species, their ecosystems, and
22 the earth systems they rely on. I have also reviewed much of the current scientific literature relating
23 to warming of the Arctic due to anthropogenic climate change. I am familiar with extensive
24 information collected and analyzed by scientists around the world demonstrating unequivocally that
25 climate change is altering the Arctic, posing a fundamental threat to the continued survival of many
26 arctic species – including ice-dependent species such as bearded seals, polar bears, and Pacific
27 walrus – and threatening human well-being by causing adverse effects in the Arctic that are having
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1 serious and worsening negative consequences globally (e.g., melting of the Greenland Ice Sheet is
2 causing global sea level to rise).

3 8. I have used the images and information I have obtained through my work in the
4 Arctic for lecture-slideshow presentations, articles and other purposes focused on educating the
5 general public about wildlife, ecosystems and earth systems in the Arctic, and the significant
6 ominous changes occurring in the Far North due to rising temperatures as the result of human-caused
7 climate change. Increasingly I am also focusing on the global ramifications of the arctic changes that
8 are underway. For example, based on my work studying polar bears and their habitat, I created a
9 slideshow and lecture entitled *Life on Thin Ice: Polar Bear Biology, Ecology, Behavior, and*
10 *Conservation*. This presentation includes more than 150 of my polar bear photographs, and covers
11 numerous scientific issues in a manner that is interesting and engaging for a general audience. I
12 update the content of the presentation on a regular basis to ensure it includes the most recent
13 scientific information. Past clients and venues for the presentation include: The Alaska Bear Forum,
14 the Anchorage Museum of History & Art, Aurora Expeditions, California Audubon, the Desert
15 Research Institute, Google, Heritage Expeditions, Lindsay Wildlife Museum, the Northern Nevada
16 Science Coalition, Oceanwide Expeditions, Polar Bears International, the Pratt Museum, the Pacific
17 Grove Museum of Natural History, San Francisco Zoo, Sierra Club, Squaw Valley Institute, and the
18 Tahoe Bear League. Recently I was invited to give a Keynote Address focusing on polar bears and
19 climate change at Pennsylvania State University's "Polar Day" in March 2016, an event presented
20 by The Polar Center at Penn State, where some of the most renowned climate scientists in the world
21 are employed as researchers and professors.

22 9. Arctic species like seals, walruses, and polar bears are among the most important and
23 highest-priority species for me to photograph and study in their arctic sea-ice environment in the
24 coming years, because they are exceedingly reliant on the ice, the ice-free period is lengthening
25 significantly in many regions that are their crucial habitat, and the transformation of the climate in
26 the Arctic due to rising temperatures is happening extraordinarily fast. Arctic seabirds are also
27 increasingly being affected by loss of arctic sea ice and rising arctic temperatures, and those species
28 are therefore also becoming increasingly important for me to photograph and study. I plan to

1 continue to use my photographs and research to highlight the plight of arctic species and the
2 transformation of arctic ecosystems and earth systems occurring due to climate change.

3 10. I travel frequently to the Arctic and sub-Arctic to photograph seals and other ice-
4 dependent species. For example, at the beginning of March 2006, I traveled to the Gulf of St.
5 Lawrence to photograph adult seals and their pups on the sea ice. During that trip, I witnessed and
6 photographed the changes in ice conditions that are taking place due to climate change. The region
7 experienced unusually warm temperatures that winter. Although historically the Gulf of St.
8 Lawrence has typically been nearly covered with massive floes of thick sea ice in early spring, that
9 year the sea ice was very sparse, thin, and highly fractured as a result of warm temperatures. Due to
10 a lack of sea ice and poor ice conditions, we had considerable difficulty locating any ice at all on
11 which to land a helicopter and photograph seals.

12 11. Just a few weeks prior to my arrival in the Gulf of St. Lawrence region in March
13 2006, a colony of grey seals – which normally give birth to pups on the floating sea ice – had been
14 forced to pup on the beach at Pictou Island due to the absence of ice. Subsequently, a storm surge in
15 the Northumberland Strait engulfed the beach and drowned approximately 75% of the seal pups.
16 Canadian Fisheries officials estimated that more than 2000 seal pups died. This incident is
17 representative of the profound impacts on the arctic ecosystem that are occurring due to climate
18 change.

19 12. In July 2006 I traveled by ice-reinforced ship in the Svalbard Archipelago, attempting
20 to photograph polar bears and ice seals. Although there is typically extensive sea ice at that time of
21 year in that portion of the Norwegian Arctic, there was almost none during my trip. Even in
22 locations that were only about 600 miles from the North Pole, the pack ice was absent. As a result,
23 ice-dependent polar bears and seals were very difficult to find and photograph. I was not able to
24 photograph any seals during that trip. The bears that we were able to locate were limited to the last
25 remaining bits of annual fjord ice or were marooned on land. I observed and photographed several
26 bears, including a small cub, that were obliged to swim from one island to another in search of food
27 due to the lack of ice. Knowing that scientists have documented the recent drowning deaths of polar
28 bears in similar circumstances, I anxiously watched the Svalbard bears as they traveled through the

1 ocean waves. It was poignant and upsetting to see the exhausted young cub, lacking body fat and not
2 well insulated from the cold water, struggling to follow its mother.

3 13. On another trip to the Magdalen Islands (Les Îles de Madeleine) to photograph ice
4 seals in March 2007, I again had a very difficult time even finding any seals, or ice, to photograph,
5 and some days we could not even fly in a helicopter because it was raining. The ice we did encounter
6 was extremely thin and slushy, and melting rapidly. I saw just two harp seal pups and one family of
7 hooded seals during a week in the region. I was told by my local guide that many newborn seal pups,
8 which are unable to swim, were drowned when the ice supporting them had disintegrated. The one
9 hooded seal family I photographed was on a small, isolated floe of ice that was moving extremely
10 quickly in the current because there was no other ice surrounding it to hold it in place. I could not
11 remain on the floe photographing the seals for very long, because the floe was rapidly being carried
12 eastward by the current, out of the Gulf toward the Atlantic Ocean and beyond helicopter range.

13 14. In summer 2009 I traveled by ice-reinforced ship throughout various regions of the
14 Bering and Chukchi Seas, ultimately reaching my northernmost destination for the trip along the
15 north coast of Wrangel Island in Russia. I had hoped to have the opportunity during that voyage to
16 photograph ice seals on floes; however, the arctic temperatures were warm and the sea ice had
17 melted and receded very far to the north toward the Central Polar Basin, so I saw no sea ice or seals
18 at all. While in the Chukchi Sea, I observed and photographed an adult polar bear swimming in
19 rough waves during a storm. The bear was far from land and even farther from the nearest sea ice.
20 Although it is not possible to know the ultimate fate of that bear, due to its location and the ocean
21 conditions, I believe it may have drowned before reaching safety.

22 15. During my voyage in summer 2009, I also visited Arakamchechen Island on the
23 Russian side of the Bering Strait. While ashore I was shocked to discover entire coastal hillsides of
24 permafrost thawing and collapsing as the result of rising temperatures. I was extremely disturbed by
25 these observations, because I know that an enormous quantity of methane, a carbon-based
26 greenhouse gas even more powerful in its planet-heating characteristics than carbon dioxide, is
27 released from permafrost as it thaws. It was very worrying and distressing to see such clear evidence
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1 that man-made global warming is already causing extensive areas of permafrost to disintegrate and
2 add even more greenhouse gases to our atmosphere.

3 16. In October 2009 I traveled to Greenland with a South Korean film crew from Arirang
4 TV to work on a project about climate change in the Arctic. My photographs of landscapes, wildlife,
5 and indigenous people in Greenland, and my experiences on assignment there for Arirang TV
6 were featured in two television documentaries about climate change; and a collection of my
7 photographs related to climate change issues in the Arctic was also displayed in an associated
8 exhibition. The TV documentaries were broadcast in English on all Arirang network outlets
9 worldwide in December 2009 and January 2010. The exhibition of photographs was presented in
10 Seoul, South Korea at the Total Museum of Contemporary Art during November 2009, and then
11 traveled to Copenhagen for display during December 2009 in association with the United
12 Nations Climate Change Conference.

13 17. During my October 2009 assignment for Arirang TV, while I was in remote
14 northwestern Greenland, the Arirang film crew and I accompanied three experienced Inuit hunters
15 on a multi-day trip north from Qaanaaq through Smith Sound and into the Kane Basin to document
16 their subsistence hunt of walruses to obtain meat for their families. We were obliged to travel in a
17 very small motorboat, because there was no sea ice on which we could travel by dog sled. The
18 hunters had great difficulty finding any walruses, due to the lack of sea ice on which the animals
19 ordinarily haul out. Finally, after searching for almost two days and reaching nearly 79° north in the
20 Kane Basin, the hunters were able to kill two walruses. To ensure the meat does not spoil, it is
21 essential to butcher the animals immediately. In a remote bay, the men eventually found a single ice
22 floe strong enough to hold our weight along with the walruses and were able to accomplish the
23 butchering. I photographed the meticulous and time-consuming butchering process. By the time the
24 hunters completed their task, it was evening. The temperature abruptly began plummeting, the wind
25 shifted, and the men suddenly realized that rapidly-forming sea ice had totally blocked off the
26 entrance to the bay and almost completely surrounded our vessel. Despite their lifetimes of
27 experience living and hunting in the Arctic, the men said they had never encountered such a situation
28 before. I knew from my research that climate change has caused freezing and thawing conditions in

1 the Arctic to become so erratic and unpredictable that rapidly-forming and quickly-deteriorating sea
2 ice often creates extremely dangerous conditions for indigenous arctic hunters. The men were clearly
3 exceedingly anxious as they struggled to push the ice away from our boat. At one point, the most
4 senior hunter said to me in an agitated tone totally uncharacteristic for an Inuit man, "This is bad!
5 Very bad! Very dangerous!" The men were so concerned about the situation that they told the
6 Arirang film crew and me to go down into the vessel's tiny sitting area below deck and remain there
7 while they tried to deal with the crisis. We complied, and sat below listening to the straining engine,
8 the hunters rushing back and forth above, and the grinding and thumping of ice against the hull of
9 the boat. I knew it was a potentially life-threatening situation. If we could not get out into open
10 water, we would be trapped in the ice for an indefinite period of time. If the hull were damaged by
11 shifting, expanding, and scraping ice, there would be nowhere for us to go except into the frigid
12 water, and that would be deadly. A vast expanse of rapidly-forming new ice can be strong enough to
13 trap and fatally damage a small boat, while being insufficiently thick to support the weight of a
14 person. Thankfully the hunters were ultimately able to free the boat and move us back into open
15 water. But our narrow escape from perilous circumstances impressed upon me that as climate change
16 causes arctic sea ice conditions to be increasingly capricious, my work is becoming increasingly
17 hazardous.

18 18. In July 2010, I traveled by ship to the Barents Sea and Svalbard Archipelago to view
19 and photograph arctic wildlife, ecosystems, and sea ice. I had hoped to be able to photograph ice
20 seals, including ringed seals and bearded seals, but there was insufficient sea ice in continental shelf
21 regions to offer any good opportunities. On July 21, 2010 in the Barents Sea, as the sea ice melted
22 rapidly and opportunities for polar bears to hunt seals also quickly disappeared, I observed and
23 photographed an extraordinary incident of polar bear infanticide and cannibalism involving an adult
24 male polar bear preying on a yearling cub for food. In December 2011 the journal *Arctic* published a
25 scientific paper I wrote in collaboration with renowned polar bear biologist Dr. Ian Stirling
26 describing this incident and analyzing the relationship between the effects of climate warming in the
27 Arctic and the occurrence of polar bear infanticide and cannibalism on melting summer sea ice.

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1 19. In July 2011, I traveled by ship to Novaya Zemlya, Russia (an arctic archipelago
2 located north of Siberia where the Barents and Kara Seas meet), and to the Russian Arctic
3 archipelago Franz Josef Land in the Barents Sea, to observe and photograph arctic species and
4 ecosystems. In far northern Novaya Zemlya on July 30, 2011, I photographed a polar bear climbing
5 on the face of a sheer cliff at the edge of the ocean on a tiny island, attempting to feed on seabird
6 (guillemot) eggs and chicks in nests perched on the cliff. The bear was stranded on land and unable
7 to hunt for seals, because the sea ice had melted throughout the region and had receded very far to
8 the north. Due to his inability to hunt for his normal prey, this bear clearly endangered his safety and
9 even his life by climbing precariously on the face of this cliff. He was unable to eat any birds or eggs
10 during the entire time I watched and photographed him climbing on the cliff, and he ultimately
11 abandoned his efforts. I believe this bizarre polar bear behavior involving attempted predation of this
12 type of seabird that does not nest on the ground has only been reported a handful of times, in other
13 Arctic locations where bears were marooned on land due to a lack of sea ice and seabirds were
14 accessible to them. Moreover, to my knowledge this behavior has never been previously documented
15 in such an extreme situation involving a seemingly desperate hungry polar bear endangering its life
16 by climbing on a sheer cliff, and it has not previously been photographically documented in the
17 manner I was able to do on this occasion.

18 20. In August 2011, I traveled to the Chukchi Sea for additional exploration, and I spent
19 several days visiting various coastal regions of Wrangel Island. While there, I observed and
20 photographed a ringed seal that was hauled out on a gravel shoreline near Ushakovskoye village. To
21 haul out on land is very unusual behavior for a ringed seal, and it was clear the animal was sick. It
22 had numerous skin lesions and erosions, and it was obviously extremely uncomfortable and
23 distressed as it baked in the hot sun. I was very disturbed by my observations and worried both about
24 the fate of this particular animal and the well-being of other arctic seals and ice-dependent arctic
25 species that are struggling to survive in the absence of sea ice due to climate change.

26 21. On August 18, 2011 during my visit to Wrangel Island, I observed and attempted to
27 photograph a group of several adult male polar bears resting on the tundra near shore. It was a sunny
28 day, and it was unusually warm for the Arctic – as it had been throughout my visit to the region that

1 summer. All the bears in the group appeared very lethargic and were completely inactive. So as not
2 to disturb the bears, I set up my tripod and camera with a 600mm telephoto lens and a 1.4x
3 teleconverter, and sat on the ground approximately 80 to 100 meters away from the bears. As I
4 observed them, I noticed that all of them except one were unusually thin for mid-summer, and I was
5 concerned about the fact they would be stranded on land for several additional months without the
6 ability to hunt for seals due to the lack of sea ice. At one point an additional male polar bear walked
7 from the shoreline toward the group of males I was observing, and then continued walking onward.
8 This additional bear was extremely skinny, with protruding bones, and I was very worried he would
9 not survive the remaining lengthy ice-free period. As I attempted to photograph all of these bears, I
10 noticed extraordinarily pronounced heat waves radiating upward from the hot ground, and causing a
11 heat shimmer phenomenon similar to the shimmering waves in the air one can see coming from an
12 aircraft's engines when they are operating as the plane sits on the tarmac. This heat shimmer effect
13 caused by the very high temperature of the ground baking in the sun was very noticeable when I was
14 looking through my telephoto lens and attempting to focus on the Wrangel Island bears. The
15 distortion of the air resulting from the heat shimmer caused visibility of the bears through my lens to
16 be extremely impaired. In fact, the significant distortion created by the heat waves radiating up into
17 the air from the tundra between the bears and me precluded my ability to achieve proper focus on the
18 animals with my camera. As a consequence of this heat shimmer, I was unable to get any sharp
19 photographs of any of these bears.

20 22. During my trip to the Russian High Arctic in 2011, I observed a herd of walruses
21 hauled out on an extremely small sliver of beach beneath towering cliffs on Herald Island in the
22 Chukchi Sea. I know that walruses must haul out to rest frequently on sea ice or land, and they
23 strongly prefer sea ice for a variety of crucial reasons. So I knew the walruses were hauled out on
24 Herald Island because there was no sea ice throughout the entire region. At the haul-out there were
25 walruses of all ages, including small calves, and they were all crammed tightly together. Herald
26 Island consists almost entirely of very steep and high cliffs, and the only beach I saw there other than
27 the one where the walruses were hauled out was occupied by several polar bears that were also
28 stranded ashore because there was no sea ice. I was extremely concerned that if the walrus herd were

1 startled, perhaps by an approaching polar bear, the animals would stampede into the water and the
2 young calves might be crushed and suffocated. Knowing that numerous calves have been killed in
3 that manner in recent years when large numbers of walruses have been obliged to haul out on land in
4 the absence of sea ice, I was very worried about the risky situation I witnessed.

5 23. I had hoped to observe and photograph adult female polar bears accompanied by
6 young cubs during my visit to Wrangel Island in 2011; however, despite many attempts to locate
7 family groups of mothers and cubs, I did not have the chance to photograph any, and in fact I did not
8 even see any. This situation was very disappointing and disturbing for me, and caused me to be
9 extremely worried about the declining status of the Chukchi Sea polar bear population. Following
10 my visit to Wrangel Island, while I was working on writing a magazine article about polar bears in
11 the fall of 2011, I discussed the status of Wrangel Island polar bears by email with Russian scientist
12 Nikita Ovsyanikov, who has observed and documented polar bears on that high-arctic island for
13 many years. He told me that use of Wrangel Island by female polar bears for maternity denning has
14 been declining significantly in recent years in association with the decline of arctic sea ice
15 throughout the region. Based on my ongoing research, I know that the number of denning polar
16 bears on Wrangel Island and the number of cubs born there have decreased even further since 2011.
17 I have not returned to Wrangel Island since 2011, in part because I know it is now even more
18 unlikely that I will have the opportunity to photograph mother polar bears and their cubs.

19 24. At the beginning of 2012 I formally launched my ongoing long-term project entitled
20 Life On Thin Ice® to leverage the power of photography combined with science to communicate
21 accurately and effectively about climate change in the Arctic, increase public interest in the issues
22 and understanding of the problems, and motivate informed action to address the growing climate
23 crisis. My goals for this project include comprehensively documenting the earth systems,
24 ecosystems, species, and people of the circumpolar Arctic and the increasing effects of climate
25 change on them; and educating members of the public about climate change issues by enhancing
26 their understanding of the Arctic and the current problems, long-term risks, and world-wide
27 consequences of the transformation that is underway there due to rising temperatures.

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1 25. In summer 2012, I participated in the Norwegian Polar Institute's (NPI) Ice, Climate,
2 and Ecosystems (ICE) expedition to the Central Polar Basin of the Arctic Ocean to photograph and
3 learn about a variety of scientific research activities for my magazine feature article about sea ice to
4 be published in 2014, and to provide photographs for NPI's educational and outreach purposes. The
5 sea ice was so sparse and thin that it was necessary for us to travel much farther north than originally
6 anticipated – to a location above 82.5 degrees north – in order to find a floe of sea ice large enough
7 and thick enough for the scientists to conduct their experiments. Often the weather was so unusually
8 warm that wearing the required waterproof "survival suit" while working out on the ice was
9 uncomfortably hot. During the course of the scientific work, in three separate incidents, three of the
10 NPI researchers fell through thin disintegrating sea ice and plunged into the frigid 4000-meter-deep
11 ocean. The scientists were able to extract themselves from the water safely, but those dangerous
12 events were distressing, and it was worrisome to be working out on the sea ice myself in such
13 perilous conditions.

14 26. In May 2013 I visited the Prince William Sound region to photograph sub-Arctic
15 species as well as migratory birds traveling through the area on their way to the High Arctic for
16 breeding. In particular, I planned to photograph spectacularly large numbers of western sandpipers
17 that visit particular locations in the Prince William Sound region annually in the spring to rest and
18 feed during their migration. Until recently, the timing of this epic gathering was quite predictable,
19 and I timed my trip to coincide with the time-frame when, historically, the largest numbers of these
20 shorebirds would be there. But, due to erratic and atypical temperatures all along their migration
21 route, very few western sandpipers were present during my visit, and I was not able to obtain the
22 photographs I needed.

23 27. In August and September 2013 I traveled by ship to northeast Greenland to
24 photograph arctic wildlife, glaciers, and the Greenland Ice Sheet. During my trip I saw and
25 photographed countless shrinking glaciers coming from the ice sheet. In one location, so many large
26 icebergs had recently been calved that it was impossible to get near the front of the glacier, even in a
27 highly-maneuverable Zodiac boat. In many other locations, former tidewater glaciers had receded so
28 much that they no longer reached the sea; instead, their meltwater poured down bare, previously ice-

1 covered mountainsides into the ocean. Witnessing these stark and widespread examples of the
2 effects of global warming, and knowing that they indicated significant sea level rise was being
3 caused by the disintegration of the Greenland Ice Sheet and associated glaciers, was very disturbing
4 to me.

5 28. In October 2014 a major magazine feature article I wrote and photographed was
6 published by *Ocean Geographic*. The article, entitled “Global Warning: The Arctic Meltdown” and
7 sub-titled “Why the Disappearance of Arctic Sea Ice Matters,” focused on the loss of arctic sea ice as
8 the result of global warming, and explained the many significant adverse consequences of vanishing
9 sea ice that are of grave concern for wildlife and people throughout the Arctic and beyond.

10 29. I am scheduled to participate in another arctic voyage from mid-August through mid-
11 September 2015. The expedition will travel in Baffin Bay, visit various locations in the Canadian
12 High Arctic including Baffin, Devon, and Ellesmere Islands, and travel along most of the west side of
13 Greenland. If possible, the trip will visit Petermann Glacier, a massive ice stream in far northwestern
14 Greenland that drains a large portion of the Greenland Ice Sheet and that calved a 100-square-mile
15 iceberg dubbed the Petermann Ice Island in 2010. Throughout the voyage I will investigate and
16 photographically document high-arctic wildlife, ecosystems, sea ice, and glaciers, and the effects of
17 climate change on them.

18 30. When I am not actually traveling in various regions of the Arctic, on virtually a daily
19 basis I monitor a variety of satellite images and scientific data products relating to the status of the
20 sea ice throughout the Arctic and sub-Arctic. In addition, on an ongoing basis I read new scientific
21 studies on a wide range of issues related to arctic species, ecosystems, and earth systems, and the
22 effects of climate change on them. I also stay in touch with many scientists who conduct fieldwork on
23 arctic species and subjects. Apart from my desire to understand the issues, I do so because I must be
24 well-informed concerning the status of the ice and associated species in order to plan my
25 photographic trips, and I need to know the best available scientific data in order to prepare the
26 lecture-slideshow presentations I do, as well as the articles I write.

27 31. In light of the rapidly declining extent and quality of arctic sea ice, plus what I have
28 seen and have not seen during my trips throughout the Arctic, as well as what I have learned through

1 my research, I'm extremely worried about the fate of ice-dependent species in the Far North. The
2 rapid rates at which temperatures are rising and ice is disappearing in the Arctic cause me great
3 apprehension and emotional distress. I am particularly concerned by my observations of the
4 increasing lack of sea ice over biologically-productive continental shelf regions that are crucial
5 habitat for many arctic species. In addition, I am profoundly worried about the thawing of arctic and
6 sub-arctic permafrost due to climate warming, and the dangerous additional carbon emissions that
7 will be released as a consequence of permafrost disintegration. I am also extremely concerned about
8 and distressed by rapid melting of the Greenland Ice Sheet, because I know that its disintegration will
9 cause major global sea level rise, destruction of crucial ecosystems all along the world's coasts, and
10 permanent flooding of numerous heavily-populated regions around the globe.

11 32. Additional warming caused by human emissions of greenhouse gases and black
12 carbon will substantially affect my ability to continue to visit and photograph arctic species in their
13 natural habitat. Indeed, global warming may cause the extinction of the polar bear, the bearded seal,
14 and other arctic species, and the complete transformation of the arctic environment in which I work.
15 Global warming and the decline of ice-dependent arctic species have a direct, negative impact on my
16 livelihood. The decline and disappearance of arctic species from areas in which they previously
17 occurred and in which I previously found them increases the expenses I must incur and the time I
18 must invest to observe and photograph them, activities upon which my livelihood and my profession
19 directly depend.

20 33. I have every intention of continuing my career as a wildlife and nature photographer
21 and writer, and of continuing all of the above-described activities in the future. The arctic
22 environment and arctic species will remain a major focus of my photography and writing, and as
23 such I have every intention of continuing to visit all areas of the Arctic as frequently as possible in
24 the coming years. For my Life On Thin Ice® project, and for associated articles, exhibits, lecture-
25 slideshow presentations, and a book about the changing Arctic, I will need to do many additional
26 trips to the Arctic during at least the next several years to photograph arctic wildlife, ecosystems,
27 earth systems, and scientific research throughout the circumpolar region. These trips are becoming
28

1 increasingly difficult, risky, and expensive as global warming continues to affect the Arctic and its
2 species.

3 34. A healthy arctic environment is extremely important to, and greatly enhances, both
4 my personal and professional lives. A healthy, functioning sea-ice ecosystem is necessary for me to
5 continue to pursue my photography career successfully. I have already experienced firsthand the
6 effects of global warming on the arctic ecosystem. These changes have diminished my ability to
7 photograph, observe, and enjoy the Arctic and the species that live there. If global warming and
8 other threats to the Arctic continue unabated, I believe that many species I study and photograph will
9 decline and become extinct, and I will be unable to continue to observe and photograph the species
10 in the wild. Moreover, I may never be able to photograph some species I have sought but have not
11 been able to find as the result of sea-ice loss. Although I believe a certain amount of additional
12 climate warming and consequent impacts to the Arctic are inevitable, I also believe it is not too late
13 to save the Arctic as we know it and all the species that depend upon the sea-ice ecosystem. A
14 critically important part of saving the Arctic is to enforce our existing environmental laws, including
15 the Clean Air Act.

16 35. If greenhouse gases from power plants are not reduced, or if those reductions are
17 delayed, enormous amounts of those gases and significant amounts of black carbon will continue to
18 be emitted into the atmosphere, directly contributing to the continuing decline and eventual
19 extinction of the ice-dependent species I photograph and study. As they already have, these
20 emissions will continue to impede and impair, and in some cases eradicate altogether, my ability to
21 photograph these species, greatly increase the expense and time it takes me to obtain photographs
22 and scientific information, multiply the risks of injury and even death to me personally while
23 engaged in these endeavors, and in general interfere with my ability to use the Arctic professionally.
24 This will directly affect my income and livelihood. I will also be harmed personally because I care
25 greatly for the arctic ecosystem and its amazing species, and wish to see them preserved and
26 protected. I would be deeply distressed personally by further harm to or the loss of the arctic species
27 I photograph and study. I believe that these harms and losses will be significantly ameliorated if
28 greenhouse gases from power plants are reduced.

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I declare under penalty of perjury that the foregoing is true and correct and was executed on

Aug. 3, 2015 at Truckee, California.

Jenny E. Ross
Jenny E. Ross