ORAL ARGUMENT NOT YET SCHEDULED

No. 18-1224 (consolidated with Nos. 18-1280, 18-1308, 18-1309, 18-1310, 18-1311, 18-1312, 18-1313)

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

ATLANTIC COAST PIPELINE, LLC, *et al.*,
Petitioners,
LORA BAUM, *et al.*,
Petitioner-Intervenors,
v.
FEDERAL ENERGY REGULATORY COMMISSION,
Respondent,
ATLANTIC COAST PIPELINE, LLC, *et al.*,
Respondent-Intervenors.

On Petition for Review of Orders of the Federal Energy Regulatory Commission

AMICI CURIAE BRIEF OF CENTER FOR EARTH ETHICS, KAIROS CENTER FOR RELIGIONS, RIGHTS, AND SOCIAL JUSTICE, NATURAL RESOURCES DEFENSE COUNCIL, NORTH CAROLINA POOR PEOPLE'S CAMPAIGN, REPAIRERS OF THE BREACH, SATCHIDANANDA ASHRAM – YOGAVILLE, INC., UNION GROVE MISSIONARY BAPTIST CHURCH, VIRGINIA INTERFAITH POWER & LIGHT, VIRGINIA STATE CONFERENCE NAACP, AND WE ACT FOR ENVIRONMENTAL JUSTICE IN SUPPORT OF CONSERVATION PETITIONERS

Thomas Zimpleman
Montina M. Cole
Gillian Giannetti
Robert Gustafson
Natural Resources Defense Council
1152 15th Street NW, Suite 300
Washington, DC 20005
202-289-6868
tzimpleman@nrdc.org
Counsel for amici curiae

RULE 26.1 DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure 26.1 and D.C. Circuit Rule 26.1:

Center for Earth Ethics certifies that it is an initiative of Union Theological Seminary, a nongovernmental corporation with no parent corporation and no publicly held company holding 10% or more of its stock. Union Theological Seminary is organized and existing under the laws of the State of New York. Center for Earth Ethics is an initiative that aims to galvanize spiritual and religious action on environmental and climate justice.

Kairos Center for Religions, Rights, and Social Justice certifies that it is an initiative of Union Theological Seminary, a nongovernmental corporation with no parent corporation and no publicly held company holding 10% or more of its stock. Union Theological Seminary is organized and existing under the laws of the State of New York. Kairos Center for Religions, Rights, and Social Justice is an initiative that works to strengthen and expand transformative movements for social change that can draw on the power of religions and human rights.

Natural Resources Defense Council, Inc. certifies that it is a nongovernmental corporation with no parent corporation and no publicly held company holding 10% or more of its stock. NRDC, a corporation organized and existing under the laws of the State of New York, is a national nonprofit

organization dedicated to improving the quality of the human environment and protecting the nation's endangered natural resources.

North Carolina Poor People's Campaign certifies that its fiscal sponsor is the School for Conversion, a North Carolina based 501(c)(3) organization and nongovernmental corporation with no parent corporation and no publicly held company holding 10% or more of its stock. The School for Conversion is organized and existing under the laws of the State of North Carolina. North Carolina Poor People's Campaign is part of a multi-partner initiative that advocates for a moral agenda based on fundamental rights that include justice and equality for all, including the elimination of systemic racism, poverty, and ecological devastation.

Repairers of the Breach certifies that it is a nongovernmental corporation with no parent corporation and no publicly held company holding 10% or more of its stock. Repairers of the Breach, a corporation organized and existing under the laws of the State of North Carolina, is a nonpartisan nonprofit organization that seeks to build a moral agenda rooted in a framework that uplifts our deepest moral and constitutional values to redeem the heart and soul of our country, including upholding the dignity of all people, and fulfilling the responsibility to care for our common home.

Satchidananda Ashram – Yogaville, Inc. certifies that it is a nongovernmental corporation with no parent corporation and no publicly held company holding 10% or more of its stock. Satchidananda Ashram – Yogaville, Inc., a corporation organized and existing under the laws of the Commonwealth of Virginia, is a nonprofit organization and spiritual community dedicated to the teachings of Integral Yoga, including the principle of non-harm.

Union Grove Missionary Baptist Church certifies that it is a nongovernmental corporation with no parent corporation and no publicly held company holding 10% or more of its stock. Union Grove Missionary Baptist Church, a corporation organized and existing under the laws of the Commonwealth of Virginia, is a nonprofit organization and church dedicated to the teachings of Jesus Christ, including stewardship of the earth.

Virginia Interfaith Power & Light certifies that it is a program of the Virginia Interfaith Center for Public Policy, a nongovernmental corporation with no parent corporation and no publicly held company holding 10% or more of its stock. Virginia Interfaith Center for Public Policy, a corporation organized and existing under the laws of the Commonwealth of Virginia, is a nonprofit organization dedicated to advocating for economic, social and environmental justice in Virginia.

Virginia State Conference NAACP certifies that it is a nongovernmental corporation with no parent corporation and no publicly held company holding 10% or more of its stock. Virginia State Conference NAACP, a corporation organized and existing under the laws of the Commonwealth of Virginia, is a nonprofit organization dedicated to ensuring the political, educational, social and economic equality of rights of all persons and to eliminating racial hatred and discrimination.

WE ACT for Environmental Justice certifies that it is a nongovernmental corporation with no parent corporation and no publicly held company holding 10% or more of its stock. WE ACT for Environmental Justice, a corporation organized and existing under the laws of the State of New York, is a nonprofit organization dedicated to building healthy communities by ensuring that people of color and/or low-income residents participate meaningfully in the creation of sound and fair environmental health and protection policies and practices.

CERTIFICATE AS TO PARTIES, RULINGS, RELATED CASES, AND FILING OF SEPARATE BRIEF

As required by Circuit Rules 28(a)(1) and 29(d), counsel for amici curiae hereby certify as follows:

A. Parties and Amici

Except as indicated below, all parties, intervenors, and amici appearing in this court are listed in the certificates to the Joint Opening Brief of Conservation Petitioners and Landowner Petitioners; the Opening Brief of the Fairway Woods Homeowners Condominium Association, Friends of Wintergreen, Inc. and Wintergreen Property Owners Association, Inc.; the Opening Brief of the North Carolina Utilities Commission; and the Opening Brief of Atlantic Coast Pipeline, LLC. Those briefs do not list the following, who have filed or are expected to file motions for leave to appear as amici curiae:

1. Center for Earth Ethics, Kairos Center for Religions, Rights, and Social Justice, Natural Resources Defense Council, North Carolina Poor People's Campaign, Repairers of the Breach, Satchidananda Ashram – Yogaville, Inc., Union Grove Missionary Baptist Church, Virginia Interfaith Power & Light, Virginia State Conference NAACP, and WE ACT for Environmental Justice as amici curiae in support of Conservation Petitioners.

2. The Institute for Policy Integrity, a nonprofit organization at New York University School of Law, amicus curiae in support of Conservation Petitioners.

3. The City of Staunton and County of Nelson, Virginia, in support of Petitioners.

B. Rulings Under Review

References to the final agency action under review appear in the certificates to the Joint Opening Brief of Conservation Petitioners and Landowner Petitioners; the Opening Brief of the Fairway Woods Homeowners Condominium Association, Friends of Wintergreen, Inc., and Wintergreen Property Owners Association, Inc.; the Opening Brief of the North Carolina Utilities Commission; and the Opening Brief of Atlantic Coast Pipeline, LLC.

C. Related Cases

References to related cases appear in the certificates to the Joint Opening Brief of Conservation Petitioners and Landowner Petitioners; the Opening Brief of the Fairway Woods Homeowners Condominium Association, Friends of Wintergreen, Inc., and Wintergreen Property Owners Association, Inc.; the Opening Brief of the North Carolina Utilities Commission; and the Opening Brief of Atlantic Coast Pipeline, LLC.

D. Separate Brief

The environmental, civil rights, faith-based, and other organizations joining this brief have filed a separate brief from the other amici supporting petitioners because a single amicus curiae brief is not practicable in this case. The

organizations presenting this brief, the Institute for Policy Integrity, and the City of Staunton and Nelson County have different perspectives on the issues and address distinct aspects of the problem posed by the agency action in this case. The environmental, civil rights, faith-based, and other organizations are concerned with the effects of the Atlantic Coast Pipeline's proposed route and infrastructure on the health, well-being, and cultural resources of minority environmental justice populations, while the Institute, consistent with its focus of study, addresses issues of the social cost of carbon and cost-benefit analysis. The City of Staunton and Nelson County will be addressing water quality issues, land impacts, and economic effects. Combining these different viewpoints and approaches into a single brief would not be practicable. *See* D.C. Cir. R. 29(d).

Respectfully submitted,

/s/Thomas Zimpleman
Thomas Zimpleman

April 12, 2019

Counsel for amici curiae

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Cases

Statutes

Other Authorities

GLOSSARY

APA	Administrative Procedure Act
EPA	Environmental Protection Agency
FEIS	Final Environmental Impact Statement
NEPA	National Environmental Policy Act

INTEREST OF AMICI CURIAE

Amici are environmental, civil rights, faith-based and other groups that support environmental and public health protections for all and seek inclusive decision-making processes. Natural Resources Defense Council is a national non-profit environmental advocacy organization that seeks effective environmental and public health policies for all communities. WE ACT for Environmental Justice is a nonprofit organization dedicated to building healthy communities and meaningful participation in the creation of sound and fair environmental health and protection policies and practices.

Virginia State Conference NAACP is a nonprofit organization dedicated to ensuring the political, educational, social, and economic equality of rights of all persons and to eliminate racial hatred and discrimination. North Carolina Poor People's Campaign advocates for a moral agenda based on fundamental rights that include justice and equality for all, including the elimination of systemic racism, poverty, and ecological devastation. Repairers of the Breach is a nonprofit organization advocating for a moral agenda for our nation, including environmental justice.

Center for Earth Ethics is an initiative that aims to galvanize spiritual and religious action on environmental and climate justice. Kairos Center for Religions, Rights, and Social Justice is an initiative that aims to strengthen and expand

transformative movements for social change that can draw on the power of religions and human rights.

Satchidananda Ashram – Yogaville, Inc. is a nonprofit organization and spiritual community dedicated to the teachings of Integral Yoga, including the principle of non-harm, located in Buckingham County, Virginia. Union Grove Missionary Baptist Church is a church dedicated to the teachings of Jesus Christ, including stewardship of the earth, located in Buckingham County, Virginia. The route of the Atlantic Coast Pipeline passes through parts of Buckingham County.

Some of the amici called on the Federal Energy Regulatory Commission (the Commission) to reject the Atlantic Coast Pipeline, at least in part due to the concerns set forth in this brief. The Commission nonetheless greenlit the project without fully considering its environmental effects.

STATEMENT OF AUTHORITY TO FILE AND AUTHORSHIP AND FINANCIAL CONTRIBUTIONS

All parties and intervenors have consented to the filing of this brief. This brief was not authored in whole or part by counsel for a party. No party or counsel for a party, and no person other than the amici curiae or their counsel, contributed money intended to fund its preparation or submission.

STATUTES AND REGULATIONS

Pertinent statutes are presented in an addendum.

SUMMARY OF ARGUMENT

The Federal Energy Regulatory Commission (the Commission) violated the Administrative Procedure Act (APA) and the National Environmental Policy Act (NEPA) when it used a flawed and arbitrary method for identifying environmental justice communities affected by the Atlantic Coast Pipeline—a method that ignored significant minority populations who live along the proposed route. For example, the Commission overlooked a large American Indian population, most of whom live near the pipeline's southern end in Robeson County, North Carolina. Additionally, the Commission failed to identify the majority African American Union Hill community in Buckingham County, Virginia—the proposed home of one of the pipeline's compressor stations—as an environmental justice community.

Because the Commission employed an unexplained and faulty methodology that overlooked environmental justice communities along the pipeline route, the Commission also did not take a hard look at the health and environmental effects of the Atlantic Coast Pipeline on these specific communities, in violation of NEPA. In fact, even when the Commission did identify an environmental justice community—for example, the majority-minority community surrounding compressor station 3 in Northampton County, North Carolina—the Commission still failed to conduct a rigorous environmental justice analysis and instead minimized the health effects of the pipeline's infrastructure.

A more rigorous environmental justice analysis would have weighted demographic units (e.g., census tracts) by population size to avoid the implicit assumption that all demographic units have equal populations; would have used a broader reference population for identifying minority environmental justice communities (such as the population of the state in which the community is located); would have considered the effects of the project on individual minority groups; and would have considered whether the project would have high and disproportionate cumulative health effects, rather than considering only whether the new facilities would stay within the boundaries of a permit.

ARGUMENT

I. Federal agencies must identify disproportionate environmental burdens borne by minority and low-income communities

Federal agencies must take steps to avoid inequitable environmental outcomes. Executive Order 12,898 requires that, "[t]o the greatest extent practicable and permitted by law," federal agencies "shall make achieving environmental justice part of [their] mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of [their] programs, policies, and activities on minority populations and low-income populations." Exec. Order 12,898, Federal Actions to Address Environmental Justice in Minority Populations and Low–Income Populations, 59 Fed. Reg. 7629, 7629 (Feb. 11, 1994). Animating this Executive Order is the idea

that "[i]n order to change the way agencies come to their conclusions and their proposals for action, their central mandate has to be altered sufficiently to affect their decision making structure and their conception of their mission." Gerald Torres, *Environmental Justice: The Legal Meaning of a Social Movement*, 15 J.L. & Com. 597, 614-15 (1996).

As this Court noted, "[t]he principle of environmental justice encourages agencies to consider whether the projects they sanction will have a 'disproportionately high and adverse' impact on low-income and predominantly minority communities." *Sierra Club v. FERC*, 867 F.3d 1357, 1368 (D.C. Cir. 2017). Environmental justice is intended to account for the fact "that communities of color and the poor are exposed to more pollution, noxious land uses, and environmental risk than are white, wealthier communities," and "that their cultural spaces and sacred sites are the first to be sacrificed at the altar of runaway development." Eileen Gauna, *LNG Facility Siting and Environmental (In)justice: Is It Time for A National Siting Scheme?*, 2 Envtl. & Energy L. & Pol'y J. 85, 87 (2007). Environmentally hazardous facilities are often located in environmental justice communities because, traditionally, "these communities – for a variety of reasons – are disadvantaged in the various governmental fora where important environmental decisions are made." *Id.*

The Council on Environmental Quality, which among other things

"review[s] and appraise[s] federal programs that affect the environment," *Pac. Legal Found. v. Council on Envtl. Quality*, 636 F.2d 1259, 1262 (D.C. Cir. 1980), developed guidance to ensure that agencies are identifying and addressing environmental justice issues created by their work. *See* Council on Envtl. Quality, Environmental Justice, Guidance Under the National Environmental Policy Act (hereinafter Council on Environmental Quality Guidance).[1] This guidance instructs agencies to "consider the composition of the affected area, to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by the proposed action, and if so whether there may be disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Indian tribes." *Id.* at 9. Agencies "should recognize the interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action," *id.*, and should recognize that impacts on "minority populations, low-income populations, or Indian tribes may be different from impacts on the general population due to a community's distinct cultural practices." *Id*. at 14.[2]

[1] *Available at* https://www.epa.gov/sites/production/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf.

[2] "Minority" populations may include American Indian or Alaskan Native communities without federal tribal recognition. *See* National Environmental Justice

Federal agencies often incorporate their consideration of environmental justice into their reviews conducted under NEPA, 42 U.S.C. § 4331 *et seq.*, as the Commission did in this case. *See* Final Environmental Impact Statement for the Atlantic Coast Pipeline (Record Item No. 13372) (FEIS). When so incorporated, this Court considers challenges to the thoroughness of an agency's environmental justice analysis under NEPA and the APA. *See Sierra Club*, 867 F.3d at 1368 (reviewing the Commission's analysis of environmental justice in an environmental impact statement); *Cmtys. Against Runway Expansion, Inc. v. FAA*, 355 F.3d 678, 689 (D.C. Cir. 2004) ("The [agency] exercised its discretion to include the environmental justice analysis in its NEPA evaluation, and that analysis therefore is properly subject to arbitrary and capricious review under the APA.").

II. Natural gas infrastructure raises significant health concerns for surrounding communities

Natural gas infrastructure projects pose serious health and safety risks to the communities in which they are located. These threats arise through various forms of pollution from the pipeline, through its accompanying compressor stations, and through the risks of catastrophic explosions. Pipeline infrastructure can affect local

---

Advisory Council, *Guide on Consultation and Collaboration with Indian Tribal Governments and the Public Participation of Indigenous Groups and Tribal Members in Environmental Decision Making* at 10 (2000).

air quality and the health of nearby populations through leaks and emissions. "A growing body of scientific evidence documents leaks of methane, toxic volatile organic compounds and particulate matter throughout [natural gas] infrastructure." Barbara Gottlieb & Larysa Dyrszka, MD, Physicians for Social Responsibility, *Too Dirty, Too Dangerous: Why health professionals reject natural gas* 21 (2017) (hereinafter Physicians Report). Thirty years of data show that there are approximately 300 significant spills and leaks every year along U.S. oil and gas pipelines. Mary Finley-Brook et al., *Critical energy justice in US natural gas infrastructuring*, 41 Energy Research & Social Science 178, 180–81 (2018). The communities closest to pipelines are most at risk from accidents and explosions. "For the 20 years of 1996-2016, [the Pipeline and Hazardous Materials Safety Administration] recorded 858 serious incidents, with 347 fatalities (more than 17 each year) and 1,346 injuries." Physicians Report, *supra*, at 22.

Gas infrastructure is often sited in low-income or minority communities. For example, "[m]ore than 1 million African Americans live within a half mile of existing natural gas facilities and the number is growing every year." Lesley Fleischman & Marcus Franklin, Clean Air Task Force & Nat'l Ass'n for the Advancement of Colored People, *Fumes Across the Fence-line* 4 (2017). "As a result of ozone increases due to natural gas emissions during the summer ozone season, African American children are burdened by 138,000 asthma attacks and

101,000 lost school days each year." *Id.* at 4. African American children have asthma at nearly twice the rate of white children, and their death rate with asthma as the underlying cause is ten times greater than white children. U.S. Dep't of Health & Human Servs., Office of Minority Health, *Asthma and African Americans*.[3]

III. The Commission's methodology for identifying environmental justice communities in the path of the Atlantic Coast Pipeline was flawed and masked the disproportionate effect of the pipeline on environmental justice communities

The Atlantic Coast Pipeline is "a 600-mile pipeline designed to transport natural gas from Harrison County, West Virginia, to the eastern portions of Virginia and North Carolina." *Sierra Club v. U.S. Dep't of the Interior*, 899 F.3d 260, 266 (4th Cir. 2018). The construction of the pipeline will require "a 125-foot right-of-way for most of the distance, which will disturb 11,776 acres of land." *Id.* Even after construction is complete, the pipeline will require "a 50-foot permanent right-of-way along the length of the pipeline." *Id.*

The Commission prepared an environmental impact statement for the Atlantic Coast Pipeline, including an environmental justice analysis. *See* FEIS at 4-511-15. The Commission made comparisons between census tracts the focal point of that analysis. *See* FEIS 4-512-13. The environmental justice review began by

[3] *Available at* https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=15.

looking at each census tract that lies partially or completely within one mile of the pipeline route. The Commission applied different tests to identify affected low-income populations and affected minority populations.

For low-income communities, if the "percentage of all persons living below the poverty level" in a census tract was "more than the percentage *for the state* where the census tract is located," then the Commission identified that census tract as containing an affected low-income population. *Id.* at 4-512 (emphasis added). Using this methodology, the Commission found that 34 of the 63 affected census tracts in Virginia had low-income populations, 27 of the 42 affected census tracts in North Carolina had low-income populations, and nine of the 22 affected census tracts in West Virginia had low-income populations. *Id.* at 4-513.

For minority populations, the Commission identified an affected population if the percentage of minorities living in a census tract was "more than 50 percent of the tract's population," or was "'meaningfully greater' than in the comparison group." *Id.* at 4-512. The Commission defined "meaningfully greater" to mean "at least 10 percentage points more than in the comparison group, which was the *county* in which the census tract was located." *Id.* at 4-512 n.30 (emphasis added).[4]

[4] In other cases, the Commission has identified a minority environmental justice community when the population is "ten percent" higher than the reference population. *See* Fed. Energy Regulatory Comm'n, Office of Energy Projects, Docket No. 18-26-000, *Lambertville East Expansion Project Environmental Assessment* 34 (2018) ("CEQ characterizes a 'minority population' as existing in

Under this test, the Commission found that 15 of the 63 census tracts in Virginia traversed by the Atlantic Coast Pipeline had minority environmental justice populations and that 20 of the 42 affected census tracts in North Carolina had minority environmental justice populations. *Id.* at 4-512. The Commission found that none of the relevant census tracts in West Virginia had a minority environmental justice population. *Id.*

The Council on Environmental Quality Guidance, and judicial decisions applying it, have explained that the methodology that an agency selects to examine the effects of a project on minority and low-income populations must be reasonable and adequately explained. *See Standing Rock Sioux Tribe v. U.S. Army*

---

an affected area where . . . the percentage of defined minorities in the affected area is meaningfully greater (10 percent higher) than the percentage of defined minorities in the general population or other appropriate unit of geographic analysis."). Fed. Energy Regulatory Comm'n, Office of Energy Projects, Docket No. 18-332-000, *South Mainline Expansion Project Environmental Assessment* 70 (2018). These are describing different tests: ten *percentage points* higher is a different test than *ten percent* higher. A minority population is "10 percent higher" than a reference population if its percentage is 1.1 times higher than a reference population; a minority population that is "ten percentage points" higher must be, for example, two times greater if the reference population is 10 percent, or 1.5 times greater if the reference population is 20 percent. Setting the bar at ten percentage points decreases the ability of the test to detect relatively large communities of specific minorities that make up small fractions of the surrounding reference population. And contrary to the Commission's statements in some cases, *see Lambertville East Expansion Project Environmental Assessment* at 34, the Council on Environmental Quality Guidance did not set a percentage cutoff defining when a minority population affected by a project is "meaningfully greater" than a reference population. *See* Council on Environmental Quality Guidance at 25-26.

Corps of Eng'rs, 255 F. Supp. 3d 101, 137 (D.D.C. 2017) (parameters of environmental justice review "should 'be chosen so as not to artificially dilute or inflate the affected minority population.'") (quoting Council on Environmental Quality Guidance 26 (1997)); *cf. Idaho Sporting Congress, Inc. v. Rittenhouse*, 305 F.3d 957, 973 (9th Cir. 2002) (Under NEPA "the choice of analysis scale must represent a reasoned decision and cannot be arbitrary").

The Commission's proximity analysis was arbitrary because it (1) compared census tracts without recognition of population differences, (2) compared minority populations on a county-by-county basis, (3) set a threshold for "meaningfully greater" minority populations that failed to detect significant minority communities, and (4) aggregated all minority populations together—providing no explanation for any of these decisions. As a result, its analysis substantially undercounted environmental justice communities. For example, the Commission's method weighed all census tracts equally, without accounting for differences in the population of those tracts. Census tracts are not equal; they generally range from "a minimum population of 1,200, a maximum population of 8,000, and an optimum population of 4,000." Katy Rossiter, U.S. Census Bureau, *Decoding State-County Census Tracts versus Tribal Census Tracts*.[5] In the case of the Atlantic Coast

[5] *Available at* https://www.census.gov/newsroom/blogs/random-samplings/2012/07/decoding-state-county-census-tracts-versus-tribal-census-tracts.html (last visited Apr. 11, 2019).

Pipeline, the route contains 120 populated census tracts and one unpopulated census tract. FEIS App. U at U-1 to U-6. The populated census tracts range from a minimum of ten residents to a maximum of 11,543 residents. *Id*. Thus, tallying up census tracts, alone, tells the Commission very little about the population or size of the communities affected by a pipeline project. In this case, the method tells the Commission nothing about the existence of a disproportionately high minority population in the entire area subject to study, because the sizes of the populations within a census tract are not accounted for by a comparison between the number of census tracts.

In addition to its overreliance on census tracts, the Commission applied a shifting baseline to determine whether the low-income and minority populations it identified were environmental justice communities. The Commission inexplicably used different reference cases for low-income populations versus minority populations. For low-income environmental justice communities, the Commission compared the percentage of low-income residents in a census tract to the percentage of low-income residents in the *state* in which the census tract is located. FEIS at 4-512. But for minority environmental justice communities, the Commission compared the percentage of minorities in a census tract to the percentage of minorities in the *county* in which the census tract is located. *Id*. In other words, all *low-income* populations within affected census tracts in

Buckingham County, Virginia, were compared against the socioeconomic makeup of *Virginia*, but all *minority* populations within affected census tracts in Buckingham County were compared against the racial and ethnic makeup of *Buckingham County*. In total, this means that the Commission used eight different reference populations for identifying minority populations in North Carolina and ten different reference populations for identifying minority populations in Virginia.

Aside from the unexplained difference in how low-income and minority environmental justice communities were identified, this narrower data comparison for minority populations impairs the Commission's ability to identify significant environmental justice communities located along the pipeline route. The data would, at best, tell the Commission whether the pipeline segment within each county has a disproportionately high and adverse effect on minority populations *as compared to that county*. It does not, however, permit a mathematical comparison of results *between* counties. An analysis of the entire pipeline route requires a larger reference population, such as the state in which the census tract is located. *See Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 541 (8th Cir. 2003) ("[A]n agency must compare the demographics of an affected population with demographics of a more general character (for instance, those of an entire state).").

The Commission's narrow approach can also mask relevant information in counties with either small or large minority populations. In Augusta County, Virginia, which is over 90 percent white, the Commission's model identified a minority environmental justice community where the minority population in a census tract was 17 percent or higher. *See* FEIS App. U at U-1. Meanwhile, a census tract in Nottoway County, Virginia, has a 49.7 percent minority population, but the Commission's model did not identify it as an environmental justice community because Nottoway County has a 43.7 percent minority population. *Id.* Using a shifting baseline in this way can thus mask larger environmental justice communities.

In other counties, the Commission did not identify environmental justice communities, even though census tracts within the counties have higher minority populations than both the county and the state overall. For example, Virginia Census Tract 9302.01 (45.6 percent), Virginia Census Tract 2005 (47 percent), and Virginia Census Tract 215.01 (49 percent) were not identified as census tracts containing significant minority populations under the Commission's methodology. *Id.* at Tables U-1, U-2, U-3. The minority population of these census tracts is, respectively, 20 percent, 21 percent, and 31 percent higher than their surrounding counties. Under the Commission's methodology, companies are better off if they intentionally site their infrastructure projects in counties with higher concentrations

of minorities than the overall state, because then the minority population of the county is likely to be closer to the minority population of individual census tracts.

The shifting baseline undermines the Commission's environmental justice analysis, as "[i]t is the reference population that establishes the baseline, the denominator of the equation by which disproportionality is calculated." Ann Hartell, *Methodological Challenges of Environmental Justice Assessments for Transportation Projects*, 2013 Transp. Research Record 21, 22 (2007). Thus, the choice of a baseline has "important implications for the outcome of [the] assessment." *Id.*

Moreover, in identifying affected minority communities, the Commission lumped all minority populations together, thereby conflating distinct environmental justice concerns. For example, the Commission needed to consider the effect of the pipeline on the "distinct cultural practices" of Indian tribes affected by the pipeline. Council on Environmental Quality Guidance at 14. Along the pipeline route in eastern North Carolina, American Indians make up 13 percent of the population, while comprising just 1.2 percent of the population of the state. Ryan E. Emanuel, *Flawed Environmental Justice Analyses*, 357 Science 260 (2017). Much of the American Indian population affected by the pipeline route live in Robeson County, North Carolina. *See* Sarah Wraight, *et al.*, *Environmental Justice Concerns and the Proposed Atlantic Coast Pipeline Route in North Carolina* 4 (2017). Commenters

informed the Commission that the number of American Indians living along the pipeline route in North Carolina "represents one quarter of the state's American Indian population and 1% of the entire American Indian population of the U.S. The environmental justice analysis is silent on this issue, but instead concludes that the preferred route has no disproportionate impacts on minority communities." Joint Comments by Public Interest Groups on Draft Environmental Impact Statement 69 (Record Item No. 10830). Despite these warnings, the Commission's final environmental impact statement offers no discrete analysis of the effects of the pipeline on any American Indians.

These key tenets of the Commission's environmental justice analysis—(1) the use of census tracts without recognition of population differences, (2) the decision to make minority comparisons on a county-by-county basis, (3) the decision to set the threshold for "meaningfully greater" minority populations that appears to miss significant minority communities; and (4) the decision to aggregate all minority populations together—are set forth in the environmental impact statement without further discussion. *See* FEIS at 4-512 & n.30. This was arbitrary and capricious. An agency's methodology must be "reasonable and adequately explained." *Sierra Club*, 867 F.3d at 1368 (quoting *Cmtys. Against Runway Expansion*, 355 F.3d at 689). The Commission's methodology was neither.

In response to a rehearing petition raising concerns about its methodology, the Commission defended its approach by citing this Court's decision in *Sierra Club*, which found that the Commission's decision to use census tracts rather than census blocks in its review of a previous pipeline project was a reasonable approach. *Atl. Coast Pipeline, LLC*, 164 FERC ¶ 61,100, 64,306 (Aug. 10, 2018) (citing *Sierra Club*, 867 F.3d at 1378). However, the Commission misconstrues that decision if it believes that the methodology used in a previous environmental justice analysis can be used across-the-board without modification. An environmental justice review methodology must be flexible and tailored to a particular project, and an agency cannot gerrymander the boundaries of the area it reviews to avoid addressing environmental justice concerns. *See Standing Rock Sioux Tribe*, 255 F.Supp.3d at 137-40 (holding that the agency's choice of a 0.5 km area of analysis was unreasonable); *Idaho Sporting Congress, Inc.*, 305 F.3d at 973-74 (rejecting the agency's choice of analysis scale because it was arbitrary).

IV. The Commission did not adequately consider the high and disproportionate effects of the compressor stations on the surrounding communities

The flaws in the Commission's methodology for identifying environmental justice communities undermine its subsequent discussion of environmental justice issues. If the Commission fails to identify an environmental justice community, it also fails to take a hard look at environmental justice problems distinct to those

communities. The Commission's discussion of the health and environmental effects of the Atlantic Coast Pipeline's compressor stations illustrates this problem.

The Atlantic Coast Pipeline is proposed to include three compressor stations, which are "facilities along a pipeline that compress gas to move it through the system at high speeds." *Myersville Citizens for a Rural Cmty., Inc. v. Fed. Energy Regulatory Comm'n*, 783 F.3d 1301, 1307 (D.C. Cir. 2015). The compressor stations are slated for Lewis County, West Virginia (compressor station 1), Buckingham County, Virginia (compressor station 2), and Northampton County, North Carolina (compressor station 3). *Atl. Coast Pipeline, LLC*, 161 FERC ¶ 61,042, 61,050 (Oct. 13, 2017). All three compressor stations would be located in census tracts where the minority population, or the population under the poverty level, is higher than the state average. FEIS, App. U at U-1-5.

"[C]ompressor stations emit various air pollutants, such as 'volatile organic compounds; particulate matter; nitrogen oxides; carbon monoxide; sulfur dioxide; greenhouse gases . . . and small amounts of hazardous air pollutants.'" Alexandra B. Klass & Jim Rossi, *Reconstituting the Federalism Battle in Energy Transportation*, 41 Harv. Envtl. L. Rev. 423, 450–51 (2017) (quoting Ohio Envtl. Prot. Agency, Air Pollution Control Permits for Natural Gas Compressor Stations 3 (2016)). Compressor station 2 will emit a variety of air pollutants: nitrogen oxides, carbon monoxide, volatile organic compounds, particulate matter having an

aerodynamic diameter equal to or less than ten microns, and particulate matter having an aerodynamic diameter equal to or less than 2.5 microns.[6] Compressor station 3 will have similar effects.[7]

Each of these pollutants pose health risks to the surrounding community, and those living closest to the source of these pollutants bear the greatest risk. EPA's most recent scientific assessment found that short-term exposure to nitrogen oxides can trigger asthma attacks, and found some evidence relating short-term exposure "to chronic obstructive pulmonary disease" and other respiratory diseases. EPA, Integrated Science Assessment for Oxides of Nitrogen Health Criteria, lxxxiii (2016). The same report found that there is "likely to be a causal relationship between long-term NO2 exposure and respiratory effects based on the evidence for development of asthma." *Id.* at lxxxiv. Volatile organic compounds "help produce

---

[6] Va. Dep't of Envtl. Quality, Minor New Source Review Permit for Atlantic Coast Pipeline, LLC's Buckingham Compressor Station (BCS), Registration No. 21599 - Public Participation Report and Request for Board Action 2, *available at* https://www.deq.virginia.gov/Portals/0/DEQ/Air/BuckinghamCompressorStation/ADA_21599_Memo_to_Board.pdf.

[7] Atlantic Coast Pipeline's Supplemental Application to North Carolina Dep't of Air Quality for an Air Permit for the Northampton Compressor Station (July 20, 2017) (projecting that Compressor Station 3 will emit 19.2 tons per year of nitrogen oxide and 18.4 tons per year of particulate matter), *available at* https://files.nc.gov/ncdeq/Energy%20Mineral%20and%20Land%20Resources/DEMLR/Atlantic-Coast-Pipeline/ACP%20Air%20Permit%20Application%20Part%202.pdf.

ground-level ozone, smog and particulate matter, which harm human health and the environment." Approval of California Air Plan Revisions, Mojave Desert Air Quality Management District, Northern Sierra Air Quality Management District, and San Diego County Air Pollution Control District, 82 Fed. Reg. 28,240, 28,241 (June 21, 2017). The Environmental Protection Agency has linked particulate matter "to a variety of problems, including: premature death in people with heart or lung disease; nonfatal heart attacks; irregular heartbeat; aggravated asthma; decreased lung function; [and] increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing." EPA, Health and Environmental Effects of Particulate Matter.[8] With respect to particulate matter smaller than 2.5 microns, the Environmental Protection Agency acknowledges that there is no known safe exposure level. *See National Ambient Air Quality Standards for Particulate Matter*, 78 Fed. Reg. 3,086, 3,098 (Jan. 15, 2013). The Agency for Toxic Substances and Disease Registry, a component of the U.S. Department of Health and Human Services, also has found that exposure to hydrogen sulfide and particulate matter emissions from natural gas compressor stations can result in "harmful effects" on "sensitive subpopulations," including the elderly and individuals with asthma. Agency for Toxic Substances and Disease Registry,

[8] *Available at* https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm.

Natural Gas Ambient Air Quality Monitoring Initiative: Brigich Compressor Station ii (Jan. 29, 2016).[9]

Despite these known health risks, and the demographic makeup of communities chosen for the compressor stations, the Commission found that the compressor stations pose "no disproportionately high and adverse impacts on environmental justice populations as a result of air quality impacts[.]" FEIS at ES-16; 4-514. The reasons for this faulty conclusion are two-fold. First, the Commission's methodology for identifying environmental justice communities caused it to overlook minority environmental justice communities located in the immediate vicinity of the compressor stations, such as the Union Hill community near compressor station 2. Second, even when it did identify an environmental justice community, the Commission minimized the health risks caused by compressor stations, particularly as applied to already vulnerable minority populations, such as the community near compressor station 3 in North Carolina.

Compressor station 2 would be built in the unincorporated Union Hill community of Buckingham County, Virginia. Union Hill has a rich heritage: The greater Union Hill and Woods Corner Rural Historic District contains historically African American churches and schools that date back to the founding of the area

[9] *Available at* https://www.atsdr.cdc.gov/HAC/pha/Brigich_Compressor_Station/Brigich_Compressor_Station_EI_HC_01-29-2016_508.pdf.

after Emancipation, and a large slave burial ground on land that was formerly the Variety Shades plantation. Preservation Virginia—described as "the nation's first statewide historic preservation organization"[10]—identified Union Hill, and the area's historic cemeteries, in particular, as among the most endangered historic sites in Virginia because of the Atlantic Coast Pipeline. Preservation Virginia, Virginia's Most Endangered Historic Places 2016.[11]

Union Hill is overwhelmingly African American. At least one survey of the residences closest to the compressor station site found that approximately 74 percent of the residents surveyed were African American, and 81 percent were minorities. Comments by Lakshmi Fjord, working with Union Hill Historic Preservation and Environmental Justice Partners re: Atlantic Coast Pipeline and Supply Header Project Draft Environmental Impact Statement at 7 (Record Item No. 11542). The Environmental Protection Agency guidance relied on by FERC warns that "pockets of minority or low-income communities" could be missed in a "traditional census tract-based analysis" and recommends that agencies "should attempt to identify whether high concentration 'pockets' of minority populations are evidenced in specific geographic areas." EPA, Final Guidance for

[10] https://preservationvirginia.org/about/.

[11] *Available at* https://preservationvirginia.org/wp-content/uploads/2018/09/2016-Most-Endangered-Sites-brochure.pdf.

Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses § 2.1.1 (1998). Additionally, a census tract that FERC considered in its analysis, Census Tract 9302.01, has a minority population of 45.6 percent. FEIS, App. U at U-2. The minority population of the census tract is only 8 percentage points higher than that of the surrounding county, thereby falling short of the ten percentage point threshold set by the Commission. This translates, however, into a minority population that is 21 percent larger than the minority population of the surrounding county and 48 percent higher than the minority population statewide. *Id*. Yet, the Commission's review missed this, instead concluding that there are no minority environmental justice communities close to compressor station 2. *See* FEIS 4-513. The Commission reached this conclusion because it examined three census tracts covering approximately 500 square miles, rather than using data available in the record that was specific to the area surrounding the proposed compressor station. *See* Request for Rehearing of Appalachian Voices, *et al.* at 129 (Record Item No. 13771) (including graphical content of the location of the proposed compressor station relative to the census tracts under examination).

Even when the Commission did identify a minority environmental justice community, it failed to take a hard look at the impacts the compressor stations would have on these communities. For example, for compressor station 3 in North Carolina, the Commission identified the surrounding census tract as a minority

environmental justice population, because its population is majority African American (75 percent). FEIS, App. U at U-5. The Commission nonetheless dismissed the disproportionate health effects because "while they would be permanent facilities, air emissions [from the compressor stations] would not exceed regulatory permittable levels." FEIS 4-514. But of course emissions will be subject to permit restrictions. If emissions would exceed regulatory permittable levels, the facility could not be permitted and could not be built. The point of an environmental justice analysis is to take a hard look at instances where one or more facilities—sited within the same community and operating within the bounds of their permits—exacerbate inequitable health and environmental outcomes. Concluding that there is no disproportionately high and adverse health outcome so long as nobody does anything illegal fails to undertake the inquiry seriously.

The Commission also ignored the potential for air pollution to worsen health in the affected communities. For example, compressor station 3 will emit an additional 3.4 tons of hazardous air pollutants and 18 tons of particulate matter pollution, *id.* at 4-559, and will result in a 33-percent increase in the 1-hour annual concentration of particulate matter smaller than 2.5 microns in Northampton County. *Id*. at 4-561. This is lower than the national ambient air quality standard, but as the Environmental Protection Agency has acknowledged, there is no known safe exposure level for some particulate matter. *See National Ambient Air Quality*

Standards for Particulate Matter, 78 Fed. Reg. 3,086, 3,098 (Jan. 15, 2013). While the Environmental Protection Agency is only required to mandate "the maximum degree of reduction in emissions of [] hazardous air pollutants" that is "achievable," 42 U.S.C. § 7412(d)(2), these regulatory standards do not suggest or support the finding that such emissions would have no serious health effects. The Environmental Protection Agency acknowledges that these pollutants present health risks at *any* level. Ignoring risks as the Commission did is not a "hard look" review. *See WildEarth Guardians v. Jewell,* 738 F.3d 298, 311 (D.C. Cir. 2013).

When assessing the potential for disproportionately high and adverse effects, agencies are to consider "relevant public health data and industry data concerning the potential for multiple or cumulative exposure to human health or environmental hazards in the affected population." Council on Environmental Quality Guidance at 9. Yet, the Commission failed to take a hard look at the existing health disparities in the minority communities located next to compressor stations 2 and 3 and the cumulative effects of those pre-existing risks and the project's impacts. For example, the cancer rate in Northampton County is higher than the state average. Fleischman & Franklin, *Fumes Across the Fence-line* at 7. In a community that already has elevated cancer rates, the health risks posed by a compressor station could have disproportionately high and adverse effects. Yet, the Commission did not consider or discuss how compressor station 3 could heighten the community's

already elevated cancer rates, a striking omission given that the Commission itself noted that "several different cancer-related compounds and chemicals are present in the air in proximity to construction and operation of compressor stations," and these substances "have documented health effects on the general and vulnerable populations." FEIS at 4-514.

Similarly, the Commission recognized that "African American populations have a greater prevalence of asthma" and thus are at increased risk from decreases in air quality, but then concluded that the pipeline would have no disproportionately high and adverse impacts on African American communities. *Id.* In making this determination, the Commission did not consider evidence that the residents of Northampton County have elevated rates of asthma when compared to the rest of North Carolina. *See* Northampton County Health Department, *Northampton County 2014 Community Health Assessment* at 20.[12] The Commission's review is the sort of "cursory" analysis that "d[oes] not properly consider the environmental-justice implications of [a] project and thus fail[s] to take a hard look at its environmental consequences." *Standing Rock Sioux Tribe v. U.S. Army Corps of Eng'rs*, 255 F. Supp. 3d 101, 140 (D.D.C. 2017). The Commission's environmental justice analysis was thus insufficient.

[12] *Available at* https://www.northamptonhd.com/images/Northampton_County_2015_Community_Health_Assessment__51215.pdf.

CONCLUSION

The Commission's environmental justice review was inadequate and fell well short of its legal obligations. The Court should grant Conservation Petitioners' petitions for review.

Respectfully submitted,

/s/Thomas Zimpleman
Thomas Zimpleman
Montina M. Cole
Gillian Giannetti
Robert Gustafson
Natural Resources Defense Council
1152 15th Street NW, Suite 300
Washington, DC 20005
202-289-6868
tzimpleman@nrdc.org

Counsel for amici curiae

April 12, 2019

CERTIFICATE OF COMPLIANCE

1. This brief complies with the type-volume limitation of Fed. R. App. P.29(a)(5) because this brief contains 5,963 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(f). This statement is based on the word count function of Microsoft Office Word 2016.

2. This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because this brief has been prepared in a proportionally spaced typeface using Microsoft Office Word 2016 in 14-point Times New Roman font for the main text and 14-point Times New Roman font for footnotes.

Dated: April 12, 2019

/s/Thomas Zimpleman
Thomas Zimpleman

ADDENDUM

Guam, American Samoa, the United States Virgin Islands, and the Northern Mariana Islands, and associated territorial waters and airspace;

(n) ''water consumption intensity'' means water consumption per square foot of building space; and

(o) ''zero-net-energy building'' means a building that is designed, constructed, and operated to require a greatly reduced quantity of energy to operate, meet the balance of energy needs from sources of energy that do not produce greenhouse gases, and therefore result in no net emissions of greenhouse gases and be economically viable.

SEC. 20. *General Provisions.*

(a) This order shall be implemented in a manner consistent with applicable law and subject to the availability of appropriations.

(b) Nothing in this order shall be construed to impair or otherwise affect the functions of the OMB Director relating to budgetary, administrative, or legislative proposals.

(c) This order is intended only to improve the internal management of the Federal Government and is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

BARACK OBAMA.

SUBCHAPTER I—POLICIES AND GOALS

§ 4331. Congressional declaration of national environmental policy

(a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

(b) In order to carry out the policy set forth in this chapter, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(c) The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

(Pub. L. 91–190, title I, § 101, Jan. 1, 1970, 83 Stat. 852.)

COMMISSION ON POPULATION GROWTH AND THE AMERICAN FUTURE

Pub. L. 91–213, §§ 1–9, Mar. 16, 1970, 84 Stat. 67–69, established the Commission on Population Growth and the American Future to conduct and sponsor such studies and research and make such recommendations as might be necessary to provide information and education to all levels of government in the United States, and to our people regarding a broad range of problems associated with population growth and their implications for America's future; prescribed the composition of the Commission; provided for the appointment of its members, and the designation of a Chairman and Vice Chairman; required a majority of the members of the Commission to constitute a quorum, but allowed a lesser number to conduct hearings; prescribed the compensation of members of the Commission; required the Commission to conduct an inquiry into certain prescribed aspects of population growth in the United States and its foreseeable social consequences; provided for the appointment of an Executive Director and other personnel and prescribed their compensation; authorized the Commission to enter into contracts with public agencies, private firms, institutions, and individuals for the conduct of research and surveys, the preparation of reports, and other activities necessary to the discharge of its duties, and to request from any Federal department or agency any information and assistance it deems necessary to carry out its functions; required the General Services Administration to provide administrative services for the Commission on a reimbursable basis; required the Commission to submit an interim report to the President and the Congress one year after it was established and to submit its final report two years after Mar. 16, 1970; terminated the Commission sixty days after the date of the submission of its final report; and authorized to be appropriated, out of any money in the Treasury not otherwise appropriated, such amounts as might be necessary to carry out the provisions of Pub. L. 91–213.

EXECUTIVE ORDER NO. 11507

Ex. Ord. No. 11507, eff. Feb. 4, 1970, 35 F.R. 2573, which related to prevention, control, and abatement of air and water pollution at federal facilities was superseded by Ex. Ord. No. 11752, eff. Dec. 17, 1973, 38 F.R. 34793, formerly set out below.

EXECUTIVE ORDER NO. 11752

Ex. Ord. No. 11752, Dec. 17, 1973, 38 F.R. 34793, which related to the prevention, control, and abatement of environmental pollution at Federal facilities, was revoked by Ex. Ord. No. 12088, Oct. 13, 1978, 43 F.R. 47707, set out as a note under section 4321 of this title.

standards for power plants, was revoked by Ex. Ord. No. 13783, § 3(a)(ii), Mar. 28, 2017, 82 F.R. 16094, set out as a note under section 13201 of this title.

§ 7412. Hazardous air pollutants

(a) Definitions

For purposes of this section, except subsection (r)—

(1) Major source

The term ''major source'' means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants. The Administrator may establish a lesser quantity, or in the case of radionuclides different criteria, for a major source than that specified in the previous sentence, on the basis of the potency of the air pollutant, persistence, potential for bioaccumulation, other characteristics of the air pollutant, or other relevant factors.

(2) Area source

The term ''area source'' means any stationary source of hazardous air pollutants that is not a major source. For purposes of this section, the term ''area source'' shall not include motor vehicles or nonroad vehicles subject to regulation under subchapter II.

(3) Stationary source

The term ''stationary source'' shall have the same meaning as such term has under section 7411(a) of this title.

(4) New source

The term ''new source'' means a stationary source the construction or reconstruction of which is commenced after the Administrator first proposes regulations under this section establishing an emission standard applicable to such source.

(5) Modification

The term ''modification'' means any physical change in, or change in the method of operation of, a major source which increases the actual emissions of any hazardous air pollutant emitted by such source by more than a de minimis amount or which results in the emission of any hazardous air pollutant not previously emitted by more than a de minimis amount.

(6) Hazardous air pollutant

The term ''hazardous air pollutant'' means any air pollutant listed pursuant to subsection (b).

(7) Adverse environmental effect

The term ''adverse environmental effect'' means any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas.

(8) Electric utility steam generating unit

The term ''electric utility steam generating unit'' means any fossil fuel fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale shall be considered an electric utility steam generating unit.

(9) Owner or operator

The term ''owner or operator'' means any person who owns, leases, operates, controls, or supervises a stationary source.

(10) Existing source

The term ''existing source'' means any stationary source other than a new source.

(11) Carcinogenic effect

Unless revised, the term ''carcinogenic effect'' shall have the meaning provided by the Administrator under Guidelines for Carcinogenic Risk Assessment as of the date of enactment.[1] Any revisions in the existing Guidelines shall be subject to notice and opportunity for comment.

(b) List of pollutants

(1) Initial list

The Congress establishes for purposes of this section a list of hazardous air pollutants as follows:

CAS number	Chemical name
75070	Acetaldehyde
60355	Acetamide
75058	Acetonitrile
98862	Acetophenone
53963	2-Acetylaminofluorene
107028	Acrolein
79061	Acrylamide
79107	Acrylic acid
107131	Acrylonitrile
107051	Allyl chloride
92671	4-Aminobiphenyl
62533	Aniline
90040	o-Anisidine
1332214	Asbestos
71432	Benzene (including benzene from gasoline)
92875	Benzidine
98077	Benzotrichloride
100447	Benzyl chloride
92524	Biphenyl
117817	Bis(2-ethylhexyl)phthalate (DEHP)
542881	Bis(chloromethyl)ether
75252	Bromoform
106990	1,3-Butadiene
156627	Calcium cyanamide
105602	Caprolactam
133062	Captan
63252	Carbaryl
75150	Carbon disulfide
56235	Carbon tetrachloride
463581	Carbonyl sulfide
120809	Catechol
133904	Chloramben
57749	Chlordane
7782505	Chlorine

[1] See References in Text note below.

CAS number	Chemical name
79118	Chloroacetic acid
532274	2-Chloroacetophenone
108907	Chlorobenzene
510156	Chlorobenzilate
67663	Chloroform
107302	Chloromethyl methyl ether
126998	Chloroprene
1319773	Cresols/Cresylic acid (isomers and mixture)
95487	o-Cresol
108394	m-Cresol
106445	p-Cresol
98828	Cumene
94757	2,4-D, salts and esters
3547044	DDE
334883	Diazomethane
132649	Dibenzofurans
96128	1,2-Dibromo-3-chloropropane
84742	Dibutylphthalate
106467	1,4-Dichlorobenzene(p)
91941	3,3-Dichlorobenzidene
111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)
542756	1,3-Dichloropropene
62737	Dichlorvos
111422	Diethanolamine
121697	N,N-Diethyl aniline (N,N-Dimethylaniline)
64675	Diethyl sulfate
119904	3,3-Dimethoxybenzidine
60117	Dimethyl aminoazobenzene
119937	3,3′-Dimethyl benzidine
79447	Dimethyl carbamoyl chloride
68122	Dimethyl formamide
57147	1,1-Dimethyl hydrazine
131113	Dimethyl phthalate
77781	Dimethyl sulfate
534521	4,6-Dinitro-o-cresol, and salts
51285	2,4-Dinitrophenol
121142	2,4-Dinitrotoluene
123911	1,4-Dioxane (1,4-Diethyleneoxide)
122667	1,2-Diphenylhydrazine
106898	Epichlorohydrin (l-Chloro-2,3-epoxypropane)
106887	1,2-Epoxybutane
140885	Ethyl acrylate
100414	Ethyl benzene
51796	Ethyl carbamate (Urethane)
75003	Ethyl chloride (Chloroethane)
106934	Ethylene dibromide (Dibromoethane)
107062	Ethylene dichloride (1,2-Dichloroethane)
107211	Ethylene glycol
151564	Ethylene imine (Aziridine)
75218	Ethylene oxide
96457	Ethylene thiourea
75343	Ethylidene dichloride (1,1-Dichloroethane)
50000	Formaldehyde
76448	Heptachlor
118741	Hexachlorobenzene
87683	Hexachlorobutadiene
77474	Hexachlorocyclopentadiene
67721	Hexachloroethane
822060	Hexamethylene-1,6-diisocyanate
680319	Hexamethylphosphoramide
110543	Hexane
302012	Hydrazine
7647010	Hydrochloric acid
7664393	Hydrogen fluoride (Hydrofluoric acid)
123319	Hydroquinone
78591	Isophorone
58899	Lindane (all isomers)
108316	Maleic anhydride
67561	Methanol
72435	Methoxychlor
74839	Methyl bromide (Bromomethane)
74873	Methyl chloride (Chloromethane)
71556	Methyl chloroform (1,1,1-Trichloroethane)
78933	Methyl ethyl ketone (2-Butanone)
60344	Methyl hydrazine
74884	Methyl iodide (Iodomethane)
108101	Methyl isobutyl ketone (Hexone)
624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tert butyl ether
101144	4,4-Methylene bis(2-chloroaniline)
75092	Methylene chloride (Dichloromethane)
101688	Methylene diphenyl diisocyanate (MDI)
101779	4,4′-Methylenedianiline
91203	Naphthalene
98953	Nitrobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
79469	2-Nitropropane
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitrosomorpholine
56382	Parathion
82688	Pentachloronitrobenzene (Quintobenzene)
87865	Pentachlorophenol
108952	Phenol
106503	p-Phenylenediamine
75445	Phosgene
7803512	Phosphine
7723140	Phosphorus
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls (Aroclors)
1120714	1,3-Propane sultone
57578	beta-Propiolactone
123386	Propionaldehyde
114261	Propoxur (Baygon)
78875	Propylene dichloride (1,2-Dichloropropane)
75569	Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine)
91225	Quinoline
106514	Quinone
100425	Styrene
96093	Styrene oxide
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin
79345	1,1,2,2-Tetrachloroethane
127184	Tetrachloroethylene (Perchloroethylene)
7550450	Titanium tetrachloride
108883	Toluene
95807	2,4-Toluene diamine
584849	2,4-Toluene diisocyanate
95534	o-Toluidine
8001352	Toxaphene (chlorinated camphene)
120821	1,2,4-Trichlorobenzene
79005	1,1,2-Trichloroethane
79016	Trichloroethylene
95954	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol
121448	Triethylamine
1582098	Trifluralin
540841	2,2,4-Trimethylpentane
108054	Vinyl acetate
593602	Vinyl bromide
75014	Vinyl chloride
75354	Vinylidene chloride (1,1-Dichloroethylene)
1330207	Xylenes (isomers and mixture)
95476	o-Xylenes
108383	m-Xylenes
106423	p-Xylenes
0	Antimony Compounds
0	Arsenic Compounds (inorganic including arsine)
0	Beryllium Compounds
0	Cadmium Compounds
0	Chromium Compounds
0	Cobalt Compounds
0	Coke Oven Emissions
0	Cyanide Compounds[1]
0	Glycol ethers[2]
0	Lead Compounds
0	Manganese Compounds
0	Mercury Compounds
0	Fine mineral fibers[3]
0	Nickel Compounds
0	Polycylic Organic Matter[4]

CAS number	Chemical name
0	Radionuclides (including radon)[5]
0	Selenium Compounds

NOTE: For all listings above which contain the word ''compounds'' and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.

[1] X′CN where X = H′ or any other group where a formal dissociation may occur. For example KCN or $Ca(CN)_2$.

[2] Includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol $R–(OCH2CH2)_n–OR′$ where

n = 1, 2, or 3

R = alkyl or aryl groups

R′ = R, H, or groups which, when removed, yield glycol ethers with the structure: $R–(OCH2CH)_n–OH$. Polymers are excluded from the glycol category.

[3] Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

[4] Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.

[5] A type of atom which spontaneously undergoes radioactive decay.

(2) Revision of the list

The Administrator shall periodically review the list established by this subsection and publish the results thereof and, where appropriate, revise such list by rule, adding pollutants which present, or may present, through inhalation or other routes of exposure, a threat of adverse human health effects (including, but not limited to, substances which are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, neurotoxic, which cause reproductive dysfunction, or which are acutely or chronically toxic) or adverse environmental effects whether through ambient concentrations, bioaccumulation, deposition, or otherwise, but not including releases subject to regulation under subsection (r) as a result of emissions to the air. No air pollutant which is listed under section 7408(a) of this title may be added to the list under this section, except that the prohibition of this sentence shall not apply to any pollutant which independently meets the listing criteria of this paragraph and is a precursor to a pollutant which is listed under section 7408(a) of this title or to any pollutant which is in a class of pollutants listed under such section. No substance, practice, process or activity regulated under subchapter VI of this chapter shall be subject to regulation under this section solely due to its adverse effects on the environment.

(3) Petitions to modify the list

(A) Beginning at any time after 6 months after November 15, 1990, any person may petition the Administrator to modify the list of hazardous air pollutants under this subsection by adding or deleting a substance or, in case of listed pollutants without CAS numbers (other than coke oven emissions, mineral fibers, or polycyclic organic matter) removing certain unique substances. Within 18 months after receipt of a petition, the Administrator shall either grant or deny the petition by publishing a written explanation of the reasons for the Administrator's decision. Any such petition shall include a showing by the petitioner that there is adequate data on the health or environmental defects[2] of the pollutant or other evidence adequate to support the petition. The Administrator may not deny a petition solely on the basis of inadequate resources or time for review.

(B) The Administrator shall add a substance to the list upon a showing by the petitioner or on the Administrator's own determination that the substance is an air pollutant and that emissions, ambient concentrations, bioaccumulation or deposition of the substance are known to cause or may reasonably be anticipated to cause adverse effects to human health or adverse environmental effects.

(C) The Administrator shall delete a substance from the list upon a showing by the petitioner or on the Administrator's own determination that there is adequate data on the health and environmental effects of the substance to determine that emissions, ambient concentrations, bioaccumulation or deposition of the substance may not reasonably be anticipated to cause any adverse effects to the human health or adverse environmental effects.

(D) The Administrator shall delete one or more unique chemical substances that contain a listed hazardous air pollutant not having a CAS number (other than coke oven emissions, mineral fibers, or polycyclic organic matter) upon a showing by the petitioner or on the Administrator's own determination that such unique chemical substances that contain the named chemical of such listed hazardous air pollutant meet the deletion requirements of subparagraph (C). The Administrator must grant or deny a deletion petition prior to promulgating any emission standards pursuant to subsection (d) applicable to any source category or subcategory of a listed hazardous air pollutant without a CAS number listed under subsection (b) for which a deletion petition has been filed within 12 months of November 15, 1990.

(4) Further information

If the Administrator determines that information on the health or environmental effects of a substance is not sufficient to make a determination required by this subsection, the Administrator may use any authority available to the Administrator to acquire such information.

(5) Test methods

The Administrator may establish, by rule, test measures and other analytic procedures for monitoring and measuring emissions, ambient concentrations, deposition, and bioaccumulation of hazardous air pollutants.

(6) Prevention of significant deterioration

The provisions of part C (prevention of significant deterioration) shall not apply to pollutants listed under this section.

[2] So in original. Probably should be ''effects''.

(7) Lead

The Administrator may not list elemental lead as a hazardous air pollutant under this subsection.

(c) List of source categories

(1) In general

Not later than 12 months after November 15, 1990, the Administrator shall publish, and shall from time to time, but no less often than every 8 years, revise, if appropriate, in response to public comment or new information, a list of all categories and subcategories of major sources and area sources (listed under paragraph (3)) of the air pollutants listed pursuant to subsection (b). To the extent practicable, the categories and subcategories listed under this subsection shall be consistent with the list of source categories established pursuant to section 7411 of this title and part C. Nothing in the preceding sentence limits the Administrator's authority to establish subcategories under this section, as appropriate.

(2) Requirement for emissions standards

For the categories and subcategories the Administrator lists, the Administrator shall establish emissions standards under subsection (d), according to the schedule in this subsection and subsection (e).

(3) Area sources

The Administrator shall list under this subsection each category or subcategory of area sources which the Administrator finds presents a threat of adverse effects to human health or the environment (by such sources individually or in the aggregate) warranting regulation under this section. The Administrator shall, not later than 5 years after November 15, 1990, and pursuant to subsection (k)(3)(B), list, based on actual or estimated aggregate emissions of a listed pollutant or pollutants, sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the area source emissions of the 30 hazardous air pollutants that present the greatest threat to public health in the largest number of urban areas are subject to regulation under this section. Such regulations shall be promulgated not later than 10 years after November 15, 1990.

(4) Previously regulated categories

The Administrator may, in the Administrator's discretion, list any category or subcategory of sources previously regulated under this section as in effect before November 15, 1990.

(5) Additional categories

In addition to those categories and subcategories of sources listed for regulation pursuant to paragraphs (1) and (3), the Administrator may at any time list additional categories and subcategories of sources of hazardous air pollutants according to the same criteria for listing applicable under such paragraphs. In the case of source categories and subcategories listed after publication of the initial list required under paragraph (1) or (3), emission standards under subsection (d) for the category or subcategory shall be promulgated within 10 years after November 15, 1990, or within 2 years after the date on which such category or subcategory is listed, whichever is later.

(6) Specific pollutants

With respect to alkylated lead compounds, polycyclic organic matter, hexachlorobenzene, mercury, polychlorinated biphenyls, 2,3,7,8-tetrachlorodibenzofurans and 2,3,7,8-tetrachlorodibenzo-p-dioxin, the Administrator shall, not later than 5 years after November 15, 1990, list categories and subcategories of sources assuring that sources accounting for not less than 90 per centum of the aggregate emissions of each such pollutant are subject to standards under subsection (d)(2) or (d)(4). Such standards shall be promulgated not later than 10 years after November 15, 1990. This paragraph shall not be construed to require the Administrator to promulgate standards for such pollutants emitted by electric utility steam generating units.

(7) Research facilities

The Administrator shall establish a separate category covering research or laboratory facilities, as necessary to assure the equitable treatment of such facilities. For purposes of this section, ''research or laboratory facility'' means any stationary source whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

(8) Boat manufacturing

When establishing emissions standards for styrene, the Administrator shall list boat manufacturing as a separate subcategory unless the Administrator finds that such listing would be inconsistent with the goals and requirements of this chapter.

(9) Deletions from the list

(A) Where the sole reason for the inclusion of a source category on the list required under this subsection is the emission of a unique chemical substance, the Administrator shall delete the source category from the list if it is appropriate because of action taken under either subparagraphs (C) or (D) of subsection (b)(3).

(B) The Administrator may delete any source category from the list under this subsection, on petition of any person or on the Administrator's own motion, whenever the Administrator makes the following determination or determinations, as applicable:

(i) In the case of hazardous air pollutants emitted by sources in the category that may result in cancer in humans, a determination that no source in the category (or group of sources in the case of area sources) emits such hazardous air pollutants in quantities which may cause a lifetime risk of cancer greater than one in one million to the individual in the population who is most exposed

to emissions of such pollutants from the source (or group of sources in the case of area sources).

(ii) In the case of hazardous air pollutants that may result in adverse health effects in humans other than cancer or adverse environmental effects, a determination that emissions from no source in the category or subcategory concerned (or group of sources in the case of area sources) exceed a level which is adequate to protect public health with an ample margin of safety and no adverse environmental effect will result from emissions from any source (or from a group of sources in the case of area sources).

The Administrator shall grant or deny a petition under this paragraph within 1 year after the petition is filed.

(d) Emission standards

(1) In general

The Administrator shall promulgate regulations establishing emission standards for each category or subcategory of major sources and area sources of hazardous air pollutants listed for regulation pursuant to subsection (c) in accordance with the schedules provided in subsections (c) and (e). The Administrator may distinguish among classes, types, and sizes of sources within a category or subcategory in establishing such standards except that, there shall be no delay in the compliance date for any standard applicable to any source under subsection (i) as the result of the authority provided by this sentence.

(2) Standards and methods

Emissions standards promulgated under this subsection and applicable to new or existing sources of hazardous air pollutants shall require the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section (including a prohibition on such emissions, where achievable) that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable for new or existing sources in the category or subcategory to which such emission standard applies, through application of measures, processes, methods, systems or techniques including, but not limited to, measures which—

(A) reduce the volume of, or eliminate emissions of, such pollutants through process changes, substitution of materials or other modifications,

(B) enclose systems or processes to eliminate emissions,

(C) collect, capture or treat such pollutants when released from a process, stack, storage or fugitive emissions point,

(D) are design, equipment, work practice, or operational standards (including requirements for operator training or certification) as provided in subsection (h), or

(E) are a combination of the above.

None of the measures described in subparagraphs (A) through (D) shall, consistent with the provisions of section 7414(c) of this title, in any way compromise any United States patent or United States trademark right, or any confidential business information, or any trade secret or any other intellectual property right.

(3) New and existing sources

The maximum degree of reduction in emissions that is deemed achievable for new sources in a category or subcategory shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator. Emission standards promulgated under this subsection for existing sources in a category or subcategory may be less stringent than standards for new sources in the same category or subcategory but shall not be less stringent, and may be more stringent than—

(A) the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emissions information), excluding those sources that have, within 18 months before the emission standard is proposed or within 30 months before such standard is promulgated, whichever is later, first achieved a level of emission rate or emission reduction which complies, or would comply if the source is not subject to such standard, with the lowest achievable emission rate (as defined by section 7501 of this title) applicable to the source category and prevailing at the time, in the category or subcategory for categories and subcategories with 30 or more sources, or

(B) the average emission limitation achieved by the best performing 5 sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory for categories or subcategories with fewer than 30 sources.

(4) Health threshold

With respect to pollutants for which a health threshold has been established, the Administrator may consider such threshold level, with an ample margin of safety, when establishing emission standards under this subsection.

(5) Alternative standard for area sources

With respect only to categories and subcategories of area sources listed pursuant to subsection (c), the Administrator may, in lieu of the authorities provided in paragraph (2) and subsection (f), elect to promulgate standards or requirements applicable to sources in such categories or subcategories which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants.

(6) Review and revision

The Administrator shall review, and revise as necessary (taking into account developments in practices, processes, and control technologies), emission standards promulgated under this section no less often than every 8 years.

(7) Other requirements preserved

No emission standard or other requirement promulgated under this section shall be interpreted, construed or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established pursuant to section 7411 of this title, part C or D, or other authority of this chapter or a standard issued under State authority.

(8) Coke ovens

(A) Not later than December 31, 1992, the Administrator shall promulgate regulations establishing emission standards under paragraphs (2) and (3) of this subsection for coke oven batteries. In establishing such standards, the Administrator shall evaluate—

(i) the use of sodium silicate (or equivalent) luting compounds to prevent door leaks, and other operating practices and technologies for their effectiveness in reducing coke oven emissions, and their suitability for use on new and existing coke oven batteries, taking into account costs and reasonable commercial door warranties; and

(ii) as a basis for emission standards under this subsection for new coke oven batteries that begin construction after the date of proposal of such standards, the Jewell design Thompson non-recovery coke oven batteries and other non-recovery coke oven technologies, and other appropriate emission control and coke production technologies, as to their effectiveness in reducing coke oven emissions and their capability for production of steel quality coke.

Such regulations shall require at a minimum that coke oven batteries will not exceed 8 per centum leaking doors, 1 per centum leaking lids, 5 per centum leaking offtakes, and 16 seconds visible emissions per charge, with no exclusion for emissions during the period after the closing of self-sealing oven doors. Notwithstanding subsection (i), the compliance date for such emission standards for existing coke oven batteries shall be December 31, 1995.

(B) The Administrator shall promulgate work practice regulations under this subsection for coke oven batteries requiring, as appropriate—

(i) the use of sodium silicate (or equivalent) luting compounds, if the Administrator determines that use of sodium silicate is an effective means of emissions control and is achievable, taking into account costs and reasonable commercial warranties for doors and related equipment; and

(ii) door and jam cleaning practices.

Notwithstanding subsection (i), the compliance date for such work practice regulations for coke oven batteries shall be not later than the date 3 years after November 15, 1990.

(C) For coke oven batteries electing to qualify for an extension of the compliance date for standards promulgated under subsection (f) in accordance with subsection (i)(8), the emission standards under this subsection for coke oven batteries shall require that coke oven batteries not exceed 8 per centum leaking doors, 1 per centum leaking lids, 5 per centum leaking offtakes, and 16 seconds visible emissions per charge, with no exclusion for emissions during the period after the closing of self-sealing doors. Notwithstanding subsection (i), the compliance date for such emission standards for existing coke oven batteries seeking an extension shall be not later than the date 3 years after November 15, 1990.

(9) Sources licensed by the Nuclear Regulatory Commission

No standard for radionuclide emissions from any category or subcategory of facilities licensed by the Nuclear Regulatory Commission (or an Agreement State) is required to be promulgated under this section if the Administrator determines, by rule, and after consultation with the Nuclear Regulatory Commission, that the regulatory program established by the Nuclear Regulatory Commission pursuant to the Atomic Energy Act [42 U.S.C. 2011 et seq.] for such category or subcategory provides an ample margin of safety to protect the public health. Nothing in this subsection shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce any standard or limitation respecting emissions of radionuclides which is more stringent than the standard or limitation in effect under section 7411 of this title or this section.

(10) Effective date

Emission standards or other regulations promulgated under this subsection shall be effective upon promulgation.

(e) Schedule for standards and review

(1) In general

The Administrator shall promulgate regulations establishing emission standards for categories and subcategories of sources initially listed for regulation pursuant to subsection (c)(1) as expeditiously as practicable, assuring that—

(A) emission standards for not less than 40 categories and subcategories (not counting coke oven batteries) shall be promulgated not later than 2 years after November 15, 1990;

(B) emission standards for coke oven batteries shall be promulgated not later than December 31, 1992;

(C) emission standards for 25 per centum of the listed categories and subcategories shall be promulgated not later than 4 years after November 15, 1990;

(D) emission standards for an additional 25 per centum of the listed categories and subcategories shall be promulgated not later than 7 years after November 15, 1990; and

(E) emission standards for all categories and subcategories shall be promulgated not later than 10 years after November 15, 1990.

(2) Priorities

In determining priorities for promulgating standards under subsection (d), the Administrator shall consider—

(A) the known or anticipated adverse effects of such pollutants on public health and the environment;

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on April 12, 2019, I caused the foregoing to be filed electronically with the Clerk of the Court using the CM/ECF system, which will send a Notice of Electronic Filing to all counsel of record who have registered with the CM/ECF system.

Service will be made by U.S. mail to:

Mr. Michael J. Hirrel
Law Office of Michael J. Hirrel
1300 Army Navy Drive #1024
Arlington, VA 22202-2020

/s/Thomas Zimpleman
Thomas Zimpleman