

ORAL ARGUMENT NOT YET SCHEDULED

No. 19-1140 (and consolidated cases)

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

AMERICAN LUNG ASSOCIATION, *et al.*,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

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

**BRIEF OF AMICUS CURIAE THE SERVICE EMPLOYEES
INTERNATIONAL UNION IN SUPPORT OF STATE AND MUNICIPAL,
PUBLIC HEALTH AND ENVIRONMENTAL, POWER COMPANY, AND
CLEAN ENERGY TRADE ASSOCIATION PETITIONERS**

Nicole G. Berner
Renee M. Gerni
Monica Jin-Joo Wilk
Service Employees International Union
1800 Massachusetts Ave., NW
Washington, DC 20036
(202) 304-9072
renee.gerni@seiu.org

*Counsel for Amicus Curiae
Service Employees International Union*

TABLE OF CONTENTS

	<u>Page</u>
IDENTITY AND INTEREST OF <i>AMICUS CURIAE</i>	1
STATEMENT REGARDING SEPARATE BRIEFING.....	1
STATEMENT OF AUTHORSHIP AND FINANCIAL CONTRIBUTIONS	2
SUMMARY OF ARGUMENT	2
ARGUMENT	4
I. FOSSIL FUEL-BURNING POWER PLANTS ARE PUBLIC HEALTH HAZARDS THAT DISPROPORTIONATELY HARM LOW-INCOME COMMUNITIES AND COMMUNITIES OF COLOR.	4
A. Emissions from Fossil Fuel-Burning Power Plants Adversely Affect Human Health by Causing Air Pollution and Climate Change.....	4
1. Air pollution from fossil fuel-burning power plants sickens and kills people.	4
2. Fossil-fuel emissions are the leading cause of climate change.	7
B. Low-Income Communities and Communities of Color Bear the Brunt of the Environmental Burden Created by Fossil Fuel-Burning Power Plants.	8
1. Coal-fired power plants disproportionately pollute the air that low-income communities and communities of color breathe.	8
2. Climate change particularly endangers historically marginalized communities, who often lack the resources to cope with the consequences of global warming.	13

II. THE ACE RULE WILL AGGRAVATE THE CLIMATE CRISIS AND AIR POLLUTION, DISPROPORTIONATELY BURDENING LOW-INCOME COMMUNITIES AND COMMUNITIES OF COLOR WITH ADDITIONAL ENVIRONMENTAL HARMS 14

A. Duval County, Florida 16

B. Wayne County, Indiana 17

C. Titus County, Texas 18

D. The ACE Rule’s Environmental Justice Impact Analysis Is Wholly Inadequate 19

CONCLUSION 21

TABLE OF AUTHORITIES

	<u>Page(s)</u>
Other Authorities	
ACE rule, 84 Fed. Reg. 32520 (July, 8, 2019)	20
Adrian Wilson et al., NAACP et al., <i>Coal Blooded: Putting Profits Before People</i> (2012)	9, 13
Amelia T. Keyes et al., <i>The Affordable Clean Energy Rule and the Impact of Emissions Rebound on Carbon Dioxide and Criteria Air Pollutant Emissions</i> , 14 <i>Envtl. Res. Letter</i> 1 (2019).....	14, 15
Andrew K. Jorgenson et al., <i>Power, Proximity, and Physiology: Does Income Inequality and Racial Composition Amplify the Impacts of Air Pollution on Life Expectancy in the United States?</i> 15 <i>Envtl. Res. Letters</i> 1, 8 (2020).....	13, 16
Anjum Hajat et al., <i>Socioeconomic Disparities and Air Pollution Exposure</i> , 2 <i>Curr. Env'tl. Health Report</i> 440 (2015)	9
Anne M. Weaver et al., <i>Neighborhood Sociodemographic Effects on the Associations Between Long-term PM_{2.5} Exposure and Cardiovascular Outcomes and Diabetes Mellitus</i> , 3 <i>Env'tl. Epidemiology</i> 1 (2019)	11
Arden Pope III et al., <i>Mortality Risk and Fine Particulate Air Pollution in a Large, Representative Cohort of U.S. Adults</i> , 127 <i>Env'tl. Health Perspectives</i> 1 (2019)	5, 6
Bd. on Atmospheric Scis. & Climate, Nat. Acads. of Sci., Eng'g, & Med., <i>Advancing the Science of Climate Change</i> (2010), available at https://www.nap.edu/read/12782/chapter/2#13	7
Breanna L. Almann et al., <i>Associations Between PM_{2.5} and Risk of Preterm Birth Among Liveborn Infants</i> , 39 <i>Annals of Epidemiology</i> 46 (2019)	6

CDC, <i>Racial and Ethnic Disparities in Heart Disease</i> 1 (2019), available at https://www.cdc.gov/nchs/hus/spotlight/HeartDiseaseSpotlight_2019_0404.pdf	11
Christopher W. Tessum et al., <i>Inequity in Consumption of Goods and Services Adds to Racial-Ethnic Disparities in Air Pollution Exposure</i> , 116 Proc. Nat’l Acad. Sci. U.S. 6001 (2019).....	9
Debra J. Salazar et al., <i>Race, Income, and Environmental Inequality in the U.S. States, 1990–2014</i> , 100 Soc. Sci. Quarterly 592 (2019).....	9
Environmental Indicators for Titus County, Texas, EJSCREEN, https://ejscreen.epa.gov/mapper/ (last visited Apr. 20, 2020).....	18
Environmental Indicators for Wayne County, Indiana, EJSCREEN, https://ejscreen.epa.gov/mapper/ (last visited Apr. 20, 2020).....	17
EPA, <i>EJ Screening Report for the Clean Power Plan</i> (2015).....	9
EPA, <i>Integrated Science Assessment for Particulate Matter</i> (2019).....	5, 12
EPA, <i>Learn About Environmental Justice</i> , https://www.epa.gov/environmentaljustice/learn-about-environmental-justice	3
Exec. Order No. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, 59 Fed. Reg. 32 (Feb. 11, 1994).....	20, 21
Ihab Mikati et al., <i>Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status</i> , 108 Am. J. Pub. Health 480 (2018).....	10
John Walsh, et al., <i>Chapter 2: Our Changing Planet, in Third National Climate Assessment</i> , available at http://s3.amazonaws.com/nca2014/high/NCA3_Full_Report_02_Our_Changing_Climate_HighRes.pdf?download=1	8

Kathy Fallon Lambert et al., <i>Carbon Standards Re-Examined: An Analysis of Potential Emissions Outcomes for the Affordable Clean Energy Rule and the Clean Power Plan</i> (2019), available at https://cdn1.sph.harvard.edu/wp-content/uploads/sites/2343/2019/07/Carbon-Standards-Re-Examined_Final1.pdf	14, 15
Kerry Ard, <i>By All Measures: An Examination of the Relationship Between Segregation and Health Risk from Air Pollution</i> , 38 <i>Population & Env't</i> 1 (2016).....	16, 17, 19
Lara J. Akinbami et al, CDC, <i>Trends in Asthma Prevalence, Health Care Use, and Mortality in the United States</i> (2012), available at https://www.cdc.gov/nchs/data/databriefs/db94.pdf	11
Marianthu-Anna Kioumourtzoglou, et al., <i>PM_{2.5} and Mortality in 207 US Cities</i> , 27 <i>Epidemiology</i> 221 (2016).....	12
Mary B. Collins et al., <i>Linking “Toxic Outliers” to Environmental Justice Communities</i> , 11 <i>Envtl. Res. Letters</i> 1 (2016).....	10
Miriam Van Dyke et al., <i>Heart Disease Rates Among Blacks and Whites Aged ≥35 Years—United States, 1968–2015</i> <i>Heart Disease Rates Among Blacks and Whites Aged ≥35 Years—United States, 1968–2015</i> , 67 <i>CDC Morbidity & Mortality Weekly Rep.</i> 1 (2018), available at https://www.cdc.gov/mmwr/volumes/67/ss/pdfs/ss6705-H.pdf	11
Mohammad H. Forouzanfar et al., <i>Global, Regional, and National Comparative Risk Assessment of 79 Behavioural, Environmental and Occupational, and Metabolic Risks or Clusters of Risks, 1990–2015</i> , 338 <i>Lancet</i> 1659 (2016)	4
<i>Particulate Matter (PM) Basics</i> , EPA, https://www.epa.gov/pm-pollution/particulate-matter-pm-basics (last visited March 9, 2020).....	4
Press Release, EPA, <i>EPA Finalizes Affordable Clean Energy Rule, Ensuring Reliable, Diversified Energy Resources while Protecting our Environment</i> (June 19, 2019).....	14

Qian Di et al., <i>Air Pollution and Mortality in the Medicare Population</i> , 26 <i>New England Journal of Medicine</i> 2513 (2017).....	12
Qian Di et al., <i>Association of Short-term Exposure to Air Pollution with Mortality in Older Adults</i> , 318 <i>J. Am. Med. Ass’n</i> 2446 (2017).....	6, 7
<i>QuickFacts: Duval County, Florida</i> , U.S. Census Bureau, https://www.census.gov/quickfacts/fact/table/duvalcountyflorida/PST045219? (last visited Apr. 20, 2020).....	16
<i>QuickFacts: Titus County, Texas</i> , U.S. Census Bureau, https://www.census.gov/quickfacts/fact/table/tituscountytexas/PST045219 (last visited Apr. 20, 2020).....	18, 19
<i>QuickFacts: Wayne County, Indiana</i> , U.S. Census Bureau, https://www.census.gov/quickfacts/fact/table/waynecountyindiana/PST045219 (last visited Apr. 20, 2020).....	17
Rajendraw K. Pachauri et al., IPCC, <i>Climate Change 2014: Synthesis Report</i> , in <i>The Fifth Assessment Report of the IPCC</i> (2014), available at https://nca2014.globalchange.gov/report	7
Rama Zakaria & Laura Supple, <i>Trump’s ACE Rule May Especially Harm Vulnerable Communities</i> , <i>Envtl. Def. Fund</i> (Sep. 16, 2019), http://blogs.edf.org/climate411/2019/09/16/trumps-ace-rule-may-especially-harm-vulnerable-communities/	15, 16, 17, 19, 21
<i>Titus County, TX: Equity</i> , U.S. News & World Rep., https://www.usnews.com/news/healthiest-communities/texas/titus-county#equity	19
U.S. Global Change Research Program, <i>Climate Change Impacts in the United States: The Third National Climate Assessment</i> (Jerry M. Melillo, et al. eds., 2014), available at http://s3.amazonaws.com/nca2014/high/NCA3_Climate_Change_Impacts_in_the_United%20States_HighRes.pdf?download=1	7, 8
Salim S. Virani et al., <i>Am. Heart Ass’n, Heart Disease and Stroke Statistics—2020 Update</i> , 141 <i>Circulation</i> e1, available at https://www.ahajournals.org/doi/pdf/10.1161/CIR.0000000000000757	11

W. James Gauderman et al., <i>Associations Between Air Pollution and Lung Function Growth in Southern California Children</i> , 166 <i>Am. J. Respiratory & Critical Care Med.</i> 76 (2002).....	6
W. James Gauderman et al., <i>The Effect of Air Pollution on Lung Development from 10 to 18 Years of Age</i> , 351 <i>New England J. Med.</i> 1057 (2004)	6
Yan Wang et al., <i>Long-term Exposure to PM2.5 and Mortality Among Older Adults in the Southeastern US</i> , 28 <i>Epidemiology</i> 207 (2017).....	12

IDENTITY AND INTEREST OF *AMICUS CURIAE*

The Service Employees International Union (“SEIU”) is a labor union of more than two million people in the United States (including in Puerto Rico) and Canada, and is the largest union of healthcare workers in the United States. More than half of SEIU’s two million members work in the healthcare industry, including as doctors, nurses, nursing assistants, technicians, therapists, home care providers, administrative staff, janitorial workers, and food service staff. SEIU is also one of the largest unions of public service employees, with more than one million local and state government workers, public school employees, bus drivers, and child care providers. SEIU also represents workers in the property service industries. Approximately 250,000 SEIU property service workers nationwide clean, maintain, and provide security for commercial office buildings, co-ops, and apartment buildings, as well as public facilities like theaters, stadiums, and airports. SEIU members live and work in the communities addressed in this brief.

STATEMENT REGARDING SEPARATE BRIEFING

Pursuant to D.C. Circuit Rule 29(d), undersigned counsel for *amicus curiae* hereby certifies that a separate brief is necessary. *Amicus* has a particular interest and expertise in representing the interests of low-income communities and communities of color. This brief addresses the disparate effects of climate change and air pollution on these communities, as well as the particular threat that the

ACE rule poses for these communities. *Amicus* has coordinated with the parties to prevent any unnecessary duplication.

STATEMENT OF AUTHORSHIP AND FINANCIAL CONTRIBUTIONS

Amicus hereby affirms that no counsel for a party authored this brief in whole or in part and that no person other than *amicus* and their counsel made a monetary contribution to its preparation or submission.

SUMMARY OF ARGUMENT

The scientific evidence is incontrovertible: emissions from fossil fuel-fired power plants are a leading cause of toxic air pollution and global climate change. These environmental harms threaten far more than the natural world. Rather, air pollution and climate change are profoundly human concerns, ones with immediate and far-reaching implications for public health and our planet's ability to sustain human life. And because the dire consequences of burning fossil fuels most heavily burden those least at fault and least able to cope—particularly low-income communities and communities of color—clean energy is as much a social justice imperative as an environmental one. The time for temporizing about fossil fuel emissions is long past, and the EPA's Affordable Clean Energy rule (hereinafter "ACE rule" or "rule") represents a dangerous step in the wrong direction.

Leading scientific institutions in the United States and throughout the world agree that climate change is a real, escalating global phenomenon caused by human

actions, principally including burning fossil fuels to generate power. The scientific evidence also unequivocally shows that fossil fuel emissions cause or exacerbate many diseases and shorten the lifespans of many people.

Researchers further agree that fossil fuel-generated air pollution and climate change disproportionately harm low-income communities and communities of color. People of color and those living in poverty often reside closest to polluting power plants and therefore face the greatest health risks from exposure to fossil fuel emissions. These communities are also least able to escape from the most extreme and often deadly consequences of anthropogenic global climate change, such as worsening hurricanes and tornadoes, horrendous floods, and record-setting droughts. Widespread recognition that environmental harms unequally burden historically marginalized communities has led to increasing awareness of environmental justice, which the EPA defines as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.”¹

This brief seeks to highlight the ways the ACE rule is contrary to environmental justice. Not only will the rule do nothing to remedy the

¹ EPA, *Learn About Environmental Justice*, <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice>.

environmental harms caused by fossil fuel-fired power plants, it threatens to make conditions even worse—with the additional harms disproportionately burdening low-income communities and communities of color.

ARGUMENT

I. FOSSIL FUEL-BURNING POWER PLANTS ARE PUBLIC HEALTH HAZARDS THAT DISPROPORTIONATELY HARM LOW-INCOME COMMUNITIES AND COMMUNITIES OF COLOR.

A. Emissions from Fossil Fuel-Burning Power Plants Adversely Affect Human Health by Causing Air Pollution and Climate Change.

1. Air pollution from fossil fuel-burning power plants sickens and kills people.

Air pollution is among the worst public health risks we face today.²

Exposure to air pollution has countless implications for human health, including increased cardiopulmonary mortality, increased severity in asthma attacks and other respiratory problems, and complications associated with preterm birth.

A key measure of air quality is the amount of particulate matter pollution, which is an airborne mixture of solid particles and liquid droplets.³ Particulate matter is created by high-temperature processes such as the combustion of coal,

² See generally Mohammad H. Forouzanfar et al., *Global, Regional, and National Comparative Risk Assessment of 79 Behavioural, Environmental and Occupational, and Metabolic Risks or Clusters of Risks, 1990–2015*, 338 *Lancet* 1659 (2016).

³ *Particulate Matter (PM) Basics*, EPA, <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics> (last visited March 9, 2020).

diesel, gasoline, and biofuels—processes commonly referred to as the burning of fossil fuels. Particulate matter worsens air quality and can deeply penetrate the lungs, with serious consequences for human health.⁴ Extensive research demonstrates that exposure to particulate matter pollution and other airborne emissions from fossil fuel-burning power plants is a major contributor to the global burden of disease.

Short-term and long-term exposure to particulate pollution is associated with increased rates of all-cause and cardiopulmonary mortality.⁵ Multiple peer-reviewed studies have evaluated the mortality risk associated with long-term exposure to particulate matter pollution in the United States, which tends to be ubiquitous and involuntary in nature, and found compelling evidence that long-term exposure contributes to increased risk of mortality.⁶ This increased mortality risk is primarily associated with cardiopulmonary mortality including cardiopulmonary, cardiovascular, cerebrovascular, influenza pneumonia, cancer, and lung cancer mortality.⁷ Chronic exposure to particulate matter pollution causes increased severity of asthma attacks, increased hospitalization for asthma and

⁴ Arden Pope III et al., *Mortality Risk and Fine Particulate Air Pollution in a Large, Representative Cohort of U.S. Adults*, 127 *Envtl. Health Perspectives* 1, 1 (2019).

⁵ *Id.* at 1; EPA, *Integrated Science Assessment for Particulate Matter ES-16–17, 1-23, 1-27, 1-30–1-32* (2019) (hereinafter “*ISA for Particulate Matter*”).

⁶ *See ISA for Particulate Matter, supra* n.5, at 1-31–1-32 (collecting sources).

⁷ *Id.*

slowed lung function growth, particularly for children.⁸ Air pollution is also associated with lung cancer mortality in individuals who have never smoked.⁹ Breathing polluted air increases the risk of preterm birth, and is linked to other causes of preterm birth, including placental oxidative stress and intrauterine inflammation, altered fetal metabolism, altered placental growth, and impaired implantation.¹⁰ Other key studies have concluded that long-term elevation in particulate matter is associated with an increase in overall mortality.¹¹

Even short-term exposure is harmful: research shows that short-term exposure to air pollution coupled with warm-season ozone is significantly associated with increased risk of mortality.¹² Furthermore, a study approved by the Harvard T.H. Chan School of Public Health observed that this increase in mortality risk occurred at levels below the current Environmental Protection Agency's National Ambient Air Quality Standards.¹³ As this study indicates, the current

⁸ W. James Gauderman et al., *Associations Between Air Pollution and Lung Function Growth in Southern California Children*, 166 *Am. J. Respiratory & Critical Care Med.* 76 (2002); W. James Gauderman et al., *The Effect of Air Pollution on Lung Development from 10 to 18 Years of Age*, 351 *New England J. Med.* 1057 (2004).

⁹ *Id.*

¹⁰ Breanna L. Almann et al., *Associations Between PM_{2.5} and Risk of Preterm Birth Among Liveborn Infants*, 39 *Annals of Epidemiology* 46 (2019).

¹¹ See Pope III et al., *supra* n.4, at 5–6 (finding analysis comparable to other sources).

¹² Qian Di et al., *Association of Short-term Exposure to Air Pollution with Mortality in Older Adults*, 318 *J. Am. Med. Ass'n* 2446, 2449 (2017).

¹³ *Id.*

emissions standards are inadequate to protect human health and that further reductions in emissions from power plants would prove highly beneficial, and any increases potentially deadly.¹⁴

2. Fossil-fuel emissions are the leading cause of climate change.

Leading scientific institutions, including the U.S. Global Change Research Program¹⁵ and the Intergovernmental Panel on Climate Change (“IPCC”),¹⁶ have unequivocally concluded that climate change is both real and caused by human activities; predominantly, the burning of fossil fuels. A 2010 report from the National Academies of Science, Engineering, and Medicine concurs, finding “a strong, credible body of evidence, based on multiple lines of research, documenting . . . that these [climate] changes are in large part caused by human activities.”¹⁷ The burning of coal, oil, and gas, and clearing of forests have increased the concentration of carbon dioxide in the atmosphere by more than 40%

¹⁴ *Id.*

¹⁵ U.S. Global Change Research Program, *Climate Change Impacts in the United States: The Third National Climate Assessment* (Jerry M. Melillo, et al. eds., 2014) (hereinafter “*Third National Climate Assessment*”), available at http://s3.amazonaws.com/nca2014/high/NCA3_Climate_Change_Impacts_in_the_United%20States_HighRes.pdf?download=1.

¹⁶ Rajendra K. Pachauri et al., IPCC, *Climate Change 2014: Synthesis Report, in The Fifth Assessment Report of the IPCC* (2014), available at <https://nca2014.globalchange.gov/report>.

¹⁷ See Bd. on Atmospheric Scis. & Climate, Nat. Acads. of Sci., Eng’g, & Med., *Advancing the Science of Climate Change* 27 (2010), available at <https://www.nap.edu/read/12782/chapter/2#13>.

since the Industrial Revolution, and it has been known for almost two centuries that this carbon dioxide traps heat.¹⁸ Data show that natural factors alone could not have caused the warming observed over the past 50 years.¹⁹

Climate change is already affecting society in far-reaching ways. In recent decades, climate change has impacted natural and human systems across the world, “indicating the sensitivity of natural and human systems to changing climate.”²⁰ Human-induced climate change and its harmful effects will accelerate if greenhouse gas emissions continue unabated.

B. Low-Income Communities and Communities of Color Bear the Brunt of the Environmental Burden Created by Fossil Fuel-Burning Power Plants.

1. Coal-fired power plants disproportionately pollute the air that low-income communities and communities of color breathe.

Just as wealth and power are not distributed equally in the United States, neither is air pollution. Empirical evidence demonstrates quantifiable

¹⁸ *Third National Climate Assessment*, *supra* n.15, at 15; *see also* John Walsh, et al., *Chapter 2: Our Changing Planet*, in *Third National Climate Assessment*, *supra* n.15, at 19, available at http://s3.amazonaws.com/nca2014/high/NCA3_Full_Report_02_Our_Changing_Climate_HighRes.pdf?download=1 (discussing how and why the climate is changing).

¹⁹ *Third National Climate Assessment*, *supra* n.15 at 15.

²⁰ *Id.* at 49–52.

socioeconomic and racial disparities in exposure to air pollution.²¹ In fact, wealth and air pollution are inversely related: the wealthier the neighborhood, the cleaner the air; the poorer the neighborhood, the dirtier the air. Similarly, people of color are more likely to breathe polluted air than people who are white. In the United States, particulate matter exposure is about 21% higher for black people and 12% higher for Hispanics when compared to the overall population.²² By contrast, white people are exposed to 7.5% *less* particulate matter than the national average.²³

While these disparities in ambient concentrations of air pollutants may originate from multiple sources, empirical evidence shows that stationary, human-made point sources of industrial pollution—particularly including coal-fired power plants—overburden low-income communities and communities of color. Because these communities disproportionately live near polluting facilities, they often face heightened exposure to toxic industrial emissions.²⁴ Moreover, analysis of the

²¹ See, e.g., Debra J. Salazar et al., *Race, Income, and Environmental Inequality in the U.S. States, 1990–2014*, 100 Soc. Sci. Quarterly 592 (2019); Anjum Hajar et al., *Socioeconomic Disparities and Air Pollution Exposure*, 2 Curr. Env'tl. Health Report 440 (2015).

²² Christopher W. Tessum et al., *Inequity in Consumption of Goods and Services Adds to Racial-Ethnic Disparities in Air Pollution Exposure*, 116 Proc. Nat'l Acad. Sci. U.S. 6001, 6002 (2019).

²³ *Id.*

²⁴ EPA, *EJ Screening Report for the Clean Power Plan 3* (2015); see also Adrian Wilson et al., NAACP et al., *Coal Blooded: Putting Profits Before People* 15 (2012).

EPA's Toxic Release Inventory shows that the worst polluters typically operate in low-income communities and communities of color.²⁵

Accordingly, the volume of industrial air pollution released into these communities is disproportionately high. For example, a study conducted by researchers from the EPA's National Center for Environmental Assessment found statistically significant socioeconomic and racial disparities in both residential proximity to polluting facilities and the distribution of the facilities' particulate matter emissions.²⁶ When compared to the general population, particulate matter emissions from industrial facilities are 1.35 times higher in low-income communities and 1.28 times higher in communities of color.²⁷ Facilities are most likely to operate close to the homes of Hispanics, who live near about ten polluting facilities on average—roughly six more than the typical white residence. However, black Americans are particularly likely to live in high emission areas, with facilities emitting almost twice as much particulate matter pollution into black communities when compared to those of whites.²⁸

²⁵ Mary B. Collins et al., *Linking “Toxic Outliers” to Environmental Justice Communities*, 11 *Env'tl. Res. Letters* 1, 1 (2016).

²⁶ Ihab Mikati et al., *Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status*, 108 *Am. J. Pub. Health* 480 (2018).

²⁷ *See id.* at 482.

²⁸ *See id.* at 481.

In addition to disparities in exposure to industrial pollution, related and interlocking health disparities render people of color and low-income individuals particularly susceptible to the health risks associated with breathing dirty air. These communities often lack access to health care and disproportionately suffer from medical conditions associated with and exacerbated by exposure to fossil-fuel emissions, including cardiovascular disease,²⁹ hypertension,³⁰ and asthma.³¹

Moreover, fossil fuel emissions are particularly deadly in low-income communities and communities of color. Peer-reviewed medical research documents significant socioeconomic and racial disparities in the health effects associated with exposure to fossil fuel emissions, including that low-income communities have a higher risk of particulate matter-related mortality when

²⁹ CDC, *Racial and Ethnic Disparities in Heart Disease* 1 (2019), available at https://www.cdc.gov/nchs/hus/spotlight/HeartDiseaseSpotlight_2019_0404.pdf. See also Miriam Van Dyke et al., *Heart Disease Rates Among Blacks and Whites Aged ≥35 Years—United States, 1968–2015*, 67 CDC Morbidity & Mortality Weekly Rep. 1, 3 (2018), available at <https://www.cdc.gov/mmwr/volumes/67/ss/pdfs/ss6705-H.pdf>.

³⁰ Anne M. Weaver et al., *Neighborhood Sociodemographic Effects on the Associations Between Long-term PM_{2.5} Exposure and Cardiovascular Outcomes and Diabetes Mellitus*, 3 *Envtl. Epidemiology* 1, 1 (2019); Salim S. Virani et al., *Am. Heart Ass’n, Heart Disease and Stroke Statistics—2020 Update*, 141 *Circulation* e1, e5, available at <https://www.ahajournals.org/doi/pdf/10.1161/CIR.0000000000000757>.

³¹ Lara J. Akinbami et al, CDC, *Trends in Asthma Prevalence, Health Care Use, and Mortality in the United States* 3–5 (2012), available at <https://www.cdc.gov/nchs/data/databriefs/db94.pdf>.

compared to wealthier populations.³² Additionally, in the Integrated Science Assessment for Particulate Matter, the EPA concluded that people of color, particularly black people, face an increased risk for particulate matter-related health effects.³³ Multiple epidemiological studies have found that communities of color experience a higher mortality risk from any cause associated with particulate matter exposure when compared to both white people and the overall population.³⁴ In particular, one study found that black people are three times more likely to die from particulate matter-related causes than the general population.³⁵

These inequitable environmental burdens facing low-income communities and communities of color are closely intertwined. According to a recent empirical analysis, the harmful effects of particulate matter pollution on life expectancy are most extreme in states with both high levels of income inequality and large black

³² See Qian Di et al., *Air Pollution and Mortality in the Medicare Population*, 26 *New England Journal of Medicine* 2513, 2518 (2017) (using Medicaid eligibility as a proxy for socioeconomic status).

³³ *ISA for Particulate Matter*, *supra* n.5, at 12-34.

³⁴ See, e.g., Di et al., *supra* n.32, at 2518; Yan Wang et al., *Long-term Exposure to PM_{2.5} and Mortality Among Older Adults in the Southeastern US*, 28 *Epidemiology* 207 (2017); Marianthu-Anna Kioumourtzoglou, et al., *PM_{2.5} and Mortality in 207 US Cities*, 27 *Epidemiology* 221 (2016).

³⁵ Di et al. at 2518.

populations.³⁶ As this research signifies, economic and racial disparities often work in tandem to amplify the dangers of fossil fuel emissions.

2. Climate change particularly endangers historically marginalized communities, who often lack the resources to cope with the consequences of global warming.

The adverse effects of climate change are expected to fall most heavily on the most vulnerable among us, including low-income communities, people of color, and indigenous nations. Extreme weather events caused by climate change, such as hurricanes and floods, disproportionately impact low-income communities and communities of color in the United States. These natural disasters can devastate these communities, who often lack financial resources and may struggle to provide for contingencies. Because black people and Latinos are much less likely than white people to have health or homeowners' insurance, these natural disasters threaten to decimate their wealth and upend their future.³⁷ Moreover, black and Latino communities disproportionately live along the coasts and in the Atlantic hurricane zone, which are increasingly threatened by severe storms and rising sea levels as the climate crisis escalates.

³⁶ Andrew K. Jorgenson et al., *Power, Proximity, and Physiology: Does Income Inequality and Racial Composition Amplify the Impacts of Air Pollution on Life Expectancy in the United States?* 15 *Envtl. Res. Letters* 1, 8 (2020).

³⁷ Wilson et al., *supra* n.24, at 19.

II. THE ACE RULE WILL AGGRAVATE THE CLIMATE CRISIS AND AIR POLLUTION, DISPROPORTIONATELY BURDENING LOW-INCOME COMMUNITIES AND COMMUNITIES OF COLOR WITH ADDITIONAL ENVIRONMENTAL HARMS

The ACE rule will do virtually nothing to reduce carbon emissions from power plants. The EPA claims that under the ACE rule power sector CO₂ emissions will fall by as much as 35% below 2005 levels.³⁸ Based on the EPA's own analysis, however, these reductions are projected to occur even if no federal policy is enacted. Put differently, the EPA expects the ACE rule to be completely ineffective at limiting carbon pollution to levels scientists say are necessary.

Not only will the rule do nothing to counteract carbon emissions, it actually threatens to increase dangerous air pollution in parts of the country. The EPA disregarded that greater efficiency from heat rate improvements under the ACE rule could incentivize plants to operate more, thus leading to more pollution—a phenomenon known as the “emissions rebound effect.”³⁹ According to a peer-

³⁸ Press Release, EPA, EPA Finalizes Affordable Clean Energy Rule, Ensuring Reliable, Diversified Energy Resources while Protecting our Environment (June 19, 2019).

³⁹ See Amelia T. Keyes et al., *The Affordable Clean Energy Rule and the Impact of Emissions Rebound on Carbon Dioxide and Criteria Air Pollutant Emissions*, 14 *Env'tl. Res. Letter* 1 (2019), available at <https://iopscience.iop.org/article/10.1088/1748-9326/aafe25/pdf>; Kathy Fallon Lambert et al., *Carbon Standards Re-Examined: An Analysis of Potential Emissions Outcomes for the Affordable Clean Energy Rule and the Clean Power Plan* (2019), available at https://cdn1.sph.harvard.edu/wp-content/uploads/sites/2343/2019/07/Carbon-Standards-Re-Examined_Final1.pdf.

reviewed empirical analysis of the EPA's own predictive modelling for the ACE rule, both the number of operating coal-fired power plants and the amount of electricity generated by these plants are expected to increase under the rule relative to having no standards in place.⁴⁰ By 2030, about 28% of power plants are projected to produce more CO₂ emissions under the ACE rule when compared to no policy at all.⁴¹ In most cases, this emissions rebound effect will contribute to worsening air quality in the communities in which affected plants operate.

These pollution increases will disproportionately burden low-income communities and communities of color. Of the facilities expected to produce more air pollution as a result of the ACE rule, about two thirds operate in counties where residents tend to be low-income, people of color, or both.⁴² A closer look at some of the communities projected to experience the worst fallout gives shape to the ACE rule's inequitable impacts.

⁴⁰ Keyes et al., *supra* n.39, at 1.

⁴¹ *Id.*

⁴² Rama Zakaria & Laura Supple, *Trump's ACE Rule May Especially Harm Vulnerable Communities*, Env'tl. Def. Fund (Sep. 16, 2019), <http://blogs.edf.org/climate411/2019/09/16/trumps-ace-rule-may-especially-harm-vulnerable-communities/> (analyzing EPA's data for the ACE rule and EJSCREEN tool data).

A. Duval County, Florida

Duval County is home to the city of Jacksonville and nearly a million residents.⁴³ People of color compose about 45% of the population, while 37% of residents are low-income. This makes Duval County more racially diverse than nearly two-thirds of the United States and lower income than nearly 60% of the nation.

According to the EPA's calculations, the emissions rebound effect caused by the ACE rule will significantly worsen air pollution in Duval County. In 2025, the EPA projects that coal-fired power plants in Duval County will emit an additional 1,849 short tons of sulfur dioxide and 300 short tons of nitrogen oxides when compared to the fossil fuel emissions expected under no federal policy.⁴⁴

Ongoing economic and racial inequalities in Duval County will exacerbate the consequences of this additional environmental burden. Segregation, racial income inequality, and neighborhood income inequality are all greater in Duval County than national averages—metrics associated with greater health risks from exposure to air pollution,⁴⁵ with particularly heightened risks for people of color.⁴⁶

⁴³ *QuickFacts: Duval County, Florida*, U.S. Census Bureau, <https://www.census.gov/quickfacts/fact/table/duvalcountyflorida/PST045219?> (last visited Apr. 20, 2020).

⁴⁴ Zakaria & Supple, *supra* n.42.

⁴⁵ Jorgenson et al., *supra* n.36, at 8.

⁴⁶ Kerry Ard, *By All Measures: An Examination of the Relationship Between Segregation and Health Risk from Air Pollution*, 38 *Population & Env't* 1, 1 (2016)

For the low-income communities and communities of color that disproportionately populate Duval County, the ACE rule will amplify the cumulative injustices of air pollution and socioeconomic inequality.

B. Wayne County, Indiana

Located in east central Indiana, Wayne County is home to over 65,000 residents.⁴⁷ Wayne County inhabitants are disproportionately exposed to particulate matter pollution, with rates among the top 20% in the United States, and face a greater lifetime cancer risk.⁴⁸

The ACE rule will only exacerbate these environmental risks. The EPA predicts significant increases in toxic emissions from coal-fired power plants in Wayne County under the ACE rule. When compared to a baseline of no federal policy, the EPA expects Wayne County to experience an increase of more than 1,300 short tons of sulfur dioxide pollution and nearly 200 short tons of nitrogen oxide pollution.⁴⁹

(finding that high levels of residential segregation are “associated with significantly greater health risk from industrial air toxins for all racial groups”).

⁴⁷ *QuickFacts: Wayne County, Indiana*, U.S. Census Bureau, <https://www.census.gov/quickfacts/fact/table/waynecountyindiana/PST045219> (last visited Apr. 20, 2020).

⁴⁸ Environmental Indicators for Wayne County, Indiana, EJSCREEN, <https://ejscreen.epa.gov/mapper/> (last visited Apr. 20, 2020).

⁴⁹ Zakaria & Supple, *supra* n.42.

As is too often the case, the community facing these dangerous air pollution increases is disproportionately low-income. The EPA has found that 43% of Wayne County residents are low-income, making the county poorer than about two thirds of the nation. Accordingly, the additional toxic pollution created by the ACE rule will disproportionately pollute the air that low-income communities breathe.

C. Titus County, Texas

Titus County is among the poorest and most racially diverse counties in the country. Nearly half of the population is low-income. More than half of residents are people of color, with over 44% of residents identifying as Hispanic.⁵⁰

When compared to the national average, Titus County inhabitants are exposed to higher levels of particulate matter pollution and face a greater lifetime cancer risk from inhaling toxic airborne toxins.⁵¹ But these environmental risks will likely worsen if the ACE rule is fully implemented. Under the rule, the EPA projects that the two coal-fired power plants in Titus County will generate significantly more energy by 2025. This additional activity would increase

⁵⁰ *QuickFacts: Titus County, Texas*, U.S. Census Bureau, <https://www.census.gov/quickfacts/fact/table/tituscountytexas/PST045219> (last visited Apr. 20, 2020).

⁵¹ *See* Environmental Indicators for Titus County, Texas, EJSCREEN, <https://ejscreen.epa.gov/mapper/> (last visited Apr. 20, 2020).

pollution in the county by nearly 1,800 short tons of sulfur dioxide and over 600 short tons of nitrogen oxide each year.⁵²

The dangers of worsening air quality cannot be isolated from related socioeconomic and health disparities facing Titus County residents. Titus County has higher levels of racial segregation and greater racial disparities in poverty status and premature death rates than the national average⁵³—metrics associated with heightened health risks from air toxins for people of color.⁵⁴ Roughly one in four residents has no health insurance.⁵⁵ In light of these interlocking inequities, additional fossil fuel emissions created by the ACE rule particularly threaten Titus County's low-income communities and communities of color.

D. The ACE Rule's Environmental Justice Impact Analysis Is Wholly Inadequate.

The ACE rule's added threat to these three communities should have been considered by the EPA during the impact analysis process. Presidential Executive Order No. 12898 requires all federal agencies—not just the EPA—to address and

⁵² Zakaria & Supple, *supra* n.42.

⁵³ *Titus County, TX: Equity*, U.S. News & World Rep., <https://www.usnews.com/news/healthiest-communities/texas/titus-county#equity> (last visited Apr. 20, 2020).

⁵⁴ See Ard, *supra* n.46, at 1.

⁵⁵ See *QuickFacts: Titus County, Texas*, *supra* n.50.

consider environmental justice in federal agency actions.⁵⁶ The Order’s first charge is that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.”⁵⁷

Here, EPA simply asserts that it “believes that this action will achieve CO₂ emission reductions” and thus “improve environmental justice communities’ health.”⁵⁸ The agency fails, however, to mention the possibility of emissions increases in later years from extended coal-plant lifetimes, or the resulting disproportionate climate impacts on surrounding communities. The analysis supporting the ACE rule also fails to consider the climate impacts on environmental justice communities as compared to the potential benefits of a meaningful rule.

Indeed, it is hard to ignore the agency’s failure to make any meaningful environmental justice assessment of the rule’s impacts. Given the ACE rule’s scope, it was surely “practicable and appropriate” to “collect, maintain and analyze

⁵⁶ Exec. Order No. 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, 59 Fed. Reg. 32 (Feb. 11, 1994).

⁵⁷ *Id.* at § 1-101.

⁵⁸ ACE rule, 84 Fed. Reg. 32520, 32,574 (July, 8, 2019).

information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding facilities or sites expected to have a substantial environmental, human health, or economic effect on the surrounding populations.”⁵⁹ As noted, the agency’s own data warned of the increased threat posed by the Rule to the remaining 70 coal-fired power plants across the country: by 2025, 17% of the existing coal fired fleet is expected to experience the rebound effect.⁶⁰ Of those remaining coal-fired facilities, *two-thirds* are in communities, like Duval, Titus and Wayne Counties, that are disproportionately low income and communities of color.⁶¹

CONCLUSION

For the reasons set forth above, the Court should declare the ACE rule unlawful and set it aside.

April 24, 2020

Respectfully submitted,

/s/ Renee M. Gerni

Nicole G. Berner

Renee M. Gerni

Monica Jin-Joo Wilk

Service Employees International Union

1800 Massachusetts Ave., NW

Washington, DC 20036

(202) 304-9072

renee.gerni@seiu.org

⁵⁹ Exec. Order 12898 at § 3-302.

⁶⁰ Zakaria & Supple, *supra* n.42.

⁶¹ *See id.*

*Counsel for Amicus Curiae
Service Employees International Union*

CERTIFICATE OF SERVICE

I hereby certify that, on April 24, 2020, I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the District of Columbia Circuit using the appellate CM/ECF system, which served a copy on all counsel of record in the case.

April 24, 2020

/s/ Renee M. Gerni

Renee M. Gerni

Service Employees International Union

1800 Massachusetts Ave., NW

Washington, DC 20036

(202) 304-9072

renee.gerni@seiu.org

Counsel for Amicus Curiae

Service Employees International Union