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Proposed Repeal of Carbon Pollution Emission Guidelines for
Existing Stationary Sources: Electric Utility Generation Units
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RE: Docket ID: EPA-HQ-OAR-2017-0355
Proposed Repeal of Carbon Pollution Emission Guidelines for
Existing Stationary Sources: Electric Utility Generation Units

The Environmental and Regulatory Law Clinic at the University of Virginia School of Law,¹ on behalf of the National Trust for Historic Preservation in the United States (“National Trust”), submits these comments on the Proposed Rule to Repeal Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generation Units, 82 Fed. Reg. 48,035 (Oct. 16, 2017) (hereinafter the “Proposed Clean Power Plan Repeal”).

At the outset, we note that the Clean Power Plan (or “CPP”), as finalized by the U.S. Environmental Protection Agency (“EPA” or “Agency”), 80 Fed. Reg. 64,662 (Oct. 23, 2015), is a modest and incremental rule that some of the nation’s largest electricity providers have publicly supported. *See, e.g.,* Brief of Intervenor Calpine Corp. et al. in Support of Respondents, at 1, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Apr. 22, 2016) (explaining that Intervenor “own and operate more than 100,000 megawatts of generating capacity” in twenty-six States and “support the [2015 CPP] Rule as a lawful means of reducing carbon dioxide (“CO₂”) emissions from affected fossil-fired units”); Brief of Amicus Curiae Dominion Resources, Inc., in Support of Respondents, at 1, *West*

¹ The Environmental and Regulatory Law Clinic is part of the University’s Environmental and Land Use Law Program, which combines legal teaching with opportunities for interdisciplinary study, clinical experience, and scholarly inquiry.

Virginia v. EPA, No. 15-1363 (D.C. Cir. Apr. 1, 2016) (supporting EPA’s authority to enact the CPP on behalf of an electric utility that “owns and operates approximately 24,300 megawatts of generating capacity”).

The nationwide targets in the Clean Power Plan (32% reduction in carbon dioxide emissions from the utility power sector by 2030) are notably *less* aggressive than what had been proposed by a bipartisan group of U.S. Senators in America’s Climate Security Act of 2007 (S. 2191, 110th Congress, 2nd Session). We are concerned that repealing the Clean Power Plan could have a significantly negative, adverse impact on historic resources and the economy and would risk foreclosing the use of market-based compliance options throughout Title I of the Clean Air Act. Accordingly, we respectfully urge EPA to rescind its proposed repeal and instead move forward with implementing the Clean Power Plan as finalized.

I. INTRODUCTION

The National Trust for Historic Preservation in the United States is a Congressionally chartered nonprofit organization that strives to protect historic resources for future generations and garner public support for preservation efforts.

First, the National Trust is opposed to the Proposed Clean Power Plan Repeal because of the unique and irreversible threats that climate change poses to some of the nation’s most treasured historic places.

Second, the National Trust explains why EPA’s Clean Power Plan, finalized in 2015, is within the scope of EPA’s authority under the Clean Air Act, as EPA is permitted to regulate activities “beyond the fenceline” under Section 111(d) of the Act.

Third, the National Trust notes that EPA is obligated to regulate greenhouse gas (“GHG”) pollution under its previous Endangerment Finding, which concluded—based on overwhelming scientific evidence—that GHG emissions endanger human health and welfare in the United States. That finding is strengthened by the U.S. Global Change Research Program’s Fourth National Climate Assessment.

Fourth, EPA’s legal obligation to regulate GHG pollution means that repealing the Clean Power Plan will not restore the *status quo ante* of no regulation, but will instead necessitate the implementation of some other GHG control. Even without a federal replacement rule, State governments and private actors are already responding to the threat of repeal by moving forward with other efforts. The failure to account for alternative actions that would necessarily arise in response to EPA’s repeal of the Clean Power Plan undermines EPA’s economic analysis of the proposed repeal.

Finally, if the Clean Power Plan were to be repealed, it would have to be replaced by a more traditional, command-and-control regulation. Accordingly, the 2015 Clean Power Plan would better serve the federalism interests of the States than the proposed repeal.

II. THE NATIONAL TRUST FOR HISTORIC PRESERVATION AND ITS INTEREST IN MITIGATING CLIMATE CHANGE

The National Trust for Historic Preservation in the United States is a private charitable, educational, and nonprofit organization, which was established by Congress to further the “national policy to preserve for public use historic sites, buildings, and objects of national significance for the inspiration and benefit of the people of the United States.” 54 U.S.C. §§ 312102(a), 320101. Congress established the National Trust in 1949 “to facilitate public participation in the preservation of sites, buildings, and objects of national significance or interest,” and to preserve and administer these sites, buildings, and objects for the public benefit. *Id.* at § 312102. With headquarters in Washington, D.C., nine field offices, 27 historic sites, more than one million members and supporters, and a national network of partners, the National Trust works to save America’s historic places and advocates for historic preservation as a fundamental value in programs and policies at all levels of government.

Almost 70 years after its founding, the National Trust is still working diligently to protect significant places that represent our diverse cultural experience. The National Trust strives to protect historic places from threats including demolition, deterioration, and disinvestment. A major threat facing cultural resources currently is the negative impacts of climate change. Protecting America’s cultural and historic resources from the current and future threats posed by climate change will be vital to the mission of preserving these resources for future generations. In response to the changing climate throughout the United States and the world, the National Trust is working on identifying historic places at risk and identifying innovative solutions to protect them across the United States. *See* <http://forum.savingplaces.org/learn/issues/sustainability/climate-change>.

The effects of climate change are already threatening many of the historic places the National Trust works to protect and these threats will only increase in the future. Historic buildings, neighborhoods, archaeological sites and cultural landscapes across the nation are already being damaged by climate change-related impacts such as coastal erosion, severe drought, catastrophic wildfires, increased flooding and rising sea levels. For example, climate change poses a serious threat to the city of Annapolis, Maryland, an important historic city that served as the first capital of the United States after the Revolutionary War. Today, Annapolis has more surviving 18th-century brick homes than any other city in the nation. *See* <http://www.visitannapolis.org/discover/experiences/history>.

In recent years Annapolis has been impacted by regular tidal and storm-related flooding, and the combined effects of sinking land and rising sea levels in the Chesapeake Bay have resulted in a rate of sea level rise around Annapolis that is twice the global average, endangering the city and its important cultural and historic resources. *See* <https://savingplaces.org/places/annapolis>. One salient example of the threat posed to Annapolis by increased flooding and storms is the damage caused by Hurricane Isabel, which struck in September 2003. Much of Annapolis was flooded during the hurricane,

with water levels reaching six and a half feet above average in some areas; the widespread and serious flooding caused more than \$120 million in damage. *See* Debra Holtz et al., “National Landmarks at Risk: How Rising Seas, Floods, and Wildfires Are Threatening the United States’ Most Cherished Historic Sites,” Union of Concerned Scientists, at 14 (2014) (hereinafter “National Landmarks at Risk”).²

Another historic site that the National Trust is laboring to preserve in the face of climate change-related threats is the Farnsworth House, which has been owned and managed by the National Trust since 2003. The Farnsworth House was designed by Mies van der Rohe in 1945, constructed in 1951, and is an important architectural and historical site. *See* <https://farnsworthhouse.org/>. Unfortunately, worsening flooding over the past sixty years poses a threat to the survival of the house. *See* <https://savingplaces.org/climate-and-culture>. The National Trust has begun the expensive process of adapting the Farnsworth House to climate-change related flooding by elevating it above flood waters. *See* <https://farnsworthhouse.org/flood-mitigation-project/>.

Of course, the National Trust is not alone in recognizing the growing need to protect America’s important historic sites and cultural resources from the threat of climate change. In 2016, the Newport Restoration Foundation in Newport, Rhode Island began hosting an annual conference, “Keeping History Above Water,” which focuses attention on historic coastal communities that are under threat from rising sea levels. *See* <http://historyabovewater.org/about/>. *See also* Michelle L. Berenfeld, “Climate Change and Cultural Heritage: Local Evidence, Global Responses,” THE GEORGE WRIGHT FORUM, Vol. 25, Issue 2, at 66 (discussing the threat that climate change poses to natural and cultural resources).³ The “National Landmarks at Risk” report details how climate change threatens seventeen sites—including the Statue of Liberty, Ellis Island, historic Jamestown, and Annapolis—and also acknowledges that these endangered landmarks are “just the tip of the iceberg.” *Id.* at 2. Regarding the scope of the threats climate change poses to historic sites, the report states:

[I]t bears noting that the United States boasts more than 400 sites in its National Park System and that more than 80,000 sites are listed on the National Register of Historic Places, along with numerous state and local historic parks and buildings. Many of these are already affected . . . by flooding, coastal erosion, wildfires, and other impacts, and many more will see even greater risks in the coming decades.”

Id. at 3. Another Union of Concerned Scientists report (released in conjunction with the United Nations Environment Programme and the United Nations Educational, Scientific and Cultural Organization) addresses the impacts of climate change on sites globally.⁴

² The Union of Concerned Scientists report, “National Landmarks at Risk,” is available online at https://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/National-Landmarks-at-Risk-Full-Report.pdf.

³ Available online at <http://www.georgewright.org/252.pdf>.

⁴ *See* Adam Markham et al., “World Heritage and Tourism in a Changing Climate” (2016), available at <https://www.ucsusa.org/sites/default/files/attach/2016/05/world-heritage-and-tourism-in-a-changing-climate.pdf>.

Agencies within the federal government, such as the National Park Service (“NPS”), have also acknowledged the threat that climate change poses to important federally managed historic sites around the country. Because of the growing severity of the threat that climate change poses to our historic places, NPS has developed a Cultural Resources Climate Change Strategy, which aims to “provide[] guidance for NPS managers to anticipate, plan for, and respond to the real and potential effects of a changing climate on the cultural resources the 1916 Act commits us to protect unimpaired for future generations.” See Marcy Rockman et al., National Park Service, “Cultural Resources Climate Change Strategy” (2016), *available at* https://www.nps.gov/subjects/climatechange/upload/NPS-2016_Cultural-Resources-Climate-Change-Strategy.pdf. The U.S. Geological Survey is also managing the Department of Interior’s Climate Science Centers, which assist NPS in identifying specific threats that climate change poses to our nation’s cultural and natural resources. See <https://www.usgs.gov/news/safeguarding-our-cultural-past-future-climate-change-stories-cape-lookout-national-seashore>. The National Oceanic and Atmospheric Administration (“NOAA”) tracks the economic impacts of severe weather events linked to climate change. So far in 2018, there have been three climate-related extreme weather events that have resulted in \$3 billion in damages. See <https://www.ncdc.noaa.gov/billions/>.

In sum, the National Trust maintains that the threat climate change poses to historic sites in the United States merits careful consideration by EPA before the Agency moves forward with its Proposed Clean Power Plan Repeal.

III. LEGALITY OF THE “BEYOND THE FENCELINE” APPROACH

In its Proposed Clean Power Plan Repeal, EPA alleges that the CPP exceeds EPA’s authority to regulate under the Clean Air Act (“CAA” or “Act”) because the CPP regulates carbon emissions not just at the source, but beyond those sources as well. See 82 Fed. Reg. at 48,039–40 (explaining EPA’s “source-oriented reading” of § 111(d) of the CAA). That is, EPA now concludes that so-called “beyond the fence line” measures exceed the Agency’s authority under the CAA, and that therefore EPA must repeal the CPP. Longstanding Agency regulations, however, support the opposite conclusion: that EPA has regulated “beyond the fence line” previously, both pursuant to the CAA sections that govern the CPP and in other contexts as well.

While previous Agency action may not conclusively disprove EPA’s new assessment of its statutory authority, the conflict between EPA’s current approach and past Agency practice threatens to undermine a host of well-established and successful EPA programs. In an amicus brief filed in the U.S. Court of Appeals for the D.C. Circuit, Dominion Resources, Inc., (now Dominion Energy)⁵ explained that repealing the Clean Power Plan “could have the unintended adverse effect of foreclosing market-based compliance

⁵ Dominion Energy is an investor-owned electric utility company that serves approximately 2.5 million customers in Virginia and North Carolina.

flexibility” under the Clean Air Act, leading to “a less diverse generation fleet and increased compliance costs for customers.” *See* Brief of Amicus Curiae Dominion Resources, Inc. in Support of Respondents, at 4, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Apr. 1, 2016). *See also* Brief of Intervenors Calpine Corp. et al. in Support of Respondents, at 4, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Apr. 22, 2016) (“Existing Clean Air Act (‘CAA’) programs have been explicitly premised upon the ability of the power sector to cost-effectively comply by shifting generation to lower-emitting sources.”).

A. The CPP Inclusion of “Beyond the Fenceline” Regulation is Appropriate.

In addition to directly regulating carbon emissions at the source from Electric Generating Units (“EGUs”) (Building Block 1, “Efficiency Improvements at Affected Coal-Fired Steam EGUs”), the finalized CPP rule also permits regulators to credit “increased generation from lower-emitting existing natural gas combined cycle units for generation from higher-emitting affected steam generating units,” (Building Block 2, “Generation Shifts Among Affected EGUs”) and to substitute “increased generation from new zero-emitting renewable energy generating capacity for generation from affected fossil fuel-fired generating units,” (Building Block 3, “Renewable Generating Capacity”). 80 Fed. Reg. at 64,667. Further, the CPP establishes a “Clean Energy Incentive Program,” which would allow “States to award early action emission rate credits” for pollution reductions achieved through eligible renewable energy projects and eligible demand-side energy efficiency projects. *Id.* at 64,943. Building Blocks 1 and 2 address pollution from directly-regulated sources (coal-fired and gas-fired EGUs). Building Block 3 and the Clean Energy Incentive Program, in contrast, allow regulated industries to benefit from cost-effective pollution reductions achieved through an increased reliance on zero-emission sources.

EPA based its authority for the final rule on Section 111 of the CAA, 42 U.S.C. § 7411—an authority it now disclaims. Section 111(a) of the Act defines “standard of performance” as a “standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction,” commonly referred to as “BSER.” *Id.*

EPA has historically interpreted Section 111 as recognizing that BSER requires evaluation of a complex, interconnected system, and determining the most effective means of pollution reduction may need to account for “beyond the fenceline” actions. Previous regulations based on this interpretation include emission guidelines for medical waste incinerators and large municipal waste combustors. Additionally, EPA has interpreted other provisions of the CAA in a similar manner. For example, in promulgating the Cross-State Air Pollution Rule (“CSAPR”), EPA interpreted the CAA’s so-called Good Neighbor Provision (within Section 110) as allowing States to leverage “beyond the fenceline” reductions. Importantly, Section 111 directly references the Good Neighbor Provision of Section 110, instructing EPA to regulate in a similar manner. *See* 42 U.S.C. § 7411(d)(1) (directing EPA to issue regulations in a manner “similar to that provided by section [110]”). EPA also authorized an analogous “beyond the fenceline”

program in promulgating the Regional Haze Trading Program, 77 Fed. Reg. 73,926 (Dec. 12, 2012).

1. Prior EPA Interpretations of § 111

a. Medical Waste Incinerators

EPA interpreted Section 111 in issuing regulation of medical waste incinerator emissions. *See* 62 Fed. Reg. 48,348 (Sept. 15, 1997). In addition to specifying targets for incinerator efficiency, the rule required owners of regulated incinerators to embrace programs to “reduce the volume of waste to be incinerated, and thereby reduce the amount of air pollution emissions associated with that waste.” *Id.* at 48,359. These programs could include “paper, cardboard, plastics, glass, battery, or metal recycling,” among other things. *Id.* at 48,348.

b. Large Municipal Waste Combustors

EPA took a similar approach in regulating municipal waste combustors. *See* 60 Fed. Reg. 65,387 (Dec. 19, 1995). That regulation allowed regulated entities to not only average their emission rates of NO_x (nitrogen oxide) among different sources within a single plant, but also to trade emission credits with other plants in order to meet the standard. *Id.* at 65,402.

2. Interpretations of Other CAA Provisions

a. Cross-State Air Pollution Rule

EPA finalized the Cross-State Air Pollution Rule (“CSAPR”) pursuant to its authority under Section 110. In establishing state-wide emissions budgets in an effort to reduce air pollution, EPA allowed states not only to increase efficiency at existing plants, but also to increase reliance on cleaner, lower-emitting plants. That is, CSAPR provides that “reductions come from operating existing controls, installing combustion controls, fuel switching, and increased dispatch of lower-emitting generation.” 76 Fed. Reg. 48,208, 48,252 (Aug. 8, 2011).

b. Regional Haze Trading

EPA issued regulations to address regional haze pursuant to Section 169A of the CAA. *See* 42 U.S.C. § 7491. These regulations allow states and municipalities to trade emissions credits to achieve the greatest possible reduction. EPA found that a trading program would achieve greater overall reduction than would have been possible using only retrofit technology at individual sources. *See* 77 Fed. Reg. at 73,927.

3. The CPP as Finalized is Consistent with Prior EPA Practice

In sum, the CPP’s “beyond the fenceline” approach is premised on an interpretation of the CAA that conforms with EPA’s prior application of the law. *See, e.g.,* Richard L.

Revesz, Denise Grab & Jack Lienke, “Familiar Territory: A Survey of Legal Precedents for the Clean Power Plan,” 46 ENVTL. L. REP. 10,190 (2016) (outlining ways in which EPA’s actions prior to the CPP established a precedent for the “beyond the fenceline” regulations).⁶ This historic interpretation is not surprising, since either approach—direct, command-and-control regulation at the smokestack or “beyond the fenceline” controls—has the same result, which is to lead to an actual reduction of emissions of the targeted pollutant. The three Building Blocks and Clean Energy Incentive Program used in the CPP provide States and regulated industries with the flexibility necessary to find the most cost-effective, efficient, and market-driven alternatives for reducing GHG pollution.

IV. EPA MUST REGULATE GHG POLLUTION BECAUSE THE ENDANGERMENT FINDING IS BINDING AND WELL-SUPPORTED

In 2009, EPA issued its Endangerment Finding, concluding that GHG pollution “endanger[s] both the public health and the public welfare of current and future generations.” *See* Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act,” 74 Fed. Reg. 66,496 (Dec. 15, 2009) (hereinafter the “Endangerment Finding”). EPA’s initial finding has since been repeatedly affirmed by the scientific community, most recently by the Fourth National Climate Assessment from the U.S. Global Change Research Program. *See* U.S. Global Change Research Program, Climate Science Special Report: Fourth National Climate Assessment, Volume I (2017), <https://science2017.globalchange.gov/> (hereinafter the “USGCRP Report”). The USGCRP Report is the work product of thirteen federal departments and agencies, including EPA, that have specialized expertise on questions related to global climate change. It affirms the scientific consensus that “it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century. For the warming over the last century, there is no convincing alternative explanation supported by the extent of the observational evidence.” *Id.* at 10.

Despite this conclusion which was reached with the active participation of EPA, the Agency has now inexplicably proposed repealing the primary federal program designed to slow the growth in emissions of pollutants linked to human-induced climate change—the federal Clean Power Plan. *See* Proposed Clean Power Plan Repeal, 82 Fed. Reg. 48,035. The mere threat of repealing the CPP has already slowed progress in reducing carbon pollution in some states. *See* Brad Plumer & Nadja Popovich, “How Will the Clean Power Plan Repeal Change Carbon Emissions for Your State?,” *NEW YORK TIMES* (Oct. 10, 2017) (reporting on an analysis that breaks down which states are likely to miss their CPP targets after repeal). EPA’s decision to repeal the CPP runs counter to its own Endangerment Finding, which is well-supported by decades of climate science and necessitates EPA action to reduce GHG emissions.

⁶ Available online at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2740006.

A. The Endangerment Finding is Well-Supported.

The 2009 Endangerment Finding was based on the scientific data that showed that anthropogenic emissions of GHGs are causing global temperatures to rise, thereby endangering health and welfare in the United States. Over the past decade, the evidence has continued to mount, further bolstering EPA's conclusion that GHG emissions endanger human health and welfare. A summary of additional scientific support for the Endangerment Finding is found below.

1. The Global Climate Generally, and the United States Climate Specifically, Has Been Warming

In concluding that anthropogenic emissions of GHGs endanger human health and welfare, EPA cited the "June 2009 USGCRP assessment that most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations." *See* Endangerment Finding, 74 Fed. Reg. at 66,518 (footnote omitted). At the time of the Endangerment Finding, climate data revealed "an unambiguous warming trend over the last 100 years, with the greatest warming occurring over the past 30 years." *Id.* at 66,517. The data showed "that eight of the 10 warmest years on record have occurred since 2001; that the 10 warmest years have all occurred in the past 12 years; and that the 20 warmest years have all occurred since 1981." *Id.*

More recent data, as outlined in the 2017 Climate Report, show that "[t]he global, long-term, and unambiguous warming trend has continued during recent years. . . . 2014 [was] the warmest year on record globally; 2015 surpassed 2014 by a wide margin; and 2016 surpassed 2015. Sixteen of the warmest years on record for the globe occurred in the last 17 years." USGCRP Report at 13. Regarding global climate change, the USGCRP Report concluded the following:

The global climate continues to change rapidly compared to the pace of the natural variations in climate that have occurred throughout Earth's history. Trends in globally averaged temperature, sea level rise, upper-ocean heat content, land-based ice melt, arctic sea ice, depth of seasonal permafrost thaw, and other climate variables provide consistent evidence of a warming planet. These observed trends are robust and have been confirmed by multiple independent research groups around the world.

Id. at 58. With respect to U.S. climate change, the Report confirmed that temperatures have been increasing in the United States, concluding that "[a]nnual average temperature over the contiguous United States has increased by 1.2°F (0.7°C) for the period 1986–2016 relative to 1901–1960 and by 1.8°F (1.0°C) based on a linear regression for the period 1895–2016." *Id.* at 185. This evidence indicates even more substantial warming in the United States than the older reports on which EPA's 2009 Endangerment Finding was based.

These rising temperatures directly harm America's historic sites. Increased temperatures cause damage to sites through mechanisms such as microcracking of site contexts (i.e., foundations, structural elements, etc.) due to thermal stress, more rapid decay of organic materials, the decline/disappearance of culturally significant vegetation, and increased stress on historic structures (through warping and cracking caused by heat and changing weather). *See* National Park Service, "Climate Change Impact on Cultural Resources," at 3, *available at* https://www.nps.gov/subjects/climatechange/upload/NPS-Climate-Impacts-to-Cultural-Resources_7-2016.pdf. Rising global temperatures also have other adverse effects, such as rising sea levels and increased flooding, which further endanger America's historic sites.

2. Air Pollution and the Warming Climate Endangers Human Health and America's Historic Resources

The Endangerment Finding recognized that, not only is the climate warming due to air pollution in the form of GHGs, but that this pollution endangers human health and welfare. GHGs and warming temperatures endanger human health in numerous ways, two of which were cited as support for the finding of endangerment and have been further bolstered by the USGCRP Report: (1) mortality caused by higher temperatures; and (2) increases in extreme weather events.

Due to warming temperatures, "unusually hot days and heat waves are becoming more frequent, and . . . unusually cold days are becoming less frequent." *See* Endangerment Finding, 74 Fed. Reg. at 66,524. Furthermore, high temperatures are associated with increased morbidity because "[h]eat is already the leading cause of weather-related deaths in the United States." *Id.* The number of extreme cold events are likely to decrease in the future, which will likely lead to fewer cold-related deaths in the United States, but "increases in heat-related mortality due to global warming in the United States are unlikely to be compensated for by decreases in cold-related mortality." *Id.* at 66,525.

The USGCRP Report provides additional support for the conclusion that temperatures are increasing and threatening human health. The Report concludes that "[c]old extremes have become less severe over the past century," and there is "evidence of a slight increase in the intensity of heat waves nationwide as well as an increase in the concurrence of droughts and heat waves." *See* USGCRP Report at 189–92. Furthermore, "it is very likely that human influence has contributed to the observed changes in frequency and intensity of temperature extremes on the global scale since the mid-20th century." *Id.* at 193.

Increasing global temperatures lead to more frequent and more severe extreme weather events, such as hurricanes and flooding. *See* Endangerment Finding, 74 Fed. Reg. at 66,525. The increase in extreme weather events causes "the potential for increased deaths, injuries, infectious diseases, and stress-related disorders," as well as "other adverse effects associated with social disruption and migration from more frequent extreme weather." *Id.* Again, the USGCRP Report has provided additional support for the conclusion that climate change is causing an increase in extreme storms. The study of

tropical cyclones is difficult, but “there is broad agreement that human factors have had an impact on the observed oceanic and atmospheric variability in the North Atlantic, and there is medium confidence that this has contributed to the observed increase in hurricane activity since the 1970s.” *See* USGCRP Report at 259.

Paralleling these global and national trends, climate change is posing substantial risks to the important historic and cultural resources of the United States. As discussed *supra* Section II, important historic sites such as the Farnsworth House and historic Annapolis, Maryland have been damaged by increased flooding. Hurricanes, extreme storms, and flooding threaten historic and cultural resources throughout the United States, including the historic areas of Boston, Massachusetts and Charleston, South Carolina. *See* “National Landmarks at Risk” at 4, 28. Many historic districts in the United States have already been devastated by hurricanes and extreme weather events, such as the damage caused to Annapolis by Hurricane Isabel in 2003 and the damage to New Orleans caused by Hurricane Katrina in 2005. As these storms are expected to increase in frequency in the coming years, damage sustained to important historic and cultural resources is likely to increase as well.

3. Compromised Water Resources and Rising Sea Levels Endanger Public Welfare and Historic Sites in the United States

Climate change represents a major threat to U.S. water resources, and the USGCRP Report provides support that climate change will compromise United States water resources and will lead to rising sea levels affecting coastal areas. “[C]limate change has already altered, and will likely continue to alter, the water cycle, affecting where, when, and how much water is available for all uses.” Endangerment Finding, 74 Fed. Reg. at 66,532. In addition, warming temperatures increase water evaporation and the atmosphere’s water-holding capacity, which “favors increased climate variability, with more intense precipitation and more droughts.” *Id.* This process leads to less access to water, as well as decreasing water quality and more water pollutants. *Id.* at 66,532–33.

The USGCRP Report provides additional evidence of the changing precipitation patterns throughout the United States and the effect of this change on water resources. In terms of extreme precipitation in the United States, the Report concluded:

[F]or the continental United States there is high confidence in the detection of extreme precipitation increases, while there is low confidence in attributing the extreme precipitation changes purely to anthropogenic forcing. There is stronger evidence for a human contribution (medium confidence) when taking into account process-based understanding (increased water vapor in a warmer atmosphere), evidence from weather and climate models, and trends in other parts of the world.

See USGCRP Report at 214. Modeling for future effects on United States water resources predicts that, “assuming no change to current water-resources management, chronic, long-duration hydrological drought is increasingly possible by the end of this

century (very high confidence).” *Id.* at 240. Climate change and the associated sea level rise pose risks such as flooding and shoreline retreat and erosion in the coastal regions of the United States. *See* Endangerment Finding, 74 Fed. Reg. at 66,533. The trend presents dangers to major population centers that lie near the coast, such as the greater Hampton Roads and Tidewater areas of Virginia. Coastal ecosystems face acute danger: “[u]p to 21 percent of the remaining coastal wetlands in the U.S. mid-Atlantic region are potentially at risk of inundation between 2000 and 2100.” *Id.*

Again, the USGCRP Report has provided additional support for the Endangerment Finding’s recognition of the risk of sea level rise. Global Mean Sea Level (“GMSL”) has risen about 7–8 inches since 1900, with about three inches of that rise taking place since 1990. *See* Climate Report at 339. GMSL has been rising approximately 3 mm (0.12 inches) per year since 1993. *Id.* A number of studies “support[] the conclusion that a substantial fraction of GMSL rise since 1900 is attributable to human-caused climate change.” *Id.* What is more, coastal flooding in the United States already has been increasing. “Nuisance” floods of one to two feet (*i.e.*, flooding that surpasses local emergency preparedness thresholds for minor tidal flooding, and begins to flood infrastructure and trigger coastal flood advisories by the National Weather Service) have increased five- to ten-fold or more since the 1960s. *See* USGCRP Report at 347. Over the past several decades, minor tidal flood rates have been accelerating in over twenty-five East and Gulf Coast cities. *Id.* Rising sea levels also lead to more flooding due to storms:

Assuming other storm characteristics do not change, sea level rise will increase the frequency and extent of extreme flooding associated with coastal storms, such as hurricanes and nor’easters. A projected increase in the intensity of hurricanes in the North Atlantic could increase the probability of extreme flooding along most of the U.S. Atlantic and Gulf Coast states beyond what would be projected based solely on [sea level] rise.

Id. at 349.

Rising sea levels threaten settlements and ecosystems along the coastlines of the United States and endanger many historic and cultural sites in these areas. Important historic sites such as Jamestown Island in Virginia and the iconic Cape Hatteras Lighthouse in North Carolina are threatened by the rising tides. *See* “National Landmarks at Risk” at 16, 26. Many historic sites are at risk of being washed away by rising tides, or will require expensive, innovative solutions to protect these sites from the encroaching ocean.

The National Park Service is concerned with the threat that sea level rise poses to national parks and historical sites located in the coastal United States, including important historical sites such as the Statue of Liberty National Monument and the San Francisco Maritime National Historic Park. *See* Katie McDowell Peek et al., National Park Service, “Adapting to Climate Change in Coastal Parks: Estimating the Exposure of Park Assets to 1 m of Sea-Level Rise” (2015), at 89, 172, *available at*

https://www.nature.nps.gov/geology/coastal/coastal_assets_report.cfm. This NPS report included a survey of forty coastal parks that were analyzed for their risk of exposure to one meter of sea level rise, which is expected to occur within the next 100 to 150 years. *Id.* at ix. The study concluded that “well over one-third” of the NPS assets located within these forty coastal parks are at risk due to sea level rise. *Id.* at 22. These at-risk assets have a combined value of over \$40 billion. *Id.* Moreover, the forty parks that were part of this study represent just under one half of the coastal parks under the management of the NPS. See <https://www.nature.nps.gov/water/oceancoastal/>. There are eighty-eight ocean and Great Lake parks in the NPS system, which will likely also be at risk as sea levels continue to rise. *Id.*

V. EPA’S ECONOMIC ANALYSIS OF THE COST OF REPEAL IS FATALLY FLAWED BECAUSE A REPEAL OF THE CPP WOULD NOT RESTORE THE *STATUS QUO ANTE*

A. EPA is Required to Regulate GHG Emissions, so Repealing the CPP will not be the End of the Federal GHG Regulatory Regime.

The CAA requires EPA to regulate “air pollutants,” which the Supreme Court has held unquestionably include GHG emissions. See *Massachusetts v. EPA*, 549 U.S. 497, 532 (2007) (explaining that “greenhouse gases fit well within the Clean Air Act’s capacious definition of ‘air pollutant.’”). *Id.* at 532. Furthermore, “the Clean Air Act requires the Agency to regulate emissions” linked to climate change if it finds that such emissions endanger public health and welfare. *Id.* at 533. Following the Supreme Court’s directive in *Massachusetts*, EPA published the Endangerment Finding in 2009, a finding which continues to be supported by the findings of climate scientists in the United States and around the world.

As discussed *supra* Section IV, EPA is therefore required to regulate GHG emissions from EGUs because of the Endangerment Finding and because of the documentation of more recent evidence that further strengthens the Endangerment Finding. The Fourth National Climate Assessment, which was completed with the active participation of EPA, strengthens the scientific understanding that underlies EPA’s Endangerment Finding, affirming the consensus that “it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century.” See USGCRP Report, at 10.

EPA cannot lawfully repeal the CPP and leave a vacuum with no regulation of GHG emissions from stationary sources. Repealing the CPP, therefore, would not restore the *status quo ante* of no federal GHG regulation. Instead, it would necessitate an immediate EPA rulemaking to adopt a new program for regulating GHG emissions from EGUs, resulting in uncertainty for states, EGUs, and other stakeholders.

EPA improperly skirts this issue in its Proposed Clean Power Plan Repeal, stating as follows: “The EPA has not determined the scope of any potential rule under CAA section

111(d) to regulate [GHG] emissions from existing EGUs, and, if it will issue such a rule, when it will do so and what form that rule will take.” Proposed Clean Power Plan Repeal, 82 Fed. Reg. at 48,036.

The baseline for EPA’s economic analysis in the CPP, therefore, is fatally flawed. EPA’s cost-benefit calculations do not capture any costs or benefits associated with GHG regulations that EPA would ultimately be obligated to adopt to replace the CPP, or the costs and benefits of state-specific controls, or litigation-imposed controls that would necessarily fill that vacuum of GHG regulation if the CPP were repealed. Any economic analysis of the CPP must compare the existing program to an alternative scheme for reducing GHG pollution—an analysis that is entirely absent from EPA’s proposed repeal.

EPA’s flawed baseline is evident from the face of the proposed rule. Primarily, EPA discusses the economic effects of the proposed rulemaking—that is, the “repeal [of] the CPP in its entirety.” 82 Fed. Reg. at 48,038. The immediate effect of repeal is only the *temporary* absence of carbon dioxide regulation for existing electric utility generating units. See 80 Fed. Reg. at 64,663. Therefore, each of EPA’s economic analyses, assessing solely the costs and benefits of “repeal,” are premised on the improper assumption that there would be an absence of GHG regulation at all. This assumption is mistaken, as EPA is ultimately obligated to adopt GHG regulations to replace the CPP.

EPA acknowledges as much when it concedes that it “has not determined the scope of any potential rule” to replace the CPP, nor has it determined “what form that rule will take,” or even whether “it will issue such a rule” at all. 82 Fed. Reg. at 48,036. The Agency maintains that this uncertainty will be resolved in a separate rulemaking proposed “in the near future.” *Id.* However, vague gestures towards the possibility of future regulation provide an insufficient basis on which to justify a decision by EPA to repeal the CPP now and renders EPA’s economic analysis incomplete. It is impossible for regulators, much less those participating in public comments, to adequately weigh the costs and benefits associated with repealing the CPP when the alternative scheme EPA intends to adopt is nascent, at best.

Concerns about the economic impacts of repealing the CPP have been expressed by the electric utility industry as well. For example, Dominion Resources, Inc., one of the nation’s largest energy producers and transporters, has defended the CPP before the U.S. Court of Appeals for the D.C. Circuit, arguing that the rule’s market-based compliance mechanisms and tailored implementation plans permit businesses to comply with GHG regulation in a cost-effective manner. See Brief of Amicus Curiae Dominion Resources, Inc. in Support of Respondent at 7–8, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Apr. 1, 2016). See also Brief of Intervenors Calpine Corp. et al. in Support of Respondents, at 1, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Apr. 22, 2016) (supporting the CPP on behalf of National Grid Generation, L.L.C., New York Power Authority, Pacific Gas and Electric Company, and Southern California Edison Company, among others). Further, Dominion believes that EPA’s proposal to constrain its Section 111 authority will “unnecessarily increase . . . compliance costs” with GHG regulation, restricting power

companies' ability to deploy lower-emission technology "in the most cost-efficient fashion." *Id.* at 10–11.

Dominion's brief from the D.C. Circuit litigation highlights why a thorough and complete cost-benefit analysis is required by law to help regulators and stakeholders make informed, cost-effective decisions. Executive Order 12,866, 58 Fed. Reg. 51,735 (1993), requires that Agency rulemakings be conducted in a way that "maximize[s] net benefits" "*among alternative regulatory approaches.*" *Id.* (emphases added). In short, EPA is required to maximize net benefits by comparing the CPP to an *alternative* system of GHG regulation mandated by the Endangerment Finding, not merely the absence of regulation. Comparing the costs and benefits associated with two GHG regulatory schemes is the only transparent way to decide whether repealing the CPP is the best course of action. By refusing to identify its alternate plan for GHG reduction, EPA is improperly skewing the outcome of the rulemaking towards repeal, rather than an outcome which will maximize benefits for stakeholders and regulatory beneficiaries.

B. Repealing the CPP Would Not Restore the Status Quo Ante of No Regulation Because States and Private Actors Are Already Responding to the Threat of Repeal with Alternative Means of GHG Regulation.

On top of the Proposed Rule's failure to account for an alternative federal regulatory scheme, the Proposed Rule fails to account for costs associated with state efforts to regulate GHGs. In the absence of federal law capping carbon dioxide emissions, two, major, non-federal, GHG programs have arisen. The first is the Regional Greenhouse Gas Initiative ("RGGI"), which is intended to reduce GHG emissions from the electricity sector only. The second program is based in California and was established by California Assembly Bill 32. The California program links with a sister program in Quebec, and covers not only emissions generated by the energy sector, but also large industrial facilities and transportation providers. Both programs allow for certain emissions to be "offset" by projects that reduce GHG pollution across state lines. Projects that are eligible for the award of offset allowances under RGGI must be located within one of RGGI's participating states (although not necessarily in the same state as the power plant seeking the offset allowance). The California program, by contrast, allows for a broader range of offsetting projects, including projects "located in the United States, United States Territories, Canada, or Mexico." See Cal. Code Regs. tit. 17, § 95973(a)(3).

Given the threat of CPP repeal, at least one State, the Commonwealth of Virginia, has initiated the process to link to RGGI with its own carbon reduction program. See Virginia State Air Pollution Control Board, Proposed Regulation for Emission Trading Programs, 9 Va. Admin. Code § 5-140-6010 through 9 Va. Admin. Code § 5-140-6430.⁷ Even though the actions of Virginia and other States are self-imposed, they are a direct consequence of the lack of GHG regulation at the federal level; therefore, state and local actions taken as a result of repeal must be accounted for when calculating the costs of the CPP repeal. EPA erred in omitting such costs from their economic analysis.

⁷ Virginia's regulatory effort to link to RGGI is documented online here: <http://www.deq.virginia.gov/Programs/Air/GreenhouseGasPlan.aspx>.

In addition, EPA fails to account for the costs associated with private litigation. EPA's failure to regulate GHGs has triggered suits from private parties challenging EPA action and inaction, or seeking GHG reductions through other means in the face of EPA's reversal on the CPP. Just this calendar year—*i.e.*, after EPA published its Proposed Clean Power Plan Repeal—twenty-six suits have been filed in courts around the country regarding climate change and related issues. See U.S. Climate Change Litigation, <http://climatecasechart.com/us-climate-change-litigation/> (database compiled through a collaboration of the Sabin Center for Climate Change Law at Columbia University and the law firm of Arnold & Porter) (last visited Apr. 26, 2018). As with state-level regulation, the costs and benefits of these private suits must be evaluated by EPA before it moves forward with a plan to repeal the CPP. The economic impact of these sub-federal actions may very well be related to EPA's failure to implement the CPP, but so far EPA has failed to account for them.

VI. REPEAL OF THE CLEAN POWER PLAN UNDERCUTS FEDERALISM-RESPECTING ACTIONS BY EPA

Executive Order 13,132, 64 Fed. Reg. 43,255 (1999), requires agencies to determine the federalism implications of a proposed rule. If the rule has federalism implications, and either imposes significant direct compliance costs on States or preempts State law, the Agency must prepare a "federalism summary impact statement," including a summary of State and local officials' concerns about the proposed rule and EPA's position supporting the need for the regulation and a statement of the extent to which State and local concerns have been met.

EPA's proposed rule repealing the CPP does not meet the requirements of Executive Order 13,132. It merely states as follows:

The EPA proposes to conclude that the CPP would have negative federalism implications and that this proposed repeal of the CPP would restore the *status quo ante*. The EPA has concluded that this proposed action does not have negative federalism implications. It will not have substantial negative direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

82 Fed. Reg. at 48,048. This is the entirety of EPA's federalism analysis as contained in the Proposed Clean Power Plan Repeal. It does not address any of the requirements of Executive Order 13,132. Instead it states that EPA "concluded" that the CPP will have negative federalism implications and that repealing it would therefore restore the *status quo ante*, without providing any analysis or support for this conclusion. This is not a federalism analysis, but a conclusory statement that a federalism analysis would support repealing the CPP. Even setting aside the procedural deficiency of this purported

federalism analysis, EPA's conclusion that repealing the CPP will have no negative federalism implications is incorrect.

EPA's conclusion seems to be based primarily on the claim that the CPP itself had negative federalism implications. This argument was outlined in West Virginia's brief opposing the CPP in 2015, which focused on the effects of imposing federal policy choices on States in an area—public utility regulation—where states have fundamental authority. *See, e.g.*, Reply Brief of Petitioners on Core Legal Issues at 45, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Apr. 22, 2016). This argument is flawed because of two incorrect and unlawful assumptions. First, EPA errs in assuming that repealing the CPP would merely constitute a restoration of the *status quo ante*, rather than lead to the imposition of a subsequent, independent federal policy choice. As detailed above, this assumption is demonstrably false. Second, EPA incorrectly assumes that the 2015 CPP was a federal policy choice that did not account for States. As shown below, this assumption is false as well.

The CPP was designed with federalism concerns in mind. It was set up so that States would have the opportunity to develop independent plans to satisfy the emissions requirements of the CPP and the rule granted States flexibility in drafting those plans. As is the case with nearly every program under the CAA, only if a State declined to take advantage of that opportunity would the EGUs in the State be subjected to a Federal Implementation Plan ("FIP") that satisfied statutory requirements. In EPA's words, "[t]his approach is consistent with ordinary cooperative federalism regimes that federal courts have routinely upheld against Tenth Amendment challenges." 80 Fed. Reg. at 64,882.

To be clear, under the CPP the States are provided with many implementation options. States may apply the federally enforceable emission standards, adopt other measures to meet the State's emissions goals, or some combination of both. States could opt for meeting "the CO₂ emission performance rates, a rate-based CO₂ emission goal, or a mass-based CO₂ emission goal." Clean Power Plan, 80 Fed. Reg. at 64,832. These goals could be met by reducing emissions directly or through "emissions allowances," and States would be free to implement emissions trading programs. *Id.* at 64,832–33.

In sum, under the CPP the States have broad flexibility to meet emissions targets. This level of flexibility makes the CPP a system that respects States' autonomy and complies with principles of cooperative federalism. A more traditional, command-and-control regulation, which would necessarily follow repeal and replacement of the CPP, would be less sensitive to federalism concerns.

VII. CONCLUSION

The National Trust for Historic Preservation in the United States appreciates this opportunity to submit comments to EPA on the Proposed Clean Power Plan Repeal. As detailed above, the proposed repeal will be detrimental to attempts to mitigate climate change and its effects on historic and culturally significant places throughout the United States. Accordingly, we respectfully urge EPA to retain the CPP as finalized in 2015.

Respectfully submitted,



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