

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Carbon Pollution Emission Guidelines for Existing Stationary Sources: EGUs in Indian Country and U.S. Territories; Multi-Jurisdictional Partnerships; Proposed Rule

Docket No. EPA-HQ-OAR-2013-0602

*Via email and regulations.gov
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Comments of Sierra Club and Earthjustice

Joanne Spalding
Alejandra Núñez
Andres Restrepo
Casey Roberts
Travis Ritchie
Natalie Spiegel
Sierra Club
85 Second St., 2nd Fl.
San Francisco, CA 94105
joanne.spalding@sierraclub.org

Tim Ballo
David Baron
Abigail Dillen
Earthjustice
1625 Massachusetts Ave., NW
Suite 702
Washington, D.C. 20036
adillen@earthjustice.org

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Proposed Rule)	

Thank you for accepting these comments on EPA's proposed Carbon Pollution Emission Guidelines for Existing Stationary Sources: EGUs in Indian Country and U.S. Territories and Multi-Jurisdictional Partnerships. 79 Fed. Reg. 65,482 (Nov. 4, 2014). We submit these comments on behalf of Sierra Club and Earthjustice. They supplement our comments submitted to EPA on December 1, 2014 regarding the agency's proposed emission guidelines for greenhouse gas emissions from existing fossil fuel-fired electric generating units ("111(d) comments"). Our 111(d) comments are included in this same rulemaking docket, and we incorporate them by reference herein.

I. Introduction

As discussed in our 111(d) comments, climate change is the most pressing environment crisis humanity now faces. If left unchecked, the effects of climate change will do untold harm to global ecosystems and human societies alike. Deep and immediate reductions of heat-trapping greenhouse gases ("GHGs") such as carbon dioxide ("CO₂") are of the highest importance, and existing fossil fuel-fire electric generating units ("EGUs") are the largest source of CO₂ emissions in the United States. EPA's emission guidelines for existing EGUs, also known as the Clean Power Plan ("CPP"), represent a critical step in the right direction as we fight climate change in the domestic and international arenas, and we strongly support EPA's decision to use section 111(d) of the Clean Air Act to pursue this task. However, careful analysis of EPA's proposal reveals a number of shortcomings and oversights, and we offered a suite of improvements in our 111(d) comments that will strengthen the CPP and help achieve greater emission reductions at little additional cost.

EPA has now proposed a supplemental rule to address existing EGUs on tribal nation lands and U.S. territories ("the supplemental proposal"), which were not covered under the CPP proper. Covering these EGUs is essential, since they emit significant quantities of CO₂ and must not be granted a loophole to avoid regulation. The supplemental proposal must be strengthened, however, because it fails to require CO₂ emissions reductions from these EGUs that are achievable through application of the best system of emission reduction.

EPA's emission reduction proposal for these jurisdictions follows the same four-building-block-approach as the Clean Power Plan. While we support the general framework of the CPP,

its critical shortcomings, identified in our 111(d) comments, are magnified with regard to the building blocks' application to territories and tribal nations. In the comments that follow, we discuss modifications to each building block that will strengthen the supplemental proposal and achieve greater emission reductions from EGUs on tribal nation lands and U.S. territories. In addition, we discuss considerations for implementation plans to meet these jurisdictions' emission performance goals, as well as the legal framework governing such plans.

In particular, we highlight the situation of the Navajo Nation, which currently hosts two large coal-fired power plants: the Four Corners and Navajo Generating Stations. Together, these privately-owned facilities consist of five EGUs with capacities at or exceeding 750 MW apiece. As we discuss in more detail below, Four Corners and Navajo Generating Station emit large amounts of CO₂ and other harmful pollutants without providing significant economic benefits or electrification services to most tribal members: nearly all of their generation is exported to customers in adjacent states, while one-third or more Navajo Nation residents live without access to electricity. EPA's supplemental proposal would largely exempt these plants from regulation. Due to the manner in which EPA has proposed to apply the four building blocks to plants located on tribal nation lands, the proposal would result in far more limited reductions than would be required if those plants were located just a few miles away in an adjacent state. There is no reason to allow a higher level of pollution from plants that are situated on tribal lands but are owned and operated by private corporations, serve the general population in the Southwestern U.S. rather than tribal residents, and are dispatched in the same manner (and by the same entity) as nearby plants located in states. In contrast, our recommended approach would entail steep emission reductions and would facilitate the transition toward greater investment in renewable and energy efficiency resources.

In addition to the plants on the Navajo reservation, affected EGUs also exist on lands of the Ute Tribe of the Uintah and Ouray Reservation and of the Fort Mojave Tribe. The U.S. territories of Guam and Puerto Rico also generate electricity from fossil fuel-fired EGUs, and facilities on the U.S. Virgin Islands are currently undergoing repowering upgrades. Our proposal would ensure greater emission reductions from these EGUs as well.

The Clean Air Act applies to all affected EGUs located in the United States and its territories. Tribes, however, are sovereign nations with legislative and regulatory jurisdiction over their own domestic affairs. They have no obligations to administer any programs under the Clean Air Act, although the statute permits them to apply for authority to administer a section 111 implementation plan if they so choose and requires EPA to prepare a plan if they do not. We recognize that environmental concerns are of special importance to tribal nations, and like the many states that have been leaders in addressing climate change, numerous tribal nations have also stepped forward to reduce greenhouse gas emissions. For example, on December 3, 2014, the White House recognized two tribes as Climate Action Champions among a group of 16 communities.¹ The Blue Lake Rancheria Tribe in California developed a strategic climate

¹ See Dep't of Energy ("DOE"), *Two Tribes Recognized as Climate Action Champions During White House Tribal Nations Conference* (Dec. 4, 2014), available at

action plan in 2008, “has reduced its energy consumption by 35%, and . . . has committed to reducing greenhouse gas emissions 40% by 2018 using a range of approaches, including the use of biodiesel to power public buses and aggressive energy efficiency measures.”² The Sault Ste. Marie Tribe of Chippewa Indians in Michigan aims to reduce its greenhouse gas emissions by 4% each year through “a holistic approach to climate action and preparedness through its energy strategy, emergency operations plan, integrated resource management plan, solid waste management plan, sustainable development code, and land use planning process.”³

Finally, EPA has solicited comment on issues affecting jurisdictions such as Vermont, the District of Columbia, and tribal nations without affected EGUs. In particular, EPA asks whether these jurisdictions may be permitted to join in regional or multi-jurisdictional plans, including (but not limited to) the Regional Greenhouse Gas Initiative (“RGGI”). As we discuss below, we support allowing these jurisdictions to partake in regional plans on a voluntary basis, provided that the emission targets for the compliance regions are adjusted to reflect the EE and RE potential for those jurisdictions without affected EGUs.

II. Coal-Fired Power Plants on the Navajo Nation

As noted above, EPA’s supplemental proposal covers the Navajo Generating Station and the Four Corners Generating Station. These units merit some specific discussion because they have for decades been among the largest and highest-emitting coal plants in the country; together, they emit more CO₂ than the entire coal fleets of over 30 states. Four Corners is a 5-unit coal-fired power plant located within the Navajo Reservation in Northwestern New Mexico. It is a mine-mouth plant supplied by the Navajo Mine, which is also on the Navajo Reservation. Units 1, 2, and 3, which had a combined capacity of 560 MW, began operation in the early 1960s and were wholly owned by Arizona Public Service (“APS”), an electric utility serving large parts of Arizona. APS retired these units on December 30, 2013 in order to comply with the federal Regional Haze Rule. See 40 C.F.R. § 51.308. Units 4 and 5, which have a combined capacity of 1,540 MW, came online in 1969-70 and remain in operation today. Prior to the closure of Units One through Three, Four Corners was one of the largest power plants in the country, with five units generating 2,100 MW of electricity. In 2012, when all five units were operating, the plant annually emitted over 11 million tons of sulfur dioxide, 39,150 tons of nitrogen oxides (“NO_x”), 14.5 million tons of CO₂⁴ and approximately 425 pounds of mercury (a harmful neurotoxin).⁵ From 2004 to 2006 and again in 2009, Four Corners was the largest

<http://www.energy.gov/indianenergy/articles/two-tribes-recognized-climate-action-champions-during-white-house-tribal>.

² *Id.*

³ *Id.*

⁴ These data come from EPA’s Air Markets Program Database. See EPA, *Air Markets Program Data*, <http://ampd.epa.gov/ampd/> (last visited Dec. 16, 2014).

⁵ EPA, *Toxic Release Inventory*, <http://www2.epa.gov/toxics-release-inventory-tri-program> (last visited Dec. 16, 2014), TRI ID#: 87416FRCRNCOUNT.

source of NO_x in the United States, with more than 40,000 tons of emissions in each of those years.⁶

In 2010, APS developed a plan to retire its entire share of the older, less efficient Units 1 through 3, avoiding environmental upgrade costs on those units and more than compensating for the lost generating capacity by purchasing SCE's interest in Units 4 and 5. The transaction increased APS's ownership of Units 4 and 5 from 15 percent to 63 percent. The remaining shares are variously owned by Public Service Company of New Mexico (13 percent), Salt River Project (10 percent), El Paso Electric (7 percent), and Tucson Electric Power Company (7 percent). If the remaining co-owners elect to extend their operation, the plant must install selective catalytic reduction equipment on both units by July 31, 2018 to comply with EPA's Regional Haze Rule.

Operating since the mid-1970s, Navajo Generating Station consists of three 750 MW coal-fired EGUs situated less than 12 miles from the Grand Canyon. It is the single largest source of greenhouse gas emissions in Arizona,⁷ and it has been estimated that pollution from Navajo Generating Station contributes to 16 premature deaths, 25 heart attacks, 300 asthma attacks, and 15 asthma emergency room visits each year, with total annual health costs of over \$127 million.⁸ While EPA has worked with plant owners and stakeholders to develop a plan for reducing NO_x emissions from Navajo Generating Station, it is expected that this facility will continue to operate for decades into the future—long past its initial design life—unless additional regulatory pressure is exerted. Navajo residents experience among the worst health outcomes of any population in the United States, and the prolonged life extension of this plant will continue to harm an already vulnerable population.

Both Four Corners and Navajo Generating Station are wholly owned by non-tribal entities, and while they have generated significant amounts of electricity for non-tribal customers and considerable profits for their owners, they have not provided corresponding benefits for the Navajo people, who continue to suffer from extremely high levels of poverty, unemployment, and poor health. Nor have Four Corners or Navajo Generating Station provided electrification to tribal members: as noted above, these plants export nearly all their electricity to non-tribal customers, while one-third or more of Navajo Nation residents remain without electricity in their homes.⁹

⁶ See EPA, *Proposed Rule: Source Specific Federal Implementation Plan for Implementing Best Available Retrofit Technology for Four Corners Power Plant: Navajo Nation; Technical Support Document*, Dkt. No. EPA-R09-OAR-2010-0683 (Oct. 10, 2010), available at <http://www.regulations.gov/#!documentDetail;D=EPA-R09-OAR-2010-0683-0002>, at 11.

⁷ Sierra Club, *Fact Sheet- Navajo Generating Station: Arizona's Dirtiest Coal Plant*, http://vault.sierraclub.org/designarchive/factsheets/beyondcoal/096%20NavajoGen/High96_NavajoGeneratingStation_FactSht.pdf (last visited Dec. 19, 2014).

⁸ *Id.*; these statistics were provided by the Clean Air Task Force.

⁹ See Etsitty, S., Exec. Dir. of the Navajo Nation Env't'l Protection Agency, and Tsosie, Harrison, Att'y Gen., Navajo Nation, *Navajo Nation Comments on the Carbon Pollution Emission Guidelines for Existing*

Furthermore, while some tribal members are employed at these power plants, research indicates that considerably more jobs could be created with renewable resources that could be used in lieu of coal-fired generation. In addition, distributed renewable generation, such as rooftop solar installations, would be far more effective at closing the electrification gap among Navajo residents. Distributed solar electricity is a particularly attractive option, given the excellent solar resource on Navajo lands, and could be funded by the entities that currently own Four Corners and Navajo Generation Station, who would pass the vast majority of the costs onto their customers in California, New Mexico, and Arizona, rather than to tribal members. An in-depth discussion of these and other environmental and economic justice considerations affecting not only Navajo residents, but also members of other tribal nations and residents of U.S. territories, is provided in sections VI and VII below.

In recent years, three units on Navajo lands have retired, and the remaining units will soon be 40-to-50 years old. Over the 2020-2029 applicability period of the CPP, the youngest coal-fired plant on Navajo land will be more than 50 years old—20 years older than its initial design life. In short, the time for Four Corners' and Navajo Generating Station's retirement arrived long ago. For decades, the negative effects of air and water pollution on Navajo lands have far outweighed any benefit they provide to tribal members, and it is high time that they be replaced with renewable resources and energy efficiency projects. As we explain in more detail below, EPA's supplemental proposal would achieve only nominal emission reductions at these units and fails to address the problems they pose. Our recommendations would ameliorate many of the shortcomings of EPA's proposal and would help ensure that better, cleaner, and more effective sources of generating take the place of these units.

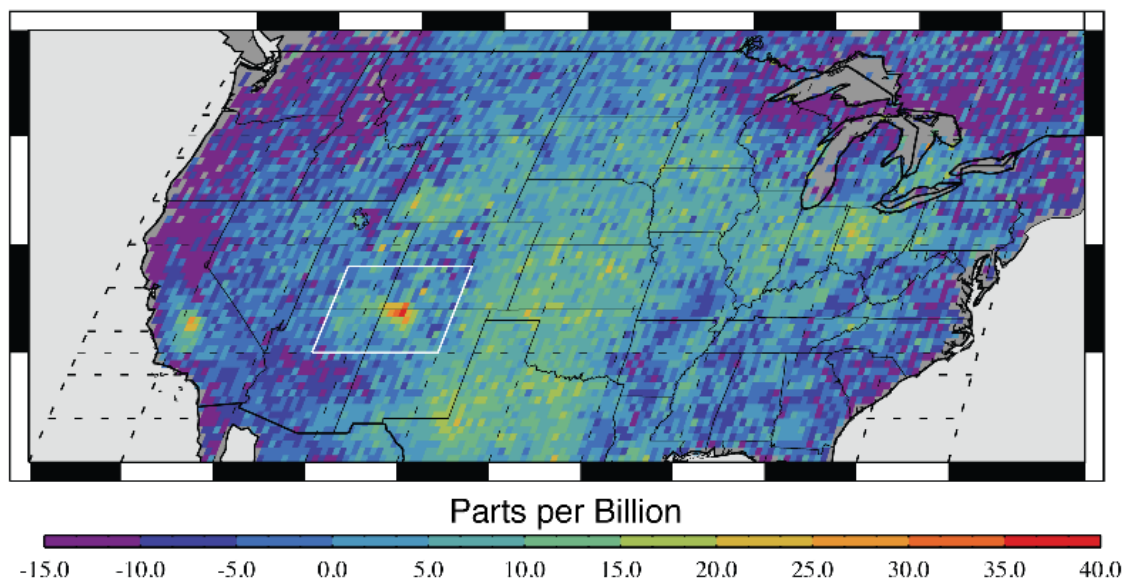
Finally, we note that a recent study has shown enormous amounts of methane emitted from Four Corners region. Methane ("CH₄") is a potent greenhouse gas that has 34 times the global warming potential of CO₂ on a 20-year basis and 86 times its potential on a 100-year basis.¹⁰ The primary component of natural gas, methane is often emitted during fossil fuel extraction, and is found in coal-bed seams, where it remains secure until mining activities release it into the atmosphere. The study, conducted by researchers from various universities and federal agencies, found the largest U.S. methane anomaly, or "hotspot," ever seen from outer space emanating from Four Corners, and highlighted in particular coal mining in the area is a primary cause for this methane plume.¹¹ Provided below is a satellite infrared image depicting the methane hotspot at Four Corners.¹²

Stationary Sources: Electric Utility Generating Units [EPA-HQ-OAR-2013-0602], Notice of Data Availability, and Technical Support Document on GHG Abatement Measures (Dec. 1, 2014), at 2.

¹⁰ See Int'l Panel on Climate Change, *Climate Change 2013: The Physical Science Basis* (Ch. 8- Anthropogenic and Natural Radiative Forcing) (Sept. 2013), available at http://www.climatechange2013.org/images/report/WG1AR5_Chapter08_FINAL.pdf, at 714.

¹¹ Kort, et al., *The largest US methane anomaly viewed from space*, 41:19 *Geophysical Research Letters* 6,898 (Oct. 16, 2014), available at

Fig. 1- Satellite Methane Signal Averages 2003-2009



The hotspot visible in Figure 1 is precisely the same location as the coal mine that provides Four Corners with its fuel. Four Corners generates demand for coal that, through its extraction at a nearby mine, releases huge quantities of methane into the environment. Not only does this exacerbate climate change, it affects the pollution load of dangerous non-climate pollutants, such as volatile organic compounds, which often co-occur with methane and lead to harmful particulate matter. Methane also contributes to the formation of ground-level ozone, the primary component of smog. Retiring Four Corners, or curtailing its dispatch, would reduce demand for coal mining in this area and help mitigate the methane hotspot depicted above.

III. The Building Blocks as Applied to Territories and Tribal Nations

A. Block 1

1. Tribal Nations

Under Building Block 1, EPA calculates a heat-rate improvement (“HRI”) at the affected coal-fired plants on tribal nation lands: Four Corners (five units) and Navajo Generating Stations (three units) on the Navajo Nation lands and the Bonanza Plant (one unit) on Ute Tribe lands.¹³

http://www.researchgate.net/publication/265689959_Four_Corners_the_largest_US_methane_anomaly_viewed_from_space.

¹² *Id.*

¹³ See EPA, *Technical Support Document for Calculating Carbon Pollution Goals for Existing Power Plants in Territories and Areas of Indian Country (“Supplemental Proposal TSD”)* (Oct. 2014), available at <http://www2.epa.gov/sites/production/files/2014-10/documents/20141028tsd-supplemental-proposal.pdf>, at 3. As discussed in section IV, we urge EPA to remove imminent and announced retirements from its goal-setting exercise. Hence, three of the five Four Corners Units (which have

In keeping with the CPP, the agency sets the expected HRI at six percent—four percent from operation and maintenance (“O&M”) best practices and two percent from equipment upgrades. We discussed in our 111(d) comments how this approach underestimates the true HRI that can be achieved at coal-fired plants. For O&M best practices, our alternative approach would expect a unit to achieve the 95th percentile of its best rolling annual average efficiency performance during the 12-year interval from 2001 to 2012.¹⁴ For equipment upgrades, EPA itself has determined that four percent HRI is achievable, and the agency should adhere to this number, rather than the lower two percent value.¹⁵

We note that while an average HRI improvement of six percent from O&M best practices and an additional four percent from plant upgrades is reasonable, industry has argued that such an improvement may not be feasible where an individual plant made the technical and operational improvements in recent years. Our suggested metric for O&M resolves this problem by expecting each EGU to achieve a level of performance they have actually demonstrated in the past: the 95th percentile of its lowest rolling annual average emission rates between 2001 and 2012. This represents a rolling annual average that the source has met approximately 200 times over the course of that 12-year period.¹⁶ Therefore, there can be no valid claim that the O&M improvements under Block 1 penalize sources that have already made significant technical or operational improvements in recent years. Furthermore, states and other jurisdictions (including the Navajo Nation, should it elect to develop an implementation plan) may choose to reduce or eliminate the HRI requirements on individual sources if they determine that equivalent emission reductions can be achieved through other accepted measures.

Reviewing the plots for the six units still operating on Navajo land,¹⁷ we see that two of those units—Navajo Units Two and Three—operated at relatively low emission rates in 2012 compared to their emissions in prior years. Since the 2012 emission rates for Four Corners

already retired) and possibly one of the three Navajo Generating Station units (which may retire in 2019) should not be considered when calculating the emission targets—including Block 1 HRI—for the Navajo Nation.

¹⁴ See Sierra Club and Earthjustice, *Comments on the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (“111(d) Comments”)* (Dec. 1, 2014), attached as **Ex. 1**, at 37-46.

¹⁵ *Id.* at 46-49.

¹⁶ A “block annual average” or “calendar annual average” only considers periods of operation that commence at the beginning of a calendar year, i.e. on January 1. In contrast a “rolling annual average” looks at the performance of a unit over a year long period irrespective of the start date of that period. Most sources operated almost 4,400 days during this period, so would generate slightly more than 4,000 averages of 365 days of operation.

¹⁷ EPA includes data for Four Corners Units 1 through 3 in its calculus. However, these units ceased operating in 2012. As explained in our comments the emission reductions from these retirements can no more be considered to “result” from any action taken by the Navajo tribe—or any other governmental entity—to implement the CPP than a plant closure in 2011. For this reason we do not include these units in either the goal setting or the compliance determination process.

Units Four and Five and Navajo Unit One were well above the best rates achieved by those units during the 2001-2012 period, EPA’s “averaging” approach would result in reasonable emission reductions through O&M practices at Navajo coal plants. Yet because the agency uses an overly lenient estimate of the amount of improvement that can be achieved by hardware upgrades, its final calculation understates the available improvement at these facilities. Under our approach, the “best” Block 1 emission rate for units located on Navajo lands is 1,930 lbs CO₂/MWh, rather than the 1,993 lbs CO₂/MWh standard proposed by EPA¹⁸. However, Bonanza Unit One is the only operating regulated unit on Ute land, and it too had a 2012 operating rate that is well below its long term average rate and only 2.5 percent higher than its 95th percentile low rolling average. Here, as depicted in Table 1 below, we calculate a Block 1 emission rate of 2,044 Lb/MWh rather than the 2,016 lb/MWh proposed by EPA.

Table 1- Evaluation of Indian Lands’ Coal-fired EGUs¹⁹

UNIT	2012 Generation (MWh)	2012 CO ₂ Emission rate (gross)	2001-2012 CO ₂ Emission Rate (gross)	Lowest Rolling Annual Average (gross)	95TH Percentile LRA (gross)	Four Percent Hardware Upgrade (gross)	Unit Specific Emission Rate (net)
Four Corners Unit Four	5,144,259	1,852	1,847	1,752	1,765	1,694	1,813
Four Corners Unit Five	5,988,721	1,880	1,862	1,752	1,773	1,702	1,821
Navajo Unit One	5,798,167	2,133	2,124	1,962	1,972	1,893	2,026
Navajo Unit Two	5,807,408	1,828	2,080	1,827	1,906	1,830	1,958
Navajo Unit Three	7,408,927	1,888	2,054	1,888	1,949	1,871	2,002
Navajo Sum	30,147,482						
Bonanza Unit One	3,259,180	2,034	2,150	1,968	1,990	1,910	2,044
Navajo Lands Building Block One Weighted Average Rate			1,930	(EPA Option One Goal 1,993)			
Ute Lands Building Block One Weighted Average Rate			2,044	(EPA Option One Goal 2,016)			

We have also urged EPA to apply this HRI formula to *all* fossil-fired EGUs, not just coal plants.²⁰ For tribal nation lands, this would affect the three NGCC units that constitute the South Point Energy Center on Fort Mojave territory. These units should be expected to meet the 95th percentile emission rate and make additional equipment upgrades in line with our recommended requirements for coal plants.

2. U.S. Territories

Our approach to Building Block 1 would apply with equal force to fossil-fired units in the U.S. Territories. EPA’s plan would only expect HRI at the two coal-fired AES units in Guayama,

¹⁸ We have applied a seven percent increase to the EPA AMPD data, which is reported on a gross electrical output basis, to estimate the net emission rate for these plants.

¹⁹ These data are attached as **Appendix 1**.

²⁰ *Id.* at 52-57.

Puerto Rico, since Guam has no coal-fired plants and the U.S. Virgin Islands' only coal fired-unit—St. Croix Renaissance—“has not operated in more than 20 years.”²¹ These jurisdictions illustrate precisely why EPA must revise its goal-setting exercise to include HRI at all fossil-fired EGUs, not just coal plants. According to EPA's data, Guam relies entirely on oil for its electricity needs, with four oil-fired steam EGUs, four oil-fired internal combustion engines, and one oil-fired combustion turbine.²² These units amount to 366 MW²³ of generation capacity, but in keeping with the CPP—which does not justify the exclusion of non-coal fossil units from the target-setting protocol under Block 1—they are not included in the Block 1 formula.

The picture is even starker in Puerto Rico which, with 3.6 million residents, is more populous than all the other U.S. Territories combined, as well as 22 states and the District of Columbia. The AES coal plant, which has been called “among the dirtiest power plants in the nation,”²⁴ generates 16 percent of Puerto Rico's electricity. Only one percent comes from hydropower resources.²⁵ The remaining 83 percent is generated by oil-fired (65 percent) or liquefied natural gas (“LNG”)-fired (18 percent) EGUs.²⁶ These facilities represent 6.4 GW of generating capacity, yet are entirely exempt from expected HRI under Block 1.²⁷ In fact, Puerto Rico's oil-fired combustion turbines and combined cycle units, which account for approximately 2.8 GW, are not even considered affected EGUs and are excluded from the rule entirely.²⁸ EPA must correct this shortcoming and include *all* fossil-fired EGUs in Block 1, regardless of design or fuel type.

As for the U.S. Virgin Islands, EPA lists three fossil-fired units greater than 25 MW: two oil-fired EGUs at Krum Bay (one 35-MW steam unit and one 39-MW combustion turbine) and the St. Croix Renaissance, a 25-MW coal plant.²⁹ The agency declines to regulate any of these facilities on the rationale that the Krum Bay steam unit has been non-operational since 2011, the St. Croix Renaissance has not operated in over 20 years, and the Krum Bay CT burns oil rather than natural gas, and is therefore not an affected EGU.³⁰ The two non-operational units still presumably have operating permits, and unless EPA revokes those operating permits, it must include them under the supplemental proposal, which requires HRI under Block 1. To the extent that these units are undergoing repowering projects, they must be covered under EPA's section 111(b) rule for modified and reconstructed sources. As for the Krum Bay CT, EPA must

²¹ *Supplemental Proposal TSD* at 5-6.

²² *Id.* at 5. Note that this figure only includes EGUs over 25 MW.

²³ *Id.*

²⁴ Kantrow, M., *Guayama energy plant named among 'dirtiest' in nation*, News Is My Business (Dec. 7, 2011), available at <http://newsismybusiness.com/guayama-energy-plant-named-among-%E2%80%98dirtiest%E2%80%99-in-nation/>.

²⁵ *Supplemental Proposal TSD* at 5-6.

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Id.* at 6-7.

³⁰ *Id.* at 7.

include it under Block 1 as well, for the reasons we discussed above and in our 111(d) comments.

We acknowledge that in order to regulate an existing source under section 111(d), EPA must have in place a section 111(b) rule that would apply to that source if it were new. The agency has excluded from its 111(b) rule for new sources all oil-fired CTs or combined cycle units, as well as all fossil-fired EGUs that operate below a 33 percent capacity factor. We reiterate the argument we made in our 111(b) comments that EPA must cover under its 111(b) rules *all* new, modified, and reconstructed fossil fuel-fired EGUs that deliver any amount of electricity to the grid on an annual basis, regardless of design, fuel type, or capacity factor.³¹ The agency must also cover all such existing units in its 111(d) rule, including those that exist in the U.S. Territories, as delineated above.

Finally, we note that EPA has not provided sufficient emission data to quantify the impact that our Block 1 recommendations would have on the emission targets for U.S. territories. Site-specific data in the same format as EPA's AMPD may not be available for review, but fuel consumption and generation data are likely to be available. EPA should require each territory's environmental protection agency and the operator of the plants to provide all relevant data and should make this information available in a subsequent NODA.

B. Block 2

1. Tribal Nations

Block 2 of the CPP assumes that each state's fleet of steam EGUs (both coal-fired and oil and gas ("O&G")-fired) can reduce dispatch to the grid in favor of cleaner resources. To quantify the amount of this reduction, EPA calculates how much excess generation would be produced if each state were to operate its NGCC fleet at a 70 percent average utilization rate. The agency then calculates the emission reductions that could be achieved if the state's steam EGU fleet were to reduce dispatch by this same amount, preserving the existing ratios of coal-to-O&G steam. As we noted in our 111(d) comments, we have strong reservations about the use of natural gas for electricity generation, and do not consider it an adequate solution to climate change.³² However, Block 2 does not require any jurisdiction to actually use more natural gas, but serves as an effective proxy for coal retirements that can be expected over the duration of the plan.³³

EPA's current approach to Block 2 considers the NGCC fleet on a state-by-state basis, and calculates each state's expected reduction in coal and O&G steam dispatch based on the in-

³¹ See Sierra Club, et al., *Comments on Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units*, EPA-HQ-OAR-2013-0495-9514 (May 9, 2014), attached as **Ex. 2**, at 43-70, 94-101.

³² See *111(d) Comments* at 57-60.

³³ *Id.*

state availability of excess NGCC capacity. As we discussed in our 111(d) comments, this approach does not reflect the actual, interstate nature of the electric sector, in which resources are connected to grids that are not contained within a single state but tend to span multistate regions.³⁴ Not only would a regional (rather than state-by-state) approach to Block 2 correspond with how the electric sector actually operates, it would ensure significantly greater emission reductions, since coal-heavy states with little or no NGCC capacity would be expected to import cleaner generation from neighboring states that *do* have excess capacity.³⁵

Nowhere is this “fix” more appropriate than on tribal nation lands, which effectively function as “islands” of generation under EPA’s proposal. Of the three nations affected by the supplemental proposal, the Navajo Nation and Ute Tribe have a combined 4.5 GW of privately owned coal-fired capacity but no NGCC capacity, while the Fort Mojave Tribe has over 700 MW of NGCC-fired capacity but no coal units. EPA’s approach therefore calculates no emission reductions under Block 2 for any of these three nations. Far from “islands,” however, the plants that are hosted on these lands export the vast majority of their electricity to ratepayers in other jurisdictions and could easily be expected to reduce their dispatch in accord with the available NGCC capacity in nearby states. We have calculated the impact on the emission rates of the privately-owned EGUs located on Navajo and Ute lands if the underutilized NGCC capacity that is available in the region is used as a proxy for anticipated coal unit retirements, as EPA has done elsewhere.

**Table 2- Tribal Nation Coal Emissions Under Regional Redispatch
(Excluding Retired Four Corners Units)**

EXCLUDE RETIRED FOUR CORNERS UNITS			
REGIONAL REDISPATCH W/INDIAN NATIONS			
Authority	2012 Coal Generation	EPA Proposed Coal Generation	Regional Redispatch Coal Generation
Arizona	24,335,930	0	9,358,908
Colorado	34,385,542	22,548,824	13,223,703
Nevada	4,133,662	0	1,589,689
New Mexico	11,353,987	7,594,319	4,366,421
Utah	27,332,140	20,797,210	10,511,165
Navajo	26,071,356	26,071,356	10,026,303
Ute	3,090,433	3,090,433	1,188,493
Fort Mojave	0	0	0
SUM	130,703,050	80,102,142	32,317,690

³⁴ See *id.* at 65-68.

³⁵ *Id.*

As proposed by EPA, generation from coal units located in Arizona would drop from 24 million MWh/yr to zero, while under the regional redispatch approach, 9.4 million MWh would remain, even as coal-fired generation on Navajo lands is reduced by 16 million MWh. Since APS is a majority owner of Four Corners, our recommended approach, while achieving greater reductions than EPA’s proposal, would also balance the reductions that APS will need to make between assets in states and on tribal nation lands.

Table 3- Tribal Nation Totals Emissions Under Regional Redispatch

Tribal Nation	2012 Coal Generation	Coal Generation After Regional Redispatch (MWh)	Coal Emission Rate (lbs CO ₂ /MWh)	Gas Generation After Regional Redispatch (MWh)	Gas Emission Rate (lbs CO ₂ /MWh)	Total Emission Rate After Blocks 1 & 2- Regional Redispatch (lbs CO ₂ /MWh)	Total Emission Rate After Blocks 1 & 2- EPA's Approach (lbs CO ₂ /MWh)
Navajo Nation	26,071,356	10,026,303	1,930	16,045,053	894	1,292	1,993
Ute Tribe	3,090,433	1,188,493	2,044	1,901,940	894	1,336	2,016

The appropriate emission rate for tribal nation lands, applying EPA’s Blocks 1 and 2 but employing factually documented assumptions about the available HRI improvements at the affected units and more realistic assumptions about the availability of existing NGCC capacity to offset curtailments of coal-fired EGUs, is 1,292 lbs CO₂/MWh for units located on Navajo lands and 1,336 lbs CO₂/MWh for the unit located on Ute lands. This rate should be further adjusted to reflect EPA’s Building Blocks 3 and 4, as set out below. 1,292 lbs CO₂/MWh may seem to be a large difference from EPA’s proposed emission rate of 1,993 lbs CO₂/MWh for the Navajo Nation. However, if one Navajo Generating Station unit closes by 2019, a possibility EPA has discussed,³⁶ and if the lost generation is replaced by renewable energy or energy efficiency while the remaining coal-fired units on Navajo land achieve the calculated HRI improvements, the Navajo Nation’s emission rate will be 1,500 lbs CO₂/MWh. The Nation would therefore be able to meet its target with modest additional emission reductions through coal curtailment or RE development.

2. U.S. Territories

EPA’s supplemental proposal applies Block 2 dispatch reductions to Puerto Rico but not to Guam, since the former has excess NGCC capacity but the latter does not. As EPA has noted in its supporting materials, it is technically feasible to operate the EcoEléctrica NGCC plant in Peñuelas at a 70 percent utilization rate (in comparison to its existing utilization rate of 37 percent), and that the territory’s steam EGUs can be expected to curtail dispatch in equal measure.³⁷ We lack information to determine whether Guam has any options to reduce the

³⁶ 79 Fed. Reg. at 65,496.

³⁷ *Supplemental Proposal TSD* at 11.

dispatch of steam EGUs on the basis of excess NGCC capacity, and urge EPA to evaluate this possibility. In addition, as we discussed in our 111(d) comments, EPA should abandon its proportionate redispatch approach in favor of environmental redispatch. That is, to the extent that a jurisdiction curtails dispatch from its steam EGUs under Block 2, it should not seek to preserve the existing balance of generation from different classes of units within the steam EGU fleet, but should ensure that the different classes reduce their dispatch in order of their emission rates. In the U.S. territories, where steam generation is prevalent, this may make a considerable difference, although—as noted above—EPA currently lacks source-specific data for these jurisdictions. EPA should both follow an environmental redispatch model and quantify the additional reductions that can be achieved by requesting data from the utilities and/or regulatory authorities in the territories. For more discussion of the environmental redispatch approach, see section IV.B.2.b of our 111(d) comments.³⁸

C. Block 3

Block 3 of the CPP expects states to develop renewable energy (“RE”) resources that will reduce the carbon intensity of their electric sectors. This block organizes the states into six regions, then calculates regional RE benchmarks for each region based on an average of renewable portfolio standard (“RPS”) requirements of the states in each region that have RPS programs. The agency next calculates an annual regional growth factor that would allow each region to satisfy the regional benchmarks. Each state is then expected to increase its RE generation each year in accord with the annual growth factor for its region. Notably, each regional growth factor is expressed as a percentage increase of a state’s total RE generation using its 2012 data as a baseline.

As applied to the affected tribal nations and U.S. territories, the current approach to Block 3 yields no new RE in these jurisdictions. This result is based on EPA’s assessment that there is currently no utility-scale, grid-connected, non-hydropower renewable electricity being generated on these tribal lands or in Guam or Puerto Rico—an assessment that overlooks a number of recent and ongoing RE projects in those areas, as we discuss below.³⁹ Therefore, since each jurisdiction has a 2012 baseline of 0 MWh from RE, any percentage increase will similarly yield 0 additional MWh.⁴⁰ For the territories, EPA co-proposes an alternative approach that would establish an expected RE percentage of 0.37⁴¹ percent of total generation starting in 2017 and would apply a 9 percent⁴² annual growth factor over the course of the compliance period.⁴³ By 2029, this co-proposal would result in an RE penetration of 1 percent in the

³⁸ See *111(d) Comments* at 63-65.

³⁹ *Supplemental Proposal TSD* at 4, 11.

⁴⁰ *Id.*

⁴¹ EPA selected this value because it represents the amount of RE penetration in Kentucky, the lowest of any state.

⁴² EPA used the same annual growth factor for the territories that it uses for Hawaii, which is presumably the state most closely analogous to Guam and Puerto Rico in terms of its electricity sector.

⁴³ *Id.* at 11; 79 Fed. Reg. at 65,491.

territories. The agency did not propose a similar alternative for the tribal nations, reasoning that the co-proposal is based not on domestic electricity consumption but on total generation within that jurisdiction. Since domestic consumption of electricity on the tribal lands is only a small fraction of the total generation produced, this co-proposal would expect the tribes to develop renewable resource capacities that greatly exceed their demand for electricity.⁴⁴ EPA has also solicited comment on whether to reformulate block 3 for the territories in terms of renewable technical potential, based on utility-scale wind and solar data for Puerto Rico.⁴⁵

EPA's proposals for Block 3 dramatically underestimate the renewable potential of the three tribal nation lands, Guam, and Puerto Rico. The region in which the tribal nation lands are situated has among the best solar and wind resources in the United States and, indeed, the world. For example, in 2012, the National Renewable Energy Laboratory ("NREL") estimated that the Navajo Nation has approximately 1,200,000 MW of utility-scale solar capability, and nearly 1,800 MW of wind resource potential, 500 MW of which is of high quality, meaning that its capacity factor would be 35 percent or greater.⁴⁶ Puerto Rico has excellent solar potential, similar to the U.S. Southwest's resource, and a ridgeline wind resource that is on par with that of Texas, one of the leading states for wind development; Guam and the U.S. Virgin islands have similarly strong renewable potential.⁴⁷ To expect 0 or 1 percent renewable generation in these regions does not reflect the best system of emission reduction and would sacrifice an important opportunity for reducing emissions in these areas. Furthermore, as we discuss more fully in sections VI and VII below, a large percentage of residents on tribal nation lands currently lack

⁴⁴ 79 Fed. Reg. at 65,491.

⁴⁵ *Id.*

⁴⁶ See Hurlbut, et al., NREL, *Navajo Generating Station and Clean-Energy Alternatives: Options for Renewables*, NREL/TP-6A20-54706 (June 2012), attached as **Ex. 3**, at 16-17. NREL estimates that the technical potential for wind energy on all Indian lands in the contiguous United States is about 535 billion kWh/year, or about 14 percent of 2004 U.S. total annual energy generation. Solar energy potential for those same lands was estimated at 17,600 billion kWh/year, which is 4.5 times the total U.S. electric generation in 2004. MacCourt, et al., NREL and the Alliance for Sustainable Energy, *Renewable Energy Development In Indian Country: A Handbook For Tribes*, NREL/SR-7A4-48078 (June 2010), available at <http://www.nrel.gov/docs/fy10osti/48078.pdf>, at 1-2 (citing Pierce, L., DOE, Office of Energy Efficiency and Renewable Energy ("EERE"), DOE's Tribal Energy Program (last updated Apr. 30, 2014), available at http://apps1.eere.energy.gov/tribalenergy/pdfs/201404_ak/9_lizana_pierce_wed0430.pdf).

⁴⁷ See, e.g., Puerto Rico Agriculture Water Management Blog, *Solar Radiation Data for the Northern Caribbean Region*, <http://pragwater.com/solar-radiation-data-for-pr-dr-and-haiti/> (last visited Dec. 17, 2014); NREL, Renewable Res. Data Ctr., *Map 2-1: United States Annual Average Wind Power*, <http://rredc.nrel.gov/wind/pubs/atlas/maps/chap2/2-01m.html>, (last visited Dec. 17, 2014), and *Map 2-20: Percent of the land area estimated to have Class 3 or higher wind power in Alaska, Hawaii, Puerto Rico, and Virgin Islands*, <http://rredc.nrel.gov/wind/pubs/atlas/maps/chap2/2-20m.html> (last visited Dec. 17, 2014); Lantz, et al., NREL, *Wind Power Opportunities in St. Thomas, USVI: A Site-Specific Evaluation and Analysis*, NREL/TP-7A20-55415 (Sept. 2012), available at <http://www.nrel.gov/docs/fy12osti/55415.pdf>; Scanlon, B., NREL, *Island Breezes, Sun Perfect for Renewables* (Oct. 26, 2010), available at http://www.nrel.gov/news/features/feature_detail.cfm/feature_id=1513.

electricity, despite the fact that large, centralized fossil fuel plants have operated in those jurisdictions for decades. Distributed renewable generation combined with energy storage and/or microgrids is an ideal option to provide electricity in these communities to residents that still lack this vital resource and would help develop green jobs in the process.⁴⁸

Many tribes have already started to develop renewable energy within their borders, recognizing the economic development and energy independence benefits of such projects. The Navajo Tribal Utility Authority is a majority owner of a planned 85 MW wind farm within the Navajo Nation at a site considered one of the best wind resources in Arizona.⁴⁹ Approximately 90 percent of the wind farm's output will be sold to non-tribal utilities, but the project will provide energy to over 1,000 Navajo homes. In 2013, the Cherokee Nation in Oklahoma signed an agreement with a wind developer to install a 153 MW wind farm on land owned by the Cherokee Nation as well as four other tribes.⁵⁰ Over half of the Indian nations that received funding from DOE's Tribal Energy program in 2014 will develop renewable energy resources.⁵¹ The Crow Creek Sioux Tribe in South Dakota will use the grant as part of the financing for a billion-dollar wind energy project, while Montana's Crow Tribe will use approximately \$655,000 to complete design work for a hydroelectric facility on an existing dam.

Tribal renewable energy development has been hampered in recent years by federal restrictions on tribes' ability to enter into long-term surface leases.⁵² Thus, the relative paucity of renewable energy projects in tribal areas with excellent resources should not be taken as a sign of their infeasibility or lack of interest from the tribal nations. However, in 2012, Congress enacted a law promote greater tribal self-determination and economic development by

⁴⁸ For example, GRID Alternatives, a nonprofit that focuses on expanding access to clean energy for low-income communities, has developed a model for partnering with tribes to install solar systems, with the purpose of providing energy savings and employment opportunities for tribal communities. See Grid Alternatives, *Tribal Program*, <http://www.gridalternatives.org/learn/programs/tribal-program> (last visited Dec. 12, 2014).

⁴⁹ See Bitsoi, A., *Wind project holds promise for tribe*, Navajo Times (Aug. 4, 2011), available at http://navajotimes.com/news/2011/0811/080411wind.php#.Vlp_fDHF_00. The Navajo Nation has also taken steps to develop a wind energy project at Gray Mountain, which "has been described as the most significant wind resource area in the American Southwest." See DOE, Announcement, *A Feasibility Study to Evaluate Wind Energy Potential on the Navajo Nation*, (Nov. 30, 2012), available at http://apps1.eere.energy.gov/tribalenergy/pdfs/navajo_ntua_final%20report_1212_opt.pdf, at 9.

⁵⁰ See Press Release, Cherokee Nation, Cherokee Nation to operate largest wind farm on tribal land (May 14, 2013), available at <http://www.cherokee.org/News/Stories/Largestwindfarmontriballand.aspx>.

⁵¹ Press Release, Dep't of Interior, Secretary Jewell Announces \$3.2 Million in Grant Awards For 21 Tribal Energy and Mineral Development Projects (March 14, 2014), available at <http://www.doi.gov/news/pressreleases/secretary-jewell-announces-3-2-million-in-grant-awards-for-21-tribal-energy-and-mineral-development-projects.cfm>.

⁵² See Drybread, *Superficial Surface Rights: The HEARTH Act of 2012*, Am. Bar Ass'n Native Am. Res. Comm. Newsletter 10:1 (May 2014), available at http://www.americanbar.org/content/dam/aba/publications/nr_newsletters/nar/201405_nar.authcheckdam.pdf, at 5-13.

allowing tribes to enter into long-term leases without the historical need for prior approval from the Secretary of the Interior.⁵³ The “Helping Expedite and Advance Responsible Tribal Home Ownership Act of 2012 (the “HEARTH” Act) requires tribal nations to establish their own regulations governing surface leasing, and it is those regulations—rather than the case-by-case leasing decisions—that must be approved by Interior. EPA should consult with tribal nations and the Department of the Interior to ensure that the nations have the guidance they need to develop these regulations, to ensure that review by Interior proceeds in a timely manner, and to ensure that tribes have the requisite authority to negotiate wind and solar development leases to achieve compliance with EPA’s rule.

Puerto Rico has also taken significant steps toward reducing its reliance on imported fossil fuel power. The territory has established an RPS requiring 12 percent RE by 2015, 15 percent by 2020, and 20 percent by 2035. Notably, EPA’s approach in the supplemental proposal ignores the island’s RPS targets, even while the Clean Power Plan establishes Block 3 targets based on states’ RPS goals. PREPA, the island’s utility, has signed long-term power purchase agreements with renewable energy developers for about 1,000 MW of renewable capacity, which would satisfy the 2015 portfolio standard.⁵⁴ An existing utility-scale RE project—a 24-megawatt solar photovoltaic (“PV”) plant at Guayama—is managed by the same company that owns Puerto Rico’s coal plant. The territory has also become a leader in distributed solar, both solar PV and solar hot water heaters. Over 11,000 solar hot water heaters installed using weatherization assistance program funds, net metering revenue, and tax benefits for small-scale PV electricity projects have together reduced electric load on the island by more than 40 MW. Given the high electricity prices in the Caribbean (and, for that matter, among the Pacific islands) due to the need for imported oil, renewable energy is a particular attractive option for Puerto Rico, and it is reasonable to expect more renewable development there.

Finally, the island of Guam also has ambitious (though non-binding) renewable energy goals. Utilities must supply 8 percent of net electricity sales using renewable energy by 2020 and 25 percent by 2035, with other interim goals established.⁵⁵ In 2011, the Guam Power Authority (“GPA”) issued its first renewables solicitation, leading to the approval of the 20 MW Quantum Guam Power solar facility, which was still under construction as of 2013.⁵⁶ GPA has also been negotiating a second project: a 15-MW combined solar PV and wind installation. The Department of the Interior Office of Insular Affairs and NREL published in 2011 an *Initial Technical Energy Assessment Report* for Guam as part of an ongoing collaborative project to

⁵³ *Id.* at 5-8.

⁵⁴ See U.S. Energy Information Agency (“EIA”), *Puerto Rico: Territory Profile and Energy Estimates*, <http://www.eia.gov/state/analysis.cfm?sid=RQ> (last visited Dec. 15, 2014).

⁵⁵ See DOE, Database of State Incentives for Renewables & Efficiency, *Guam - Renewable Energy Portfolio Goal*, http://dsireusa.org/incentives/incentive.cfm?Incentive_Code=GU03R&re=0&ee=0 (last visited Dec. 15, 2014) (citing Guam Pub. L. 29-62).

⁵⁶ See EIA, *Guam Territory Profile and Energy Estimates*, <http://www.eia.gov/state/analysis.cfm?sid=GQ> (last visited Dec. 15, 2014).

develop a comprehensive energy strategy for the territory, to decrease the island's reliance on imported fossil fuels, and to increase the resiliency of its grid in the face of future population growth.⁵⁷ NREL's technical assistance with respect to Guam's renewable energy potential will be extremely helpful in developing those resources.

In our 111(d) comments, we discussed a number of alternatives to EPA's Block 3 approach that would yield significantly greater RE development around the country. Notably, a proposal developed by the Union of Concerned Scientists would expect each state to sustain the same level of renewable growth starting in 2017 that it achieved in the five-year period from 2009 to 2013, with a floor of 1.0 percent annual growth and a ceiling of 1.5 percent annual growth (and a cumulative ceiling of 40 percent renewable penetration). Unlike EPA's approach, these growth rates refer not to the percentage increase in renewable megawatt-hours over the previous year, but to the percentage of the state's total electricity sales that come from renewable resources. Hence, if a state had an expected annual growth rate of 1.3 percent, and RE accounts for 10 percent of its total electricity sales at the beginning of 2017, it would be expected to receive 11.3 percent of its sales from RE by the beginning of 2018, 12.6 percent by the beginning of 2019, and so on.

We believe this approach would be fair in its application to tribal nations and Guam, which would begin at a cumulative RE penetration of 1.0 percent in 2017 (assuming they would all be starting at zero) and would achieve 13.0 percent by 2029. (Of course, these figures are relevant for goal-setting only—no jurisdiction would be required to meet these RE benchmarks so long as they satisfied their interim and final emission performance goals through some combination of accepted compliance measures). Given the strength of the renewable resources in these jurisdictions, and the fact that the actual electricity sales on tribal lands are only a small percentage of total generation, they should have little difficulty achieving the emission reductions associated with this approach. In the case of Puerto Rico, the UCS approach would yield a benchmark that actually falls below the territory's RPS for 2020, which would require 15 percent of electricity sales to be generated from renewable resources.⁵⁸ Because EPA's plan must not fall short of a region's own self-imposed obligations, EPA needs to ensure that the Building Block 3 reductions for Puerto Rico are, at a minimum, as stringent as its RPS obligations.

Our 111(d) comments also discussed a number of considerations with regard to Block 3 that are relevant here. First, EPA should rework its target-setting formula so as to reduce dispatch of fossil-fired EGUs in each jurisdiction to the same extent that generation is increased from RE (or demand is reduced from energy efficiency measures). The agency must also ensure

⁵⁷ See Baring-Gould, et al., NREL, *Guam Initial Technical Assessment Report*, NREL/TP-7A40-50580 (Apr. 2011), available at <http://www.nrel.gov/docs/fy11osti/50580.pdf>.

⁵⁸ See DOE, *Puerto Rico - Renewable Energy Portfolio Standard*, <http://www.energy.gov/savings/puerto-rico-renewable-energy-portfolio-standard> (last visited Dec. 15, 2014). Under Puerto Rico's RPS, the Puerto Rico Electric Power Authority (the island's utility) must show compliance using renewable energy credits, traded on the North American Registry. *Id.*

that no double-counting of renewable credit occurs, and should adopt an avoided MWh approach to determine goal compliance, rather than a reduced CO₂ approach. As we noted in our 111(d) comments, a key benefit of the avoided MWh approach is that it does not require the use of system dispatch and capacity expansion models, which can be expensive due to the need to acquire licenses for the proprietary software and the expertise needed to properly run the models. The burden of using these models as part of plan development and compliance assessment would be particularly high in the case of tribal and territorial governments, which are likely to have fewer specialized staff and financial resources.

We also believe EPA should, for the purpose of compliance, grant credit to the jurisdiction that incentivizes the development of the new RE, regardless of where it is situated. As we noted in our 111(d) comments, EPA needs to clarify the role that RECs will play in determining which jurisdiction or affected entity receives credit for renewable energy generation. We are aware that Navajo authorities may wish to ensure that the Nation receives tradable REC allowances for any renewable generation that is developed on their land, regardless of who owns or operates the renewable resources in question. REC ownership is typically established during negotiation of a power purchase agreement or in other contracts concerning ownership and operation of a renewable energy resource. Neither the CPP nor the supplemental proposal address the issue of REC ownership, and we have asked EPA to clarify whether a state, tribal nation, territory, or regulated entity can claim credit to renewable energy without holding the REC. Should the Navajo Nation choose to seek authority for and develop an implementation plan that includes the development of renewable energy, it would be prudent to negotiate with its business partners concerning REC ownership from renewable energy resources located on tribal lands. For a deeper discussion of RECs and other matters relevant to compliance and enforcement under Block 3, please see section V.C.7 of our 111(d) comments.⁵⁹

D. Block 4

EPA's approach to Block 4 of the CPP expects each state to achieve a 1.5 percent annual incremental increase in demand-side energy efficiency each year of the compliance period. Those states that will not have already achieved that level of EE savings by 2020 will be expected to begin ramping up their EE efforts starting in 2017 and achieve a 1.5 percent level by the early 2020s. The agency proposes this approach as well for the affected tribal nations and U.S. territories. We agree that this is a feasible and effective approach to EE for these jurisdictions, and endorse EPA's approach. We also reiterate the recommendations we made with regard to EE in our 111(d) comments, including an overhaul of the formula to reduce generation from fossil units as EE ramps up (as noted above), the need for rigorous evaluation, monitoring, and verification ("EM&V") protocols to ensure that a jurisdiction's EE measures are actually reducing emissions, and the requirement that EPA use as a baseline all of a jurisdiction's domestic electricity sales, not simply those that derive from in-state generators. We note that the 1.5 percent annual incremental savings is applied to the jurisdiction's

⁵⁹ See 111(d) Comments at 96-116.

domestic consumption of electricity. Because electricity consumption on tribal lands is generally very low, Block 4 will require only small emission reductions at the affected EGUs. However, under our formulation, the states in which the electricity that is consumed will have to include the electricity exported from Indian lands in their EE targets. As those neighboring states reduce their demand for electricity through EE measures in their CPP implementation plans, this will almost certainly reduce emissions from Four Corners and Navajo Generating Station, and help achieve the goals for the units on Indian Lands..⁶⁰

Tribal nations stand to benefit significantly from implementing energy efficiency programs, which have the direct effect of reducing utility bills and improving quality of life for those who participate in the programs. Tribes have access to financial and technical assistance with energy efficiency and weatherization through the Tribal Energy Program, implemented by DOE's Office of Energy Efficiency and Renewable Energy Weatherization and Intergovernmental Program. For example, in November 2013, DOE awarded over \$7.2 million in funding for nine tribal clean energy and energy efficiency projects.⁶¹ In 2011, it granted \$6.3 million to fund 31 tribal RE and EE projects over a two-year period.⁶² Undoubtedly, more technical and financial assistance would be helpful to tribes, and EPA should work with DOE to evaluate whether these programs will help meet the needs of tribes that seek and receive authority to develop implementation plans under the supplemental rule. While energy efficiency programs pay for themselves by reducing total system costs, there is a steep learning curve in implementing these programs and establishing comprehensive evaluation, measurement and verification protocols. We encourage EPA to continue its efforts to make technical resources and advisors available to tribes so that they may realize all cost-effective energy efficiency opportunities among their customers.

Like tribal nations, the island territories of Guam and Puerto Rico stand to benefit significantly from increasing the energy efficiency of their homes and businesses. These territories have extremely high energy prices due to their reliance on imported fuel oil for combustion, so the cost-effectiveness of energy efficiency in these regions is substantial.

⁶⁰ In our 111(d) comments, we urged EPA to ensure that state goals reflect EE measures as applied to the full quantity of domestic electricity sales and not to reduce the EE expectations for net-importing states. *See 111(d) Comments* at 124-127. Under this approach, in-state generators would ultimately bear responsibility for implementing the EE measures required under a given state plan for compliance purposes. Because states have no authority to regulate activity on tribal nation lands, California, Arizona, or New Mexico could not obligate Four Corners or Navajo Generating Station to invest in EE measures. However, as a practical matter, demand reduction in those states would reduce utilization from units higher up on the dispatch curve and would likely result in curtailed operation of these two plants, even though neither unit would bear legal responsibility for any of the states' emission reduction obligations.

⁶¹ *See DOE, Tribal Clean Energy Projects Selected for Funding*, http://apps1.eere.energy.gov/tribalenergy/projects_selected.cfm (last visited Dec. 12, 2014).

⁶² *See DOE, DOE to Award \$6.3 Million to 31 Clean Energy Projects on Tribal Lands* (July 27, 2011), available at http://apps1.eere.energy.gov/news/news_detail.cfm/news_id=17577.

Driven by power prices that are two to three times the U.S. average,⁶³ Puerto Rico has begun investigating how to improve energy efficiency. In September 2010, the Puerto Rico Energy Affairs Administration (“PREAA”) received a grant from DOE for a project titled Integrated Process to Stimulate Energy Efficiency Programs in Puerto Rico. The project aims to establish EE as a system resource and to develop programs that will generate at least one percent in annual EE savings from 2013 to 2025.⁶⁴ An EE potential study for Puerto Rico published in February 2013 found a technical potential of 2.23 percent in annual savings, sustainable over at least the 12-year period of the study.⁶⁵ While the territory does not yet have an energy efficiency resource standard or financial incentives for EE, it does have ambitious targets to reduce energy consumption in public buildings and to encourage government agencies to engage in energy performance savings contracts.⁶⁶ Moreover, the government is actively working to develop a broader suite of EE programs. For example, PREAA sponsored a recent in-depth study of current residential energy use among low-income residents of the capital city, San Juan.⁶⁷

The Guam Energy Office (“GEO”) provides weatherization services, home energy audits and replacement of high consumption appliances, installation of more efficiency lighting, and other EE measures.⁶⁸ The GEO is also responsible for administering an energy efficiency and conservation block grant program funded through the Recovery Act, though little detail is available on the program at this time. As noted above, NREL is currently providing technical assistance to Guam in developing an energy strategy and evaluating the available energy efficiency resources.

We support EPA applying the same 1.5 percent best performance energy efficiency target as part of the best system of emission reduction for tribal nations and U.S. territories. Because of the technical challenges in implementing effective and well-documented energy efficiency programs, EPA should consult with nations and territories to ensure that guidance documents and other available resources meet the needs of these governments.

⁶³ See EIA, *Puerto Rico Territory Profile and Energy Estimates*, <http://www.eia.gov/state/analysis.cfm?sid=RQ> (last visited Dec. 15, 2014).

⁶⁴ See Orama, et al., *Computations of Energy Efficiency Potential in Puerto Rico*, *Int’l J. of Eng’g and Innovative Tech* (“IJEIT”) 2:8 (Feb. 2013), available at http://ijeit.com/vol%202/Issue%208/IJEIT1412201302_01.pdf, at 1.

⁶⁵ *Id.* at 2-3. The study acknowledges that the technical potential may be difficult to achieve in practice, leaving to future studies to evaluate the cost-effective potential.

⁶⁶ See Am. Council for an Energy Efficient Econ. (“ACEEE”), *State and Local Policy Database- Puerto Rico*, <http://database.aceee.org/territory/puerto-rico> (last visited Dec. 15, 2014).

⁶⁷ See Champagne, et al., PREAA, *Proposal: Puerto Rico Residential Energy* (Spring 2010), available at http://web.cs.wpi.edu/~rek/Projects/Energy_Proposal.pdf.

⁶⁸ See Guam Energy Office, *Weatherization Assistance Program*, <http://www.guamenergy.com/news-events/weatherization-assistance-program/> (last visited Dec. 12, 2014).

IV. Recent and Near-Term Retirements

The supplemental proposal repeats one of the CPP's flaws that we highlighted in our 111(d) comments: it does not factor out recent and near-term coal plant retirements from its goal-setting formula.⁶⁹ Because the supplemental proposal uses 2012 as its baseline year for setting emission targets, it includes data from units that were operational in 2012 but that have since retired, as well as from plants that are now operational but will retire between now and the beginning of the compliance period. In the CPP context, this oversight distorts the actual generation pool in affected jurisdictions and will, in most cases, give "free" emission reduction credits rather than driving additive emission reductions. For a full discussion of this issue, see section V.B.2.a of our 111(d) comments.

Recent and near-term retirements are relevant for the supplemental proposal because three of the five Four Corners units have already retired but are included in the emissions target for the Navajo Nation.⁷⁰ EPA must recalibrate the targets for the Navajo Nation to reflect this fact. Additionally, we urged EPA in our 111(d) comments to use as its baseline the most recent full year's data at the time a state submits its implementation plan for the agency's approval (i.e., if the state submits its plan in 2016, 2015 data would be used for the baseline).⁷¹ If the Navajo Nation seeks and receives authority from EPA to develop and administer an implementation plan, it should use data from the most recent full year available at the time it submits the plan for EPA's approval. If the Nation declines to develop a plan, EPA must use also use the most recent full year's data for the baseline in a federally-administered plan.

Additionally, we previously commented that EPA should also omit from the goal-setting exercise plants that are operating at the time states submit their implementation plans but which have announced and enforceable retirement obligations before the compliance period begins in 2020.⁷² EPA comments in the preamble to the supplemental proposal that one of the units at the Navajo Generating Station may retire or curtail dispatch by 2019 to comply with Best Available Retrofit Technology requirements.⁷³ If this unit is officially announced for retirement by the time the Navajo Nation's implementation plan is submitted to EPA (or developed by the agency) and subject to an enforceable requirement that it retire before 2020, it should also be omitted from the goal-setting exercise under the supplemental proposal.

Finally, EPA notes that the two units in the U.S. Virgin Islands that would otherwise be subject to the rule—the oil-fired steam EGU in Krum Bay and the coal-fired St. Croix Renaissance—have ceased operation and are presumably retired.⁷⁴ Accordingly, EPA declined to regulate these units and did not cover the U.S. Virgin Islands under the supplemental

⁶⁹ See *111(d) Comments* at 61-63.

⁷⁰ See 79 Fed. Reg. at 65,496.

⁷¹ *111(d) Comments* at 62-63.

⁷² *Id.*

⁷³ 79 Fed. Reg. at 65,496.

⁷⁴ *Supplemental Proposal TSD* at 6-7.

proposal. While we agree that retired plants should not be included in the goal-setting process, EPA did not clarify whether these two units retain operating permits. EPA must require these units to surrender any operating permits if they wish to remain free from regulation under the supplemental proposal. If they are undergoing repowering projects, they must be covered under the agency's 111(b) standards. Finally, as noted earlier, there is one oil-fired combustion turbine at Krum Bay that is not currently classified as a regulated EGU under the CPP. EPA must ensure that all fossil fuel-fired EGUs that supply electricity to the grid, including the Krum Bay oil CT, are covered under both the 111(b) and 111(d) rules, as well as the supplemental proposal.

V. Tribal Implementation Plans for Areas of Indian Country⁷⁵

A. Statutory Background

Section 301(d) of the Clean Air Act authorizes EPA "to treat Indian tribes as States." 42 U.S.C. § 7601(d). The statute directs EPA to issue regulations specifying those provisions "for which it is appropriate to treat Indian Tribes as States," as well as the procedures for development, approval, and disapproval of tribal implementation plans to implement those programs. § 7601(d)(2)-(3). For those provisions, Indian tribes may, but are not required to apply for "treatment as state" ("TAS") approval to implement a statutory program. *Indian Tribes: Air Quality Planning and Management*, 59 Fed. Reg. 43,956, 43,965 (Aug. 25, 1994).

Section 301(d)(2) regulations, the "Tribal Authority Rule" ("TAR"), "sets forth the CAA provisions for which it is appropriate to treat Indian tribes in the same manner as states, establishes the requirements that Indian tribes must meet if they choose to seek such treatment, and provides for awards of federal financial assistance to tribes to address air quality problems." *Indian Tribes: Air Quality Planning and Management*, 63 Fed. Reg. 7254 (Feb. 12, 1998).

Tribes seeking TAS approval must fulfill certain eligibility requirements as a prerequisite to assuming responsibility for the implementation of Clean Air Act Programs. Pursuant to section 301(d) of the Act, first, the tribe must have "a governing body carrying out substantial governmental duties and powers." § 7601(d)(2)(A). Second, the tribe must exercise functions that "pertain to the management and protection of air resources within the exterior boundaries of the reservation or other areas within the tribe's jurisdiction." § 7601(d)(2)(B).⁷⁶ Third, in

⁷⁵ Our 111(d) comments apply fully to implementation plans by Indian tribes and U.S. territories. U.S. territories are treated as states under the Clean Air Act. See 42 U.S.C. § 7602(d) (defining the term "state" as "a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and American Samoa and includes the Commonwealth of the Northern Mariana Islands.") In this section we discuss issues specific to tribal implementation plans.

⁷⁶ Under the TAR, EPA interpreted that section 301(d)(2)(B) constitutes a Congressional delegation of authority for tribes within their reservations. The phrase "within the exterior boundaries of the reservation or other areas within the tribe's jurisdiction" means that "Congress intended to grant to an

EPA's judgment, the tribe must be "reasonably expected to be capable ... of carrying out the functions to be exercised" in a manner consistent with the statute and the regulations. § 7601(d)(2)(C). In addition to the statutory eligibility criteria just described, the TAR provides that the applicant tribe must be federally-recognized. 40 C.F.R. § 49.6.⁷⁷ The TAR sets forth detailed requirements for Indian tribes' applications to the relevant EPA Regional Administrators for a determination that they meet these eligibility requirements. 40 C.F.R. § 49.7.

B. EPA Must Take Affirmative Steps to Encourage Tribes to Submit Implementation Plans, in a Manner Consistent with EPA's Indian Policy

Consistent with the statute and applicable regulations, the supplemental proposal provides that tribes may, but are not required to develop implementation plans. 79 Fed. Reg. at 65,489. While, as discussed below, the Act requires EPA to issue a federal plan for areas of Indian country where tribes do not seek TAS approval to implement statutory programs, the agency must take affirmative steps to encourage tribes to develop their own plans prior to issuing a federal plan, provided that applicant tribes meet the eligibility requirements to obtain TAS approval, in particular their capability of administering the tribal implementation plans under the supplemental rule. This is consistent with EPA's Policy for the Administration of Environmental Programs on Indian Reservations, which "favors tribal over federal implementation of environmental programs in areas under tribal jurisdiction." 63 Fed. Reg. at 7260. EPA's 1984 Policy specifically directs EPA to "view Tribal Governments as the appropriate non-Federal parties for making decisions and carrying out program responsibilities affecting Indian reservations, their environments, and the health and welfare of the reservation populace." It also instructs the agency to "assist interested Tribal Governments in developing programs and in preparing to assume regulatory and program management responsibilities for reservation lands [and] encourage Tribes to assume delegable responsibilities (i.e. responsibilities which the Agency has traditionally delegated to State Governments for non-reservation lands) under terms similar to those governing delegations to States."⁷⁸ Under the Policy, EPA's aid also includes financial assistance to tribes.

eligible tribe jurisdiction over its reservation without requiring the tribe to demonstrate its own jurisdiction, but to require a tribe to demonstrate jurisdiction over any other areas, i.e., non-reservation areas, over which it seeks to implement a CAA program." 63 Fed. Reg. at 7255. EPA also interpreted the term "reservation" to include "trust lands that have been validly set apart for the use of a tribe even though the land has not been formally designated as a reservation." *Id.* at 7258. The D.C. Circuit upheld this interpretation in *Arizona Public Service Co. v EPA*, 211 F.3d 1280 (D.C. Cir. 2000).

⁷⁷ Federally-recognized tribes refer to "any Indian or Alaska Native tribe, band, nation, pueblo, village or community that the Secretary of the Interior acknowledges to exist as an Indian tribe." 25 U.S.C. §479a(2). The list is printed periodically in the Federal Register.

⁷⁸ EPA, *Policy for the Administration of Environmental Programs on Indian Reservations* ("EPA's 1984 Policy") (Nov. 8, 1984), Principles 2 and 3, at 2, available at <http://www.epa.gov/tp/pdf/indian-policy-84.pdf>.

EPA must provide tribes with financial assistance to encourage tribes to submit implementation plans. Section 301(d)(1)(B) authorizes EPA to provide eligible Indian tribes “grant and contract assistance” to implement the statutory programs for which they seek TAS approval. 42 U.S.C. § 7601(d)(1)(B). Under the TAR, EPA has interpreted this provision as authorizing the agency to provide funding to tribes in accordance with sections 103 and 105 of the Act. Section 103 authorizes EPA to provide funding for research and development costs, and section 105 provides grants to air pollution control agencies. 42 U.S.C. §§ 7403(a)(2), 7405(a)(1). The TAR sets forth a lower matching requirement for tribes applying for grant assistance under section 105. A tribe is eligible for up to 95 percent of the cost of implementation of air quality programs for the first two years of a grant award, and up to 90 percent thereafter. The EPA Regional Administrator may increase the federal share to 100 percent if the tribe can demonstrate “that fiscal circumstances within the tribe are constrained to such an extent that fulfilling the match would impose undue hardship.” 40 C.F.R. 49.11(b).

The affected sources under the supplemental proposal are located in land leased from Indian tribes. We ask EPA to encourage those tribes who elect to apply for TAS approval to develop their own plans to consider negotiating amendments to those leases in order to incorporate specific requirements on those affected sources under the plans.

C. The Clean Air Act Requires EPA to Issue a Federal Plan for Areas of Indian Country Where Tribes Do Not Submit Plans or EPA Disapproves the Plans Submitted

Section 301(d)(4) of the Act provides that if EPA “determines that the treatment of Indian tribes as identical to States is inappropriate or administratively infeasible,” EPA will provide “other means by which the Administrator will directly administer such provisions so as to achieve the appropriate purpose.” § 7601(d)(4). Under this provision, if a tribe does not seek TAS approval to implement an air quality program, EPA must administer the program for the relevant area of Indian country. This provision applies to the development and submission of implementation plans.

In the proposed TAR, EPA interpreted that, based on the Act’s general purpose of “protect[ing] and enhanc[ing] the quality of the Nation’s air resources so as to promote the public health and welfare and the productive capacity of its population” under section 101(b)(1), as well as on the specific language of sections 301(a) and 301(d)(4), Congress intended “to authorize EPA to directly implement CAA programs where Tribes fail to submit approvable programs or lack authority to do so.” 59 Fed. Reg. at 43,959. Specifically, “section 301(d)(4) of the CAA empowers the Administrator to directly administer CAA requirements so as to achieve the appropriate purpose, where Tribal implementation of CAA requirements is inappropriate or administratively infeasible.” *Id.* In the final TAR, EPA added a new section to the regulations that expressly provides EPA’s obligation to “promulgate without unreasonable delay such Federal implementation plan provisions as are necessary or appropriate to protect air quality, consistent with the provisions of sections 304(a) and 301(d)(4), if a tribe does not submit a tribal implementation plan ... or does not receive approval of a submitted tribal

implementation plan.” 40 C.F.R. § 49.11. EPA has previously issued federal plans for areas of Indian country.⁷⁹

The supplemental proposal provides that “EPA must promulgate federal plan provisions *if it determines that such provisions are necessary or appropriate*, unless a tribe on whose lands an affected source (or sources) is located seeks and obtains authority from the EPA to establish a plan itself.” 79 Fed. Reg. at 65,489 (emphasis added). As described above, under section 301(d)(4) of the Act and section 49.11 of the TAR, EPA is *required* to issue a federal plan if a tribe fails to submit a tribal implementation plan or EPA does not approve the plan it submitted. The statute does not authorize the “mid-step” EPA has set forth in the supplemental proposal; i.e., EPA’s determination that such provisions are necessary or appropriate.

In the final TAR, EPA confirmed that the “necessary or appropriate” language in section 49.11 of the TAR does not confer discretion to avoid promulgating a FIP. In describing section 49.11, EPA explained that it “provides that the Agency will promulgate a FIP to protect tribal air quality within a reasonable time if tribal efforts do not result in adoption and approval of tribal plans or programs. Thus, EPA will continue to be subject to the basic requirement to issue a FIP for affected tribal areas within some reasonable time.” 63 Fed. Reg. at 7265. EPA must therefore revise the final rule to provide that the agency will issue a federal plan for tribes that do not submit a plan or fail to submit a satisfactory plan.

D. EPA Should Set Deadlines for Submission of Tribal Implementation Plans in a Manner Consistent with the Clean Power Plan

Under the TAR, treatment as state applies to all provisions of the Clean Air Act, except those set forth in section 49.4 of the regulations. In the TAR, EPA expressly provided that “the standards and requirements of the Standards of Performance for New Sources, 42 U.S.C. 7411 and 40 CFR Part 60, apply to all sources in Indian country.” 63 Fed. Reg. at 7263.

Section 49.4 includes, among other provisions for which it is not appropriate to treat tribes as states, plan submittal and implementation deadlines under sections 110(a)(1), 172(a)(2), 182, 187, 189, and 191 of the Act. 40 C.F.R. § 49.4(a). In the proposed TAR, EPA explained that it did not propose to treat tribes in the same manner as states for purposes of implementation plan submittal deadlines under section 110(a)(1) of the Act (i.e. three years after the promulgation of a NAAQS, or such shorter period established by EPA) because tribes are not required to seek approval for the implementation of air programs. The same reasoning applied with respect to EPA’s deadline to issue a federal plan within two years after EPA’s finding that a state has failed to submit the required plan or after EPA has failed to approve a plan. EPA explained that state plan submittal deadlines were based on a long history of implementation of Clean Air Act programs by states since the 1970 Amendments. In contrast,

⁷⁹ See, e.g., *Source-Specific Federal Implementation Plan for Four Corners Power Plant; Navajo Nation*, 72 Fed. Reg. 25,698 (May 7, 2007); *Source-Specific Federal Implementation Plan for Navajo Generating Station; Navajo Nation*, 75 Fed. Reg. 10,174 (Mar. 5, 2010).

tribal authority for implementation of air programs was first addressed in the 1990 Amendments, so that tribes were “at best in the early stages of developing air program expertise and planning efforts. Accordingly, EPA believe[d] it would be both infeasible and inappropriate to subject Tribes to the State program submittal and related deadlines in the statute...” 59 Fed. Reg. at 43,965.

Thus, in the final TAR, EPA concluded that “there is no date certain [sic] submittal requirement imposed by the Act for tribes as there is for states,” nor for federal plans, because these would be keyed to plan submission deadlines and disapprovals. 63 Fed. Reg. at 7265. However, by including the federal plan obligation in section 49.4 of the TAR, “EPA is not relieved of its general obligation under the CAA to ensure the protection of air quality throughout the nation, including throughout Indian country.” *Id.* Accordingly, as described above, the TAR provides that the agency will promulgate a federal implementation plan “without unreasonable delay,” if a tribe does not submit an implementation plan or EPA disapproves its plan. 40 C.F.R. § 49.11.

The supplemental proposal does not set deadlines for submission of tribal implementation plans. Section 49.4 of the regulations does not include section 111 or the state plan submission deadlines under section 111(d)’s Implementing Regulations (40 C.F.R. § 60.23). The TAR does not discuss these provisions either. EPA’s reasoning for excluding state plan submission deadlines under the NAAQS program, as explained in the proposed TAR twenty years ago, should not apply to this proposal. EPA should establish plan submission and implementation deadlines that are consistent with those set forth under the Clean Power Plan.

Expediting the TAS approval process should help to meet these deadlines. The TAR authorizes tribes to rely on prior TAS approvals as part of a new application for approval to implement a Clean Air Act program: “[w]here the applicant has previously received authorization for a Clean Air Act program or for any other EPA-administered program, the applicant need only identify the prior authorization and provide the required information which has not been submitted in the previous application.” 40 C.F.R. § 49.7(a)(8). The Navajo Nation received TAS approval to implement a Part 71 permit on Four Corners and Navajo Generating Station in 2006.⁸⁰ This approval may help to expedite the process to submit an implementation plan, if the Nation decides to do so.

VI. Environmental Justice

The location of coal-fired plants in disadvantaged communities living on Native reservations, with little or no healthcare available, is “blatant environmental racism and injustice.”⁸¹ According to a 2012 Associated Press analysis of EPA data, about 10 percent of all

⁸⁰ Jill E. Grant, Implementation of Clean Air Act Programs by American Indian Tribes, in Julie Domike and Alec Zacaroli (eds.), *The Clean Air Act Handbook*, ABA, 2011, at 684, fn. 87.

⁸¹ Senaa West, *New Mexico Governor Opposes Coal Power Plant on Navajo Land* (July 27, 2007), available at http://senaawest.bravehost.com/Desert_Rock/Richardson.htm.

U.S. power plants operate within 20 miles of reservation land. Many of the 51 energy production centers are more than a half-century old and they affect roughly 48 tribes living on 50 reservations.⁸² Approximately 1.25 million Native Americans live on reservations, under living conditions that are described as “four to five decades behind the majority of Americans.”⁸³ The U.S. Commission of Civil Rights has stated that Native Americans have a lower life expectancy than any other ethnicity in the U.S., and per capita funding for healthcare is 60 percent lower than for other Americans.⁸⁴

According to the U.S. Commission on Civil Rights, 31.2 percent of Native Americans in reservations live in poverty.⁸⁵ This rate is nearly 3 times the national poverty rate. One in five homes on Native American reservations lack complete plumbing facilities and less than 50 percent are connected to the public sewer system.⁸⁶ In the Navajo Nation, the poverty rate is 42.9 percent (according to the 2000 Census).⁸⁷ Of the 30,000 existing Navajo homes, 82 percent lack running water, indoor plumbing, electricity or central heating, and 20,000 additional Navajo families are in need of homes altogether.⁸⁸ A study commissioned by the U.S. Department of Energy, released in March 2000, showed that “14.2% of Indian households on reservations had no access to electricity, compared to only 1.4% of all U.S. households,” and that a greater portion of the annual income of Indian households is spent on electricity.⁸⁹ In the Navajo and Hopi reservations, 50 percent of its members do not have electricity despite the fact that transmission lines cross the reservations to deliver electricity to California and the Southwest.⁹⁰

⁸² MPR News, *Native Americans say power plants near tribal lands cause illness* (July 5, 2012), available at <http://www.mprnews.org/story/2012/07/04/environment/tribes-utilities>.

⁸³ American Indian Children’s Fund, *Living Conditions* http://www.americanindianchildren.org/living_conditions.html (last visited Dec. 17, 2014).

⁸⁴ U.S. Comm’n on Civil Rights, *Broken Promises: Evaluating the Native American Health Care System* (September 2004), available at <http://www.usccr.gov/pubs/nahealth/nabroken.pdf>, at 87.

⁸⁵ U.S. Comm’n on Civil Rights, *A Quiet Crisis, Federal Funding and Unmet Needs in Indian Country* (July 2003), available at <http://www.usccr.gov/pubs/na0703/na0204.pdf>, at 8.

⁸⁶ *Id.* at 50.

⁸⁷ Chinle Service Unit, *Navajo Area Indian Health Services Powerpoint*, available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CB4QFjAA&url=https%3A%2F%2Fwww.ihs.gov%2FNavajo%2Fdocuments%2FChinleSUCruitmentPresentation.ppt&ei=Ri6LVli2KoLKoASn24DQDw&usg=AFQjCNEO_4_gcW1jNDFix5i8JVybC95PcQ&sig2=byRjPH4KLaSFGqK0hlaRHw&bvm=bv.81828268,d.cGU, at 10.

⁸⁸ The Seattle Times, *Navajo Nation, Largest tribe has greatest need* (Dec. 4, 1996), available at <http://seattletimes.com/news/local/tribalhousing/partfour/navajo.html>.

⁸⁹ MacCourt, et al., *Renewable Energy Development In Indian Country: A Handbook For Tribes* (June 2010), funded by National Renewable Energy Laboratory and the Alliance for Sustainable Energy, LLC, available at <http://www.nrel.gov/docs/fy10osti/48078.pdf>, at 22.

⁹⁰ SURJ, *Showing up for Racial Justice*, <http://www.showingupforracialjustice.org/resources> (last visited Dec. 11, 2014).

Lands and waters in Native American reservations are particularly vulnerable to climate change given their geography. The Navajo Nation, for example, is arid and prone to desertification. Large coal power plants in these regions have contributed to intensify climate change impacts on air and water resources in these lands.⁹¹ A significant amount of the coal that powers the Four Corners power plant comes from Black Mesa, Arizona, which is home to the Hopi Indian Reservation and is also home to several thousand Navajos.⁹² Peabody Western Coal Company's mining operation to supply the Mohave Generating Station is said to have consumed 44 billion gallons of groundwater from the N-Aquifer at a rate of more than 3 million gallons a day until the plant's closure. But the Kayenta Mine, which supplies coal to the Navajo Generating Station, continues to use groundwater at a rate of 1.1 million gallons per day. Groundwater extraction has not only damaged local water supplies, contributing to dry up traditional springs; it has also damaged spiritual practices of many Black Mesa residents for whom groundwater and certain springs are a sacred place.⁹³ Many Navajo members believe that the tribe should move away from coal, which is causing high rates of asthma, pneumonia, and bronchitis among Navajo residents, and instead invest in clean energy sources.⁹⁴

U.S. territories also face great economic challenges. Puerto Rico faces a debt of \$70 billion, a 15.4 percent unemployment rate with a per capita income of around \$15,200, a soaring cost of living, a high crime rate, crumbling schools, and an exodus of professionals and middle-class Puerto Ricans to the continental U.S. As noted above, Puerto Rico is also home to the AES Corporation's Guayama coal-fired power plant, which threatens the health of communities and the environment in the Southeast. Guayama, with a lower per capita income of \$7,326, is home not only to the AES plant, but to several pharmaceutical and manufacturing companies, and a Phillips Petroleum Company petrochemical complex, which place further environmental and public health strains on the local community.

The AES plant is among the dirtiest coal plants in the U.S., emitting disproportionate levels of carcinogenic metals such as arsenic, chromium, lead, and nickel.⁹⁵ When the plant opened in 2002, AES was required to dispose of the plant's toxic coal ash waste off the island,

⁹¹ Nania, et al., *Western Water Assessment, Considerations for Climate Change and Variability Adaptation on the Navajo Nation* (March 2014), available at http://www.drought.gov/media/pgfiles/navajo_adaptation_report_final_lowresolution_2014.pdf.

⁹² Commemoration vs. Exploitation, *Mining and Contemporary Environmental Problems* (2011), available at <http://www.historyandtheheadlines.abc-clio.com/ContentPages/ContentPage.aspx?entryId=1171645¤tSection=1161468>.

⁹³ Nania, *supra* n. 91, at 55.

⁹⁴ Greenwire, *Navajo Nation power plant divides tribe members* (Dec. 16, 2015), available at <http://www.eenews.net/greenwire/2014/12/16/stories/1060010639>; Glionna, M., L.A. Times, *In Navajo country, coal gives life—and takes it, some say* (Dec. 15, 2014), available at <http://www.latimes.com/nation/la-na-new-mexico-coal-20141215-story.html#page=1>.

⁹⁵ Environmental Integrity Project, *The Toxic Ten: Top Power Plant Emissions of Mercury, Toxic Metals, and Acid Gases in 2011* (Jan. 3, 2013), available at http://environmentalintegrity.org/news_reports/documents/Toxic10PowerPlantsreport-January32013.pdf, at 3.

but after being sued by the Dominican Republic over public health and environmental concerns, the company began dumping the toxic waste into residential neighborhoods, often near drinking water wells, in Southeastern Puerto Rico.⁹⁶ AES claims that this mixture of coal ash known as “Agremax” can be used beneficially as fill for construction and housing projects, but none of these projects are meant to prevent people and the environment from coming into contact with this toxic waste. Children are particularly vulnerable to toxic dust from coal ash waste, and children in Puerto Rico are more likely to suffer from asthma than children in the continental U.S.⁹⁷

As we explained in our 111(d) comments, in order to ensure that the most vulnerable communities do not suffer adverse effects, and actually receive the benefits from a comprehensive program to regulate CO₂ emissions, EPA must comprehensively address the environmental justice considerations involved in the Clean Power Plan.⁹⁸ The agency should do the same with respect to the supplemental proposal applicable to Indian tribes and U.S. territories. EPA must ensure that these communities do not suffer increased levels of pollution as a result of the implementation of measures that increase the utilization of fossil fuel-fired power plants. Likewise, these communities must benefit from the positive environmental and health effects that will result from the decreased utilization of these plants and the development of renewable energy generation.

A. EPA Must Continue to Consult and Coordinate with Indian Tribes, Pursuant to Executive Order 13175.

Executive Order (“EO”) 13175, Consultation and Coordination with Indian Tribal Governments, precludes federal agencies from promulgating regulations that have “tribal implications” unless the relevant agency “consulted with tribal officials early in the process of developing the proposed regulation.” Exec. Order 13175, § 5(b)-(c).

EPA’s consultation and coordination obligations to federally-recognized tribes under EO 13175 derive from tribes’ status as sovereign governments. Given this status, the federal government has a “government-to-government” relationship with tribes.⁹⁹ The government also has a “trust responsibility” under federal Indian law and certain treaties, whereby it holds

⁹⁶ Public Justice, *Citizens Group in Puerto Rico Poised to Sue Energy Giant AES Corp. for Illegal Coal Ash Dumping*, (Sept. 26, 2012), available at <http://publicjustice.net/content/citizens-group-puerto-rico-poised-sue-energy-giant-aes-corp-illegal-coal-ash-dumping>.

⁹⁷ Ctr. for Disease Control, Nat’l Asthma Control Program, *Asthma in Puerto Rico*, available at http://www.cdc.gov/asthma/stateprofiles/asthma_in_pr.pdf, at 1-2.

⁹⁸ See 111(d) Comments at 154-196.

⁹⁹ Admin. of William J. Clinton, *Memorandum on Government-to-Government Relations with Native American Tribal Governments* (April 29, 1994), available at <http://www.gpo.gov/fdsys/pkg/WCPD-1994-05-02/pdf/WCPD-1994-05-02-Pg936.pdf>, at 936.

title to Indian lands in trust for the beneficial use of tribes.¹⁰⁰ EO 13175 and EPA's 1984 Policy expressly adhere to these principles. Exec. Order 13175, § 2(a).¹⁰¹

The government-to-government relationship and the federal government's trust responsibility include the government's obligation to consult with tribes.¹⁰² EPA's 1984 Policy directs the agency "to give special consideration to Tribal interests in making Agency policy, and to insure the close involvement of Tribal Governments in making decisions and managing environmental programs affecting reservation lands."¹⁰³ EPA's 2011 *Policy on Consultation and Coordination with Indian Tribes* ("EPA's 2011 Policy"), which implements EO 13175 and EPA's 1984 Policy, "takes an expansive view of the need for consultation" with tribes, in line with the 1984 Policy's instruction to consider tribal interests whenever the agency's actions "may affect" them.¹⁰⁴ EPA's 2011 Policy establishes a process for consultation with tribes, whereby EPA must identify activities that may be appropriate for consultation, notify tribes of such activities, obtain their input, and provide feedback on how it was considered in the final action.¹⁰⁵ Under the policy, a regulation is an activity subject to consultation.¹⁰⁶

The National Environmental Justice Advisory Council ("NEJAC") has emphasized that the consultation process goes beyond opportunities for tribes to participate in the decision making process as members of the public; federal and tribal officials should collaborate as government peers in reaching consensus on how to address tribal concerns.¹⁰⁷ While under EO 13175 EPA is required to provide avenues for consultation early on and prior to taking final action, NEJAC recommends that consultation with tribal governments "continue on an ongoing basis."¹⁰⁸

While under EO 13175 EPA is required to consult with tribal officials of federally-recognized tribes, under EPA's 2011 Policy "EPA recognizes the need to be responsive to the environmental justice concerns of non-federally recognized tribes, individual tribal members, tribal community-based/grassroots organizations and other indigenous stakeholders."¹⁰⁹ NEJAC also recommends agencies "to seek information from tribal members in addition to persons who have been formally designated by tribal governments as contacts for consultation,"

¹⁰⁰ EPA's 1984 Policy, Principle 5, *supra* n. 78 at 3; National Environmental Justice Advisory Council ("NEJAC"), Guide on Consultation and Collaboration with Indian Tribal Governments and the Public Participation of Indigenous Groups and Tribal Members in Environmental Decision Making, (November 2000), available at <http://www.denix.osd.mil/na/upload/EPA-NEJAC-guide.pdf>, at 54.

¹⁰¹ EPA's 1984 Policy, Principles 1 and 5, *id.* at 2-3.

¹⁰² *Id.* at 1; NEJAC, *supra* n. 100, at 5.

¹⁰³ EPA's 1984 Policy, *supra* n. 78, at 1.

¹⁰⁴ EPA, *Policy on Consultation and Coordination with Indian Tribes* (May 4, 2011), ("EPA's 2011 Policy"), available at <http://www.epa.gov/tp/pdf/cons-and-coord-with-indian-tribes-policy.pdf>, at 2.

¹⁰⁵ *Id.* at 5.

¹⁰⁶ *Id.*

¹⁰⁷ NEJAC, *supra* n. 100, at 14, 21.

¹⁰⁸ *Id.*, at 14.

¹⁰⁹ EPA's 2011 Policy, *supra* n. 104, at 4.

because their interests, for example, those of traditional leaders and cultural authorities, “do not always coincide with those of the tribal government.”¹¹⁰

EPA has correctly concluded that the supplemental proposal may have “tribal implications.” 79 Fed. Reg. at 65,501. The affected EGUs that EPA has identified under the supplemental rule are located in tribal lands. Even though those affected sources are not owned or operated by the tribes, tribal revenues in some instances are connected to the utilization of those sources. Tribes also stand to benefit from the revenue and economic development opportunities, as well as from the positive health effects that may result from the expansion of renewable energy in tribal lands as a means for affected sources to comply with the rule. In addition, tribes connect to their lands on a spiritual and religious level, and thus, environmental regulation is also understood as protection of those lands.

Because the supplemental rule has tribal implications, EPA must comply with the Order’s consultation and coordination requirements. The supplemental rule describes that EPA has hosted webinars, listening sessions, teleconferences, outreach meetings, and consultations with tribal representatives between June 2013 and September 2014, including members of the Navajo Nation, the Ute Tribe, and the Fort Mojave Tribe (all of whom own lands where affected sources are located) plus other interested tribes such as the Crow Nation and the MHA Nation. We commend EPA for arranging these targeted consultations, but also urge the agency to continue to organize meetings not only with tribal officials, but also with tribal community grassroots organizations and individual tribal members, per the agency’s 2011 Policy. As NEJAC indicates, this broader approach to consultation is critical because their concerns may differ from those of tribal officials.¹¹¹

For example, the supplemental proposal has recorded the concerns of Navajo Nation’s officials regarding the potential economic impacts of the Clean Power Plan, specifically on revenues from coal mines and power plants. Tribal officials have also conveyed to EPA that application of building block 3 is not appropriate because Navajo members’ electricity supply already comes from carbon-free energy sources. 79 Fed. Reg. at 65,502. On the other hand, members of the Navajo community who testified at EPA’s public hearing held in Arizona on November 19 conveyed different concerns.¹¹² These communities are worried about the adverse health impacts they have suffered for decades as a result of coal mining and coal-fired electricity produced in their lands. They wish to transition off fossil fuels, retiring these coal plants and replacing them with solar and wind energy. They want clean air in their reservations. We urge EPA to carefully review the hearing transcript.

Besides consulting with tribes, pursuant to EPA’s 2011 Policy, the agency must provide them with feedback on how their input was considered in the final rule. Each interested tribe

¹¹⁰ NEJAC, *supra* n. 100, at 19.

¹¹¹ See e.g., Greenwire, *Navajo Nation power plant divides tribe members*, *supra* n. 94.

¹¹² As we discuss below, EPA is in any event required to ensure meaningful participation of members of Indian tribes besides tribal officials, pursuant to EO 12898.

may have specific or unique concerns, and EPA should publish all of these (unless the given tribes have specific confidentiality rules)¹¹³ with an explanation of how these concerns influenced the design of the final rule, for all interested tribes to see how their concerns were taken into account.

1. EPA Must Prepare a Tribal Summary Impact Statement in the Final Rule.

EO 13175 requires EPA to prepare and provide to OMB a tribal summary impact statement as part of its obligation to consult and coordinate with Indian tribes. The tribal summary impact statement must consist of “a description of the extent of the agency’s prior consultation with tribal officials, a summary of the nature of their concerns and the agency’s position supporting the need to issue the regulation, and a statement of the extent to which the concerns of tribal officials have been met.” Exec. Order 13175, § 5(c). EPA has not provided a tribal summary impact statement, and must do so in the final rule.

Pursuant to EO 13175, the supplemental proposal provides a description of EPA’s consultations with tribal officials and a summary of their concerns, but it does not state the agency’s position supporting the need to issue the proposal in consideration of the aforementioned concerns or explain how tribal officials’ concerns have been met. As discussed above, the proposal describes various meetings that EPA has held with tribal representatives during the year prior to the issuance of the supplemental proposal. It also describes specific concerns raised by tribes regarding the potential impacts of both the Clean Power Plan and the supplemental proposal. For example, some tribes raised concerns about the direct effects of the regulations on affected sources and the subsequent impacts on jobs and revenues for their tribes; other tribes raised concerns about possible cost impacts on water supply to their communities resulting from higher costs to power plants that provide energy to transport water to the tribes. Yet other communities raised concerns about climate change impacts on their communities and resources, including their hunting and treaty rights. 79 Fed. Reg. at 65,502.

EPA’s statements to the effect that tribes are not required to develop 111(d) plans to implement the emission guidelines for affected EGUs in their areas of Indian country unless they seek TAS approval to do so, and that the proposal does not directly impose specific requirements on affected EGUs in Indian country, while accurate, should be supplemented with the additional discussion articulating the agency’s need for this regulation in a manner that fully considers the various concerns expressed by tribal members—not just tribal officials, but also members of the community. *Id.* at 65,501. EPA should also address in detail whether and how tribal concerns have been met. Upon further and broader consultation, we ask EPA to prepare a complete tribal summary impact statement for submission to OMB, and to include it in the preamble to the final rule, as required under EO 13175.

¹¹³ NEJAC, *supra* n. 100, at 18.

B. EPA Must Conduct an Environmental Justice Analysis of the Supplemental Proposal Pursuant to Executive Order 12898.

Indian tribes and minority and low income communities in U.S. territories share many of the environmental burdens of environmental justice communities throughout the country. As described above, a large number of coal plants in the United States are located in close proximity to reservation lands, but the electricity output is not used to supply the reservations, where large numbers of people lack most basic services, including electricity, water supply, and adequate housing. Low employment also contributes to high poverty levels in tribal communities and U.S. territories like Puerto Rico, both of which, as we have noted, house some of the dirtiest plants in the U.S. As environmental justice communities, tribes in Indian country and minority and low income communities in U.S. territories should not endure higher levels of pollution from the increased utilization of fossil fuel-fired power plants, and they should also benefit from the positive environmental and health effects that will result from decreasing the utilization of dirty power plants and developing renewable energy generation.

In our 111(d) comments, we explained that EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, instructs federal agencies to incorporate environmental justice into their mission, “[t]o the greatest extent practicable and permitted by law... by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of [their] programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands.” Exec. Order No. 12898, § 1-101.¹¹⁴ In addition, section 6-606 of EO 12898 provides that “[e]ach Federal agency responsibility set forth under this order shall apply equally to Native American programs.” Id. § 6-606. In our comments we asked EPA to conduct an environmental justice analysis to identify and address potential disproportionate impacts from the Clean Power Plan on minority and low-income populations, as required under the Order and pursuant to its own guidance on how to integrate environmental justice in federal rule making.¹¹⁵ We urge EPA to do the same with respect to the potential impacts from the supplemental proposal on environmental justice communities in tribal lands and U.S. territories.

In the supplemental proposal, EPA concluded that an environmental justice analysis is not practicable because the agency “cannot exactly predict how emissions from specific EGUs

¹¹⁴ See 111(d) Comments at 156-175.

¹¹⁵ See EPA, Office of Env'tl. Justice, *Plan EJ 2014* (Sept. 2011), available at <http://www.epa.gov/environmentaljustice/resources/policy/plan-ej-2014/plan-ej-2011-09.pdf>, at 4-5; EPA, *Action Development Process: Interim Guidance on Considering Environmental Justice During the Development of an Action* (“ADP Interim Process Guide”), OPEI Regulatory Development Series (July 2010), available at <http://www.epa.gov/environmentaljustice/resources/policy/considering-ej-in-rulemaking-guide-07-2010.pdf>; *Technical Guidance for Assessing Environmental Justice in Regulatory Analysis*, 78 Fed. Reg. 27,235 (May 9, 2013).

would change as an outcome of the proposed rule due to the jurisdiction-led implementation.” 79 Fed. Reg. at 65,504. Consistent with its reasoning under the Clean Power Plan, EPA also explained that application of building blocks 1 and 2 to affected fossil fuel-fired sources may result in increases in emissions of CO₂ and of co-pollutants, but that a jurisdiction can avoid the increased utilization of particular sources. In that way “there would be no new environmental justice concerns in the areas near such EGUs.” *Id.* at 65,503.

As we urged EPA with respect to the Clean Power Plan, the agency should prepare an expanded environmental justice analysis (including an analysis of cumulative impacts) of the supplemental rule that supports these conclusions and addresses any disproportionate impacts, following its own guidance and previously performed environmental justice analyses (for example, EPA’s analysis under the Definition of Solid Waste rule), and utilizing readily available tools to collect environmental and demographic information. In the case of tribes, however, EPA should not rely solely on reservation boundary maps or census records because these may not accurately reflect all tribes that have interest in a given area.¹¹⁶ EPA should make this determination through broad, comprehensive consultation with tribal officials and members of the community, as described above. Residents of the Navajo Nation have previously asked the federal government to assess the health impacts of the Four Corners Generating Station, but no study has been done to date.¹¹⁷ EPA should undertake this task as part of its environmental justice analysis of the supplemental rule.

In our 111(d) comments, we urged EPA to require states to perform an environmental justice analysis as part of their state implementation plans, making this analysis one of the criteria for approvability, precisely because the flexibility inherent in the rule means that EPA cannot readily determine the specific requirements that states will impose on affected sources under the plans.¹¹⁸ Because under the Clean Air Act, U.S. territories are treated as states, EPA could require Puerto Rico and Guam to perform an environmental justice analysis as a component of their implementation plans, and use that information to perform its own expanded analysis prior to plan approval. Tribes, however, are sovereign nations, and EPA may not be able to directly require such an analysis from tribes that seek TAS approval, unless those tribes provide evidence that they are able to do so as part of their application. EPA may therefore need to develop the tribal environmental justice analysis on its own. If so, it should work collaboratively with the affected tribes, ensuring the broadest participation from all members of the community, to obtain the information it needs for such purpose.

1. Sample Environmental Justice Analysis.

In our 111(d) comments, we provided a sample methodology of the initial steps of an environmental justice analysis based on coal plant data from NAACP’s “Coal Blooded” Report, which ranks large (>100 MW) coal plants in the US based on criteria air pollutant emissions and

¹¹⁶ NEJAC, *supra* n. 100, at 16.

¹¹⁷ Glionna, J., *supra* n. 94.

¹¹⁸ See 111(d) Comments at 159-160.

demographic factors, finding that a number of them cause disproportionate impacts on environmental justice communities. Sierra Club updated this analysis to include generation and emissions (including CO₂) data for 2012 and 2013 for 384 coal plants.¹¹⁹

NAACP's "Coal Blooded" Report lists two plants located in Indian country—the Four Corners Generating Station and the Navajo Generating Station, both located in Navajo Nation lands. The Four Corners Generating Station falls in the top 2 plants in the 384 plant study with the lowest per capita income within the 3-miles area around the individual plants, and is surrounded by communities with an average income of \$6,762 per capita (which is 39 percent of New Mexico's average income). Native Americans comprise 66 percent of the 12,500 people who live within 10 miles, and 93 percent of the people living within three miles of the plant. In 2013, the Four Corners Generating Station had by far the most NO_x emissions of any plant in the United States. The American Lung Association estimates that 16,000 people in the region (15 percent of the population) suffer from lung disease, most likely caused by power plant emissions.¹²⁰ And despite the presence of the Four Corners plant, as many as 18,000 homes in the Navajo Nation are completely off the grid.¹²¹ APS retired three units at Four Corners in December 2013. Thus, CO₂ and co-pollutant emissions from this plant are expected to decrease.

All units in the Navajo Generating Station, however, continue to operate to this date. "EJ View," one of EPA's screening tools, provides demographic information as well as information on sites, facilities, and environmental concerns within a 3-mile radius of the Navajo Generating Station. Of the 7,270 people living in the area, 34 percent of the population is American Indian, and 46 percent is comprised by minorities.¹²² Furthermore, within a 3-mile radius of the facility there are nine hazardous waste sites, three water discharge sites, four STORage and RETrieval ("STORET") sites, seven impaired streams, seven schools, and one national park.¹²³ In preparing its environmental justice analysis, EPA should consider this information in assessing cumulative impacts to tribal communities located around the Navajo Generating Station.

Figures 2 and 3 depict the CO₂ and NO_x emissions for all of the 384 coal plants in the study, highlighting the Navajo Generating Station's emissions in 2013 (in red). The graphs show that the largest emitters are located in areas with lower average incomes. They also show that

¹¹⁹ *Id.* at 165-172.

¹²⁰ Honor the Earth, *Navajo Nation and Dine Bii Kiya*, http://www.honorearth.org/navajo_and_din_bii_kiya (last visited Dec. 17, 2014).

¹²¹ Williams, D., *Navajo Generating Station blamed for haze over Grand Canyon, respiratory illnesses* (Sept. 16, 2011), available at <http://www.coloradoindependent.com/99627/navajo-generating-station-blamed-for-haze-over-grand-canyon-respiratory-illnesses>.

¹²² EJView, *EJView Census 2010 Summary Report* (Dec. 16, 2014), available at <http://epamap14.epa.gov/ejmap/demog2010report.aspx?coords=-111.390278,36.903333&featype=point&radius=3>.

¹²³ EJView, *EJView Environmental Report* (Dec. 16, 2014), available at <http://epamap14.epa.gov/ejmap/enviropdf.aspx?coords=-111.390278,36.903333&featype=point&radius=5>.

the Navajo Generating Station was one of the country's largest sources of CO₂ pollution in 2013. The plant also had the eighth highest emissions of NO_x that year.

Fig. 2- 2013 CO₂ Emissions vs. Average Income (Highlighting Navajo Generating Station)

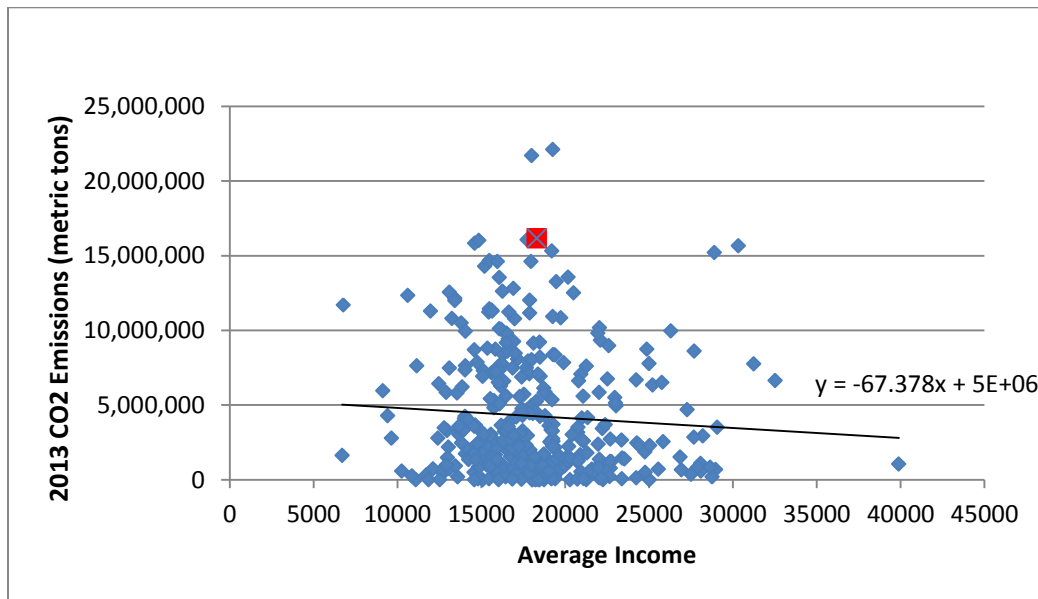
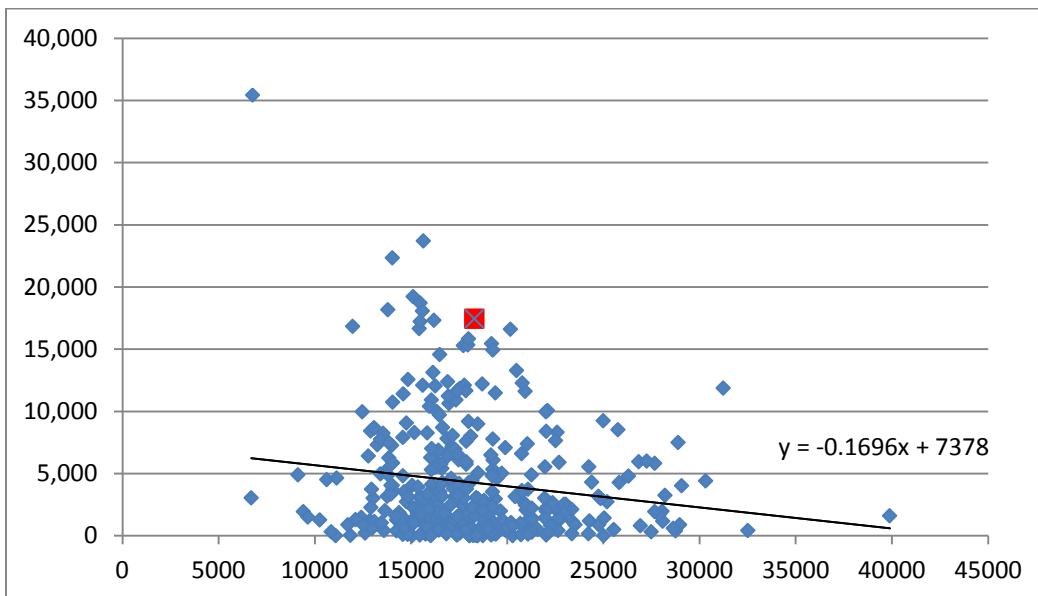


Fig. 3- 2013 NO_x Emissions vs. Average Income (Highlighting Navajo Generating Station)



Figures 4 and 5 below compare coal plant capacity factors for the 384 plants in the study against average incomes, and show that the Navajo Generating Station (in red) had a higher

capacity factor in both 2013 and 2012 (in other words, it operated more) than coal plants located in areas with higher average incomes.

Fig. 4- 2013 Capacity Factor vs. Average Income (Highlighting Navajo Generating Station)

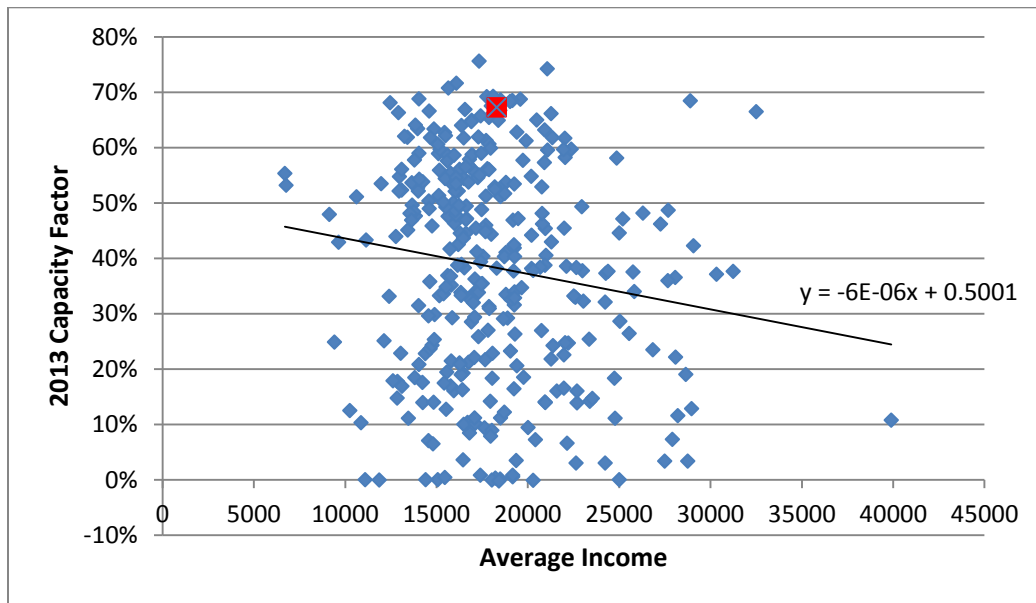
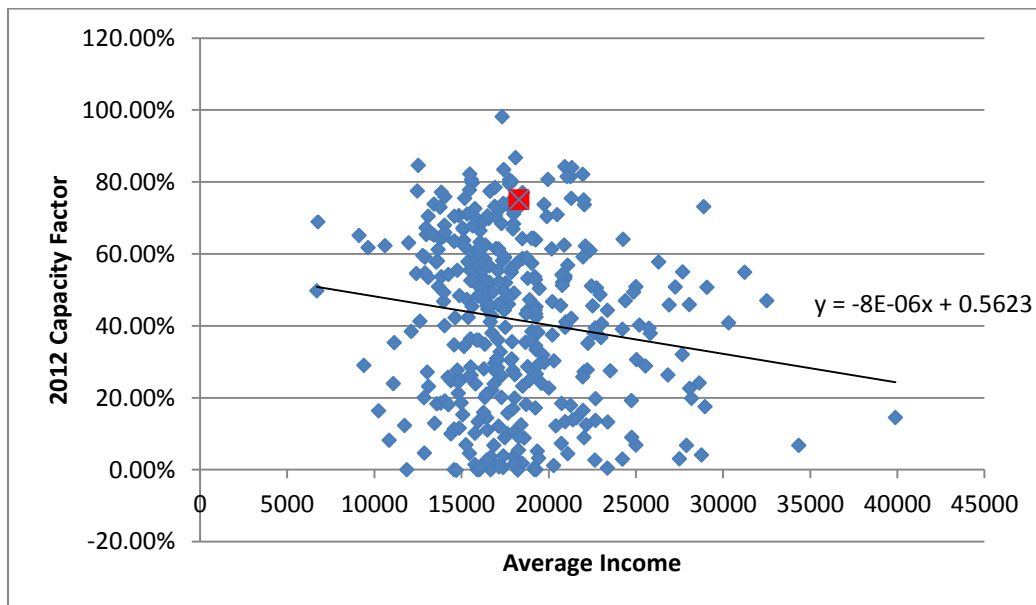


Fig. 5- 2012 Capacity Factor vs. Average Income (Highlighting Navajo Generating Station)



C. EPA Must Continue to Ensure Meaningful Involvement of Environmental Justice Communities in this Rule Making.

EO 12898 requires federal agencies to ensure that their policies and programs that affect public health or the environment “do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin.” § 1-101. EPA’s guidance also provides that environmental justice communities must have an adequate opportunity to participate in agency decisions that will affect their health or their environment, and that their input must be considered in the agency’s decision-making process.¹²⁴ As we noted in our 111(d) comments, EPA must engage these communities early in the process through targeted outreach efforts.¹²⁵

EPA’s obligations to ensure meaningful public participation from tribes under EO 12898 are distinct from the agency’s consultation obligations under EO 13175.¹²⁶ EPA’s obligations under EO 13175 derive from federally-recognized tribes’ status as sovereign governments; EPA’s obligations under EO 12898 involve public participation from tribes (whether federally-recognized or not) as environmental justice communities. EPA’s ADP Interim Process Guide, which implements EO 12898, expressly provides that it applies to “federally recognized, state recognized, and non-recognized tribes; individual tribal members, including those living off-reservation and Alaska Natives; and Native Hawaiians.”¹²⁷ As part of this mandate, EPA must ensure public participation by a broad range of tribal stakeholders, including community and neighborhood groups; traditional leaders (elders); community service, environmental, and other non-governments organizations; academic institutions; and religious communities.¹²⁸

The supplemental proposal explains that, in order to provide opportunities for meaningful participation early in the process, EPA hosted webinars and conference calls on the Clean Power Plan specifically for environmental justice and tribal communities. The agency held public hearings on the Clean Power Plan in various U.S. cities between July and August, 2014. 79 Fed. Reg. 65,504. EPA also held a hearing on the supplemental proposal on November 19, where many members of tribal communities expressed their concerns about increased air pollution from coal plants and their interest in the development of renewable energy, as described above. The proposal, however, does not discuss any targeted outreach efforts for U.S. territories. We urge the agency to continue to provide as many interested members of these communities with opportunities for meaningful involvement in the rulemaking process, and to thoroughly describe how these concerns have been taken into consideration in the final rule.

¹²⁴ EPA, *ADP Interim Process Guide*, *supra* n. 115, at 3.

¹²⁵ See 111(d) Comments at 175-176.

¹²⁶ EPA, *ADP Interim Process Guide*, *supra* n. 115, at 14.

¹²⁷ *Id.*, at 2.

¹²⁸ NEJAC, *supra* n. 100, at 49.

VII. Economic Justice Considerations

As we noted in our 111(d) comments, in addition to reducing carbon emissions, the Clean Power Plan can result in ancillary benefits, such as the expansion of renewable energy, energy efficiency, and a modernized grid. When combined with high road employment practices, the Clean Power Plan can create good jobs for people who desperately need them.¹²⁹ These same considerations apply to Indian country under the supplemental proposal. However, we cannot ignore the fact that some jobs will be lost and some tribal members will be affected as tribes make the transition away from fossil fuels. The government has a key role in working with tribes to help ensure a fair and just transition to a clean energy economy that will maximize investments in economic development, provide security to affected workers, and create good, lasting jobs.

According to the U.S. Commission on Civil Rights, the unemployment rate in reservations is over two times the national average, and in some reservations the unemployment levels have reached over 85 percent. Income, employment, and educational attainment by Native Americans living in reservations are considerably lower than national averages. In the Navajo Nation specifically, 48.5 percent of the population is unemployed and the average household income is \$8,240. This is not only below national averages, but also well below the federal poverty guidelines. One of the biggest reasons for such high unemployment rates is that there are very few jobs available on the reservations, and often reservation residents have not had the opportunity to receive formal education necessary to be eligible for the positions needed.

Renewable development under the Clean Power Plan and the supplemental proposal has the potential to increase the standard of living of tribal communities and provide a steady source of revenue for tribal governments. This is yet another reason why EPA must encourage tribes to seek TAS approval and develop their implementation plans in concert with the owners or operators of affected sources, who will be the obligated entities under the plans. Solar panels and wind turbines produce not only a valuable commodity, but they can also result in a large number of high quality jobs. This provides an opportunity to increase the overall employment rate, provide electricity to tribal members that are located far from the electric grid, and increase revenues for the development of infrastructure in the reservations.¹³⁰

Solar panels and wind turbines are far more appropriate options for rural electrification of tribal lands than large fossil fuel-fired plants that have failed to provide electricity to tribal communities. A 2014 report by Synapse Energy Economics evaluated the economic and employment benefits of continuing to operate the Navajo Generating Station compared to transitioning to renewable energy, finding that nearly 1,000 direct and indirect jobs would be

¹²⁹ See 111(d) Comments at 188.

¹³⁰ Meisen & Erberich, Global Energy Network Institute, *Renewable Energy on Tribal Lands*, available at <http://www.geni.org/globalenergy/research/renewable-energy-on-tribal-lands/Renewable-Energy-on-Tribal-Lands.pdf>, at 13.

created by building 900 MW of renewable energy on the Navajo Nation, compared to the 280 jobs that would be lost by shutting down one unit of the Navajo Generating Station.¹³¹ The study also noted that retiring that one coal-fired unit would free up 11,000 acre-feet of water each year, making that water available for agricultural purposes within the Nation that have long been limited by water scarcity.¹³² The entire Navajo Generating Station uses an astounding 34,000 acre-feet of water per year, which is close to 70 percent of Arizona's allotment of water from the Upper Basin of the Colorado River.¹³³

Several tribes have for years been taking action to tackle climate change through the development of renewable energy, particularly of wind and solar resources. For example, the Intertribal Council on Utility Policy, composed of fifteen tribes from the Great Plains, has taken a leading role in tribal wind energy development.¹³⁴ The Navajo Nation also has significant experience in developing renewable energy. There are over a thousand windmills on the reservation that provide energy to pump groundwater, as well as a number of wind turbines. The reservation also has installed several solar PV projects. As of 2013, the Navajo Tribal Utility Authority has installed around 200 PV units in residential areas, and since 2000, the Navajo Nation has been working with Sandia National Laboratories and the Department of Energy to bring affordable PV solar panels to families located off the grid. Non-profits and non-reservation groups have also spearheaded the construction of several small-scale renewable projects.¹³⁵ In addition, there are a number of large scale projects currently under development, for example, the Big Boquillas Wind Project, west of Flagstaff, which is expected to provide clean electricity and jobs for members of the reservation as well as government revenues.¹³⁶ As we explained above, a large number of community members in Indian tribes want their tribal governments to move away from coal and invest in renewable energy. The Moapa Band of Paiutes, for example, have been leaders in the transition to clean energy by working to retire the Reid Garner coal plant and building their own large-scale solar project, the Moapa solar facility, which is the largest solar tribal project in the country.¹³⁷

Both Indian tribes that own lands where affected power plants are located, as well as tribes whose lands do not contain covered power plants (the latter under the terms of multi-jurisdictional plans or pursuant to agreements with states submitting their own implementation plans, as described below) should be able to share in the benefits of expanded renewable

¹³¹ Ackerman, et al., Synapse Energy Economics, Inc., *Sustainable Development for the Navajo Nation: Replacing the Navajo Generating Station with Renewable Energy* (Jan. 6, 2014), available at <http://www.synapse-energy.com/sites/default/files/SynapseReport.2014-01.Chorus.Navajo.13-055.pdf>, at 4, 7-8.

¹³² *Id.* at 9-11.

¹³³ *Id.* at 2.

¹³⁴ Nania, *Western Water Assessment*, *supra* n. 91, at 4.

¹³⁵ *Id.* at 182.

¹³⁶ *Id.*

¹³⁷ Sierra Club, *Big Win in Nevada on Clean Energy, Retiring Dirty Coal Power* (June 4, 2013), available at <http://sierraclub.typepad.com/compass/2013/06/big-win-in-nevada-on-clean-energy-retiring-dirty-coal-power.html>.

generation under the Clean Power Plan and the supplemental proposal. This will require those tribes to clearly define their goals—to obtain steady revenues for the tribal government (for example, through export of electricity), create jobs in the reservation, manage their own electricity projects as opposed to depending on private entities for service delivery, and ensure a better standard of living for tribal members who currently lack access to services. For example, a distributed generation-based rural electrification program may not be able to provide tribal governments with a large source of income, and a utility-scale project would not provide energy to members located far off the grid, so a balanced mix of distributive and utility-scale generation may be needed to meet both sets of needs.¹³⁸ As the entities obligated under the plans are the owners and operators of affected fossil fuel-fired sources, tribes should work with them to ensure that the characteristics of renewable energy projects under the tribal implementation plans meet their goals. For example, affected source owners could be required to build renewable energy projects under a land lease, or to sponsor projects developed and owned by tribes themselves, together with government assistance.

We urge EPA to work with the relevant agencies to provide training to tribes on the health and economic problems associated with the continued dependence on coal and the benefits of renewable energy in a manner consistent with tribes' beliefs. In a few cases there have been concerns about renewable energy development coexisting with tribal beliefs, but these concerns have vanished thanks to targeted outreach efforts.¹³⁹ EPA should also inform tribes of available funding mechanisms to incentivize these projects, for example, through DOE's Tribal Energy Program. DOE's Wind Anemometer Loan Program for tribal lands, for example, can loan tribes a wind anemometer; i.e., a wind measuring instrument that records speed and direction over time to help tribes who are seriously considering installing wind turbines.¹⁴⁰

EPA should also provide tools for tribes to understand the advantages and disadvantages of different contractual arrangements. For example, a land lease to a third party, who in turn develops a solar or wind farm, offers the tribe the possibility of accessing tax incentives, which do not apply to Native Americans because they are not taxable entities. On the other hand, a tribally-owned project would generate a larger source of revenues than land leases, but it would also require experience in developing and managing projects. In the case of tribally-owned projects, tribes should also have access to training on how to secure power purchase agreements in advance of developing the project to ensure they recoup their investments.¹⁴¹

In the course of developing their plans to achieve their goals under the supplemental rule, tribes would benefit by moving away from coal, which is no longer economical and results in major environmental and health harms, as their own communities have attested. In

¹³⁸ Meisen & Erberich, Global Energy Network Institute, *supra* n. 130, at 13.

¹³⁹ *Id.* at 3.

¹⁴⁰ *Id.* at 6.

¹⁴¹ *Id.* at 15-20.

incorporating policies to continue to move away from coal, tribes can work with affected source owners and operators to establish measures to ensure that their workers can transition smoothly to the coming clean energy economy. In other words, owners and operators of coal-fired power plants on tribal lands must be required to put in place comprehensive transition policies to minimize the impacts of potential job losses and incentivize their participation in the growing renewable energy economy. As we noted in our 111(d) comments, owners of power plants that will reduce their utilization or close should have policies in place specifically geared to workforce protection. The federal government should also ensure that funding mechanisms are in place to support workers, as well as the tribal communities whose livelihoods depend on fossil fuel-fired power plants, through the transition process.¹⁴² Tribes that craft implementation plans that expand renewable energy and energy efficiency, while also prioritizing the creation of good, clean energy jobs, will promote economic development in Indian country and improve their members' livelihoods.

VIII. Renewable Resources Located Outside U.S. Jurisdictions With Affected EGUs

EPA has requested comment on whether jurisdictions without affected EGUs—such as Vermont, the District of Columbia, and U.S. territories and tribal nations other than those covered under the supplemental proposal—should be permitted to participate in multi-jurisdictional implementation plans.¹⁴³ For instance, Vermont is currently a member of RGGI, and it is expected that the other states in that program will submit a multi-jurisdictional implementation plan for EPA's approval based upon the existing RGGI framework. To preserve the current RGGI structure to the greatest extent possible, these states may wish to include Vermont in the implementation plan, even though that state has no affected EGUs within its borders. Similarly, tribal nations adjacent to covered states may wish to develop renewable resources on their territories to export electricity to those states and reduce the carbon intensity of their electric sectors.

We believe section 111(d) allows jurisdictions without affected EGUs to voluntarily participate in multi-jurisdictional implementation plans so long as EPA ensures that affected EGUs continue to bear the full burden of the enforceable emission reduction obligations. Because Vermont and other such jurisdictions have no units that are subject to enforcement under section 111(d), they cannot be forced to join any regional plan and cannot be subject to obligations under the statute. However, we have advocated that EPA structure the Clean Power Plan such that the best system of emission reduction ("BSER") is heat-rate improvements at covered EGUs (Building Block 1) and reduced utilization of those units, as quantified by the measures specified in Building Blocks 2 through 4.¹⁴⁴ Under this formulation, efficiency savings or renewable resources developed in a state such as Vermont are not part of BSER, but are rather a means of quantifying the enforceable emission reduction obligations that may be imposed on affected EGUs in jurisdictions that are covered under the rule.

¹⁴² See *111(d) Comments* at 193.

¹⁴³ 79 Fed. Reg. at 65,495-96.

¹⁴⁴ *111(d) Comments* at 27-32.

Therefore, if a jurisdiction such as Vermont without affected EGUs wishes to participate in a regional plan, EPA should permit it to do so, but should readjust the regional target to take into account the emission reductions that can be achieved from the regional fleet of EGUs as a result of the jurisdiction's entry into the program. This "buy-in" approach would therefore quantify the emission reductions available in the non-covered state by "applying" Blocks 2 through 4 to that state and imposing the actual emission reduction obligations on affected EGUs. In other words, EPA would calculate the EE, RE, and other emission reduction opportunities that exist in Vermont and would adjust the target for affected EGUs in the region accordingly. In this regard, Vermont remains subject to no 111(d) obligations, but affected EGUs in other regional states would have more stringent targets as a result of Vermont's voluntary entry into the program.

We also reiterate our point from our 111(d) comments that the jurisdiction that incentivizes RE development should be the one that receives compliance credit for those measures (and therefore is permitted to add the clean MWh to its denominator).¹⁴⁵ This should be so regardless of where the renewable resources are actually constructed. In this regard, we believe that jurisdictions without affected EGUs (including tribal nations, to the extent that they wish to negotiate with other states, which have no regulatory jurisdiction over Indian country) can play a role in helping affected EGUs achieve compliance with the CPP and supplemental rule by hosting RE projects that are sponsored or incentivized by jurisdictions that do have affected EGUs. Conversely, if a jurisdiction such as Vermont sponsors RE development within its borders and subsequently exports some or all of the electricity generated by that project to another state, it is free to sell associated RECs to the state in question or another state.

Finally, EPA has requested comment on "whether RE resources from Canada can be used to contribute to meeting a jurisdiction's goal." 79 Fed. Reg. at 65,496. We believe that new renewable energy resources in foreign countries, such as Canada, which are interconnected to the U.S. bulk power system, should be able to count towards the compliance of a U.S. jurisdiction with affected EGUs. Allowing these resources to participate is consistent with the fact that the power grids serving our country cross both our northern and southern borders, that electricity is regularly transferred in both directions across these borders, and that three REC registries encompass Canadian provinces or Mexican states.¹⁴⁶

However, generation from these renewable energy resources should count only under the conditions that EPA stated in the Clean Power Plan and the principles we stated in our 111(d) comments. Specifically, generation from any renewable energy resource existing as of

¹⁴⁵ See *111(d) Comments* at 100-02.

¹⁴⁶ See Robin Quarrier and David Farnsworth, *Tracking Renewable Energy for the U.S. EPA's Clean Power Plan* (June 25, 2014), at Fig. 2 (North American Registry, the Midwest Renewable Energy Tracking System (M-RETS), and WECC's Western Renewable Energy Generation Information System (WREGIS)).

the date of the proposed rule cannot count towards compliance. 79 Fed. Reg. at 34,918.¹⁴⁷ EPA excluded existing hydropower resources from the RE baseline and has made clear that states will not be able to take renewable energy credit for existing hydropower. *Id.* at 34,867. The same restriction must apply to imported hydropower.¹⁴⁸

EPA has also requested suggestions for “any mechanisms that could be used to ensure that the low or non-emitting generation was in fact offsetting fossil-fuel-fired generation in the jurisdiction that would use it to meet its goal.” 79 Fed. Reg. at 65,496. We note that EPA did not propose to require similar assurances that domestic RE generation actually offsets fossil-fuel-fired generation in the jurisdiction taking credit for that generation, only that the jurisdiction incentivized the development of that renewable.¹⁴⁹ Treating international RE generation differently makes sense, however, because of the risk of cross-border leakage, and because EGUs outside of the US are not subject to the CPP. EPA could address this situation by requiring the entity seeking to take credit to provide evidence that the electricity generated was intended for U.S. consumption, such as through the existence of a power purchase agreement or firm transmission service rights.

Respectfully submitted,

Joanne Spalding
Alejandra Nuñez
Andres Restrepo
Casey Roberts
Travis Ritchie
Natalie Spiegel
Sierra Club
85 Second St., 2nd Fl.
San Francisco, CA 94105
joanne.spalding@sierraclub.org

Tim Ballo
David Baron
Abigail Dillen
Earthjustice
1625 Massachusetts Ave., NW

¹⁴⁷ If EPA decides to adopt an alternative date for this purpose, the same eligibility date should apply to renewable energy resources located in foreign counties or jurisdictions without affected EGUs.

¹⁴⁸ However, incremental generation from existing hydropower resources that have added capacity or from later-built facilities, can count towards compliance. 79 Fed. Reg. at 34,867.

¹⁴⁹ We support EPA’s proposed approach for allocating credit for renewable energy based on which state created the incentive, rather than the state where EGUs are displaced. *See 111(d) Comments* at 100-102.

Suite 702
Washington, D.C. 20036
adillen@earthjustice.org