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The Virginia Department of Environmental Quality (DEQ) appreciates the opportunity to submit written comments¹ regarding EPA's proposed "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units" at 79 Fed. Reg. 34830, *et seq.* (June 18, 2014) (the Proposed Emission Guidelines). The Commonwealth of Virginia supports the promulgation of a carbon rule that achieves a meaningful reduction of CO₂ emissions from existing fossil fuel-fired electric generating units. Virginia DEQ also commends EPA for its extensive outreach to states during the development of the Proposed Emission Guidelines, and we encourage EPA to continue that outreach as the proposed guidelines are finalized and beyond. EPA's Proposed Emission Guidelines are extremely ambitious and set individually designed state carbon emission goals through a very complex regulatory scheme. In our comments, Virginia DEQ hopes to assist EPA in fashioning a better final rule by pointing out areas where the proposal could be improved. In particular, the Proposed Emission Guidelines could be made more equitable by correcting provisions that:

- Set stricter standards on Virginia and other states with low carbon-emitting electric generating systems than on states with high carbon-emitting generating systems, thereby placing at a disadvantage states that already have a diverse, low carbon-emitting generating portfolio and rewarding those that do not;
- Provide no credit for existing zero-emitting generation such as nuclear power, thereby ignoring states whose energy sectors have taken steps to reduce carbon intensity, while

¹ Emailed to A-and-R Docket@epa.gov.

creating a perverse incentive to increase CO₂ emissions as zero-emitting generation is retired and replaced by natural gas generation; and

- Require Virginia and numerous other states to achieve goals that are stricter than the New Source Performance Standards (NSPS) EPA has proposed under §111(b) of the Clean Air Act (the Act) for new fossil fuel-fired electric generating units.

In our comments, Virginia DEQ illustrates these concerns and suggests revisions that will make the final rule equitable, while maintaining its ability to achieve significant nationwide reductions in CO₂ emissions.²

1. CLIMATE CHANGE POSES A SERIOUS THREAT TO VIRGINIA THAT MUST BE ADDRESSED

Virginia DEQ applauds EPA for taking action to address climate change, which is one of the most important environmental issues facing the Commonwealth. Virginians already are experiencing the effects of climate change.³ Sea levels and average annual temperatures are rising. Intense storms and flooding are becoming more frequent and severe. The threats that Virginia faces on account of sea level rise and associated storm surges are only expected to grow as climate change continues. Virginia's low-lying coastline makes the area particularly susceptible to such threats. For example, the Hampton Roads area has had the highest rates of sea level rise along the East Coast and is second only to New Orleans in its vulnerability to sea level rise impacts.

Since 1880, the average global sea level has risen eight inches, but in Virginia Beach, the sea level has risen by approximately 30 inches. The Norfolk-Virginia Beach Metropolitan Area ranks 10th in the world in value of assets exposed to an increase in flooding from rising sea levels, which is likely to accelerate over the coming decades. In addition, as severe weather has intensified and become more frequent over the past couple of decades, it is reported that many property and casualty insurers have stopped writing policies for mid-Atlantic coastal businesses and primary residences. This has meant that, for example, fewer than 25% of residences in Hampton Roads have flood insurance.

² Virginia DEQ drafted these comments with considerable input from stakeholders and the public. Over the past several months, Virginia DEQ conducted extensive outreach to see what stakeholders and the public thought about EPA's Proposed Emission Guidelines and to solicit ideas on how the Commonwealth should comment and respond. In addition to meeting with numerous interested stakeholders, Virginia DEQ conducted a series of four informal public listening sessions around the state and solicited written comment. The listening sessions were attended by 189 persons, 104 of whom provided oral statements. DEQ also received over 2000 written public comments. In addition, Virginia DEQ continues to meet with and receive information from interested stakeholders and the public on an ongoing basis.

³ The effects of climate change on Virginia are summarized in the joint comments submitted by the Southern Environmental Law Center (SELC) and Sierra Club to the Virginia DEQ on August 26, 2014, in response to Virginia DEQ's request for public comment on EPA's Proposed Emission Guidelines. They are representative of the many comments we received in support of the Proposed Emission Guidelines. This section of Virginia DEQ's comments is based on the information provided on pages 2 through 4 of the joint SELC/Sierra Club submission.

The potential for rising temperatures caused by climate change will also have a negative effect on human health both nationally and in Virginia. Higher summer and fall temperatures will adversely affect air quality by, among other things, increasing the presence of pollen and other allergens in the air. Higher temperatures may also increase smog, which causes and exacerbates a wide array of respiratory conditions, such as bronchitis and asthma. Furthermore, three of the four leading causes of death in Virginia—heart attack, stroke, and chronic respiratory illnesses—are exacerbated by heat. These temperature changes may also facilitate the spread of certain infectious diseases, such as tick-borne Lyme disease. The health hazards made worse by climate change will disproportionately affect young children and the elderly. Elderly citizens are at higher risk of heart disease and stroke, and children are particularly susceptible to the respiratory impacts of heat waves, as their lungs are still developing and they have greater exposure than adults. Virginia DEQ, therefore, supports EPA’s promulgation of a strong carbon rule.

2. VIRGINIA IS A LEADER IN REDUCING CO₂ EMISSIONS AND ACHIEVING A LOW CARBON INTENSITY ELECTRIC GENERATING SYSTEM

Virginia is a national leader both in terms of reducing CO₂ emissions and in achieving a low carbon intensity electric generating system. According to the Georgetown Climate Center, in 2012 the rate of carbon pollution from all electric generating sources in Virginia was 911 pounds per megawatt hours (lb/MWh).⁴ This ranked Virginia 15th nationally. In addition, Virginia reduced carbon pollution from its power sector by approximately 39% from 2005 to 2012. This tied the state for seventh nationally in the rate of CO₂ emission reductions between those years.⁵

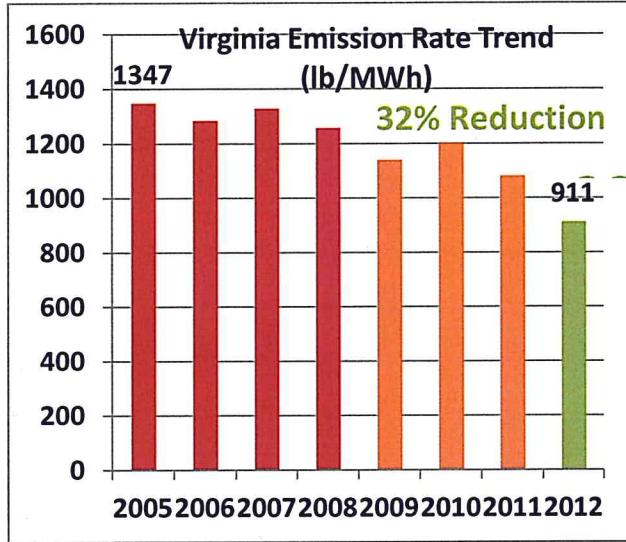
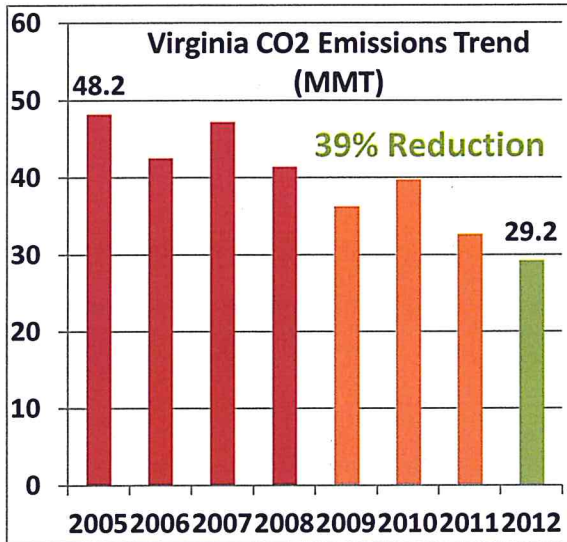
In 2005, CO₂ emissions from the Virginia electric generating system were estimated to be 48.2 million metric tons (MMT). At that time, the fossil fuel portion of the generation mix was dominated by coal with 70% in-state fossil fuel generation produced by coal fired units. The remaining small portion of fossil fuel generation was produced by natural gas and oil. When considering all generation, the largest amount of electricity generation again came from coal units (46%), followed by nuclear (35%), natural gas (10%), and oil (5%). When considering all generation sources, the 2005 carbon intensity of the Virginia generating system was 1347 lb/MWh.

Since then, a significant shift of Virginia’s energy generation mix has occurred as a result of the addition of almost 3500 megawatts of natural gas generation capacity and corresponding lower fuel costs. As such, natural gas generation has increased by over 100% while coal generation has decreased by about 40%. At the same time, oil generation has decreased due to higher fuel costs while the other generation sources have remained fairly constant. During this same time overall in-state generation has decreased by about 7 million MWh. As a result, total CO₂ emissions in 2012 have been estimated to be 29.2 MMT which is a reduction of 19 MMT or

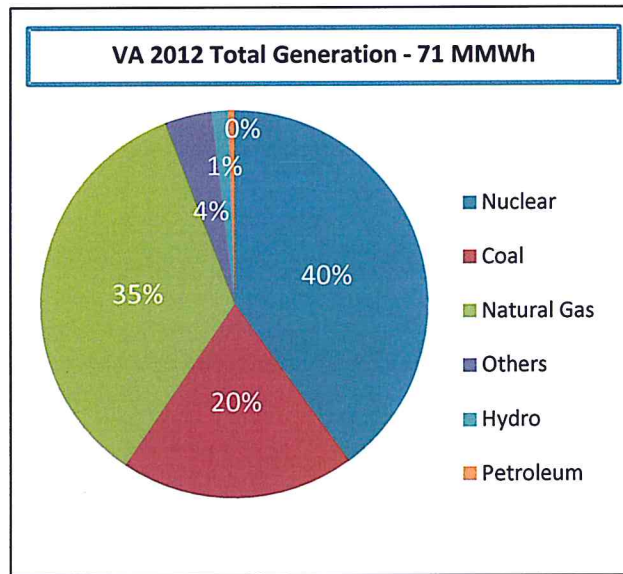
⁴ <http://energy.georgetownclimate.org/view-state-climate-and-energy-profiles> (herein after referred to as Georgetown Climate Center).

⁵ Id.

39% from 2005. Likewise, the 2012 overall generation intensity for the Virginia generating system was 911 lb/MWh which is a reduction of 436 lb/MWh or 32% from 2005.



The result of this major shift in the generation mix during this time period is a well balanced and diverse electric generation mix in Virginia which has produced significant reductions in emissions of CO₂ and criteria air pollutants and provided great air quality benefit to the Commonwealth and its neighbors. During 2012, a total of 71 million MWh of electricity were generated by in-state generating units. This generation was produced by the fuel types presented in the graph to the right. Nuclear power generated by the two nuclear power plants in Virginia generated the highest percentage (40%) of electricity in 2012 followed closely by natural gas (35%) and then coal (20%). The remaining generation (5%) came from a number of sources including hydroelectric, biomass, and oil.



Yet despite the impressive progress Virginia has made reducing CO₂ emissions and developing its low carbon intensity electric generating system, the “Four Building Block” approach of the Proposed Emission Guidelines assigned the Commonwealth a final goal of 810 pounds of CO₂ emitted per megawatt hour of electricity generated from “affected” fossil fuel-fired units. The goal proposed for Virginia is substantially lower and stricter than that assigned to most other states with generating systems of greater carbon intensity. Although the “Four Building Block” approach taken by the proposal to regulate each state according to its potential

to reduce CO₂ emissions appears reasonable at first glance, it creates state-by-state imbalances in compliance obligations and costs, is inconsistent with the Clean Air Act’s objective to achieve nationally consistent standards, and is unfair to states that have achieved lower carbon-intensive electric generating systems.

3. TO ENSURE EQUITY AMONG STATES, THE CLEAN AIR ACT REQUIRES NATIONALLY CONSISTENT STANDARDS AND DOES NOT ALLOW IMPOSITION OF DIFFERENT REQUIREMENTS ON INDIVIDUAL STATES UNDER §111(d)

All of Virginia’s neighboring states have electric generating systems that are more carbon-intensive than Virginia’s, but all have emission rate goals substantially higher than Virginia’s final goal of 810 lb/MWh.⁶ In fact, the Proposed Emission Guidelines would require greater reductions in megawatt hours or carbon intensity from affected units in Virginia than from similar units in either Kentucky or West Virginia, even though those states generated approximately twice the amount of electricity on a megawatt hour basis from fossil fuel than did Virginia in 2012.⁷ Moreover, in 2012 both Kentucky and West Virginia had electric system carbon intensities in excess of 2000 lb/MWh, compared with Virginia’s rate of only 911 lb/MWh.⁸

Such differences extend beyond Virginia’s immediate neighbors. In 2012, Wyoming not only generated more electricity by fossil fuel than did Virginia, but it had a far higher electric system carbon intensity of over 2100 lb/MWh. However, under the goal assigned to Wyoming under the Proposed Emission Guidelines, Wyoming would be required to reduce the megawatt hours or carbon intensity of its generation far less than does Virginia.⁹

The disparity in state goals leaves Virginia at a competitive disadvantage to its neighbors and numerous other states because they will be able to comply with the Proposed Emission Guidelines more cost-effectively. For example, under a multi-state compliance agreement, money to purchase CO₂ allowances would flow out of Virginia to states like West Virginia,

State	Electric System Carbon Intensity lb/MWh		Proposed State Final Goal lb/MWh
	Overall	Fossil Fuel	
Virginia	911	1438	810
Maryland	1207	2029	1187
West Virginia	2018	2056	1620
Kentucky	2100	2166	1763
Tennessee	1184	2105	1163
North Carolina	1094	1722	992
Washington, D.C	not in program		

Source: Georgetown Climate Center, Id.

⁷ Georgetown Climate Center.

⁸ Id.

⁹ Id.

Kentucky, or Wyoming. In the absence of a multi-state agreement, such states could use their competitive advantage over Virginia to keep their state electric rates or taxes relatively lower in order to lure away existing Virginia businesses and render Virginia less competitive in the quest for new businesses. Such a disparity in state goals is simply not envisioned under §111(d).

The Clean Air Act imposes nationally consistent standards in certain key areas of air pollution regulation. For example, the National Ambient Air Quality Standards (NAAQS) are developed by EPA to protect public health with an adequate margin of safety and apply uniformly nationwide. Mobile source standards developed under Title II of the Act also apply nationwide.¹⁰ The NSPS and Existing Source Emission Guidelines under §111 of the Act are no exception.

Section 111 was amended in 1977 to add the concept of "best system of emissions reduction" for new and existing stationary sources. The legislative history shows that one of the purposes of §111 was to create nationally uniform standards that do not favor one region or state over another.¹¹ Congress was particularly concerned that requirements under §111 not "give a competitive advantage to those States with cheaper low-sulfur coal and create a disadvantage for Midwestern and Eastern States where predominately higher sulfur coals are available."¹² In addition, Congress was worried about the negative competitive impact on states that are required to impose more stringent pollution control on their sources than other states.¹³

The §111 standards thus were intended by Congress to avoid situations in which industries could be lured to one state by relaxing emission standards or deadlines and away from other states with stricter standards. Similarly, they were supposed to avoid favoring some areas of the country over others. The promulgation of federal emission standards for new sources was meant to preclude efforts on the part of states to compete with each other in trying to attract new plants and facilities without assuring adequate control of emissions.¹⁴ In other words, Congress intended that §111 promote national consistency with respect to emission standards.¹⁵

¹⁰ The Clean Air Act allows California to adopt mobile source emissions standards that are stricter than those that apply in other states.

¹¹ H.R. Rep. 95-294, May 12, 1977, House Conf. Rep. 95-564, August 3, 1977, 95th Cong., 1st Sess. 1977, 1977 U.S.C.C.A.N. 1077.

¹² *Id.*, 1977 U.S.C.C.A.N. at 1266. While Congress took pains in the 1977 Amendments not to disadvantage high-sulfur coal states, there is certainly no indication in the legislative history that Congress intended to give them an advantage either.

¹³ See in particular questions raised by Rep. James F. Hastings during the course of House subcommittee hearings in 1970, 1977 U.S.C.C.A.N. at 1263.

¹⁴ *Id.*

¹⁵ Under the Clean Air Act, states have always had the choice of imposing more stringent standards than EPA requires. Up until now, however, EPA has never forced some states to meet more stringent standards than others under a technology or system-driven program such as §111 or the air toxic Maximum Achievable Control Technology (MACT) standards under §112.

The Proposed Emission Guidelines, however, do the opposite. They would create competitive inequalities among states, favoring some states over others, in effect rewarding states with high carbon intensity electric generating systems and penalizing states with low carbon intensity systems.

In conversations with states, EPA has defended the disparity in state goals as the result of the even-handed application of the proposal's Four Building Block approach to determining §111(d)'s Best System of Emission Reduction (BSER).¹⁶ At the end of the day, however, any national rule under §111(d) that regulates carbon but establishes a BSER requiring states with lower overall carbon emissions to make steeper cuts in emissions than higher carbon states is defective. At a minimum, therefore, the final rule should provide uniform national standards that level the competitive playing field between high and low carbon states.¹⁷ EPA can make this adjustment and still promulgate a rule that brings meaningful reductions in CO₂ emissions.

4. TO ENSURE CONSISTENCY IN THE APPLICATION OF THE RULE, STATES SHOULD BE GIVEN CREDIT FOR ALL ZERO-EMITTING ELECTRIC GENERATION IN THEIR COMPLIANCE PLANS

The purpose of the Proposed Emission Guidelines is to regulate CO₂ emissions from existing fossil fuel-fired electric generating units. In the proposal, EPA claims authority under §111(d) to go outside-the-fenceline to consider the carbon intensity of a state's entire electric generating system. In so doing, EPA set state goals based on the inclusion of *not-yet-constructed* renewable and zero-emitting generation. However, while the Proposed Emission Guidelines mandate future emission targets based on the carbon reduction *potential* of a state's entire electric generating system, they do not consider the carbon intensity of a state's electric generating system as it exists *now* when setting a state's baseline.

EPA's approach fails to recognize the achievements made by many states, including Virginia, that have reduced CO₂ emissions by making significant investments in zero and low carbon emitting generation, such as nuclear power, and rewards states that have not done so by giving them substantially higher CO₂ emission reduction targets. It also compares apples to oranges by discounting the carbon intensity of a state's current electric generating system but setting future requirements based on projected zero-emitting facilities. The BSER in the Proposed Emission Guidelines effectively requires that many existing fossil fuel facilities either be shut down or drastically curtailed and replaced with zero-emitting generation, but gives no credit for existing zero-emitting generation currently in a state's generating portfolio. It thus places states already having a large amount of zero-emitting generation at a disadvantage by

¹⁶ The proposed BSER's Four Building Blocks, however, are not applied even-handedly across the states as discussed below because EPA calculated individual state goals for renewable energy in Building Block Three based on arbitrary regional comparisons with no consideration given to national consistency. See Section 8.d., *infra*. In addition, when it set state goals, EPA did not apply CO₂ reductions from Building Block Two to states like West Virginia that do not currently have any NGCC generation, thereby giving those states higher goals than states like Virginia that have a large amount of electricity generated by NGCC units.

¹⁷ Leveling the playing field in this way also would help remove a significant obstacle to the formation of interstate agreements under the final rule.

skewing the analysis and requiring them to do more than states that presently have little or no zero-emitting generation. The Proposed Emission Guidelines also create a perverse incentive to increase CO₂ emissions because states may be encouraged to prematurely retire zero-emitting nuclear generation and replace it with natural gas generation, which in some states may be credited to their carbon emission goal.

If BSER looks outside-the-fence line at the entire electric generating system at all, then it must look outside-the-fence line when considering both sides of the equation; BSER cannot simply disregard the existing carbon intensity of an entire electric generating system when establishing baselines, but only consider it when setting future system-wide goal. BSER must start its analysis at the same point it ends up in order for the concept to be logical and internally consistent.¹⁸ Virginia DEQ, therefore, is convinced that EPA must revise the Proposed Emission Guidelines to allow states to demonstrate compliance with all zero-emitting generation, including nuclear and hydroelectric power generation, in operation during the period of the state plan, regardless of when such zero-emitting generation was placed into service.¹⁹ In other words, Virginia DEQ believes fairness requires that it receive full credit for its existing zero-emitting nuclear and hydroelectric generation in its state plan without a corresponding decrease in the CO₂ emission rates contained in the state's goal. In addition, the Proposed Emission Guidelines should be revised to unambiguously allow a state to achieve compliance with its goals through any new zero-emitting nuclear generation that comes on-line before or during the period of a state plan.^{20 21}

5. EXISTING SOURCE EMISSION GUIDELINES UNDER §111(d) SHOULD NOT BE SET AT A LEVEL MORE STRINGENT THAN NEW SOURCE PERFORMANCE STANDARDS ESTABLISHED FOR THE SAME SOURCE CATEGORY UNDER §111(b)

The Proposed Emission Guidelines compound the problem created by establishing inequitable state carbon emissions goals by setting those goals for some states, including

¹⁸ In conversations with states, EPA claimed it cannot start the analysis with zero-emitting facilities because under §111(d), BSER can only address existing fossil fuel-fired generation. However, if EPA is truly under such a legal constraint, it could not venture outside-the-fence line of fossil fuel generating facilities for *any* aspect of the BSER.

¹⁹ Likewise, Virginia asks to receive full credit for its municipal waste-to-energy facilities. While waste-to-energy facilities are not zero-emitting in the strictest sense that nuclear or hydroelectric plants are, they nevertheless are recognized for reducing methane emissions (a powerful CO₂ equivalent, or CO₂e) from landfills, thus achieving a far greater than one-to-one reduction in CO₂e emissions for every ton of CO₂ emitted directly from a waste-to-energy facility.

²⁰ EPA can address Virginia DEQ's concern by clearly stating in the final rule that all of a state's zero-emitting generation can be designated as "affected entities" under the state plan and thus be factored into Building Block 3 when demonstrating compliance with the state's electric system-wide CO₂ emission rate goal.

²¹ The Proposed Emission Guidelines' treatment of so-called "at-risk nuclear" appears curious. In reality, all nuclear power is "at risk" to some degree. Under the approach advocated by Virginia DEQ, such a designation becomes unnecessary because states that retire nuclear generation must nevertheless meet their goals, but they are not provided with an incentive to prematurely retire nuclear generation and replace it with GHG-emitting NGCC units.

Virginia, at a level well below that which EPA has proposed for new fossil fuel-fired electric generating units as NSPS under §111(b) of the Act.²² The second paragraph of EPA's "The Clean Air Act in a Nutshell: How It Works" from 2013 says, "The law calls for new stationary sources to be built with best technology, and allows less stringent standards for existing stationary sources."²³ An examination of the Congressional record indicates that this is how Congress intended §111 to operate all along.

The legislative history of §111 implicitly makes clear that NSPS for new sources under §111(b) were intended to be more stringent than existing source Emission Guidelines under §111(d), not the other way around.²⁴ The legislative history discusses in depth several reasons why NSPS should be more stringent than Emission Guidelines for existing sources under §111(d). These reasons include: 1) the fact it is more economical to install state-of-the-art pollution control equipment on new sources than to retrofit it onto existing plants; 2) to spur the development of new technologies, and; 3) not to unduly hasten the shut-down of existing facilities.²⁵ Congress stated:

[I]n establishing standards of performance based upon emission reduction realizable with the best technological system of continuous emission reduction, believes that it is prudent public policy to require achievement of the *maximum* degree of emission reduction from *new* sources, while encouraging the development of innovative technological means of achieving equal or better degrees of control. (Emphasis added.)²⁶

Congress reiterated its directive to EPA that new sources should be more stringently regulated in the following Clarifying Statement to the legislative history of the 1977 Clean Air Act Amendments:

Clarification of Section 111(d). This section is also intended to clarify the basis for standard-setting for existing sources under section 111(d) of the Act. Under the committee bill, the standards in the section 111(d) State plan would be based

²² EPA has proposed a CO₂ emission rate of 1000 lb/MWh for large new natural gas combined cycle units in its NSPS for fossil fuel-fired electric generating units under §111(b) of the Clean Air Act. 79 Fed. Reg. 1430 (January 8, 2014). At the same time, EPA proposed a CO₂ emission rate of 1100 lb/MWh for new coal-fired power plants, which was based on the partial application of carbon capture and sequestration technology (CCS). A startling aspect of the Proposed Emission Guidelines is that even if all the coal-fired power plants in Virginia were somehow retrofitted with CCS technology and met the NSPS for new coal plants, they nevertheless would not come close to complying with Virginia's final goal of 810 lb/MWh under the proposal. That's certainly a result Congress never intended under §111.

²³ U.S. EPA, "The Clean Air Act in a Nutshell: How it Works." March 22, 2013. www.epa.gov/air/caa/pdfs/caa_nutshell.pdf.

²⁴ H.R. Rep. 95-294, May 12, 1977, House Conf. Rep. 95-564, August 3, 1977, 95th Cong., 1st Sess. 1977, 1977 U.S.C.C.A.N. 1077.

²⁵ *Id.*, 1977 U.S.C.C.A.N. at 1264-66.

²⁶ *Id.*, 1977 U.S.C.C.A.N. at 1267-68.

on the best available means (not necessarily technological) for categories of existing sources to reduce emissions.²⁷

Taken in the context of the rest of §111's legislative history, this statement clearly implies that the "best available means" requirement of §111(d) did not have to include §111(b)'s more rigorous technology mandate. Congress never contemplated a situation where it would be acceptable to impose a more stringent standard under §111(d) than under §111(b).

The Proposed Emission Guidelines, however, fall into the trap Congress meant §111 to avoid. By setting the carbon emissions goals for some states at a level far below what EPA has proposed for natural gas combined cycle (NGCC) units under §111(b), the Proposed Emission Guidelines will hasten the shutdown of existing §111(d) affected units and spur the construction of new NGCC plants. The impact on Virginia would be particularly severe because it will put at risk at least two new NGCC facilities that commenced construction before the Proposed Emission Guidelines were published in the Federal Register.²⁸ Moreover, because Virginia's goal of 810 lb/MWh is well below the lowest CO₂ emission rate a new state-of-the-art NGCC can achieve, it is possible that no NGCC plants will be built in Virginia in the future because it may not be economical to do so.²⁹ This is not the result Congress intended when it drafted §111. Virginia DEQ, therefore, urges EPA to revise the Proposed Emission Guidelines so that no state goal is set at a level lower than the rate established for new NGCC units under §111(b).³⁰

6. THE FINAL RULE SHOULD CLARIFY THE DEFINITION OF "EMISSIONS STANDARD" TO INCREASE STATE FLEXIBILITY

EPA touts the Proposed Emission Guidelines as providing states with a great deal of flexibility in how to achieve their goal. This flexibility could be significantly enhanced by clarifying and simplifying the definition of "Emission Standard" in proposed 40 C.F.R. §60.5820 to read as follows:

²⁷ *Id.*, 1977 U.S.C.C.A.N. at 1274.

²⁸ Dominion's Warren and Brunswick facilities.

²⁹ Virginia is the only state among its neighbors for which the Proposed Emission Guidelines have set a carbon emissions rate goal below that which can be achieved by a new state-of-the-art NGCC, which is approximately 900 lb/MWh. See footnote 4, *infra*. Therefore, a new NGCC could never be used in Virginia's state plan to comply with its goal. Virginia's neighbors, however, despite having electric systems with higher carbon-intensities, may be able to use new NGCC plants to meet their higher state goals. Virginia's neighbors, therefore, could offer inducements to new NGCCs to locate in their states that Virginia could not prudently offer. At least the Proposed Emission Guidelines do not further disadvantage Virginia by requiring that new NGCCs become "affected units" under the state plan, thereby making Virginia's goal even harder to achieve. For that reason, Virginia DEQ asks EPA to resist calls to require that emissions from new NGCCs, which are regulated under §111(b), be included in the calculation of state goals under §111(d).

³⁰ Throughout the proposal's preamble, EPA appears overly concerned with preserving a predetermined overall emissions reduction target like it would in a NAAQS rule, rather than focusing on §111(d)'s proper role as a technology and/or system-driven provision. The revisions advocated in these comments would tie the final rule more closely to the language and Congressional intent of §111(d), thereby enhancing its ability to survive judicial challenge and ultimately achieve meaningful nationwide reductions in CO₂ emissions.

Emission standard means in addition to the definition in §60.21, any requirement applicable to any affected entity that has the effect of reducing emissions or utilization of one or more affected sources, including, for example, renewable energy and demand-side energy efficiency requirements.

Section 60.5820, as currently drafted, appears to unduly restrict the types of requirements that can be imposed on “affected EGUs” or “affected sources” to reduce CO₂ emissions in state plans. Although 40 C.F.R. §60.21 and §60.24(b)(1) permit §111(d) emission guidelines to impose either an emission rate or an allowance system on affected sources, it is conceivable that states plans could devise broader, more creative, and more effective options to address compliance from affected EGUs than now contemplated under §60.21 and §60.24(b)(1). For example, one ambiguity that will confront states as they develop plans is that the term “allowance system” is not defined in EPA’s §111 general regulations in 40 C.F.R. Part 60. Thus it is unknown precisely what types of “allowance systems” EPA will approve under state plans. There is potentially a vast array of allowance-type systems that states may wish to explore, and EPA should remove any doubts that novel approaches will be encouraged and accepted. Virginia DEQ, therefore, strongly urges EPA to remove such questions and affirm state flexibility by revising proposed 40 C.F.R. §60.5820 as suggested above.

7. THE FINAL RULE SHOULD ALLOW STATES TO TAKE INTO CONSIDERATION OTHER FACTORS SUCH AS THE REMAINING USEFUL LIFE OF AN EXISTING SOURCE WHEN APPLYING §111(d) EMISSION GUIDELINES IN ACCORDANCE WITH THE PLAIN LANGUAGE OF THE CLEAN AIR ACT

Section 111(d)(1) says that: “Regulations of the Administrator under this paragraph *shall* permit the state in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies.” (Emphasis added.) EPA has provided its interpretation of this provision in §111(d)’s general regulations found at 40 C.F.R. §60.24(f), which states:

Unless otherwise specified in the applicable subpart on a case-by-case basis for particular designated facilities or classes of facilities, States may provide for the application of less stringent emissions standards or longer compliance schedules than those otherwise required by paragraph (c) of this section, provided that the State demonstrates with respect to each such facility (or class of facilities):

- (1) Unreasonable cost of control resulting from plant age, location, or basic process design;
- (2) Physical impossibility of installing necessary control equipment; or
- (3) Other factors specific to the facility (or class of facilities) that make application of a less stringent standard or final compliance time significantly more reasonable.

These regulations allow the state to apply less stringent emissions standards or longer compliance schedules to individual facilities based on site-specific considerations such as

an unreasonable cost of control resulting from plant age, location, or basic design process.

Unfortunately, the Proposed Emission Guidelines negate the flexibility given under §111(d)(1) and 40 C.F.R §60.24(f).³¹ EPA claims such flexibility is already provided to states because they “are free to specify requirements for individual EGUs that are appropriate” to take those factors such as the remaining useful life into account. “Therefore,” according to EPA, “no relief for individual facilities would be needed.”³² That flexibility, however, is more apparent than real, because the achievement of state goals is a zero-sum game: If a state regulates certain plants less stringently, it must then make up the shortfall in reaching its target by over-controlling other sources. In some situations it might not be possible to find sufficient over-control, in which case the state could not provide the case-by-case relief §111(d) intended.³³

Congress did not wish for §111(d) to operate in the manner proposed by EPA. Section 111(d)’s plain language directing EPA to allow states to address existing facilities on a case-by-case basis in state plans with respect to “other factors” and “remaining useful life” is fully supported in the section’s legislative history. The 1977 House Committee Report’s Clarification of Section 111(d) states:

The Administrator would establish guidelines as to what the best system for each such category of existing sources is. However, the *State would be responsible for determining the applicability of such guidelines to any particular source or sources.* (Emphasis added.)³⁴

Nowhere in the Clean Air Act or its legislative history is it implied that if a state were to exercise such case-by-case flexibility when implementing §111(d) Emission Guidelines, it must make up the shortfall in emission reductions from other sources. Virginia DEQ, therefore, urges EPA to follow the plain language of §111(d) and the agency’s own regulations at 40 C.F.R §60.24(f) by specifically allowing states flexibility to address “other factors” and “the remaining useful life” of plants on a case-by-case basis.

³¹ 79 Fed. Reg. at 34925.

³² Id.

³³ Id. While one can debate whether it is “fair” to require such off-setting over-control from large utility systems that own and operate a fleet of generating units, there is one type of source that is particularly hard hit by EPA’s Proposed Emission Guidelines: single-asset coal plants. Such plants would not easily be able to take advantage of emission rate averaging or intra-state trading programs. Without such options, they would not be able to continue operation unless the state subsidized them in some manner by over-controlling other facilities, which might not be feasible. Single-asset coal plants, therefore, could very well have to shut down regardless of their efficiency or whether they are needed to assure system reliability, unless a state is able to employ the flexibility expressly granted under §111d to regulate existing sources on a case-by-case basis. See also fn 37, *infra*.

³⁴ H.R. Rep. 95-294, .May 12, 1977 95th Cong., 1st Sess. 1977, 1977 U.S.C.C.A.N. 1077, at 1274.

8. ADDITIONAL COMMENTS

a. Selection of Baseline

Selection of a representative baseline year or period is an important first step in the process to calculate state emission rate and reduction goals. The Proposed Emission Guidelines rely on a single calendar year of 2012 as the default base year for this purpose. However, reliance on one year can overly influence the resulting calculations when the year in question is not representative of the normal generating conditions. This method also does not account for the normal variation that occurs in both generation and emissions from year to year.

For example, 2012 was the highest year on record for electricity generation from natural gas sources in Virginia due to increased generation capacity and low natural gas prices. In fact, the generation from natural gas units was 46% higher than the next highest year on record in Virginia. We believe that the selection of this year misrepresents the normal generation profile for Virginia and may result in a more stringent goal.

In many other EPA programs such as the Clean Air Interstate Rule and the Cross-State Air Pollution Rule, a period of five years was considered when establishing a generation baseline. Then the two or three highest generation and emissions years within the five year period are identified and averaged to determine individual unit and collective emissions targets. We recommend that EPA adopt a similar approach for setting the emissions rate goal in the final rule. In this way, the yearly variation and the impact of unusual years can be better addressed.

b. Alternative Emission Rate

In the proposal, EPA includes and requests comment on a set of state-specific alternative emissions rate goals and related building block goals that would be achieved in a shorter time frame of five years instead of the proposed rate over ten years.³⁵ We applaud EPA for including these alternative goals, which may turn out to be more reasonable and achievable at less overall cost. However, as is the case with much of the Proposed Emission Guidelines, more time is needed for Virginia to fully assess the benefits and impacts of the alternative goal.

Therefore, we recommend that EPA allow individual states to select the approach that is most suitable and beneficial given state-specific circumstances in the final rule. We especially believe this flexibility should be provided to states that have already achieved significant reductions in their carbon intensity and which have more substantial reduction requirements under the proposal.

c. Emission Rate to Mass Emissions Conversion

The discussion in the Proposed Emission Guidelines on converting state emission rate goals into a mass emissions “cap” is vague and overly complicated.³⁶ In addition, this guidance

³⁵ 79 Fed. Reg. at 34898-99.

³⁶ See Technical Support Document, “Projecting EGU CO₂ Emission Performance in State Plans.”

appears to require complex and resource intensive modeling that may be beyond the capability of many states to undertake or complete in a timely manner to inform the plan development process. At the same time, such a conversion is vital to assessing the potential viability of existing and/or future interstate emissions trading programs that EPA acknowledges may be a more cost effective method of compliance for some states.

We recommend that EPA develop a simple and straightforward presumptive method for performing the rate-to-mass conversion that utilizes existing data and tools. A number of readily available sources of data on demand growth and emissions projections are currently available to the states such as the Energy Information Administration (EIA) and the state emissions projection tool developed by ERTAC.³⁷ We further recommend, however, that EPA allow states to apply equivalent methods of rate-to-mass conversion upon an appropriate demonstration in their state plans.

d. Alternative Renewable Energy Goal

In the proposal, EPA includes and requests comment on a set of state-specific alternative renewable energy estimates and related building block goals that would be achieved as part of the overall compliance plan.³⁸ We again applaud EPA for including this alternative approach, which may provide more realistic and achievable goals given both the cost and timelines for such projects. We recognize that the renewable energy potential for both residential and commercial applications is substantial, but the planning and implementation of a comprehensive approach to tap into this generation will be challenging given the timelines involved in the proposed rule. However, we also believe that the arbitrary application of geographic renewable energy capabilities based on largely unproven renewable portfolio standards of selective states is not appropriate.

One specific challenge that we face involves certain projections coming out of EPA and other federal agencies regarding the development and availability of renewable energy assets and the upfront cost for many of these projects. For example, recent EPA power sector modeling results have identified over 1000 megawatts of offshore wind being developed in Virginia prior to 2020. The reality is that a modest demonstration project is now being processed offshore of Virginia to have 12 megawatts of wind power in place by 2018. A similar situation exists for the development of commercial solar energy projects.

We again recommend that EPA allow individual states the option to select the alternative renewable energy approach, if it should be more suitable to a state's given circumstances in the final rule. We also believe that this flexibility should be provided to states that have already achieved significant reductions in their carbon intensity and to states that have more substantial reduction requirements under the rule.

³⁷ The Eastern Regional Technical Advisory Committee (ERTAC) has developed the Electricity Generating Utility Growth Model for predicting future electric generating sector air pollutant emissions. This model is currently being enhanced to estimate future CO₂ emissions.

³⁸ 79 Fed. Reg. at 34869-70; See also, Technical Support Document, "GHG Abatement Measures," Chapter 4, and "Alternative RE Approach Technical Support Document."

e. Interim Goal Flexibility

EPA identifies a process in the Proposed Emission Guidelines by which a state can demonstrate progress toward meeting its final emission rate goal prior to the final compliance year. This involves a demonstration that progress along a glide path is being made within a certain percentage of the yearly progress milestone, beginning in 2020.

We believe that this process is flawed because certain zero-emitting projects, which otherwise could become significant components of a state's compliance plan, may not be able to come online in time to assure a uniform rate of progress during the interim period. Any major commercial energy project would likely affect a state's specific rate of progress during this period. Virginia DEQ, therefore, asks that the final rule provide greater flexibility in the glide paths that states must demonstrate to meet their interim and final goal.

f. Electronic Submittals

EPA is seeking comment on whether it should provide for, or require, electronic submittal of initial and complete plans.³⁹ As an active participant in EPA's Electronic State Implementation Plan Submission Pilot, Virginia DEQ agrees that the electronic submittal of information increases the ease and efficiency of data submittal and data accessibility; we note that it also has environmental benefits. Such an approach is entirely suitable for submittal of state plans under §111(d) as well as for state implementations plans (SIPs) under §110, and we encourage EPA to have this program in place in time for states to take advantage of it at the discretion of each state.

9. FINAL COMMENTS AND CONCLUSION

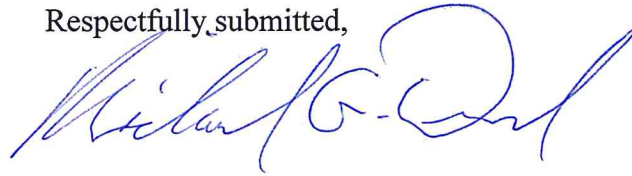
As a general matter, Virginia DEQ requests that in the final rule EPA provide the states with as much flexibility as possible in keeping with the spirit of §111(d). We ask also that EPA not over-burden states with reporting requirements, which would infringe upon flexibility and deplete state resources that otherwise could be used to implement robust §111(d) plans. Finally, Virginia DEQ asks EPA to be mindful that the deadlines set forth in the Proposed Emission Guidelines are extremely tight given the breadth and scope of what is required of states. EPA should expect that some states will be late in submitting plans and reports, or submit deficient plans and reports through no fault of their own. EPA must continue to work with such states in a collaborative and non-punitive manner if the final rule is to be successful.

Virginia DEQ appreciates this opportunity to comment on the Proposed Emission Guidelines. As discussed above, Virginia is supportive of a rule that achieves meaningful reductions in CO₂ emissions, but we are concerned that the proposal falls short of the requirements of the Clean Air Act in several important respects, and we ask that the final rule be revised accordingly. These comments are submitted with the aim of assuring that the final rule is equitable, recognizes the great strides made by Virginia and other states

³⁹ 79 Fed. Reg. at 34917.

in reducing CO₂ emissions, and survives judicial challenge. We hope EPA will accept them in that spirit. Virginia DEQ looks forward to continue working with EPA through the finalization and implementation of the §111(d) Emission Guidelines.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Michael G. Dowd". The signature is fluid and cursive, with a large loop at the end.

Michael G. Dowd
Director, Air Division