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DEPARTMENT OF ENVIRONMENTAL PROTECTION



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December 1, 2014

Ms. Regina McCarthy, Administrator
Environmental Protection Agency
EPA Docket Center
Mailcode 28221T
Attn: Docket ID No. OAR-2013-0602
1200 Pennsylvania Avenue, NW
Washington, DC, 20460

Re: Comments on Proposed Clean Power Plan, Clean Air Act Section 111(d)

Dear Ms. McCarthy:

The State of Maine thanks the United States Environmental Protection Agency (EPA) for soliciting comments on the proposed Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electricity Generating Units (proposed rule, or rule), proposed under Section 111(d) of the Clean Air Act. We write to you with a unique perspective regarding this subject. Maine has numerous efforts that actively and significantly reduce the state's greenhouse gas (GHG), and more specifically carbon dioxide (CO₂) emissions due to power production. Maine's combustion-based power production has moved away from coal and oil to cleaner natural gas-fired turbines. Maine also has a significant number of generation units that utilize wood and other renewable biomass materials to produce electricity both for the grid and to power local industrial facilities. A very large portion of the electricity generated in Maine has been and continues to be produced using renewable energy (RE) sources such as hydropower and wind power, which generate no CO₂ at all in the production of power. Additionally, Maine participates in the Regional Greenhouse Gas Initiative (RGGI), a coalition of nine northeast states which operates in a cap-and-trade format to reduce GHG emissions at many power plants in the region over a multi-year period. With this background, the Maine Department of Environmental Protection (the Department) offers these comments on the proposed rule.

There are several areas in which the proposed rule needs to be clarified and improved, including the following:

- The proposed rule does not recognize and give credit to states that were "early actors." Some states have long-standing policies that have resulted in the avoidance of enormous amounts of CO₂ emissions. These states should not be required to carry the burden of

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states that have done little or nothing to reduce their carbon footprint over the years. States that pollute the most should be required to take the most action to mitigate the effects of that pollution. [Sec. A]

- The rule as proposed penalizes states that have independently taken action to reduce CO₂ emissions by not specifically allowing existing hydropower generation to be used as a compliance measure, and is unclear how new hydropower generation is proposed to be allowed as a compliance measure. [Sec. B]
- The proposed rule is not clear regarding how zero-carbon energy can be used as a compliance mechanism. States with large amounts of RE should not be penalized if the electricity from those projects is sold to another state. [Sec. B]
- The proposed rule has no clear statement allowing the use of internationally imported zero-carbon electricity as a compliance mechanism. EPA must clearly state that this is allowed. [Sec. B]
- The proposed rule is not clear regarding the use of expanded production from existing zero carbon facilities as a compliance mechanism. EPA must clearly state that expansion of capacity is not a prerequisite for allowing increased generation from these facilities to be used to demonstrate emissions reductions. [Sec. B]
- EPA has established baselines and goals based on a method of allocation for RE that is not allowed for compliance and thus, is inconsistent and inherently unfair. [Sec. B]
- The language in the proposed rule is unclear regarding what constitutes an affected Electricity Generating Unit (EGU), and is inconsistent with the description in the New Source Performance Standards (NSPS) proposed under Section 111(b) of the Clean Air Act. [Sec. C]
- The proposed rule incorrectly identifies Wyman Station as an affected EGU. [Sec. D]
- As proposed, the rule would require an existing Natural Gas Combined Cycle (NGCC) plant to operate more efficiently than a newly constructed NGCC plant. [Sec. E]
- EPA has incorrectly identified several EGUs as affected EGUs for Maine. [Sec. E]
- EPA has not addressed the possibility that an EG operating parameters may change over time, affecting its status in relation to the criteria that define an affected EGU under the proposed rule. [Sec. E]
- EPA has not clearly indicated how an EGU that burns biomass as its primary fuel will be considered under the proposed rule. EPA must unequivocally state that biomass is not a fossil fuel, and therefore EGUs that burn biomass as their primary fuel are not affected EGUs under the proposed rule. [Sec. F]
- EPA must clearly state that heat energy recovered and utilized at a cogeneration facility is allowed as a compliance measure. EPA should encourage increased cogeneration at existing facilities. [Sec. G]
- EPA's use of 2012 as the base year for calculating emission reduction goals penalizes states like Maine that initiated programs resulting in significant reduction of CO₂ emissions long before that date. EPA must allow states that have taken early action to calculate goal rates based on any year as far back as 2005, the year that the proposed rule bases its overall target reduction on which the proposed rule bases its overall reduction target. [Sec. H]

- The proposed rule does not allow states to capture CO2 emission reductions from deployment of electric vehicles and heat pumps. [Sec. I]
- The proposed rule does not provide flexibility for states to respond to unforeseen circumstances. [Sec. J]
- The proposed rule does not recognize that parts of some states are served by the Canadian grid and do not have interconnection with the US grid. [Sec. K]

These concerns are discussed in detail below.

A) The Proposed Rule Establishes State Goals that Penalize Early Actors

Maine appreciates the type of approach that EPA is proposing in trying to determine a Best System of Emission Reduction (BSER) for electric generation, however, EPA has failed to appropriately recognize all of the things that some early-acting states have already accomplished over the years, and in some cases decades, as direct results of policies and programs that states have developed and implemented which have substantially reduced CO2 emissions from these states' electric systems. According to the information in EPA's proposed rule and preamble as published in the Federal Register, and information published by the Energy Information Agency (EIA), Maine's historical policies and practices have resulted in the third-lowest CO2 emissions rate per MWh of electricity generated by affected EGUs in the fifty states; the second-highest rate of installation of energy efficiency measures of the fifty states; and the highest percentage of renewably generated electricity of any state. Maine's policies and practices, continued at current levels, will result in a lower rate of CO2 production per MWh generated than EPA has proposed as a goal.

Maine encourages EPA to recognize and reward states that already have low electric-system-wide CO2 emission rates as a result of policies and programs they have implemented in the past. This could be accomplished by setting a single emission rate-based goal determined to be representative of BSER for a typical electric system, along with an equivalent mass-based goal. As a compliance measure, states that are already meeting this goal should be allowed to demonstrate to EPA that they will continue to meet the emission rate-based or equivalent mass-based goal. States that are not meeting the goal could then comply with the proposed rule by submitting a plan to EPA demonstrating how they will achieve either one of the equivalent goals.

The fact that states have incorporated policies and programs that reduce GHG emissions in power production to different degrees is reflected in the wide range of interim and final goals that are being proposed in the rule. Interim goals range from 244 lbs of CO2 per net MWh for Idaho to 1,882 lbs of CO2 per net MWh for Montana, and final goals range from 215 lbs of CO2 per net MWh for Washington to 1,783 lbs of CO2 per net MWh for North Dakota. To reward a high-emissions state by allowing it to pollute at over eight times the

rate allowed for a state that reduced its CO2 output independently through foresight and good energy policy is completely inappropriate. The proposed rule should reward states where past and current policies have resulted in low levels of CO2 emissions for their electric systems, either by exempting these states from the rule altogether, or at a minimum by requiring abbreviated compliance demonstrations.¹

Maine has implemented many policies and programs that have resulted in a significant reduction in CO2 emissions over the years, and this has resulted in one of the lowest electric system CO2 emission rates of the fifty states. The policies and programs that have helped Maine achieve this include such things as renewable portfolio standards (RPS), energy efficiency programs, programs to encourage RE, combined heat and power (CHP), the development of natural gas pipelines within the state, RGGI, and the Climate Action Plan, among others.

Baseline and goal emissions rates in the proposed rule should reflect historical independent actions taken by states that have reduced or are reducing CO2 emissions from fossil fuel-burning power plants. The proposed rule must not require emission reductions from states that have already achieved significant reductions while allowing states that have taken no action to produce emissions at over eight times the rate of the early acting states. The states that produce the most emissions must be required to make the greatest reductions.

B) The Proposed Rule Inappropriately Restricts Renewable Energy Generation as a Compliance Mechanism

In the last decade, Maine has developed a significant amount of RE generation in the form of wind power. Under the proposed rule, the fact that this power is already on line precludes its use in compliance going forward. Maine's geographic size is a factor limiting how much additional wind power or other RE can be developed, and the simple fact that Maine's early action brought a significant amount of this power on line before EPA proposed the rule does not negate the effectiveness of these units in reducing carbon emissions. Additionally, EPA has indicated in webinars and telephone discussions that any RE produced at a facility in a state for use out-of-state under a Power Purchase Agreement (PPA), or for which an out-of-state entity holds the Renewable Energy Certificate (REC), will not be allowed as a compliance mechanism in-state. This is directly contradictory to the method EPA used to calculate Maine's base rate and goal rate of CO2 production, which includes all of Maine's wind-generated RE in the total generation for the state, without regard for existing out-of-state PPAs. EPA cannot have it both ways. If EPA considers RE

¹ In addition, EPA could incentivize states that do not yet meet the finalized goals by offering the same exemption status or abbreviated compliance demonstrations to states that can achieve their goal prior to the beginning of the compliance period. This would encourage states to achieve significant reductions in CO2 emissions much earlier than the current proposal.

generation with an out-of-state PPA to be part of Maine's existing energy generation mix, then EPA must allow new RE in Maine to be used as a compliance mechanism, regardless of any PPAs or Renewable Energy Credits (REC). If this is not addressed in the final rule, it will de-incentivize development of wind power projects in Maine and other states. Local impacts from wind power development and other RE developments are borne directly and primarily by local residents, and residents have a right to expect benefits from a project to counter the effects of any negative impacts. The host state bears the burden of any environmental impacts from these projects, and has invested time and effort in reviewing and permitting these projects and ongoing compliance. It is inappropriate that the impacted resources should be devalued further through the loss of any benefit the host state might otherwise gain by using the projects as a compliance mechanism. EPA must allow host states to use MWh generated by wind projects and other RE projects as part of their compliance plan regardless of PPA obligations or REC ownership, up to the point of compliance with the goals proposed in the rule. Excess windpower or other RE generation should then be allowed for compliance in states where the power is sold by PPA or credited through REC ownership.

EPA has indicated in webinars and state-specific discussions that RE, specifically hydropower, imported from across national borders, will not be allowed as a compliance mechanism under the rule as proposed. EPA must reevaluate this stance. Hydropower is a zero-carbon source of energy regardless of where it is generated, and atmospheric carbon does not respect national borders. Whether hydropower or other zero-carbon energy is imported or generated locally, it negates in direct one-to-one correspondence the necessity to generate electricity through combustion of fossil fuels or other carbon generating fuels. Indeed, the same can be said of low-carbon-emitting generation when used to replace high-carbon-emitting generation. Given the expressed purpose of the proposed rule, all such options should be allowed as compliance mechanisms, to the extent that overall carbon production from fossil fuel combustion is reduced.

In the proposed rule, EPA calculates the regional goal for RE for the Northeast region to be 25% of generation, and lists Maine's 2012 level of RE generation as 28% (excluding hydropower) (Table 6, page 34868 of the Federal Register). The EIA indicates that in August of 2014, 67.9% of Maine's total generation was from renewable sources, including 37.9% from hydropower (www.eia.gov, Maine profile data, Reserves and Supply, Net Electricity Generation (share of total)). In general, Maine generates up to 70% of its electricity through renewable means (www.eia.gov, Maine Profile Data, Maine Net Electricity Generation by Source, May, 2014). By failing to include hydropower production as part of Maine's existing RE when applying Building Block 3, the proposed rule ignores the profound effect that Maine's existing hydropower facilities have had in preventing CO2 emissions over many years. According to EIA, Maine generated 84,713,011MWh of electricity from hydropower between 1990 and 2012. If this electricity had been generated at a NGCC plant

meeting the new construction standards of 1,000 pounds of CO₂ per MWh proposed in the NSPS, it would have resulted in well over 84 billion pounds of CO₂ emissions. In reality, the avoided emissions would have come from a less efficient EGU, and would consequently have been much greater. Maine continues to reduce our carbon footprint by adding new wind generation capacity, working with developers to encourage investment in offshore wind energy generation capacity, exploring opportunities to increase our hydropower generation capacity, and through participation in RGGI, which generates revenues used in implementing demand-side management programs. EPA's methods do not recognize Maine's leadership in avoiding and reducing dependence on fossil fuels and avoiding and reducing emissions of greenhouse gases. The efforts and investments that have been made over the years by states like Maine should be recognized regardless of whether they were started or accomplished prior to the date of EPA's proposed rule. To recognize these established and ongoing benefits, EPA should establish a standard maximum CO₂ emission rate for all states, and apply it inclusive of all EGUs. States that have contributed and continue to contribute more to the problem of atmospheric carbon can justifiably be required to bear the greatest burden in reducing emissions. States that have generated the least atmospheric carbon should not be required to make up the difference for states that have generated hundreds of times more. EPA should use Maine as an example to other states, to show that it is possible to economically provide needed energy to residents and to industry without damaging the environment.

In the proposed rule, EPA has calculated regional and state baselines using existing renewable energy generation without considering how that renewable energy is ultimately used, yet EPA proposes to restrict the applicability of renewable energy as a compliance measure based on that same factor. If the existence of a Power Purchase Agreement between a RE EGU in one state and an electricity distributor in another state, or out-of-state ownership of Renewable Energy Credits from a RE EGU, precludes the host state from using the generation from that EGU as a compliance mechanism, then EPA must not use that EGU in establishing the RE component of the host state's baseline emissions rate or goal emissions rate. Similarly, EPA's approach to determining a regional average RE component of existing generation needs to be corrected for this factor, including the consideration of RE that may be distributed across an international border.

The rule as proposed contemplates hydropower or other RE as a compliance mechanism but only where new capacity is used. Building Block 3 is headed as "Using an Expanded Amount of Less Carbon-Intensive Generating Capacity." This implies that increasing generation at existing facilities that are not producing electricity at their designed capacity will not be allowed as a compliance mechanism unless it is accomplished in conjunction with an overall increase in generation capacity. The proposed rule must clearly state that increasing generation at existing zero-carbon or low-carbon EGUs is allowed as a compliance mechanism regardless of whether new capacity is constructed.

The proposed rule must allow host states to apply RE as a compliance mechanism, regardless of PPAs or REC ownership. The proposed rule must specifically allow the use of internationally imported RE as a compliance mechanism to offset fossil fuel-fired generation. The proposed rule must account for ongoing reductions in the demand for fossil fuel-derived electricity resulting from existing hydropower generation. EPA must reconcile the conflicts between the way the RE components of baseline and target rates were calculated and the proposed method of allocating RE as a compliance measure. The proposed rule must also allow increased RE generation as a compliance measure regardless of whether it results from an increase in capacity or from an increase in output.

C) The Proposed Rule is Inconsistent and Unclear in the Definition of an Affected EGU.

In Section V.C. of the preamble to the proposed rule, EPA proposes that:

“... an affected EGU is any fossil fuel-fired EGU that was in operation or had commenced construction as of January 8, 2014, and is therefore an “existing source” for purposes of CAA section 111, and that in all other respects would meet the applicability criteria for coverage under the proposed GHG standards for new fossil fuel-fired EGUs (79 FR 1430; January 8, 2014).

The January 8, 2014 proposed GHG standards for new EGUs generally define an affected EGU as any boiler, integrated gasification combined cycle (IGCC), or combustion turbine (in either simple cycle or combined cycle configuration) that (1) is capable of combusting at least 250 million Btu per hour; (2) combusts fossil fuel for more than 10 percent of its total annual heat input (stationary combustion turbines have an additional criteria that they combust over 90 percent natural gas); (3) sells the greater of 219,000 MWh per year and one-third of its potential electrical output to a utility distribution system; and (4) was not in operation or under construction as of January 8, 2014. [...] The minimum electricity sales condition applies on an annual basis for boilers and IGCC facilities and over rolling three-year periods for combustion turbines (or as long as the unit has been in operation, if less).”

This is reflected in the proposed language in the rule at §60.5795(b)(2), but not at §60.5795(b)(1). Section 60.5795(b) of the proposed rule states that:

“(b) An affected EGU is a steam generating unit, integrated gasification combined cycle (IGCC), or stationary combustion turbine that meets the relevant applicability conditions specified in paragraph (b)(1) or (2) of this section.

- (1) A steam generating unit or IGCC that has a base load rating greater than 73 MW (250 MMBtu/h) heat input of fossil fuel (either alone or in combination with any other fuel) and was constructed for the purpose of supplying one-third or more of its

potential electric output and more than 219,000 MWh net-electric output to a utility distribution system on an annual basis.

- (2) A stationary combustion turbine that has a base load rating greater than 73 MW (250 MMBtu/h), was constructed for the purpose of supplying, and supplies, one-third or more of its potential electric output and more than 219,000 MWh net-electrical output to a utility distribution system on a 3-year rolling average basis, combusts fossil fuel for more than 10.0 percent of the heat input during a 3-year rolling average basis and combusts over 90% natural gas on a heat input basis on a 3-year rolling average basis.”

To be consistent with the preamble and with the proposed language in the NSPS, EPA must add language to §60.5795(b)(1) to include the requirement that an affected EGU must have been constructed for the purpose of supplying, and must supply, at least one-third of its potential output and at least 219,000 MWh to a distribution network.

In the Summary of the proposed rule, on page 34830 of the Federal Register, EPA states:

“In this action, the Environmental Protection Agency (EPA) is proposing emission guidelines for states to follow in developing plans to address greenhouse gas emissions from existing fossil fuel-fired electric generating units. Specifically, the EPA is proposing state-specific rate-based goals for carbon dioxide emissions from the power sector, as well as guidelines for states to follow in developing plans to achieve the state-specific goals. This rule, as proposed, would continue progress already underway to reduce carbon dioxide emissions from existing fossil fuel-fired power plants in the United States.”

The sections of the preamble and the proposed rule quoted above do not clearly confine the applicability of the rule to fossil fuel-fired generating units. The omission of a qualifying statement in criterion (1) in Section V.C. of the preamble quoted above, and inclusion of the phrase “either alone or in combination with any other fuel” in §60.5795(b)(1) of the proposed rule as quoted above, could be interpreted to mean that an EGU that combusts a minimal amount of fossil fuel (i.e. a biomass plant that uses fossil fuel at startup) is considered an affected EGU under the proposed rule, even though its CO₂ emissions from fossil fuel combustion are negligible. EPA must change the language in the preamble and the proposed rule to clearly define the rule’s applicability to better align with its stated intent.

Maine proposes the following language to clarify EPA’s intent for Section V.C. of the preamble to the proposed rule, and recommends that it be used to assure the preamble’s correspondence with the proposed rule’s intent as stated in the summary:

“... an affected EGU is any fossil fuel-fired EGU that was in operation or had commenced construction as of January 8, 2014, and is therefore an “existing source” for purposes of CAA section 111, and that in all other respects would meet the applicability criteria for coverage under the proposed GHG standards for new fossil fuel-fired EGUs (79 FR 1430; January 8, 2014).

The January 8, 2014 proposed GHG standards for new EGUs generally define an affected EGU as any boiler, integrated gasification combined cycle (IGCC), or combustion turbine (in either simple cycle or combined cycle configuration) that (1) is capable of combusting at least 250 million Btu per hour of fossil fuel; (2) combusts fossil fuel for more than 10 percent of its total annual heat input (stationary combustion turbines have an additional criteria that they combust over 90 percent natural gas); (3) sells the greater of 219,000 MWh per year and one-third of its potential electrical output to a utility distribution system; and (4) was not in operation or under construction as of January 8, 2014. [...] The minimum fossil fuel consumption condition applies over any consecutive three-year period (or as long as the unit has been in operation, if less). The minimum electricity sales condition applies on an annual basis for boilers and IGCC facilities and over rolling three-year periods for combustion turbines (or as long as the unit has been in operation, if less).”

Maine proposes the following language to clarify EPA’s intent for §60.5795(b) of the proposed rule, and recommends that it be used to clarify the applicability language contained in the proposed rule and to provide consistency throughout the rule:

(b)An affected EGU is a steam generating unit, integrated gasification combined cycle (IGCC), or stationary combustion turbine that meets the relevant applicability conditions specified in paragraph (b)(1) or (2) of this section.

(1) A steam generating unit or IGCC that has a base load rating greater than 73 MW (250 MMBtu/h) heat input of fossil fuel ~~(either alone or in combination with any other fuel)~~, was constructed for the purpose of supplying, and supplies, one-third or more of its potential electric output and more than 219,000 MWh net-electrical al output to a utility distribution system on an annual basis.

(2) A stationary combustion turbine that: has a base load rating greater than 73 MW (250 MMBtu/h); was constructed for the purpose of supplying, and supplies, one-third or more of its potential electric output and more than 219,000 MWh net-electrical output to a utility distribution system on a 3-year rolling average ~~basis~~; combusts fossil fuel for more than 10.0 percent of its total heat input ~~during on~~ a 3-year rolling average ~~basis~~; and combusts ~~over 90%~~ natural gas for over 90% of its total ~~on a~~ heat input ~~basis~~ on a 3-year rolling average ~~basis~~.

EPA must correct the language in the preamble and the proposed rule to clearly define an affected EGU to avoid conflict with the definitions in the NSPS proposed under Section 111(b) of the CAA, and to clearly confine the proposed rule's applicability to EGUs that combust fossil fuel, as contemplated in the stated purpose for the proposed rule.

D) The Proposed Rule Incorrectly Identifies Wyman Station as an Affected EGU

The proposed rule identifies Wyman Station as an affected EGU. Because Wyman Station is oil-fired, Maine's goal is calculated based in part on the assumption that the electrical generation from Wyman Station can be replaced by increasing utilization of the three NGCC units considered by EPA to be affected EGUs in the proposed rule, thereby reducing CO₂ emissions. This is not a plausible scenario because Wyman Station is a spinning reserve facility that only generates electricity when called upon to do so by ISO-New England when other EGUs in the region, including the aforementioned NGCC units, cannot generate enough electricity to meet demand. The most likely scenario in which FPL would be called upon to operate Wyman Station is when the supply of natural gas in the region is not sufficient for the NGCCs in the region to generate adequate electricity to meet demand. Under this circumstance, it is not possible to replace Wyman Station's generation with NGCC generation, since the reason Wyman Station operates is because there is insufficient fuel to operate the NGCC plants.

EPA must re-calculate Maine's baseline and target emission rates without including Wyman Station as an affected EGU.

E) EPA has Incorrectly Identified Maine's Affected EGUs

EPA calculated Maine's baseline emissions rate in a framework that includes four affected EGUs, including three NGCC plants that qualify as existing EGUs under the language in the proposed rule. These plants all meet or exceed the CO₂ emission standards in EPA's proposed NSPS, and if they were to be built or modified in 2016, they would be exempt from consideration as affected EGUs under the rule as proposed. In order for Maine to achieve the goal proposed in the rule, these plants will be required to operate more efficiently than they would be if they were new plants. This is illogical and far from cost-effective. It makes no sense to require an older source to meet more stringent standards than a new source. Maine recommends that EPA modify the proposed rule to exempt EGUs that either already meet, or are modified to meet the CO₂ emission standards being proposed for new fossil fuel-fired EGUs under the NSPS. In states or regions with existing NGCC capacity and significant steam capacity, this will create greater latitude for redispatch away from higher-emitting steam EGUs and may encourage retirement of these facilities.

EPA has proposed that four EGUs in Maine should be considered to be affected EGUs under the rule as proposed: FPL Energy Wyman LLC in Yarmouth (Wyman Station); Westbrook Energy Center in Westbrook (Westbrook Energy); Rumford Power Company in Rumford (Rumford Power); and Maine Independence Station in Veazie (Maine Independence). Appendix D to EPA's Technical Support Document (TSD) for Goal Computation provides the 2012 output in MWh for each of these four plants. Wyman Station has a potential output of 850 MW, or 7,446,000 MWh/year, and sold 59,067 MWh in 2012, which represents 0.8% of potential output; Westbrook Energy has a potential output of 552 MW, or 4,835,520 MWh/year, and sold 2,446,083 MWh in 2012, which is 50.6% of potential output; Rumford Power has a potential output of 251 MW, or 2,198,760 MWh/year, and sold 363,795 MWh in 2012, which is 16.5% of potential output; and Maine Independence has a potential output of 520 MW, or 4,555,200 MWh/year, and sold 1,243,500 MWh in 2012, which is 27.3% of potential output. Wyman Station operates as "spinning reserve", and only supplies electricity to the grid when Maine's other assets cannot meet demand. EPA should exempt Wyman Station from the proposed rule, because it supplies far less than one third of its potential output to the grid, and it operates at the minimum level necessary to function as an emergency reserve. Rumford Power and Maine Independence also supply significantly less than one third of their potential output to the grid, and should therefore not be considered affected EGUs under the proposed rule. EPA should re-calculate Maine's baseline CO₂ emission rate and target CO₂ emission rate based on Westbrook Energy as Maine's only affected EGU.

Maine and other states in the Northeast are exploring ways to increase the availability of natural gas in New England, and are hopeful that a plan can be put in place that will resolve the natural gas shortages and associated price spikes that have plagued the region in recent years. If the Northeast region is able to solve the regional natural gas shortage, Maine's NGCC units may actually increase power generation well beyond current levels of operation. It is possible that in future years one or more of these EGUs will exceed the 1/3 sales threshold and thereby potentially qualify as affected EGUs at that time. The proposed rule does not address the possibility that EGUs may be subject to regulation for less than the entire compliance period. It is not possible to know in advance when or if one or more potentially affected EGUs will actually become affected under the proposed rule. The final rule should define EGUs as affected based upon their status at the time the rule is adopted, using generation, sales and fuel use data from the three years immediately preceding adoption. This will enable states to create compliance plans based on concrete information rather than speculation regarding future generation characteristics, and will avoid states being required to dedicate scarce resources to continually modifying their compliance plan. For the same reasons, EGUs that change their operational characteristics during the proposed rule's compliance period, increasing generation to such an extent that they would have been considered affected EGUs at the time the rule was adopted, should be subject to the NSPS proposed under Section 111(b) of the CAA.

EPA must re-calculate Maine's baseline rate and target rate of CO₂ emissions based on consideration of Westbrook Station as Maine's only affected EGU. EPA must also add provisions to the proposed rule that make non-affected EGUs exempt from regulation under the proposed rule, and require them to meet the NSPS in the event that future operations cause them to exceed the minimum threshold criteria of affected EGUs.

F) The Proposed Rule must Exempt EGUs that Primarily Combust Biomass

The stated purpose of the proposed rule is "to address greenhouse gas (GHG) emissions from existing fossil fuel-fired electric generating units (EGUs)" (40 CFR Part 60, preamble § I.A.1.). The proposed rule defines fossil fuel as "natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat" (40 CFR Part 60 § 60.5820). In the preamble to the proposed rule, EPA discusses the potential for combustion of biomass to be used as a compliance mechanism, and indicates that EPA's Science Advisory Board (SAB) is investigating the level of impact on atmospheric carbon the use of biomass as a fuel for generating electricity would have when replacing the use of fossil fuel, based on "the type of biomass feedstock used, and the way in which the feedstock is grown, processed, and ultimately combusted as a fuel for energy production." It seems obvious that the answer will depend more on the particular fuel being replaced and the efficiency with which it is being combusted than it will be on the way the feedstock for the biomass in question is being grown. EPA should clearly state in the rule that biomass is not a fossil fuel, and that replacing generation from an affected fossil fuel-fired EGU with generation from a biomass fuel-fired EGU is a valid compliance mechanism.

The proposed rule must specifically state that biomass is not a fossil fuel, and that EGUs that primarily combust biomass are not considered affected EGUs, and are consequently exempt from regulation under the proposed rule. Electricity generated by combustion of biomass must be allowed as a compliance measure, to offset an equal amount of electricity generated by fossil fuel combustion.

G) The Proposed Rule must allow Cogeneration to Offset Fossil Fuel Combustion

The proposed rule implies that combined heat and power units located at various industrial facilities in Maine that supply electricity to a utility distribution system, including those that may have base loads greater than 73 MW (250 MMBtu/hr) and fire fossil fuels either alone or in combination with any other fuel; stand-alone, primarily biomass-fired units, including those that may fire fossil fuels for startup and flame stabilization purposes; and grid-connected NCGG units located at industrial facilities in Maine where a sufficient portion of the electricity generated is used at the facility such that the net sales of electricity to the grid are less than 219,000 MWh and less than one-third of each unit's potential electric

output, are not considered by EPA to be affected units under the proposed rule. Maine encourages EPA to make the changes to the definition of an affected EGU discussed earlier in these comments in order to make it clear that these types of EGUs are not affected EGUs under the proposed rule.

Maine's energy policies promote combined heat and power, or cogeneration, in the generation of electricity at manufacturing facilities. The generation of useable energy from cogeneration is a direct capture of energy that would otherwise be lost to the atmosphere, and use of this energy represents a quantifiable reduction in demand for energy that would otherwise be generated through increased consumption of carbon-based fuel at the facility. The reduction in demand is equally valid whether the generating facility is new or old, modified or operating as originally built. Maine recommends that heat generated in these facilities, in cases where the heat energy is used in product manufacture or to meet other in-house energy needs, or to produce electricity that is supplied to the grid for distribution to other consumers, should be specifically allowed in the proposed rule as an offset to CO₂ emissions in a state's compliance plan. This should include existing and future cogeneration, both at affected EGUs and at other EGUs. To incentivize the addition of new cogeneration to existing facilities, 100% of the energy so used should be allowed as a compliance measure.

EPA must add provisions to the proposed rule that specifically allow new and existing cogeneration to be used by states as a compliance mechanism, to offset an equal amount of fossil fuel-based generation.

H) The Proposed Rule Incorrectly Uses 2012 as Maine's Baseline Year

The CO₂ emissions from calendar year 2012 are not appropriate to use as the baseline for determination of Maine's interim and final goals. The proposed rule's use of 2012 as a baseline ignores the reductions in CO₂ emissions that have been achieved at Maine's fossil fuel-fired units since RGGI began in 2009. EPA should modify the proposed rule to allow states to determine baseline emissions using a calendar year that is more representative of a state's emissions prior to implementing state- or regionally-initiated CO₂ emission reduction programs, such as RGGI. This would appropriately recognize states that were early movers in reducing CO₂ emissions and place these states in a more equitable position with states that have not taken similar early actions. Since the overarching goal is to achieve CO₂ emission reductions of 30% from 2005 levels, and since many northeastern states implemented RGGI in 2009, Maine recommends that the proposed rules be revised to allow states to propose using any calendar year from 2005 through 2012 as its baseline year from which reduction goals would be projected, and to include an option for states to use a baseline generated by averaging emissions from three consecutive years. Through participating in RGGI, the region has already reduced CO₂ emissions from affected EGUs in

excess of the proposed 30% reduction goal and should be recognized for having done so under the proposed rule.

The proposed rule must allow states to choose a baseline year between 2005 and 2012, or to use an average of three consecutive years within that period.

I) The Proposed Rule Ignores Increasing Demand due to Electric Vehicles and Heat Pumps

While the rule as proposed would achieve significant reductions in the production of GHG from fossil fuel-fired EGUs, EPA has neglected to consider the pressure that will be brought to bear on the electric generation industry by the increase in availability and use of electric vehicles. The advent of these vehicles has the potential to dramatically reduce GHG production from the transportation sector, but the power to move the vehicles has to come from somewhere. Similarly, a shift in home heating energy sources away from traditional oil- and gas-fired central heating systems to geothermal heat pumps that use electricity to operate condensers will result in a net decrease in fossil fuel consumption with an associated increase in electricity consumption. If a state or region chooses to comply using the mass-based option, and significant increases in demand occur from the influx of electric vehicles and/or heat pumps, that state should be able to credit the CO₂ emissions avoided in the transportation and residential heating sectors against the additional CO₂ emissions due to generation of the electric power needed for the vehicles and heat pumps. EPA should include in the rule a mechanism for states to capture these avoided CO₂ emissions as part of their compliance plan.

In general, it is impossible to predict what other future social and technological changes may enable an overall net reduction in fossil fuel consumption, but may still require increased electricity generation for the associated CO₂ emissions to be avoided. Without a mechanism to account for these avoided emissions, the proposed rule may actually inhibit emission reductions in certain circumstances.

EPA must include in the final rule a mechanism to allow states to capture CO₂ emission reductions from other sectors that may legitimately increase CO₂ production from electricity generation, and still result in a net reduction in total CO₂ emissions for the state.

J) EPA Must Provide Flexibility for States and Regions Regarding Unforeseen Circumstances

In Section III.D.1. of the preamble to the proposed rule, EPA discusses the success that RGGI has had in reducing CO₂ emissions in the Northeast; and in several other Sections RGGI is used as an example to show how a multi-state or mass-based approach to reducing emissions can be successful and economically sustainable. EPA indicates that RGGI participation may be used as a component of a state's or region's compliance plan.

Membership in RGGI is voluntary, and is a cooperative effort between member states. EPA has not considered the possibility that a member state may withdraw from the group at any time, and thereby alter the effectiveness of the compliance plan for the remaining members. If the actions required of members are part of an enforceable compliance plan, and the region or group is thrown out of compliance by the action of one member state, would the remaining member states then be subject to federal enforcement action, despite the fact that the non-compliance was due to action by a different state? EPA must incorporate provisions into the final rule to allow states the flexibility necessary to respond to unanticipated circumstances. Flexibility is needed in cases where markets are impacted by extreme weather events, fuel shortages or other events beyond the control of states or sources. Provisions are needed to avoid conflicts between a mandate for compliance and the necessity of assuring continued reliability of the electric power grid. Providing a framework for states to develop compliance plans that incorporate sufficient flexibility is an essential component of the future stability and reliability of power grid operations.

The proposed rule must acknowledge that factors beyond a state's control may affect compliance, and must provide a mechanism to allow states sufficient flexibility to respond to such circumstances.

K) The Proposed Rule Presumes All Distribution is Controlled within the United States

Maine is unique in that it borders on only one other state, with most of its political boundaries adjoining Canada. Because of this physical isolation, significant parts of Maine are connected to the Canadian grid and not under the control of US-based distribution networks. It is not realistic to expect Maine to develop a compliance plan that requires a Canadian company, operating in Canada, to act in a particular way. The final rule needs to clearly exempt those parts of states that have no interconnection with the US grid. The proposed rule has no provision to account for electricity distribution that is beyond a state's control. Maine urges EPA to exempt EGUs in that are solely connected to the Canadian grid from the final compliance rates.

EPA must exempt EGUs that are not connected to the US grid from consideration under the proposed rule.

L) Incidental Correction

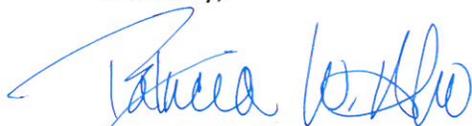
Footnote 260 on pages 34895 and 34896 of the proposed rule as published in the Federal Register states "EGUs whose capacity, fossil fuel combustion, or electricity sales were insufficient to qualify them as affected EGUs were not included in the goal computations. Most simple cycle combustion turbines were excluded on this basis. See the applicability criteria described in Section V.B. above."

Section V.B. discusses EPA's authority to regulate EGUs. EPA should correct the footnote to reference Section V.C.

Conclusions

The proposed rule is an important step towards creating a sustainable energy supply for the United States. In order to be equitable and effective, EPA must make several changes to the proposed language, to clarify the rule's applicability, and to properly place the burden of emission reduction on states and EGUs that generate the largest portion of the emissions that the proposed rule seeks to reduce. States that have taken early action to avoid emissions should be rewarded under the rule. States that host RE projects and have supported their construction and operation through regulatory and legislative means should be able to benefit from these projects under the proposed rule, by using them as compliance mechanisms. The proposed rule needs to be amended to more clearly and consistently define the EGUs it seeks to regulate. EPA must reassess Maine's baseline and target emission rates using a corrected list of affected EGUs. The proposed rule must clearly state that electricity generated by combustion of biomass, or by cogeneration, is allowable as a compliance mechanism to offset fossil fuel combustion. The proposed rule must also allow flexibility for states to choose an appropriate year for calculation of their baseline emission rate, to allow for increased demand resulting from load shifting from other sectors, and to respond to unforeseen circumstances over which they have no control, and must exempt EGUs that are not connected to the US grid.

Sincerely,



Patricia W. Aho
Commissioner