



January 21, 2016

EPA Docket Center (EPA/DC)
Environmental Protection Agency, Mailcode: 2822IT
1200 Pennsylvania Avenue, NW.
Washington, DC 20460
Docket ID No. OAR-2015-0199

Re: Proposed Federal and Model Plans

To Whom It May Concern:

On October 23, 2015, the U.S. Environmental Protection Agency (EPA) published in the *Federal Register*, 80 Fed. Reg. 64966, a proposed rule (“Proposal” or “Proposed Rule”) to implement the final GHG emission guidelines for existing fossil fuel-fired electric generating units (EGUs), known as the Clean Power Plan (CPP) under Section 111(d) of the Clean Air Act (CAA). The proposal presents two approaches to the federal plan for states that do not submit an approvable plan to the EPA: a rate-based emission trading program and a mass-based emission trading program. EPA proposes to issue a federal plan for any state that does not submit an approvable plan to EPA pursuant to the CPP. The Proposal also includes Model Plans which may be used by states to implement the CPP. EPA is soliciting comments on various aspects of the Proposal and AES United States Strategic Business Unit (AES) respectfully submits the following comments.

Comment 1:

Affected EGUs that cease operations after 2012 provide real and permanent emissions reductions as compared to the baseline. These reductions will remain in perpetuity and are directly attributable to the actions of the owner of the retired EGU. As such, the owner of the retired affected EGU should continue to receive these allowances in perpetuity. Currently, EPA proposes that if an affected EGU does not operate for two full consecutive calendar years, then starting with the next compliance period for which allowances have not yet been recorded, the allowances that would otherwise have been distributed to the unit would be allocated to the Renewable Energy (RE) set-aside for the state in which the unit

that ceased operations is located. This proposed treatment is inconsistent with the treatment of coal-fired units that refuel with a lower-emitting fuel such as natural gas and does not provide a meaningful incentive for retirements of affected EGUs. Further, it is not appropriate to remove these allowances from those allocated to affected EGUs by moving them to the RE set-aside. EPA has already determined that the size of the set-asides are sufficient for the purpose of addressing leakage. As such, set-asides should not increase in number. Rather, those allowances should be allocated to the retiring affected EGU in perpetuity. Or, at a minimum, those allowances should be allocated to the affected EGUs in the state that remain in operation.

Further, as it relates to retirement, 40 CFR 62.16215(a)(2) as proposed states that *“Within 30 days of the affected EGU’s permanent retirement, the designated representative must submit a statement to the Administrator.”* The EPA should consider how to inform the EPA of an EGU’s permanent retirement when the unit was retired prior to the effective date.

Comment 2:

AES believes that allowances should be allocated only to owners of affected EGUs as these are the facilities responsible for compliance. AES is strongly opposed to the allocation of allowances to other entities, including load serving entities (LSEs). AES is also opposed to the alternative allocation methodologies identified in the Proposal.

EPA requested comment on auctioning of allowances in lieu of the proposed allocation methodology based on historic generation. AES strongly opposes the auctioning of allowances in a Federal Plan. Allowances should be allocated at no cost to affected sources based on historical generation. This approach has been successful in existing, well-established programs, like the Acid Rain Program. It is the affected sources that are impacted by the regulations and only these units will bear the costs of any operational changes required to meet the requirements of the CPP. To reduce the cost impact of these requirements on the utilities, ratepayers, power producers, and customers, and meet EPA’s stated goal of being “fair and reasonable,” allowances should be allocated at no cost to the affected sources, rather than auctioned. An auction would require utilities to pay for allowances for all CO₂ emissions, rather than the gap between allocated and emitted CO₂ and would expose the utilities and their ratepayers to greater price risk, exacerbating the significant cost associated with compliance.

Further, EPA indicates in the proposed Federal Plan that revenue from any such auction would likely be required for deposit in the U.S. Treasury. As such, EPA would not have control over the direction of the funds which creates the risk that the funds may not be used for environmental benefit. Utilities and ratepayers would essentially be funding undetermined federal government activities and bearing the entire economic burden of the CPP. In turn, these funds would not be available in the state to implement energy efficiency programs or promote

renewable energy. An auction program alters the purpose of the program from one of reducing carbon to one of generating revenues. This does not contribute to EPA's stated mission to "protect human health and the environment."

AES supports the allocation of allowances based on historic generation. Specifically, AES concurs with the EPA proposal to allocate allowances to individual affected EGUs based on each affected EGU's share of the state's historic generation. AES also supports the allocation being based on three years of historic generation (2010-2012) given the single year variability in generation due to planned and forced outages.

AES opposes using any of the alternative allocation approaches (allocation to LSEs, allocating to new unaffected sources). Allowances should be allocated only to the affected EGUs as they will face financial strain as a result of the CPP and may require significant additional capital investment.

Comment 3:

EPA requested comment on an additional potential condition that would limit eligibility for RE set-aside allowances to project providers that are also the owners or operators of affected EGUs. AES strongly believes that eligibility should be limited to the owners or operators of affected EGUs that are project providers or partners/off-takers of project providers as this has precedent in other well-established programs, like the Acid Rain Program. Further, it appropriately limits eligibility to those that are responsible for compliance. By adding this condition, the Federal Plan RE allocations lie with affected EGUs allowing them to make informed decisions regarding the most cost effective means for compliance. By re-distributing unused RE set aside allowances to affected EGUs, compliance with the program appropriately remains with the affected EGUs.

The Proposal sets aside 5% of the total state allowances for RE. AES recommends that the Administrator reduce this set aside upon timely request from the Governor or Administrator of an affected state by modifying 40 CFR 62.16235(c). Where determined appropriate by the Governor or Administrator, it is much more important that allowances be provided to existing EGUs than to new renewable resources, which are often already the recipient of tax subsidies. On the other hand, the affected EGUs may face extraordinary restrictions on electricity production and have a critical need for these allowances to help prevent premature EGU closures.

With regard to the forecast of RE resource output, renewable resource outputs can change significantly based on the variability of wind and solar. An average amount of production may be established, but EGUs should not be penalized if actual weather causes reduced output. Third party verification of an estimate methodology prior to allowance allocations may be sufficient to address this

issue by using public weather data or deriving calculations based upon experience of Regional Transmission Organizations (RTOs).

Comment 4:

AES agrees that Output Based Allocation and RE Set-Aside Allowances should be re-distributed to the existing affected EGUs in the state if allowances remain in the set-aside at the end of the compliance period.

Comment 5:

AES supports Federal and Model Plans that maximize flexibility for states and for affected EGUs. It is imperative that the Federal and Model Plans include flexibility because the Federal Plans will be in place for any state which fails to submit an approvable plan to EPA and many states may use the Model Plan to inform their State Plans as a starting point, at a minimum. Therefore, the flexibilities included in the Model Plan will likely translate into flexibilities in State Plans. Because the Model Plan is considered to be presumptively approvable, the level of additional flexibility that states are able to introduce beyond the Model Plan remains uncertain. Maximizing the flexibility in the Federal and Model Plan will provide earlier certainty for states and affected EGUs, likely reducing compliance costs.

Comment 6:

AES supports unlimited banking and borrowing of allowances and emission reduction credits (ERCs).

EPA has proposed unlimited banking of ERCs and allowances. AES agrees with this approach as it maximizes flexibility for compliance while still assuring reductions in CO₂ emissions. Specifically, AES agrees that EGUs should be allowed to save, or bank, ERCs and allowances for use during any future compliance period and that there should be no limit or cap on the number of ERCs or allowances that can be banked. AES further supports EPA's proposal to allow banking between the interim and final compliance periods. AES also supports EPA's proposal that ERCs and allowances will not expire over time. This approach has been successful in EPA's prior programs, including the Acid Rain Program.

EPA has requested comment on whether borrowing allowances from future compliance periods should be allowed. Allowing borrowing from a future period, up to ten years, provides additional compliance flexibility that can result in a more robust and lower cost compliance plan without impacting the overall CO₂ reduction goal. Borrowing would lead to flexibility benefits including long lead time compliance options, such as consideration of nuclear generation as part of an overall broader compliance plan. Although the net impact of long lead-time nuclear generation is lower CO₂ emissions, if compliance cannot be achieved in the near term, misallocation of capital and higher costs in meeting the compliance goals may result. Without borrowing, compliance plans may be

driven to more costly short term measures with a lesser net CO₂ reduction benefit.

Comment 7:

AES believes that EPA should broaden the types of RE eligible for ERCs and allowances under both the mass-based and rate-based plans. In addition, as stated above, AES strongly believes that allowances from the RE set-aside should be available only to owners and operators of EGUs that are project providers or partners/off-takers of project providers. AES specifically believes that the following technologies should be eligible for ERCs and allowances under both a federal and model plan: Wind, solar, geothermal, nuclear, hydropower, biomass, waste to energy, combined heat and power, demand side energy efficiency, distributed energy, energy storage, and T&D measures. While some of these measures are eligible under some types of plans, the other types of activities listed should also be eligible for all types of plans and provide justification below. Further, AES believes that RE resources outside of the state should be eligible for credit or allowances if they are attributable to specific power purchase agreements (PPAs) with the energy recipients in the state.

- Wind, solar, geothermal, and hydropower. AES agrees with the Proposal that wind, solar, geothermal, and hydropower should be eligible for allowance/credit under federal and model mass/rate based plans.
- Distributed Energy (DE). AES believes that DE should be eligible for credit under a rate-based program, both federal and model. In addition, AES believes DE should be eligible for allowances under a mass-based plan, federal or model. Interconnected renewable distributed energy should qualify for eligibility for allowances because the projects are synchronized to the grid and are used to meet load requirements. Utilities already report the net output of these generators on EIA Form 861. Distributed renewable energy generators have significant potential to play a role as a compliance option and including them as a qualifying resource will encourage their development and reduce emissions.
- Energy Storage. The Proposal does not include Energy Storage as an eligible measure for ERCs under a rate-based plan or for RE Set Aside allowances under a mass-based plan. AES believes that Energy Storage should be eligible for credit under a rate-based program in both the Federal and Model Plans. While EPA acknowledges the benefits of energy storage, EPA does not allow energy storage to be directly recognized as an eligible measure that can be used to adjust a CO₂ emission rate or receive allowances from the RE Set Aside. Energy storage results in the reduction of CO₂ emissions by improving efficiency, reducing the number of starts and stops of existing thermal generators, reducing renewable curtailment, and displacing thermal units in providing grid ancillary services. AES strongly believes that credit for these

resultant reductions should be given to the Energy Storage facility. In addition, where Energy Storage is offsetting CO₂ emissions that would have been generated by Simple Cycle Gas Turbines, this benefit is not captured in any aspect of the CPP program.

EPA indicates that State Plans may include demand side energy efficiency (EE) as eligible for credits or allowances because it will reduce the demand that sources need to meet. However, EPA indicates that Energy Storage is not eligible because its benefits are indirect and supporting in nature. However, the same conclusion could be made for EE, which EPA determines may be eligible. AES urges EPA to provide allowances and credits for Energy Storage, or, at a minimum, recognize it as a measure that State Plans may include for credits or allowances.

- Biomass, waste to energy, and demand side energy efficiency. The Proposal currently provides credit for these measures only under a rate-based model plan. AES believes these measures should also be eligible for credit under a rate-based federal plan. In addition, AES believes these measures should be eligible for allowances under a mass-based plan, federal or model. These measures represent alternative production of energy or avoided energy use with zero CO₂ emissions consistent with wind, solar, and geothermal which EPA has determined to be eligible.
- Transmission and Distribution (T&D) Measures. AES believes that T&D Measures should be eligible for credit under a rate-based plan, federal or model. In addition, AES believes T&D Measures should be eligible for allowances under a mass-based plan, federal or model. Measures such as reducing losses of electricity during delivery from a generator to an end-user and reducing electricity use at the end user yield emissions reductions in addition to making the grid more robust and flexible.
- Nuclear. The Proposal currently provides credit for nuclear under both the federal and model rate-based plans. However, nuclear is not eligible for allowances under either a federal or model mass-based plan. AES believes that nuclear should be eligible for allowances under a mass-based plan, federal or model. Nuclear represents alternative production of energy with zero CO₂ emissions consistent with wind, solar, geothermal, and hydropower which EPA has determined to be eligible.
- Combined heat and power (CHP). The Proposal currently provides credit for CHP only under a rate-based model plan. AES believes CHP should also be eligible for credit under a rate-based federal plan. In addition, AES believes CHP should be eligible for allowances under a mass-based plan, federal or model. When power is generated through thermal processes, considerable waste heat is produced. A CHP captures this waste heat and uses that energy for space heating or to complete

industrial tasks. Thus from one fuel source, there is the combined production of two forms of energy. There are more than 4,200 CHP installations across the country providing about 12 percent of the generation of electricity in the United States. These existing CHP projects total 83 GW of installed capacity, and avoid more than 1.8-quadrillion Btus of fuel consumption and 241-million metric tons of emissions compare to the separate production of heat and power. The DOE and EPA have identified as much as 130 GW of remaining CHP technical potential – the equivalent of 260 conventional power plants. Unlike resources such as wind and solar, CHP can be deployed almost anywhere in the country.

Several states have established CHP incentive programs (including New York, Massachusetts, New Jersey and Maryland), and these states have adopted Evaluation, Measurement & Verification (EM&V) protocols for these resources. These measurement techniques are straight forward and are based upon how well the system actually performs – considering performance factors such as annual electricity generation, overall fuel conversion efficiency, or summer-peak demand reduction.

CHP achieves the same type of reduction as the other measures that EPA proposes to be eligible for credit and allowances.

Comment 8:

AES strongly supports the Alternative Compliance Pathway included in the Proposal. The Alternative Compliance Pathway provides a flexible mechanism for units which plan to retire during the Interim Period. In addition, it provides permanent environmental benefits by removing the applicable allowances from future pools in a mass-based program. AES recommends that this Pathway be available to all affected EGUs regardless of the capacity. AES also believes that an affected EGU choosing this Pathway should be able to increase its unit-level emission limit by purchasing allowances and surrendering the allowances to the agency. This will maximize the flexibility associated with the Pathway while still ensuring permanent emissions reductions.

Comment 9:

The EPA should take into consideration in the final rule the additional burdens placed on plants that are providing energy under a contract. These plants generally have the inability to modify existing contract energy prices or pass costs through to customers. The expected compliance costs will constitute a new cost adder (i.e., quasi-CO₂ allowance pricing/carbon tax) in the electric generation market. Some plants with long term contracts to sell their electricity do not have the opportunity to modify their contracts to account for these new costs until the date of expiration of the contract. Contracts can be in the form of power purchase agreements or tolling arrangements. Some of these plants have contracts that expire well into the future (e.g., the contract for one AES plant in the RGGI region does not expire until 2030).

AES has six (6) contract plants which would potentially be affected sources under the Federal/Model Plan. The inability to pass through any CO₂ compliance costs places a unique and severe financial burden on these plants, to the point of potentially jeopardizing the ongoing financial viability of facilities that are otherwise economic. These plants tend to be newer, exceedingly clean EGUs. Natural gas-fired plants with tolling arrangements or with dispatch provisions in their contracts can be expected to have a secondary severe problem in that the marginal cost of CO₂ allowances are not borne by the party making the decision whether to dispatch the EGU. However, if the power off-taker does not bear the allowance responsibility or see the allowance cost in its marginal cost of generation from the facility, they will likely call for the plant to increase its generation, since such a plant's power costs will be more competitive compared to other plants that include the CO₂ allowance value in their marginal cost of generation. Any increased generation without the ability to pass through CO₂ allowance costs creates an uneven playing field and results in even more of an economic burden for these plants.

Without provisions to provide full allocation needed to match emissions from contracted plants, the Federal/Model could have the perverse consequence of most severely impacting the type of EGUs that environmental considerations would want to incentivize. Therefore, the Federal/Model should be expanded to include a specific provision that provides for full allowance allocation (e.g., the average annual emissions during the baseline period) to contract plants, for the term of their contract. For plants with tolling arrangements or dispatch provisions, this full allocation would need to include the allowances needed to cover any increased generation that could result as a consequence of Federal/Model Plan (possibly through a set aside to cover this situation). In order to receive a full allocation, such contracted plants should be required to provide a clear demonstration of their inability to pass-through compliance related costs to the appropriate designated regulatory agency.

Comment 10:

EPA requested comment regarding whether the Agency should select either a rate-based or mass-based approach for the Federal Plan. As previously stated, AES supports a Federal Plan that maximizes flexibility for states and affected EGUs. As such, AES recommends, that EPA not select one approach over the other. AES supports preserving both a mass-based and a rate-based approach to the Federal Plan to ensure that low-cost and reliability electricity supply can be met.

However, if EPA rejects this recommendation and pursues the course of selecting only one approach to a Federal Plan, AES prefers a mass-based approach over a rate-based approach for the following reasons:

- Complexity of the rate-based approach. The rate-based approach is complex given the entire process of documenting and tracking emission

rate credits, administering evaluation, measurement, and verification plans, and submitting periodic monitoring and verification reports. A mass-based approach provides a simpler program, which has proven effective in the past (e.g. Acid Rain Program).

- Mass-based incentives for retiring units. There is no mechanism in a rate-based plan to provide credit for retiring units. Retiring units provide real and permanent reductions and owners and operators of retiring EGUs should be provided credit for these reductions. This can be accomplished in a mass-based plan through continued receipt of allowances. However, there is not a mechanism to do so under a rate-based plan.
- Compliance uncertainty in the rate-based approach. The owner or operator of an affected EGU will not know if there will be sufficient ERCs available to purchase (at any price) at the end of the compliance period since ERCs generated during the year are not credited until after the end of the year. Without some known quantity (like allowances in a mass-based approach), an operator will not be able to determine how to properly operate or price their affected EGU throughout the year.
- Flaws in the rate-based approach. There are several flaws in the approach that may result in fewer CO₂ reductions than targeted.
 - Natural Gas Combined Cycle (NGCC) units may not generate more MWhs than historical values. EPA has proposed that NGCC units generate partial Gas Shift Emission Rate Credits (GS-ERCs) for every MWh that they generate. It is possible that there will be GS-ERCs created, sold, and used by coal-fired EGUs without the desired reduction of CO₂ emissions. AES supports EPA's proposed alternative approach whereby only those MWhs generated above the 2012 baseline are eligible to be credited with GS-ERCs which would partially address this issue.
 - The calculation of the GS-ERCs is based on estimated generation of renewables and additional NGCC generation. These factors do not appear to consider any increase in demand that could result in additional NGCC unit generation that is unrelated to renewables, e.g. the additional NGCC generation may not replace steam generation. Also actual installation of renewables may be lower than that estimated. Therefore, the factors used in calculating the GS-ERCs may be higher than actual and CO₂ reductions will be lower than targeted by the CPP.

Comment 11:

40 CFR 62.16240(a)(1) indicates that CO₂ allowances will be allocated and populated in accounts in three batches during the interim period. (Three years of allowances, then three more years, and then two years.) Parsing out allowances of this short of a duration is a deviation from past practices such as experience with SO₂ and NO_x trading programs without any reasonable basis, and in fact will hinder planning and trading of allowances. One cannot buy or sell allowances that have not been distributed. The best practice would be populating

allowances at a minimum of five years at a time is preferable. 40 CFR 62.16240(a)(2) should be adjusted to ensure that EGUs receiving allowances have a minimum of five years of allowances to use or sell. This will allow EGUs to leverage existing experience and procedures of managing allowances on a five-year basis.

Comment 12:

40 CFR 62.16220(c)(5)(ii) states that *“Notwithstanding any other provision of this subpart, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.”* This section, dealing with CO₂ allowances, inject unworkable uncertainty into the allowance planning and management process. It is unreasonably broad and vague. It seems to allow the Administrator unlimited discretion to allocate fewer CO₂ allowances or take CO₂ allowances from EGUs arbitrarily. Further, if that is EPA's intent, there should at least be provisions for rulemaking, public notice, etc.

Comment 13:

Generally, AES supports the Clean Energy Incentive Program (CEIP) and the additional allowances introduced by EPA to incentivize early action. However, AES believes that certain provisions of the CEIP should be revised. Currently, only projects that commence construction/operation following the submission of a final state plan (or following September 6, 2018) are eligible for allowances under the CEIP. Having to wait until a state plan is submitted to commence such projects actually *disincentivizes* investment and works against the desired “early action.” AES recommends that the early action eligibility period begin on the earlier of the September 6, 2016 or the date that EPA finalizes the Model Plan trading rules. This will maximize the window of time to develop and implement investments, allowing projects to commence as soon as 2016, rather than encourage stockpiling of projects and delaying implementation until 2018-2019 timeframe.

Comment 14:

40 CFR 62.16220(e)(1) and (2) are almost identical. The (2) should be deleted. If (2) is not deleted, it should be re-written so that the reader can understand the distinction.

Comment 15:

40 CFR 62.16345(a)(1) specifies that CO₂ mass be specified in tons. 40 CFR 62.16345(a)(4) specifies that CO₂ mass be measured in pounds. Tons should be specified for both, as in succeeding sections.

Comment 16:

40 CFR 62.16360(a) and 40 CFR 62.16365(a)(1) specify that certain records be kept on site for 2 years and thereafter may be kept off-site. It is not necessary for a *“... list of all unique allowance serial numbers retired in the compliance period,*

and, for each allowance, the date an allowance was surrendered and retired” be kept at a coal-fired power plant. This work is often performed off-site from the start. EPA should provide more flexibility in this regard.

Comment 17:

EPA requested comment on whether a worker certification program should be required. While it is important that any construction project be completed with a skilled workforce, it should be left up to the company paying for the project to determine the skill level of available resources. Any discussion of worker certification within the federal plan is overreaching.

Comment 18:

Administrative Appeals Process, 40 CFR Part 78 – AES agrees that having an administrative appeals process is necessary. The proposed list of appealable actions seems reasonable.

AES appreciates the opportunity to provide comment for your consideration in the rulemaking process. If you have any questions regarding these comments, please contact me at (317) 261-5852 or via email at angelique.collier@aes.com.

Sincerely,
AES United States Strategic Business Unit

A handwritten signature in black ink, appearing to read 'Angelique Collier', with a long horizontal line extending to the right.

Angelique Collier
Director, Environmental Policy



Your comment was submitted successfully!

The **Environmental Protection Agency** (EPA) Proposed Rule: **Federal Plan Requirements: Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations**

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Comment:

AES United States Strategic Business Unit is providing comments on the proposed Federal Plan and Model Rules for the Clean Power Plan today, January 21, 2016, in reference to Docket ID: EPA-HQ-OAR-2015-0199. These comments apply to both the proposed model rules and the proposed federal plans.

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