

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

www.dnr.mo.gov

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EPA Docket Center (EPA/DC)
U.S. Environmental Protection Agency, Mailcode: 28221T
1200 Pennsylvania Avenue, NW
Washington DC 20460

Attention: Docket ID Number EPA-HQ-OAR-2015-0734

The purpose of this letter is to provide comments on the following program:

The Clean Energy Incentive Program (CEIP) under the federal Clean Power Plan.

The Missouri Department of Natural Resources' Air Pollution Control Program (air program) appreciates the level of outreach from the U.S. Environmental Protection Agency (EPA) on the CEIP under the federal Clean Power Plan. The air program appreciates the opportunity and respectfully provides the following comments for EPA's consideration during the development of the CEIP requirements –

Definition of Low-Income Community for Eligible Energy Efficiency (EE) Projects

The final guidelines rule for the Clean Power Plan established the CEIP. Based on this final rule, two types of projects are eligible for federal matching allowances or emission rate credits (ERCs) through the CEIP including:

- Renewable Energy (RE) projects (solar and wind) and
- Energy Efficiency (EE) projects that are located in low-income communities

EPA is soliciting comments on how to define low-income communities for the purposes of the CEIP.

The air program supports language that provides clarity and certainty both to EE project sponsors and the states when determining whether an EE project is located in a low-income community. Clear and concise CEIP qualifying criteria better enable assessment of project eligibility, likely encouraging increased participation. However, the air program also supports a more inclusive definition for low-income to provide incentive for the development of more EE projects. The air program suggests using processes that are already well-established for determining if particular communities should qualify as low-income under the CEIP. By leveraging qualification criteria from existing programs, no new processes need to be developed. Allowing communities that qualify for low-income under any state or federal assistance program to also qualify as low-

income under the CEIP would provide a highly inclusive and easily implementable definition for low-income communities.

Eligible Sectors and Eligible Types of Energy Efficiency (EE) Projects under the CEIP

Under the CEIP, residential buildings in low-income communities are clearly a target for EE projects. However, it is unclear whether EE projects in nonresidential buildings that are located in low-income communities will be eligible to receive federal matching allowances. The air program suggests that EPA consider allowing EE projects implemented in nonresidential buildings, such as churches, schools, small businesses, and industries that are located within low-income communities to be eligible for these allowances through the CEIP. This could be accomplished by establishing geographic requirements for nonresidential buildings. Alternative criteria, tied to income levels, could then be used to determine CEIP eligibility for EE projects in residential buildings.

There are numerous types of EE projects. Some examples of EE projects include lighting, weatherization, combined heat and power, programmable thermostats, appliance replacement, electric furnace or water-heater replacement with direct-line natural gas or solar power, motion sensing technology, and smart grid technology with demand response capabilities. This is not an exhaustive list and new EE technologies and measures are continuing to emerge. The air program believes that any physical measure that conserves energy with quantifiable savings should be eligible under the CEIP, and suggests that EPA develop clear language that enables this.

Another consideration regarding the EE projects and programs that are eligible for federal matching allowances through the CEIP is whether the project or program receives funding from the federal government. For example, many states administer low-income weatherization assistance programs that receive funding from the federal government. The air program requests that the final guidance or regulation clearly indicate whether such projects are eligible.

Location and Types of Eligible Renewable Energy (RE) Projects under the CEIP

Under the final guidelines rule for the Clean Power Plan, the eligible RE resources under the CEIP include only wind and solar energy that generate metered electricity and supply it to the grid. While the air program supports the development of wind and solar energy resources, there are other types of RE that EPA should consider including as eligible resources under the CEIP as well. Geothermal energy and incremental hydropower are both RE resources with no associated emissions, and therefore the air program supports inclusion of these types of RE resources under the CEIP. In addition, qualified biomass energy should be considered by EPA for inclusion under the CEIP. While not all biomass feedstocks have the same level of carbon benefit, there are some feedstocks that have emerged through studies with definite carbon benefits. These include waste derived feedstocks and agricultural residue feedstocks. The air program requests that EPA consider including energy generated from new projects that use such biomass feedstocks as an eligible RE resource under the CEIP.

One key area of confusion under the final guidelines rule for the Clean Power Plan is which state receives credit for wind energy when the actual resource generating the electricity is physically

located in one state, but the resource is under a power purchase agreement to serve load in another state. Unless EPA makes it clear in the implementing requirements for the CEIP, this will remain an area of confusion under that program. EPA should provide a clear explanation of which state the RE provider will apply to for CEIP allowances under scenarios like this. Such clarity in the implementing requirements will also be an aide to ensure that double crediting for wind generation under the CEIP does not occur.

Commencement Dates to Determine Energy Efficiency (EE) and Renewable Energy (RE) Project Eligibility

To qualify under the CEIP, RE projects must commence construction and EE projects must commence implementation after the date of submission of a final state plan to the EPA, or after September 6, 2018 for those states where the EPA implements a federal plan. The air program disagrees that eligibility should be tied to submittal of a final plan. Instead, it should be tied to the date of the final rule. It is difficult to determine ahead of time, the actual date a final state plan will be submitted. Due to this uncertainty, there is a disincentive to taking early action, and sources are reluctant to plan projects. In some cases, sources are encouraged to delay projects already planned. The air program sees this as contrary to EPA's intent. Action should be encouraged as soon as possible. For that reason, the air program suggests that EPA consider establishing an earlier, fixed date, such as September 6, 2016, which corresponds to the first state plan submittal deadline, to encourage affected sources to move forward with projects.

Evaluation Measurement and Verification (EM&V) and Independent Verifiers

The air program understands that measuring and verifying the amount of electricity saved through an EE measure is a vital component necessary to determine the success and ensure the integrity of an EE program. However, EM&V is an administratively burdensome activity. While it is important to gain assurance that an EE measure is actually installed and remains installed, the additional complexity of calculating or measuring energy savings from the measure is a deterrent from participating. In states that have developed a technical resource manual (TRM), deemed savings established through the TRM should be allowed to be used in place of a complex or prescriptive EM&V approach. For projects without deemed savings or states without a TRM, the air program requests EPA to consider allowing the use of conservative estimates for EE measures. Using conservative energy saving estimates that understate the actual amount of energy saved, but require minimal administrative resources to calculate and verify, may stimulate participation in EE programs. This allows more funding to be directed towards the actual measures that save energy, likely resulting in more realized energy savings. As EPA develops the EM&V requirements for the CEIP, the air program requests EPA to be mindful of this administrative burden and take steps to conserve administrative resources by providing clarity for the EM&V requirements and by making the process as easy and straightforward as possible.

The air program has similar concerns about the requirement that independent verifiers submit reports verifying the EM&V reports and actual savings calculations that the project sponsor performs. This essentially doubles the amount of reports that states have to review for each project in order to award allowances through the CEIP. It is imperative that states have assurances that renewable energy resources have been built and are generating electricity and supplying it to the grid. It is equally important to ensure that energy efficiency measures are

installed and remain installed at the buildings included in a CEIP allowance application. However, requirements that make the project sponsor perform EM&V to calculate ex-post energy savings, an independent verifier perform EM&V on the same project, and the state review and verify both reports is overly cumbersome. The air program suggests implementing requirements such that spot checks by independent verifiers are performed on EM&V calculations as opposed to each project. Then for every project, independent verifiers only need to verify that RE resources and/or EE measures were physically installed and remain installed at the locations in a project sponsor's report.

The air program is also concerned about the requirement to accredit all independent verifiers in their state, which would be an unnecessary use of resources. EPA will be accrediting independent verifiers if any state falls under a federal plan. Therefore, EPA will have a list of independent verifiers that they have determined to meet the necessary requirements. States should be allowed to use the list of EPA's accredited independent verifiers, thus eliminating the need for states to develop their own accreditation process. Requiring independent verifiers to become accredited in every state in which they want to perform such services is inefficient, especially if EPA has already determined that they meet the necessary requirements. Therefore, the air program requests EPA provide a national list of EPA accredited independent verifiers that states can use, and eliminate the requirement that states must individually accredit every independent verifier that works in their state.

Federal Reserves for Energy Efficiency (EE) and Renewable Energy (RE) Projects for Each State under the CEIP

EPA asked if separate federal matching reserves should be established that split the 300 million allowances under the CEIP between an EE reserve and an RE reserve, and if so, what size each reserve should be. The air program values both energy efficiency and renewable energy projects, and thus offers no opinion on the establishment or the sizes of the separate reserves. However, the air program strongly suggests that separate total CEIP matching reserves are established for each state. The amount of allowances in each state reserve should be guaranteed to that state if enough projects are implemented to utilize the full amount of the matching reserve in the state. If separate reserves for EE and RE are established, then the air program suggests that rollovers first occur between the two reserves in a state. For example, if a state had excess EE projects that depleted the EE reserve, but not enough RE projects to fully utilize their RE reserve, then allowances should roll from that state's RE reserve into their EE reserve, and vice versa. This would allow states to award the maximum amount of allowances to eligible projects from the total state reserve.

Timing of Allocations under the CEIP

The air program encourages EPA to establish clear design and implementation details in their guidance documents related to the CEIP. Due to the short timeline from project eligibility to the awarding of allowances, a simple and clear process needs to be established. We also encourage EPA to promulgate any guidance as quickly as possible, so that information can be shared with project sponsors and other interested parties.

One specific logistical concern includes the uncertainty of the amount of time necessary for approval to award the federal matching allowances. States may not want to award their state CEIP set-aside allowances for a project until they have determined that the project is eligible for matching allowances. The air program suggests aligning the timing for state set-aside allocations with the federal matching allocations so that states can take steps to ensure a project is eligible for the federal match before the set-aside allowance is awarded.

The timing for EM&V report submittals and for state and federal reviews of those reports must be taken into account. EM&V reports are time consuming for project sponsors to develop, and they can't be developed until after the savings (EE) or generation (RE) has occurred. It may be more efficient if only one review process for the full 2020-2021 CEIP time period is used. EPA (and states) should give sufficient time for the EM&V reports to be submitted after 2021 has passed (e.g. within 6 - 9 months), and then allow sufficient time for the state and EPA review. With these types of timing requirements, CEIP allowances would not be distributed to project sponsors until 2023.

Another concern is that states will not know their full share of available federal matching ERCS/allowances until the extent of state participation is determined and whether every other state fully utilizes their share of the federal matching reserve. If some states do not participate in the CEIP, or do not fully utilize their share of the federal matching reserve, these allowances will be made available to other states that are participating in the CEIP using a redistribution method which has not yet been determined. Without this information, it will be difficult for states to effectively implement the CEIP. States will not know what size of a CEIP set-aside to develop in order to take full advantage of all the federal matching allowances. There may be no way to account for states that participate in the CEIP but do not fully utilize their full share of the federal matching reserve prior to the development of the CEIP set-aside in a state plan. However, the air program requests that EPA provide guidance on this particular issue. Additionally, if a state prefers to use a pro rata distribution method for the federal matching allowances (in the event their share of the federal matching reserve is under-allocated), the calculation necessary to determine the allowance distribution will not be known until the final amount of available federal matching allowances is known. The problem is that this cannot be known until every state reports the number of eligible applications received and the number of eligible allowances requested. EPA needs to provide a preliminary figure for these numbers and relay the information to states before each state submits their final CEIP allowance results to EPA. The air program suggests that EPA consider these logistical issues and provide a workable solution.

The air program's primary concern is that evaluating CEIP applications, the accompanying EM&V plans, and the allowance calculations with EM&V reports could be a time-consuming process if EPA sets strict standards. As described in a previous comment, we encourage EPA to provide clarity on the EM&V process, but also allow the state some flexibility to efficiently evaluate projects and EM&V. Finally, the air program requests that EPA assist states in the tracking of ERCs or allowances as this will be another administratively burdensome task for states. Having one entity manage the tracking system will result in more uniform, accurate, and accessible information that will contribute to the success of the CEIP.

Emission Rate Credit (ERC) to Allowance Conversion Ratio

EPA is soliciting comments on the appropriate conversion ratio between ERCs and allowances. This is a complicated issue, but an appropriate conversion ratio will be necessary for successful implementation of the CEIP regardless of whether a state uses a mass-based approach or a rate-based approach. Even under a mass-based approach, a conversion ratio is needed so the state knows how many CEIP allowances should be awarded when 1 MWh of energy is saved through EE or generated through RE. At first, one might think that the number of allowances should be equivalent to the amount of avoided emissions achieved as a result of the EE/RE, but this is not accurate. Rate-based approaches and mass-based approaches are very different compliance structures. Mass-based approaches are simple, and the meaning of an allowance is easy to understand. For every allowance, one (1) ton of CO₂ can be emitted. Therefore, in order to determine the appropriate conversion ratio, one must determine the amount of emissions that an affected unit could emit and still comply with the rule if they were given one (1) ERC under a rate-based approach. If this can be determined, then there can be a direct conversion between ERCs and allowances. In other words, the equivalent value of an ERC is not the amount of avoided emissions that resulted from EE/RE, but rather the amount of emissions that would be permitted under a rate-based approach if one (1) ERC was given to an affected unit.

Unfortunately, it is difficult to determine the amount of emissions that one (1) ERC would permit if given to an affected unit under a rate-based approach. This is because every unit has a different actual emission rate, and, depending on whether the subcategorized rates or statewide rate-based goals are used, the compliance rates are different as well. Assume, for example, a state has a statewide rate-goal of 1,000 lbs CO₂/MWh. If one (1) ERC is given to a coal-fired unit in that state with an actual emission rate of 2,000 lbs CO₂/MWh, then the coal-fired unit could generate 1 MWh, and emit 2,000 lbs (1 ton), and the 2,000 lbs of emissions divided by two (2) MWhs (the one (1) they generated plus the ERC) would equal 1,000 lbs CO₂/MWh and they would comply with the statewide rate-goal. In that case, for that coal fired unit, one (1) ERC would have the same value as one (1) allowance; each ERC would essentially allow the unit to emit one (1) ton of CO₂. But, if the coal-fired unit's actual emission rate is 1,800 lbs CO₂/MWh instead of 2,000 lbs CO₂/MWh, and the statewide rate-goal is 1,500 lbs CO₂/MWh instead of 1,000 lbs CO₂/MWh. Then one (1) ERC would allow the coal unit to generate five (5) MWh, emit 9,000 lbs (4.5 tons) of CO₂, and still comply with the rate-goal (9,000 lbs/(5 MWh + 1 ERC) = 1,500 lbs/MWh). So in that case, the conversion ratio would be 1 ERC = 4.5 allowances. Now, consider a natural gas unit with an emission rate of 900 lbs CO₂/MWh. If the statewide rate-goal is 1,000 lbs CO₂/MWh, the unit has no need for ERCs and has no limit on CO₂ emissions because its actual rate is always going to be in compliance with the rate-goal. In fact, the unit would generate ERCs with each MWh it produces. However, if the statewide rate-goal is below 900 lbs CO₂/MWh, or if the subcategorized rates are used, then the natural gas plant would need ERCs to operate and the amount of emissions that one (1) ERC would allow the natural gas plant to emit would probably be even more than the coal unit was able to emit in the second example.

With all the differences between compliance rates and actual achieved unit rates, it may seem like a good idea to have an equation that converts ERCs to allowances, which would provide a unique conversion ratio for each individual project. However, this could lead to gaming of the

system (as project sponsors would always try to pick a unit and a compliance rate that gave them the most favorable conversion ratio). It would also lead to unnecessary complexities and increase the chance for calculation errors. Therefore, the air program suggests EPA establish one nationally uniform conversion ratio. To calculate the conversion ratio, the air program suggests using the 2012 emissions and generation data used to develop the final guidelines rule along with the nationally consistent interim period subcategorized rates. The data, steps, and calculations below result in a conversion ratio for all units (Steam and NGCC) of 1 ERC = 2.6 allowances. This conversion method would be defensible because it is based on the nationally consistent performance rates in the Clean Power Plan as well as the same generation/emissions data that EPA used when they developed the Clean Power Plan. This conversion also equitably calculates the amount of emissions that an ERC, under a rate-based approach, would allow an average affected unit from 2012 to emit, thus providing an equivalent conversion ratio from ERCs to allowances.

Calculations

Data

All data below was pulled from EPA's Data File Goal Computation Appendix 1-5 - <http://www2.epa.gov/cleanpowerplan/clean-power-plan-final-rule-technical-documents>

Total Steam Unit CO₂ Emissions and Generation in 2012

(Includes under construction coal units that commenced operation in 2012)

Emissions: 1,743,385,651 tons

Generation: 1,606,878,140 MWh

Total NGCC Unit CO₂ Emissions and Generation in 2012

(Includes under construction NGCC units that commenced operation in 2012)

Emissions: 435,330,779 tons

Generation: 962,611,912 MWh

Total Affected Unit CO₂ Emissions, Generation, and Actual Average Emission Rate in 2012

(Includes under construction coal and NGCC units that commenced operation in 2012)

Emissions: 2,178,716,430 tons

Generation: 2,569,490,052

2012 Affected Unit Average Emission Rate: 1,696 lbs CO₂/MWh

Interim Period Subcategorized Rates from the CPP

Steam Units: 1,544 lbs CO₂/MWh

NGCC Units 834 lbs CO₂/MWh

The equation below is the same equation that EPA used in the final guidelines rule for the Clean Power Plan when calculating the equivalent state-wide rate-goals for each state. This same equation is used to calculate the "interim period nation-wide rate-goal" for use in this conversion method.

$$\frac{(2012 \text{ Steam Generation} \times \text{Steam Compliance Rate}) + (2012 \text{ NGCC Generation} \times \text{NGCC Compliance Rate})}{(2012 \text{ Steam Generation} + 2012 \text{ NGCC Generation})}$$

Using nationwide generation data and the interim period subcategorized performance rates,

$$\frac{(1,606,878,140 \text{ MWh} \times 1,544 \text{ lbs/MWh}) + (962,611,912 \text{ MWh} \times 834 \text{ lbs/MWh})}{1,606,878,140 \text{ MWh} + 962,611,912 \text{ MWh}} =$$

“Interim Period Nation-wide Rate-goal”: 1,278 lbs CO₂/MWh

Next, calculate the amount of electricity an average affected unit from 2012 could generate and still comply with the “interim period nation-wide rate-goal” if given one (1) ERC:

$$\frac{1,696 \text{ lbs CO}_2/\text{MWh} \times (\text{affected unit generation})}{(1 \text{ ERC} + \text{affected unit generation})} = 1,278 \text{ lbs CO}_2/\text{MWh}$$

Solving for generation gives 3.059 MWh. To determine emissions from the affected unit, multiply the generation by the average affected unit emission rate:

$$1,696 \text{ lbs/MWh} \times (3.059 \text{ MWh}) = 5,188 \text{ lbs CO}_2$$

Convert this to tons and an average affected unit from 2012 can emit 2.6 tons for each ERC it receives and still comply with the “interim period nation-wide rate-goal”. Therefore, the conversion rate from ERCs to allowances is as follows:

$$1 \text{ ERC} = 2.6 \text{ allowances}$$

Other Considerations

There are two other issues regarding the CEIP that are worth consideration by EPA, but perhaps are outside the scope of the CEIP issues for which EPA is seeking comments: the need for a set-aside pool and the duration of the program.

It has been mentioned by affected sources that the federal matching pool of allowances provides enough incentive to stimulate activities that EPA is encouraging without the need for the state CEIP set-aside pool. Several benefits could be realized if EPA eliminated the requirement for states to establish a CEIP set-aside in order to participate in the CEIP. Currently, states must decide whether they want to establish a set-aside and administer the program in order to gain

access to the federal matching allowances in the CEIP. An allocation approach that establishes set-asides reduces the regulatory certainty for sources subject to the rule. This can make compliance planning more difficult and potentially more costly. Additionally, when states establish set-asides, they must also write regulatory language for contingency plans that explain the process for redistribution of unused CEIP allowances. Eliminating the set-aside requirement would encourage more states to participate in the CEIP, and reduce the burden for states developing plans.

Other logistical benefits would also result by eliminating the set-aside requirement. It would solve the problem explained earlier about how states must establish the CEIP set-asides in their state plans before they know how many federal matching allowances will ultimately be available in their state. Another benefit of eliminating the set-aside requirement will be realized for EPA in regards to maintaining the stringency of the rate-based goals. If rate-based states are not required to borrow ERCs from a future year as a requirement to participate in the CEIP, then the stringency of the program will inherently be maintained without a need to repay the ERCs in a future year, or adjust the compliance rate downward. The air program believes that certain remedies that EPA selects may deter states that are using a rate-based approach from participating in the CEIP. This difficult issue would also be avoided if EPA eliminated the set-aside requirement.

The final issue is the effective period for the program only lasts for two years (2020-2021). The air program understands that the Clean Power Plan compliance period begins in 2022, and the CEIP is designed to provide incentive for early actions that contribute towards reducing CO₂ emissions from existing power plants. However, this creates an administratively burdensome process for a program that will be short-lived. The air program requests that EPA consider the continuation of the CEIP through the full interim period by establishing a federal matching reserve of allowances each year from 2022-2029. In order to encourage continual pursuit of new projects, EPA could create a condition that the generation or savings from an eligible project can only be credited through the CEIP for 2-3 years after the project is implemented. Then new projects would constantly need to be developed to take advantage of the program.

The portion of the CEIP that provides incentive for EE programs in low-income communities would be particularly beneficial for EPA to continue past 2021. The CEIP was designed to encourage these types of projects because they benefit vulnerable communities in several ways. These communities may not have ready access to affordable energy efficiency programs without incentives the CEIP provides. Further, low-income communities are those that will have the hardest time adjusting to the potentially higher electricity rates necessary to pay for the resources needed to comply with the Clean Power Plan. By continuing an incentive program to encourage EE programs in low income communities, this can counteract some these negative effects. RE projects are important to help achieve the goals of the Clean Power Plan, but RE projects will likely be deployed as a market response to comply with the rule even without the continuation of CEIP. EE programs in low-income communities, which can be more expensive to implement than other types of EE/RE programs, may not continue at the same pace without the added incentive from continuing the CEIP. If EPA does not allow for the full suite of eligible projects to continue receiving incentives through the CEIP during the Clean Power Plan compliance

period, they should at least consider the added benefit of continuing the program for the low-income EE projects.

The Department of Natural Resources' Air Pollution Control Program appreciates the opportunity to comment on EPA's Clean Energy Incentive Program. Should EPA require further information on this matter, please contact Ms. Emily Wilbur, Air Quality Planning State Implementation Plan Unit Chief with the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, or by telephone at (573) 751-4817.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

A handwritten signature in black ink that reads "Kyra L. Moore". The signature is written in a cursive, flowing style.

Kyra L. Moore
Director

KLM:mlc