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1200 Pennsylvania Avenue, NW
Washington DC 20460

Attention: Docket ID Number EPA-HQ-OAR-2016-0033

The purpose of this letter is to provide comments on the following Federal Register action:

Clean Energy Incentive Program Design Details (Federal Register, June 30, 2016, Volume 81, Number 126, Proposed Rule, Pages 42940-42982)

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 Clean Energy Incentive Program (CEIP) under the federal Clean Power Plan (CPP). The air program appreciates the opportunity and respectfully provides the following comments for EPA's consideration during the development of the final rule –

Proposed Expansion of CEIP Project Eligibility (81 FR 42963)

EPA is proposing a limited expansion of the types of projects that are eligible for the CEIP. This includes:

- Low-income community projects – EPA is proposing that both demand-side energy efficiency (EE) and solar renewable energy (RE) projects implemented to serve low-income communities be eligible, and
- Renewable energy projects – In addition to wind and solar, EPA is proposing a limited expansion of CEIP eligible technologies to include geothermal and hydropower.

The air program supports EPA’s expansion of the projects eligible for the CEIP. This is a positive step that encourages a greater number of projects to be eligible and supports increased efforts in low-income communities. However, the air program suggests an even broader expansion of eligible projects. Implementing EE projects and reducing electricity demand is one of the most cost effective ways to reduce the need for traditional fossil fuel-fired generation, but initial costs for EE projects can deter investment in these resources. Therefore, the air program suggests that EE implemented outside of low-income communities should be eligible for a 1-to-1 benefit under the CEIP (½ an ERC from the state set-aside and ½ an ERC from the matching pool for each MWh saved) just like state-wide RE projects receive credit. In addition, the air program supports the inclusion of small scale wind, geothermal, and hydropower to be eligible as a low-income community project under the CEIP if those types of projects are implemented to benefit low-income communities. Using these suggestions, all project types that are eligible under the CEIP, will be eligible regardless of if they are implemented in a low-income community or not. The only differences would be the amount of credit the project receives. Low-income projects receive twice the credit of projects implemented outside of low-income communities.

Proposed Clarification on when CEIP Project Eligibility Begins (81 FR 42963)

EPA is proposing to clarify the CEIP eligibility requirements in terms of starting date for both low-income community EE and solar projects and state-wide RE projects. EPA is proposing the following clarifications:

- RE projects in all communities would be eligible based on when they commence commercial operation, which is defined as when a project begins selling “useable” electricity or, in the case of some low-income community solar projects, when a project begins providing direct electricity bill benefits to low-income community ratepayers. The term “commence commercial operation” is proposed to replace the term “commence construction” included in the final CPP. The proposed rule would also change the eligibility start date for state-wide RE projects to January 1, 2020.
- EE projects in low-income communities would be eligible based on when they commence operation. EPA proposes to define this as the date on which an eligible EE project in a low-income community is delivering quantifiable and verifiable electricity savings. Such projects would be eligible if they commence operation on or after September 6, 2018. For solar projects in low-income communities, EPA is proposing that such projects would be eligible if they commence commercial operation on or after January 1, 2020 (the same CEIP starting eligibility date as state-wide RE projects).

EPA also requests comment on the extent to which the recent extension of the federal production tax credits and investment tax credits (PTC/ITC) for renewable resources will help to meet the CEIP’s objectives with respect to promoting increased deployment of RE resources over the period leading up to 2022, and how to balance the incentives provided through the PTC/ITC with those that can be provided through the CEIP. The air program believes the PTC/ITC and the eligibility start dates for projects are intertwined, and that the CEIP eligibility starting date can be

much earlier than what EPA proposes. If the final rule includes eligibility requirements that are tied to whether or not an otherwise eligible CEIP project is benefitting significantly from the PTC/ITC, then the eligibility start date can begin as soon as the CEIP rule is finalized without concern that the CEIP is crediting projects that would have been implemented without the CEIP incentive.

The air program suggests a resolution that will balance the incentives provided by the PTC/ITC and the CEIP without creating unintended incentives to delay the deployment of clean energy resources. The air program agrees that the PTC/ITC will likely spur investment in RE technology regardless of the CEIP; however, the PTC/ITC begins phasing down in 2017. At some point, the PTC/ITC, while still available to benefit a project, may not be enough on its own to stimulate investment once it is nearly phased out. In that case, a combination of the phased down PTC/ITC and the CEIP incentive may be necessary in order to motivate the investment. Therefore, the air program suggests that the CEIP eligibility start date begin as soon as the final CEIP rule is published, but state-wide RE projects are only eligible to receive CEIP credit if they are receiving 40% or less of the PTC/ITC tax credit. (Projects that begin construction in 2019 receive 40% of the full tax credits provided through the PTC/ITC.) This way, there will be no lull in timing that might motivate project sponsors to wait before investing in an eligible RE resource, while still ensuring that the CEIP is still, indeed, spurring new investment that likely would not have happened without the program.

Another consideration is that the PTC/ITC does not especially encourage eligible projects to be focused in low-income communities. It is noted that the PTC/ITC does not benefit EE projects in low-income communities. One of the most important things that EPA should consider when developing the final CEIP rule is that encouraging clean energy investments in low-income communities is needed now and will continue to be needed into the foreseeable future. The CEIP is a tool that can encourage these projects. Therefore, the air program suggests that any CEIP project that commences commercial operation after the CEIP rule becomes final should be eligible for the generation or savings achieved in 2020 and 2021. That way all incentives for clean energy investments in low-income communities are available right away, which is needed because EE projects receive no credit through the PTC/ITC and low-income community RE projects currently receive no more credit than a state-wide RE project. The CEIP can change this and make clean energy investments for low-income communities an immediately attractive option after the CEIP rule is finalized, and the air program encourages EPA to do so.

A final consideration regarding the start date eligibility would be necessary if EPA accepts the air program's suggestion to allow EE projects implemented outside low-income communities to be eligible for a 1-to-1 credit through the CEIP. As mentioned above, the PTC/ITC does not benefit EE projects. This is true whether the EE project is implemented inside or outside a low-income community. For this reason, if EPA accepts the air program's suggestion regarding state-wide EE projects to be eligible, then the CEIP eligibility start date for EE projects should allow any EE projects that commence operation after publication of the final CEIP rule to be eligible under the program. The savings achieved by these EE projects in 2020 and 2021 would be used to determine the level of credit granted.

In summary, the air program is suggesting that the eligibility of a CEIP project, in terms of commencing operation, be that any project that meets CEIP project eligibility criteria will also meet start date eligibility criteria if it commences operation after the date the final CEIP rule is published. For RE resources outside of low-income communities, they will not be eligible to receive credit under the CEIP unless they are receiving 40% or less of the PTC/ITC credit. That way, no one is waiting to hit the “on switch” for a project in an attempt to get both types of credit, because the operational start date for CEIP eligibility is no longer a trigger. For all CEIP low-income RE projects, EE projects in low-income communities, and state-wide EE projects (if EPA accepts the air program’s suggestion to allow these), the operational start date should be tied to the publication of the final CEIP rule regardless of whether the project is also benefitting from the PTC/ITC. That way, there is no incentive to delay clean energy investments anywhere, while still balancing the incentives provided by the PTC/ITC; and particularly for low-income communities, all available incentives are deployed to encourage clean energy investments in these areas as soon as possible.

Adjustments to CEIP Timing as a Result of the Stay (81 FR 42945)

The EPA proposes that it is unclear what adjustments, if any, to CEIP implementation timing will be necessary. In the proposed rule, the EPA indicates that the timing elements of the CEIP may need to be adjusted in concert with other timing elements of the CPP, if and when the CPP is upheld and the Supreme Court stay is lifted.

The air program encourages EPA to be mindful when making adjustments to CEIP implementation dates. Project sponsors that invest in a CEIP eligible project under the belief that the dates in the final CEIP rule will determine eligibility for their project should not later have the rug pulled out from under them if and when the judicial stay of the CPP is lifted. If this type of uncertainty is present, it will dissuade project sponsors from investing in clean energy resources. EPA should be clear in the final CEIP rule that the start dates for CEIP eligibility will not be pushed back if and when the stay of the CPP is lifted. That way project sponsors can invest in clean energy resources with confidence knowing that they will be eligible for CEIP credit if the CPP stay is lifted. Arbitrary dates selected for use in a regulation (especially those that might change to a date further in the future at some point) should not act as a deterrent from clean energy investment, as this would be contrary to EPA’s goal. Therefore, the air program reaffirms its support for making the eligibility start date for CEIP projects to be tied to the release of the final CEIP rule (with consideration of the PTC/ITC as mentioned in the comment above) and making clear in the final CEIP rule that project start dates will not change if and when the CPP stay is lifted.

Proposed Approach to Establish Definitions of Low-Income Community (81 FR 42960)

EPA is proposing to enable states and tribes to use one or more existing definitions for “low-income community,” including local, state or federal definitions from programs that provide benefits to low-income households and populations. EPA is proposing:

- Any definition used must have been established prior to the publication of the final CPP on October 23, 2015, and
- Selected definition(s) may be based on a geographic area that includes low-income households, and/or may be based on a household-level income determination.

The air program supports EPA’s decision to allow states the flexibility to use any existing definitions for low-income communities. This common-sense approach allows states to select the definitions they are already using and will make eligibility determinations and implementation easier both for states and project sponsors. The air program also supports EPA’s proposal to allow routine updates to low-income definitions that occur after October 23, 2015 to be used for the purposes of implementing the CEIP. That way states are not stuck with outdated definitions they must use for the CEIP, while still guarding against a loop-hole that states might exploit to expand the low-income definition if the definitions for new programs were allowed to be used.

One more consideration in regards to low-income community definitions is that EPA may want to allow new federal definitions of low-income that come about after October 23, 2015 to also be allowed for the purposes of the CEIP. New federal programs with new low-income definitions may develop after October 23, 2015 and states may get accustomed to using the new definitions prior to the beginning of CEIP implementation, in which case those definitions should also be allowed when determining if a project meets the low-income definition under the CEIP. Limiting the new definitions to federal programs only will prevent individual states from taking advantage of this provision. This provision could be useful since the timing of the CPP and the CEIP remains uncertain and because there will be a new federal administration in 2017 that may propose new programs for low-income communities.

Process for the Award for EPA Matching Allowances or ERCs (81 FR 42958)

EPA is proposing certain administrative requirements for the allocation of allowances or ERCs. Specifically, the proposal requires monitoring and verification (M&V) reports to be submitted by September 15, 2021 and September 15, 2022 that include the generations and savings achieved in the previous calendar year [§ 62.16245(c)(4)(ii)]. States are then required to review the M&V reports and perform final allocations of CEIP set-aside allowances by October 15, 2021 and October 15, 2022 [§ 61.16240(b)(3)] for the savings and generation achieved by CEIP eligible projects in the preceding calendar year. Then, EPA proposes a 60-day lag time after the state allocates their CEIP set-aside allowances, at which point the state will be able to allocate the federal CEIP matching allowances. At any point during this 60-day lag time, EPA can freeze the states’ ability to allocate allowances from the matching pool if they have questions about the state-issued CEIP set-aside allocations. Finally, EPA offers no suggestions or requirements for states to use if they receive applications requesting more allowances than are available in their CEIP set-aside and matching pool. In summary, EPA is proposing that two review periods for CEIP allocations will be required for participating states; that states will only have one month to review all the M&V reports received and make final allocations, and that EPA has 60 days to decide that they disagree with a state and freeze the states’ ability to allocate federal matching CEIP allowances. In addition, EPA does need even address a state’s options when faced with the

real possibility that they lack sufficient CEIP set-aside and matching allowances to make full awards to all of the eligible applications. EPA's proposal creates numerous unnecessary drawbacks, and the air program requests EPA to reconsider the logistics of the entire process as explained in the paragraphs below.

First, the requirement for two state review periods and state administered allocation processes under the CEIP unnecessarily doubles the workload needed to successfully implement the program. It also makes it much more difficult for states to apply a fix if they lack sufficient CEIP allowances to fully award all applications received. Two obvious choices for resolving an allowance shortfall in a state's CEIP reserve would be to issue allowances on a first-come first-serve basis or to use a pro-rata method of distributing the CEIP allowances to eligible projects. Both of these options will be much easier to implement if there is only one review period and the state looks at the total amount of CEIP allowances available compared to the total amount of allowances requested in the applications received. Therefore, the air program suggests that EPA require only one state review period and allocation process for the full CEIP implementation period. This will greatly reduce the administrative resources necessary to successfully implement the program.

Second, a one-month period for the state to review all M&V reports received and make final allocations is not nearly sufficient to successfully accomplish this enormous task. It is impossible to know how many M&V reports a state will receive. Depending on the level of participation, the review process alone could take several months. Then, after the state performs its review, most states would likely prefer to propose their CEIP allocation figures and allow CEIP applicants to concur or correct the state's CEIP allocation figures. Finally, time would be needed for the state to make the final decisions and record the allocations. The air program suggests at least nine months for this process to be completed. Combining this suggestion with the suggestion for one state review period under the CEIP would mean that M&V reports that identify the generation and savings achieved by CEIP resources during 2020 and 2021 would be submitted to states by September 15, 2022, and final CEIP allocations are not required to be made by the states until June of 2023.

Finally, the EPA's proposed 60-day lag-time for allowing states to allocate the federal CEIP matching allowances does not benefit states. This proposed 60-day lag time gives EPA some ability to withhold matching ERCs/allowances if they disagree with state decisions regarding the generation or savings achieved by CEIP projects, but states will not know if EPA is going to withhold matching ERCs/allowances until after they have already made the allocations. States need assurance that EPA agrees with CEIP allocation determinations before making them final. It would be very undesirable to find out that EPA disagrees with the state's award amount after it has already been made. States would have to revoke allowances that were already allocated and rework calculations that could affect all allocations that were made. If EPA uses the air program's two suggestions listed above, then EPA could use the state's objection period to let states know if they disagree with the state's figures for CEIP allocations before the state records the final allocations. Under this approach, EPA has time to review the state's proposed CEIP allocations, and it keeps the state from making any allocations that EPA disagrees with. Additionally, because EPA would have ample time to review the state allocations before they are

made, it would eliminate the need for the 60-day lag time and allow the CEIP set-aside allowance and the federal allowances to be allocated through a single step. The air program encourages EPA to follow this approach that will provide for much greater accuracy, transparency, clarity, and certainty for all parties involved throughout the entire process.

Determining Each State's Pro-Rata Share of the CEIP Matching Pool (81 FR 42947)

EPA is proposing to determine each state's pro-rata share of the matching CEIP allowances based on the amount of emission reductions required of each state under the final CPP. The air program supports this common sense approach proposed by EPA. States that are required to make steeper emission reductions under the rule will benefit more from a larger share of the matching CEIP allowances. This will help smooth the transition into CPP compliance and help drive early clean energy investments in states with the furthest to go to meet the CPP emission goals. The air program also supports EPA's proposal guaranteeing each state's pro-rata share of the matching allowances if there are enough eligible projects to utilize them (i.e. The air program does not support a method where the state's total CEIP matching allowances could change due to a nation-wide first come first serve basis or a pro-rationing of the matching allowances available to each state based on the number of CEIP applications received in each state).

Provisions for Reapportioning Matching Allowances and ERCs Among CEIP-Participating States (81 FR 42955)

EPA is proposing that matching allowances and ERCs that go unused will simply be retired and not reapportioned to the remaining states. The EPA gives three reasons for their modified approach. First, they indicate that reapportioning the allowances would be administratively and logistically complex, causing uncertainty among states participating in the CEIP. Second, EPA believes that states choosing not to participate may perceive the reapportionment as a "double-disadvantage" since the state will not receive their share of matching ERCs/allowances while other states' shares of matching ERCs/allowances increase. Lastly, EPA believes that most states will elect to participate in the CEIP, so there will not be many matching allowances to reapportion.

The air program disagrees with EPA's line of reasoning in proposing not to reapportion unused matching ERCs/allowances under the CEIP. In regards to the administrative and logistical complexity, this issue could be resolved by requiring states to submit a statement of intent in regards to CEIP implementation well before the final plans are due. That way, EPA could execute the reapportionment and inform states of their available CEIP matching allowances/ERCs with time for states to include the figures in their final plans. The other two lines of reasoning listed by EPA are unpersuasive. Both reasons attempt to explain EPA's belief that few if any states will opt not to participate in the CEIP (whether because of the "double-disadvantage" or simply because the CEIP is an attractive program for state participation), and based on that assumption, there will be few if any allowances that need to be reapportioned. While this may be true, there is no way of knowing for certain at this point how many states will participate in the CEIP. Even if most states participate, this is not a reason to abandon the reapportionment of the matching allowances for the few states that do not participate.

Additionally, a more likely scenario is one where many states participate in the CEIP but do not utilize their full share of matching ERCs/allowances. In that case, there would be numerous matching ERCs/allowances to reappportion; however, the administrative and logistical complexity of reappportioning those matching ERCs/allowances for use in the CEIP implementation period would make the process difficult, which is why the air program suggests EPA use the following option.

The air program believes all unused matching ERCs/allowances from the CEIP could be reappportioned with no administrative or logistical complexity. Regardless of the number of states that participate in the CEIP or the amount of allowances that participating states have remaining after CEIP implementation, significant benefits would still be achieved. Under this alternative option, the CEIP matching ERCs/allowances that are left over after CEIP implementation would roll to a reserve to continue the low-income community portion of the CEIP into the CPP compliance period. These remaining CEIP matching ERCs/allowances could be reappportioned for use during the compliance period in states that faithfully implemented the CEIP in 2020 and 2021. The reappportionment could be based on each participating state's pro-rata share of initial matching ERCs/allowances under the CEIP. As discussed in the final comment on this document, the air program is encouraging EPA to continue providing incentives for investments in clean energy projects that benefit low-income communities after the CPP compliance period begins. This option would maximize the benefit of the matching ERCs/allowances from the CEIP without eroding the integrity of the CPP emission goals.

Division of the CEIP Matching Pool Between Low-Income Community Projects and Qualifying RE Projects (81 FR 42951)

EPA is proposing that each state's share of CEIP matching ERCs/allowances be divided equally among a reserve for low-income community projects and a reserve for qualifying RE projects. Furthermore, EPA is proposing that states may not rollover allowances from their RE reserve into their low-income community reserve or vice versa if one reserve is over-subscribed and the other reserve is under-subscribed.

The air program's preferred option to address this issue is listed in the comment above. All unused matching ERCs/allowances should roll to a reserve to continue the CEIP for low-income community projects that are implemented during the CPP compliance period. If EPA follows this suggestion, then the air program would support the 50-50 division between the low-income community reserve and the qualifying RE reserve without the ability to roll allowances from one CEIP matching reserve to the other within a state; but only if all unused matching ERCs/allowances under the CEIP (regardless of the type of reserve pool where they were initially placed) are deposited into a low-income community reserve to be awarded for projects implemented during the CPP compliance period. If EPA does not use the air program's preferred option of depositing unused matching ERCs/allowances into a low-income reserve for projects implemented during the CPP compliance period, then the air program would not support EPA's proposed restriction against rolling allowances from a state's RE reserve into the low-income community reserve and vice versa.

The air program supports both the deployment of RE state-wide and the deployment of RE and EE in low-income communities. Therefore it is difficult to argue that one reserve should be higher than the other. However, assuming EPA does not follow the air program's preferred option, and one of the state's reserves has unused matching ERCs/allowances because insufficient applications are received to fully utilize that reserve, and the same state receives so many applications for the other type of project that the other reserve is insufficient to make full awards to all qualifying projects, then the state should be allowed to roll the ERCs/allowances over from one reserve to the other. By restricting the rollover of matching CEIP ERCs/allowances, EPA is backpedaling on its commitment to provide incentives to these worthy projects, and instead, taking flexibility away from the states by requiring them to "throw away" these incentive mechanisms when they could be provided to incent clean energy investments. It appears EPA prefers for many of the matching ERCs/allowances to be retired as evidenced by their proposed restriction against in-state rollovers, but this is unnecessary. When EPA established the size of the CEIP matching pool, they already determined that the 300 million matching allowances provided under the CEIP will not significantly harm the integrity of the CPP emission goals. Therefore, EPA should not put up barriers to states that wish to make as much use as possible of the matching ERCs/allowances. These incentive mechanisms can drive investment in clean energy resources, and the air program requests that EPA does not hamper a state's ability to fully utilize these incentives.

If neither of the two preferred options listed above are used, then the air program requests that the division of the matching ERCs/allowances between a state's two reserves be a state decision. Based on EPA's analysis in the preamble of the proposed rule, potentially eligible demand-side EE projects in low-income communities and the deployment of solar resources in low-income communities will only total 47 million MWh in generation and savings during 2020-2021. However, EPA is proposing that half of the proposed 375 million CEIP matching ERCs (187 million ERCs) be reserved for low-income projects with no chance for rollover to the RE reserve. This means that even if all the estimated potential eligible low-income projects that EPA identified are realized, 140 million matching ERCs will go unused and be retired. At the same time, there could be RE projects that do not receive an award under the CEIP, or receive a reduced award due to insufficient matching ERCs/allowances in a state's RE reserve. If a state can dictate how the matching RE and low-income reserves will be divided, they can perform their own in-state analysis of potential CEIP eligible projects in an effort to match the reserve sizes with the potential eligible projects. EPA solicits comments on allowing this choice to be made by states. Specifically, they request comments on an approach where a minimum percentage of the total CEIP matching pool be allocated to each type of project reserve and the remaining ERCs/allowances in the state's matching pool can be divided between the two reserves according to state discretion. If neither of the air program's preferred options are used, then states should be allowed flexibility to decide how the reserves should be divided. The air program suggests that a minimum of 25 percent of the total state matching pool be allocated to each reserve, and the states have discretion to divide the remaining 50 percent of the total state matching pool among the two reserves.

To be clear, the air program's most preferred option is a 50/50 split of the matching reserves under the CEIP without any rollovers between the two reserves, but all unused matching

ERCs/allowances from the CEIP are deposited into a reserve to be reapportioned to states that faithfully implemented the CEIP. This new reserve would be used to continue the CEIP incentives for low-income community projects that are implemented during the CPP compliance period. The second preferred option would be a 50/50 split of the reserves under the CEIP, but allow states to roll allowances between the two reserves if one reserve is over-subscribed and the other is under-subscribed. If EPA elects not to use either of these options, then the states should have flexibility to establish the appropriate sizes of the two reserves within their respective states.

Defining the CEIP Matching Pool in Terms of Allowances and ERCs - (81 FR 42950)

EPA is proposing to define the CEIP matching pool in terms of allowances and ERCs. They propose using those corresponding amounts as a conversion ratio in mass-based states to determine the amount of CEIP set-aside allowances and matching allowances that eligible projects receive if they are subject to a mass-based plan. The matching pool, which is 300 million allowances as established in the CPP guidelines rule, is proposed to be equivalent to 375 million ERCs. EPA is proposing this number of matching ERCs because when they established the initial matching pool in terms of allowances, it was determined that an additional 400 million MWh of renewable energy generated in 2020 and 2021 would avoid 300 million tons of CO₂. It was also determined by EPA at the time that if the CEIP were implemented, and an additional 300 million tons of CO₂ were allowed, it would not significantly harm the integrity of the CPP emission goals. The air program believes that EPA's approach of setting the size of the matching pool in terms of 300 million allowances is appropriate. However, EPA's approach is misguided in the proposal to use this same line of reasoning when establishing the equivalent number of matching ERCs and the corresponding conversion ratio between ERCs and allowances under the CEIP.

ERCs and allowances are very different types of compliance instruments. Under rate-based plans, ERCs are added to an affected unit's actual generation in order to calculate an adjusted rate for compliance purposes. When an affected unit acquires an ERC it allows the unit to lower its adjusted rate downwards allowing it to generate electricity and emit more emissions. The amount of electricity allowed to be generated by an affected unit after acquiring an ERC and the corresponding emissions allowed are different based on the emission rate standard in effect and actual emission rate of the affected unit. Under mass-based plans, both the amount of electricity produced and the emission rate of an affected unit are irrelevant to compliance. Only the aggregate mass of the emissions coming from the affected unit's stack matters under a mass-based plan. For every ton of CO₂ produced, an allowance must be surrendered. Emissions are capped and the environmental goals of the program are guaranteed.

Since EPA has determined that the additional 300 million tons of CO₂ allowed for through the CEIP matching pool would not substantially harm the integrity of the emission goals in the CPP, the corresponding amount of matching ERCs available through the CEIP should not allow for more than 300 million tons of CO₂ to be emitted. However, EPA's approach of establishing the CEIP matching pool as 375 million ERCs would actually allow well over 1 billion additional tons of CO₂ to be emitted, which would erode the integrity of the CPP emission goals. Based on

the calculations in attachment 1, if a state were to elect to use the subcategorized rate-based approach, the average amount of emissions allowed during the interim compliance period of the CPP per ERC generated is equivalent to 4.97 tons of CO₂. If all states elected to use the subcategorized rate-based approach, then EPA's proposed size of the CEIP matching pool, at 375 million ERCs, would allow an additional 1.86 billion tons of CO₂ emissions during the interim compliance period of the CPP. This is more than six (6) times the amount of allowable emissions envisioned by EPA as resulting from implementation of the CEIP.

When EPA established the size of the state emission budgets in the final CPP guidelines rule, they recognized the relationship between ERCs and allowances. According to EPA's technical support document, *CO₂ Emission Performance Rate and Goal Computation Technical Support Document for CPP Final Rule*, the calculation of each state's mass goal was a two-step process. First, the state emission rate goal was multiplied by affected unit generation from 2012. Then, that product was added to the amount of emissions that would be enabled for affected electric generating units (EGUs) under a state-wide rate-based approach if they deployed the amount of RE quantified under building block 3 that was not captured in the ultimate quantification of the source category-specific performance rates. Under this second step, EPA used an equation that multiplied this additional RE potential by the state-wide rate goal, and then multiplied that figure by two (2). EPA's reason for multiplying the figure by two (2) is as follows –

The mass adjustment reflects the ability of affected EGUs to procure incremental RE to increase their own generation and emissions if subject to an applicable rate-based standard. In that rate-based compliance scenario, every zero-emitting MWh added to the denominator of an EGU's effective emission rate would enable that EGU to add another MWh of generation with twice the emissions intensity of the applicable rate-based standard, because the average intensity of that emitting MWh combined with the zero-emitting MWh would then equal the applicable rate-based standard and thus maintain that EGU's compliance.

Based on this reasoning, the EPA understands the relationship between ERCs and allowances, and how giving an ERC to an affected EGU can enable it to generate electricity and emit CO₂ while still complying with a rate-based emission standard. For simplicity, when EPA used this approach when establishing the mass-based budgets, they simply used a doubling factor that corresponds to an affected EGU's ability to generate one (1) MWh at an emissions intensity twice the state-wide rate goal. However, in this CEIP proposed rule, by establishing the conversion ratio between ERCs and allowances at one (1) ERC = 0.8 allowances, EPA is completely abandoning their rational understanding of the relationship between ERCs and allowances. The net effect of EPA's misguided approach is to greatly erode the incentive provided by the CEIP to mass-based states and vastly increase the incentive provided by the CEIP to rate-based states. This is further substantiated by recent dispatch modeling results that evaluate CPP compliance costs. The Bipartisan Policy Center recently released a publicly available modeling analysis that estimated the cost of ERCs and allowances under varying assumptions about whether states develop CPP plans using rate-based approaches or mass-based approaches. In the analyses, rate-based ERCs were found to be worth two (2) or three (3) times the value of mass-based allowances. This means that recent dispatch modeling suggests that in

terms of dollars, ERCs are much more valuable than allowances. Therefore, the conversion ratio EPA is proposing where an ERC is worth less than one allowance is wrong both in terms of the amount of emissions that an ERC is worth and the amount of money that an ERC is worth. EPA's proposed conversion ratio would put states like Missouri that have already publicly stated a strong preference to use a mass-based approach in a CPP state plan (in the event the CPP is upheld in court and the stay is lifted) at a distinct disadvantage compared to rate-based states when it comes to the incentives provided by the CEIP.

It appears that EPA's intention is to make CEIP matching allowances more difficult to obtain for states that elect to use a mass-based approach. However, EPA has already determined that even if all 300 million CEIP matching allowances are awarded, the integrity of the CPP emission goals will still be maintained. Therefore, EPA must use a conversion ratio that keeps the incentives under the CEIP as equal as possible regardless of whether a state uses a mass-based or rate-based approach. The air program has developed four (4) potential approaches for calculating the conversion factor between ERCs and allowances for the purposes of implementing the CEIP (calculations for all four (4) approaches are all included in attachment 1). All four (4) approaches use the same logical pathway when converting ERCs to allowances, which is to determine the amount of emissions that an average affected EGU could emit if given one (1) ERC and still comply with a rate-based standard. The only difference between the four (4) approaches is which rate-based standard is used when performing the calculations. The four (4) rate-based standards applied to this approach and displayed in attachment 1 are listed below and the results of the calculations are summarized in Table 1.

1. The interim period subcategorized rates,
2. The final compliance period subcategorized rates,
3. A hypothetical nation-wide rate goal for the interim compliance period (calculated for the full contiguous U.S. in the same way that EPA calculated the state-wide rate-goals in the final CPP guidelines rule), and
4. A hypothetical nation-wide rate goal for the final compliance period (calculated for the full contiguous U.S. in the same way that EPA calculated the state-wide rate-goals in the final CPP guidelines rule).

Table 1 – Calculated Conversion Ratios Between ERCs and Allowances Using Different Emission Rate Standards

Emission Rate Standard	Calculated Conversion Ratio
Interim Period Subcategorized Rates	1 ERC = 4.97 allowances
Final Compliance Period Subcategorized Rates	1 ERC = 2.30 allowances
Hypothetical Interim Period Nation-wide Rate Goal	1 ERC = 2.60 allowances
Hypothetical Final Compliance Period Nation-wide Rate Goal	1 ERC = 1.59 allowances

The air program encourages EPA to utilize the understanding they already displayed when they establish the relationship between ERCs and allowances for the purposes of the CEIP. The air program requests that EPA use an approach similar to one of the four (4) approaches provided in attachment 1 when determining the appropriate conversion ratio. Using EPA's proposed conversion ratio will create substantial inequalities between the incentives provided by the CEIP to rate-based and mass-based states. In addition, if numerous states elect to use a rate-based approach, the EPA's proposed conversion method could allow affected EGU CO₂ emissions well in excess of the 300 million additional tons EPA allotted for the CEIP (potentially six (6) times more emissions). This would put the integrity of the CPP emission goals in jeopardy and reduce the air quality benefits provided by the rule.

ERCs and Allowances are Unique Compliance Instruments and Are Not Interchangeable - (81 FR 42950)

One area of concern for many states contemplating plan approaches under the CPP is that states do not know the plan approaches other states will pursue. A state could unintentionally limit their ability to trade with other states by selecting a particular plan approach. The most glaring concern is that mass-based states and rate-based states cannot trade with each other. This has the potential to create isolated trading markets that will drive compliance costs higher, increase reliability risks across the country, create generation incentive seams in regional transmission systems, and achieve potentially fewer emission reductions due to emissions leakage between rate-based and mass-based states. The air program encourages EPA to allow trading between rate-based states and mass-based states to help create a more robust trading market with greater liquidity and less reliability risk that will drive investment in low cost clean energy solutions. EPA proposes that the conversion ratio between ERCs and allowances necessary for proper implementation of the CEIP is a one-time conversion ratio that is not meant to allow for the trading of compliance instruments between rate-based and mass-based states —

81 FR 42950

Allowances and ERCs are distinct tradable compliance instruments used by states implementing mass-based and rate-based emission standards, respectively, and are not interchangeable under the Clean Power Plan EGs, see 40 CFR 60.5750(d); id. 60.5790(a); 80 FR 64839. Using a single multiplication factor on a one-time basis to represent the matching pool in both forms—allowances and ERCs—is done simply for the limited purpose of providing for the implementation of the CEIP in the context of either a mass-based or a rate-based emission trading program.

The air program disagrees that the two compliance instruments are not interchangeable. Even if EPA does not specifically allow for the two compliance instruments to be traded and converted for use in either a rate-based or mass-based plan, this conversion will still be possible through the sale of one compliance instrument and using the proceeds to purchase the other compliance instrument. If the owner of multiple EGUs located in different states has some EGUs that are subject to a rate-based plan and some EGUs subject to a mass-based plan then this type of multi-step transaction could become common-place as a compliance strategy for that particular owner.

Of course, there will still be some distinct differences between allowing the two compliance instruments to be exchanged freely and the two-step conversion process described above. First, if there is an abundant supply of one type of compliance instrument then the price for that instrument may drop to near-zero. Then no value can be gained through selling the surplus of that instrument in order to purchase the other type of compliance instrument. Second, the conversion rate would be based on the changing markets for the two compliance instruments, and thus would change over time. This could lead to market speculation where ERCs or allowances are hoarded and then sold and exchanged when the rates were favorable. Third, because the CPP does not require states to address the concept of leakage from mass-based states to rate-based states or vice versa, (but rather state plans must only address leakage to new units) generation incentive seams may emerge between regions that are using the two different types of plans. If significant investment in ERC generating resources is focused in rate-based states, then a surplus of ERCs could emerge, which would make CPP compliance much less costly per ton of CO₂ emitted in a rate-based state. This would have the effect of creating generation incentive seams such that similar generators located near each other, but subject to different plans, would have very different operating costs based on the compliance instrument they are required to use. This issue could be addressed by allowing ERCs and allowances to be exchanged freely; however, determining the appropriate conversion ratio would be necessary to allow this to occur successfully.

It makes little sense to have multiple conversion ratios for the purposes of implementing the CEIP; however, multiple conversion ratios (i.e. a ratio for NGCC units and a ratio for steam units) for the purpose of allowing rate-based states and mass-based states to trade compliance instruments during CPP implementation may be a viable option. Using the 2030 subcategorized rates for NGCC units under the CPP, the total emissions allowed by giving one (1) ERC to an average NGCC unit that is subject to a subcategorized rate-based plan would equal 3.40 tons of CO₂ (See attachment 1 for calculations). Alternatively, using the 2030 subcategorized rates for steam units, the total emissions allowed by giving one (1) ERC to an average steam unit that is subject to a subcategorized rate-based plan would equal 1.64 tons of CO₂ (See attachment 1 for calculations). Therefore, when converting ERCs to allowances for compliance in a mass-based state, it could be specified that if a steam unit is retiring an ERC for compliance in a mass-based state, it is worth 1.64 allowances, and if an NGCC unit is retiring an ERC for compliance in a mass-based state then it is worth 3.40 allowances. On the flip side, the inverse relationships could be used to convert allowances into ERCs for compliance in rate-based states. If allowances are used in rate based states for compliance, then it could be specified that retiring 1.64 allowances for compliance in a rate-based state gives a steam unit one (1) additional ERC to use when calculating its adjusted rate, and similarly, retiring 3.40 allowances for compliance in a rate-based state gives an NGCC unit one (1) additional ERC to use when calculating its adjusted rate. Exchange rate manipulation would be guarded against because conversions between ERCs and allowances would not be allowed until the compliance instrument is retired for compliance purposes. In order to guard against leakage and protect the integrity of the CPP emission goals, EPA could go a step further and specify that conservative conversion ratios must be used when retiring an ERC for compliance in a mass-based state or an allowance for compliance in a rate-based state. This could be accomplished by rounding down the amount of allowances that an

ERC is worth in a mass-based state, and rounding up the amount of allowances needed to be retired to gain an ERC in a rate-based state. (See Table 2 for example values).

Table 2 – Potential Conversion Ratios Between ERCs and Allowances

Type of Plan	Type of Unit	Conversion Ratio
Mass-Based	Steam	Retiring one (1) ERC gives one (1) allowance
	NGCC	Retiring one (1) ERC gives three (3) allowances
Rate-Based	Steam	Retiring two (2) allowances gives one (1) ERC
	NGCC	Retiring four (4) allowances gives one (1) ERC

This type of an approach would not only help guard against leakage and seams issues between rate-based and mass-based states, but it would also help guard against leakage to new units in mass-based states that elect not to use the new source complement. This is because existing NGCC units in mass-based states will potentially have cheaper access to allowances than steam units (because they can purchase ERCs and convert them to allowances for compliance purposes at a more favorable rate). The air program encourages EPA to consider the multiple benefits of this innovative approach that allows ERCs and allowances to be used for compliance regardless of the type of plan that a state chooses. Such benefits would include lower compliance costs, improvements in grid reliability, guards against both new unit leakage and mass vs. rate leakage, and guards against creating generation incentive seams between rate-based and mass-based states, all while protecting the integrity of the CPP emission goals.

Evaluation Measurement and Verification (EM&V) and Independent Verifiers (81 FR 42956)

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 EE 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 consider allowing the use of conservative estimates for EE measures, especially for the short-lived CEIP Program. Using conservative energy saving estimates that understate the actual amount of energy saved, but requires 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. The air program requests that EPA be mindful of this administrative burden and take steps to conserve administrative resources by providing clarity for the EM&V requirements.

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 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.

A state plan that implements the CEIP must specify a process for application, allocation, and issuance of early action allowances or ERCs under the CEIP to eligible project providers. EPA notes that this process may be implemented by the state itself, or alternatively the state may delegate this function to a qualified agent. While the EPA is not proposing any specific requirements with respect to the use of agents in this action, EPA does note that the use of agents would also be appropriate under the CEIP for similar purposes.

The air program supports the use of an agent as noted by EPA for the CEIP. While no decision has been made as to whether Missouri would use an agent, the ability to outsource this activity is consistent with providing the state flexibility in meeting the CEIP and CPP requirements. Since EPA may use an agent should a federal plan be implemented for a state, the air program requests that EPA consider making available a list of companies qualified, as determined by EPA, to undertake this role.

Addressing Requirement to Maintain Stringency of Mass-Based or Rate-Based Emission Performance (81 FR 42958)

The air program believes that the federal matching pool of CEIP ERCs/allowances provides enough incentive to stimulate clean energy investments, making it unnecessary for states to develop a CEIP set-aside. 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 set-aside allowances. Eliminating the set-aside requirement would encourage more states to participate in the CEIP and reduce the burden for states developing plans, while still stimulating clean energy investments under the CEIP.

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 can allocate the CEIP matching ERCs without also allocating state CEIP ERCs, then the stringency of the program will inherently be maintained without a need to repay the ERCs in a future year or adjust the rate at which ERCs are awarded during the interim period. EPA’s proposed method of maintaining the stringency of the rate-based performance standards is to apply an adjustment factor to the ERCs that are earned during the initial step of the interim compliance period. Specifically, EPA proposes the following formula to be used to determine the discount factor for ERCs earned during the initial compliance period –

$$\text{Adjustment Factor} = 1 - \left(\frac{\left(\frac{\text{State Issued CEIP Early Action ERCs}}{\text{Adjustment Period}} \right)}{\text{Quantified \& Verified MWh During Reporting Year}} \right)$$

Where:

- State-Issued CEIP Early Action ERCs = the total number of early action ERCs issued by a state under the CEIP, for eligible MWh achieved in 2020 and/or 2021
- Adjustment Period = 3, the number of years in the first interim step of the plan performance period (2022–2024), to which the adjustment factor will be applied to address maintenance of CO₂ emission performance stringency
- Quantified and Verified MWh During Reporting Year = the total number of quantified and verified MWh reported by all eligible ERC resources to a state for a specific year of the first interim step of the plan performance period (2022–2024)

The air program contends this method of maintaining rate-based performance standard stringency has several drawbacks. Most importantly, the above listed equation for an adjustment factor will not maintain stringency at the same level as if the state-issued CEIP early action credits were not awarded. The stringency of the performance standards achieved by using the adjustment factor calculated with this formula will inevitably be either more stringent than necessary or less stringent than allowed. This is because the quantified and verified MWh during the reporting year used in the adjustment factor equation will only apply to a single year during the compliance period, and then the adjustment period in the equation triples this amount. If the quantified and verified MWh change during the initial three-year compliance period, which is virtually inevitable, then the calculated adjustment factor will not reduce the total number of

ERCs awarded during the compliance period by the same amount of state issued CEIP early action ERCs. To demonstrate this, two examples are given below.

Both examples assume a state awarded 100,000 early action ERCs during the CEIP.

Example 1 – This example assumes that ERC resource MWhs increase in 2023 and 2024 compared to 2022. It is very possible that this situation will occur because new ERC resources may be deployed in 2023 and 2024 thus more MWhs would be produced in those two years when compared to 2022.

Year	Quantified & Verified ERC Resource MWhs/year
2022	1,000,000
2023	1,200,000
2024	1,400,000

$$\text{Adjustment Factor} = 1 - \left(\frac{\left(\frac{100,000}{3} \right)}{1,000,000} \right)$$

$$\text{Adjustment Factor} = 0.9667$$

Total Quantified and Verified ERC Resource MWhs during the initial compliance period = 3,600,000 ERC Resource MWh

Total ERCs generated during compliance period = (3,600,000 MWh x 0.9667) = 3,480,120 ERCs

Comparing this to the number of ERCs that would have been generated if there was no adjustment factor yields the number of ERCs that were withheld during the compliance period –

$$3,600,000 - 3,480,120 = 119,880 \text{ ERCs withheld}$$

However, only 100,000 ERCs were required to be withheld during the compliance period in order to maintain stringency because only 100,000 early action ERCs were awarded during the CEIP implementation. Therefore the use of the adjustment factor increases stringency beyond the established performance standards in this example because 19,880 additional ERCs were withheld beyond the amount necessary to maintain the required level of stringency.

Example 2 – This example assumes that ERC resource MWhs decrease in 2023 and 2024 compared to 2022. This situation is also possible if, for example, substantially less wind or sun is available to generate renewable energy at an ERC resource in a given year; an ERC generating resource malfunctions and requires extended downtime for repair in a given year; or a natural event causes an extended shut down for a significant ERC generating resource in a given year.

Year	Quantified & Verified ERC Resource MWhs/year
2022	1,000,000
2023	750,000
2024	750,000

$$\text{Adjustment Factor} = 1 - \left(\frac{\left(\frac{100,000}{3} \right)}{1,000,000} \right)$$

$$\text{Adjustment Factor} = 0.9667$$

Total Quantified and Verified ERC Resource MWhs during the initial compliance period = 2,500,000 ERC Resource MWh

Total ERCs generated during compliance period = (2,500,000 MWh x 0.9667) = 2,416,750

Comparing this to the number of ERCs that would have been generated if there was no adjustment factor yields the number of ERCs that were withheld during the compliance period –

$$2,500,000 - 2,416,750 = 83,250 \text{ ERCs withheld}$$

However, 100,000 ERCs were required to be withheld during the compliance period in order to maintain stringency because 100,000 early action ERCs were awarded during the CEIP implementation. Therefore the use of the adjustment factor does not maintain stringency at the established performance standards in this example because 16,750 additional ERCs would need to be withheld in order to maintain the required level of stringency.

To remedy this flaw in EPA’s proposed method to maintain the stringency of the rate-based performance standards, the adjustment factor would need to be based on the total amount of ERC resource MWhs generated during the full three-year initial compliance period. The use of three (3) years as the adjustment period in the equation improperly assumes that ERC resource MWhs that are generated in 2023 and 2024 will be exactly equal to the MWhs generated during 2022. Unfortunately, determining the adjustment factor after the initial compliance period would also have numerous drawbacks. Although doing so could allow for stringency to be maintained at the exact level required, it puts regulated sources in a difficult position because they will not know how many ERCs they will be getting for each MWh they generate until after the compliance period has passed. This would make compliance planning extremely difficult.

The most straightforward way to maintain stringency of the rate-based performance standards is to withhold ERCs during the compliance period in an amount equal to the number of early action ERCs that were awarded. Unfortunately, this leaves the difficult question of who the state will withhold the ERCs from. One option is to withhold the ERCs from the ERC generating resources that received early action ERCs through the CEIP. However, this option is nothing more than a sleight-of-hand move that essentially renders the state awarded early action ERCs meaningless. This would be the equivalent of not awarding any state issued ERCs during the

CEIP at all, which as mentioned above, the air program would support. However, EPA indicates that this erodes the incentives provided by the CEIP, which they do not want. As mentioned above, the air program believes that the matching pool of ERCs/allowances without the additional state issued early action ERCs/allowances will provide enough incentive to stimulate early investment in CEIP eligible projects. The air program encourages EPA to reconsider the requirement that states must issue early action ERCs/allowances in order to participate in the CEIP and gain access to matching pool of ERCs/allowances that, on its own, will likely spur the desired investment in clean energy resources.

Understanding Which State Project Sponsors Apply to Under the CEIP

One key area of confusion under the CPP guidelines rule 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. This same issue is a key area of confusion under the CEIP. The air program suggests that EPA make clear in the final rule to which state a CEIP project sponsor should apply. EPA could establish a hierarchy where the project sponsor should always apply to the state that is benefitting from the project, regardless of the physical project location. Under this approach, only if the benefitting state is not participating in the CEIP, would the project sponsor be allowed to apply for the CEIP credits in the state where the project is located. The opposite hierarchy could also work, where the physical location of the project dictates which state the project sponsor should submit its application. Then, only if that state is not participating in the CEIP, would the project sponsor be allowed to submit an application to the state that is benefitting from the project. Either way, this should be made clear in the final CEIP implementation rule. Such clarity will help project sponsors and states understand where applications should be sent for review, and will also help ensure that double crediting for wind generation under the CEIP does not occur. If EPA remains silent on this issue, as they do in the current proposal, and this outstanding issue is left up in the air, this will continue to be a source of confusion for all parties involved when it is time to implement the CEIP.

EPA Should Provide a Federal CEIP Implementation Option to States

The CEIP will undoubtedly require significant administrative resources for any state to implement successfully. Some states may have significant interest in participating in the CEIP, but due to resource constraints, they may decide they cannot administer the program and opt out. Other states may opt in to the program, but due to their lack of administrative resources, they may be unsuccessful at administering the program. EPA already intends to administer the CEIP by default for any state that becomes subject to a federal plan under the CPP. So states already have the option to let EPA administer the CEIP, but doing so requires states to forfeit their ability to write a state plan for CPP compliance. The air program suggests that EPA offer an option to states that wish to develop their own state plan to comply with the CPP, but lack the administrative resources necessary to implement the CEIP. Under this option, EPA would undertake the role of administering the CEIP in those states. States would not be required to let EPA administer the CEIP program, as doing so may forfeit some flexibility that a state administered program might offer, but they would have the option. The air program encourages

EPA to provide this option so that all states will be able to participate in the CEIP even if they lack sufficient administrative resources to run the program. This will lead to more state participation in the CEIP, and ultimately, more clean energy investments throughout the entire country.

Continuing the CEIP for Low-Income Community Projects

The effective period for the CEIP lasts only two years (2020-2021). The air program understands that the CPP compliance period begins in 2022 (pending the outcome of the stay and judicial review), 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 low-income community portion of the CEIP through the full interim period by establishing a federal matching reserve of allowances each year from 2022-2029. This would encourage the continual pursuit of new projects. Under this approach, EPA could create a condition that the generation or savings from an eligible project can only be credited through this future CEIP program for 2-3 years after the project is implemented. Then, new projects would constantly need to be developed to take advantage of the program. Also, as mentioned in a previous comment, EPA may not even need to establish a new federal matching reserve to continue the CEIP for the low-income community projects. This is because the CEIP reapportionment procedure could be utilized such that the unused matching ERCs/allowances under the CEIP from 2020 and 2021 could be used during the CPP compliance period in order to continue incentivizing the low-income community projects in 2022 and beyond. This approach would continue the incentives for the low-income community projects into the CPP compliance period without a risk of jeopardizing the integrity of the CPP emission goals, which could happen if federal matching allowances beyond the 300 million allowances included in the CEIP are added during the CPP compliance period.

The portion of the CEIP that provides incentives for projects 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 or distributed solar resource programs without incentives provided by the CEIP. Further, low-income communities will have the hardest time adjusting to the potentially higher electricity rates necessary to pay for the resources needed to comply with the CPP. Continuing an incentive program to encourage clean energy investments in low-income communities will counteract some of these negative effects. RE projects outside of low-income communities are important to help achieve the goals of the CPP. However, these projects will likely be deployed in vast amounts as a result of the extension of the PTC/ITC and as a market response to comply with the CPP, even if the CEIP incentives for these projects end in 2022. In contrast, EE and distributed solar programs for 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 into the CPP compliance period. The air program encourages EPA to consider the numerous benefits of continuing the CEIP program for the low-income community

projects and make efforts to ensure incentives continue for these types of projects throughout the CPP compliance period.

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



Kyra L. Moore
Director

KLM:mlc

Attachment 1

Calculations for Developing Conversion Factors Between ERCs and Allowances Under the Clean Power Plan and Clean Energy Incentive Program

The equivalent value of an ERC in terms of allowances is not equivalent to the amount of avoided emissions that resulted from savings or generation from the qualifying ERC resource, 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. The air program developed average nationwide values that equate the amount of tons of CO₂ emissions that an average affected EGU could emit and still comply with a rate-based performance standard if it were given one (1) ERC. This attachment includes four different sets of calculations. All four sets of calculations use the 2012 affected EGU generation and emissions data that EPA used when developing the final CPP emission guidelines rule. The differences between the four sets of calculations result from the different emission rate performance standards used in the calculations. Specifically, the air program developed the calculations needed to convert ERCs to allowances using the following four different rate-based performance standards:

1. The interim compliance period (2022-2029) subcategorized rate-based performance standards
2. The final compliance period (2030 and beyond) subcategorized rate-based performance standards
3. The hypothetical nation-wide rate goal that would apply during the interim compliance period under the CPP (2022-2029)
4. The hypothetical nation-wide rate goal that would apply during the final compliance period under the CPP (2030 and beyond)

The air program encourages EPA to use this information when determining the appropriate conversion ratio between ERCs and allowances for the purposes of implementing the CEIP, and also to consider the use of these calculations to allow for both ERCs and allowances to be used for compliance purposes during the CPP compliance period regardless of the type of plan (rate-based or mass-based) that an affected EGU is subject to.

Data Used in All Four Sets of Calculations

The data listed below was pulled from EPA's technical support document titled: *Data File: Goal Computation Appendix 1-5 (XSLX)*, which can be found on EPA's webpage for the technical support documents used to develop the final CPP Emission Guidelines: <https://www.epa.gov/cleanpowerplan/clean-power-plan-final-rule-technical-documents>

Total Steam Unit CO₂ Emissions in 2012

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

1,743,385,651 tons

Total Steam Unit Generation in 2012

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

1,606,878,140 MWh

Average Actual Steam Unit Emission Rate in 2012

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

2,170 lbs CO₂/MWh

Total NGCC Unit CO₂ Emissions in 2012

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

435,330,779 tons

Total NGCC Unit Generation in 2012

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

962,611,912 MWh

Average Actual NGCC Unit Emission Rate in 2012

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

904 lbs CO₂/MWh

Option #1

Use the Interim Period Subcategorized Rate-based Performance Standards

Interim Period Subcategorized Rate-Based Performance Standards

Steam Units: 1,544 lbs CO₂/MWh

NGCC Units 834 lbs CO₂/MWh

This method first calculates the amount of emissions an average steam unit could emit if given one ERC under the interim period subcategorized rate-based performance standards and then calculates the amount of total emissions that would be allowed if an average NGCC unit was given one (1) ERC to use under the interim period subcategorized rate-based performance standards, including the additional steam unit emissions that would be allowed due to the gas-shift ERCs that the NGCC unit would be able to generate. Finally, a weighted average is applied to the steam unit and NGCC unit conversion factors to calculate a single average nation-wide conversion factor.

For Steam Units

Calculate the amount of electricity an average steam unit from 2012 could generate and still comply with the interim period subcategorized rate for steam units if given one (1) ERC:

$$\frac{2,170 \text{ lbs/MWh} * (\text{steam unit generation})}{(1 \text{ ERC} + \text{steam unit generation})} = 1,544 \text{ lbs/MWh}$$

Solving for generation gives 2.47 MWh. To determine emissions from the plant, multiply the generation by the average emission rate of the steam unit:

$$2,170 \text{ lbs/MWh} * (2.47 \text{ MWh}) = 5,360 \text{ lbs CO}_2$$

Convert this to tons and an average steam unit from 2012 can emit 2.68 tons for each ERC it receives and still comply with the interim period subcategorized rate for steam units. Meaning the conversion rate in this case from ERCs to allowances is as follows:

$$1 \text{ ERC} = 2.68 \text{ allowances}$$

For NGCC Units

Emissions from the NGCC Unit

Calculate the amount of electricity an average NGCC unit from 2012 could generate and still comply with the interim period subcategorized rate for NGCC units if given one (1) ERC:

$$\frac{(904 \text{ lbs/MWh}) * (\text{NGCC unit generation})}{(1 \text{ ERC} + \text{NGCC unit generation})} = 834 \text{ lbs/MWh}$$

Solving for generation gives 11.91 MWh. To determine emissions from the plant, multiply the generation by the average emission rate of the NGCC unit:

$$904 \text{ lbs/MWh} * (11.91 \text{ MWh}) = 10,767 \text{ lbs CO}_2$$

Convert this to tons and an average NGCC unit from 2012 can emit 5.38 tons for each ERC it receives and still comply with the interim period subcategorized rate for NGCC units. Meaning the conversion rate in this case from ERCs to allowances is as follows:

$$1 \text{ ERC} = 5.38 \text{ allowances}$$

Gas-Shift ERCs from NGCC Units

Based on the proposed federal plan and model rule for rate-based plans, NGCC units create gas-shift ERCs with each MWh they generate. So this must be calculated as well. The equation in the proposed federal rate-based plan for determining the amount of gas-shift ERCs during the interim period is as follows:

$$(\text{Gen.}) \times (\text{Adjustment Factor}) \times \left(1 - \frac{\text{Actual Rate}}{\text{Fossil Steam Compliance Rate}}\right) = \text{Gas - Shift ERCs}$$

Interim Period Adjustment Factor: 0.26

Therefore, if one (1) regular ERC allows an average NGCC unit to generate 11.914 MWh during the interim period, then the following equation determines the amount of gas-shift ERCs that will be generated by an average NGCC unit during the interim period with each regular ERC it uses:

$$(11.91 \text{ MWh}) \times (0.26) \times \left(1 - \frac{904 \text{ lbs/MWh}}{1,544 \text{ lbs/MWh}}\right) = 1.28 \text{ Gas - Shift ERCs}$$

Additional Emissions from Steam Units Due to Gas-Shift ERCs

Now it must be determined how many emissions 1.28 gas-shift ERCs will allow an average steam unit to emit during the interim period. First, calculate the amount of electricity an average steam unit from 2012 could generate and still comply with the interim period subcategorized rate for steam units if given 1.28 gas-shift ERCs:

$$\frac{2,170 \text{ lbs/MWh} * (\text{steam unit generation})}{(1.28 \text{ ERCs} + \text{steam unit generation})} = 1,544 \text{ lbs/MWh}$$

Solving for generation gives 3.15 MWh. To determine emissions from the plant, multiply the generation by the average emission rate of the steam unit:

$$2,170 \text{ lbs/MWh} * (3.15 \text{ MWh}) = 6,836 \text{ lbs CO}_2$$

Convert this to tons and an average steam unit from 2012 can emit 3.42 tons if it is given 1.28 gas-shift ERCs and it will still comply with the interim period subcategorized rate for steam units. Meaning the conversion rate in this case from gas-shift ERCs to allowances is as follows:

$$1.28 \text{ gas - shift ERCs} = 3.42 \text{ allowances}$$

Total Emissions Allowed for Each Regular ERC Given to an NGCC Unit

Now you must determine the total amount of emissions that will be allowed if one (1) regular ERC is given to an NGCC unit during the interim period, including the steam unit emissions allowed as a result of the gas-shift ERCs that are generated. This is accomplished by summing the following: conversion rate for ERCs to allowances for an NGCC unit and conversion rate for 1.28 gas-shift ERCs to allowances for a steam unit:

$$5.38 \text{ allowances} + 3.42 \text{ allowances} = 8.80 \text{ total allowances}$$

Thus if one (1) regular ERC is given to and used by an average NGCC unit during the interim period, the total emissions allowed from the NGCC unit along with the steam unit emissions allowed by the corresponding gas-shift ERCs generated is represented by the following:

$$1 \text{ ERC} = 8.80 \text{ total allowances}$$

Combine through Generation Weighted Average from 2012

$$\frac{(8.8 \text{ tons} * 962,611,912 \text{ MWh}) + (2.68 \text{ tons} * 1,606,878,140 \text{ MWh})}{(962,611,912 \text{ MWh}) + (1,606,878,140 \text{ MWh})} = 4.97 \text{ tons}$$

If looking at both NGCC units and steam units and using the interim period subcategorized rate-based performance standards, the weighted average conversion ratio from ERCs to allowances is as follows:

$$1 \text{ ERC} = 4.97 \text{ allowances}$$

Option #2

Use the Final Compliance Period Subcategorized Rate-Based Performance Standards

Final Compliance Period Subcategorized Rate-Based Performance Standards

Steam Units: 1,305 lbs CO₂/MWh

NGCC Units 771 lbs CO₂/MWh

This method first calculates the amount of emissions an average steam unit could emit if given one ERC under the final compliance period subcategorized rate-based performance standards and then calculates the amount of total emissions that would be allowed if an average NGCC unit was given one (1) ERC to use under the final compliance period subcategorized rate-based performance standards, including the additional emissions from a steam unit that would be allowed due to the gas-shift ERCs that the NGCC unit would be able to generate. Finally, a weighted average is applied to the steam unit and NGCC unit conversion factors to calculate a single average nation-wide conversion factor.

For Steam Units

Calculate the amount of electricity an average steam unit from 2012 could generate and still comply with the final compliance period subcategorized rate for steam units if given one (1) ERC:

$$\frac{2,170 \text{ lbs/MWh} * (\text{steam unit generation})}{(1 \text{ ERC} + \text{steam unit generation})} = 1,305 \text{ lbs/MWh}$$

Solving for generation gives 1.51 MWh. To determine emissions from the plant, multiply the generation by the average emission rate of the steam unit:

$$2,170 \text{ lbs/MWh} * (1.51 \text{ MWh}) = 3,277 \text{ lbs CO}_2$$

Convert this to tons and an average steam unit from 2012 can emit 1.64 tons for each ERC it receives and still comply with the final compliance period subcategorized rate for steam units. Meaning the conversion rate in this case from ERCs to allowances is as follows:

$$1 \text{ ERC} = 1.64 \text{ allowances}$$

For NGCC Units

Calculate the amount of electricity an average NGCC unit from 2012 could generate and still comply with the final compliance period subcategorized rate for NGCC units if given one (1) ERC:

$$\frac{(904 \text{ lbs/MWh}) * (\text{NGCC unit generation})}{(1 \text{ ERC} + \text{NGCC unit generation})} = 771 \text{ lbs/MWh}$$

Solving for generation gives 5.80 MWh. To determine emissions from the plant, multiply the generation by the average emission rate of the NGCC unit:

$$904 \text{ lbs/MWh} * (5.80 \text{ MWh}) = 5,243 \text{ lbs CO}_2$$

Convert this to tons and an average NGCC unit from 2012 can emit 2.62 tons for each ERC it receives and still comply with the final compliance period subcategorized rate for NGCC units. Meaning the conversion rate in this case from ERCs to allowances is as follows:

$$1 \text{ ERC} = 2.62 \text{ allowances}$$

Gas-Shift ERCs from NGCC Units

Based on the proposed federal plan and model rule for rate-based plans, NGCC units create gas-shift ERCs with each MWh they generate. So this must be calculated as well. The equation in the proposed federal rate-based plan for determining the amount of gas-shift ERCs during the interim period is as follows:

$$(\text{Gen.}) \times (\text{Adjustment Factor}) \times \left(1 - \frac{\text{Actual Rate}}{\text{Fossil Steam Compliance Rate}}\right) = \text{Gas - Shift ERCs}$$

Final Compliance Period Adjustment Factor: 0.27

Therefore, if one (1) regular ERC allows an average NGCC unit to generate 5.80 MWh during the final compliance period, then the following equation determines the amount of gas-shift ERCs that will be generated by an average NGCC unit during the final compliance period with each regular ERC it uses:

$$(5.80 \text{ MWh}) \times (0.27) \times \left(1 - \frac{904 \text{ lbs/MWh}}{1,305 \text{ lbs/MWh}}\right) = 0.48 \text{ Gas - Shift ERCs}$$

Additional Emissions from Steam Units Due to Gas-Shift ERCs

Now it must be determined how many emissions 0.48 gas-shift ERCs will allow an average steam unit to emit during the final compliance period. First, calculate the amount of electricity an average steam unit from 2012 could generate and still comply with the final compliance period subcategorized rate for steam units if given 0.48 gas-shift ERCs:

$$\frac{2,170 \text{ lbs/MWh} * (\text{steam unit generation})}{(0.48 \text{ Gas - Shift ERCs} + \text{steam unit generation})} = 1,305 \text{ lbs/MWh}$$

Solving for generation gives 0.72 MWh. To determine emissions from the plant, multiply the generation by the average emission rate of the steam unit:

$$2,170 \text{ lbs/MWh} * (0.72 \text{ MWh}) = 1,562 \text{ lbs CO}_2$$

Convert this to tons and an average steam unit from 2012 can emit 0.78 tons if it is given 0.48 gas-shift ERCs and it will still comply with the final compliance period subcategorized rate for steam units. Meaning the conversion rate in this case from gas-shift ERCs to allowances is as follows:

$$0.48 \text{ Gas - Shift ERCs} = 0.78 \text{ allowances}$$

Total Emissions Allowed for Each Regular ERC Given to an NGCC Unit

Now you must determine the total amount of emissions that will be allowed if one (1) regular ERC is given to an NGCC unit during the final compliance period, including the steam unit emissions allowed as a result of the gas-shift ERCs that are generated. This is accomplished by summing the following: conversion rate for ERCs to allowances for an NGCC unit and conversion rate for 0.48 gas-shift ERCs to allowances for a steam unit:

$$2.62 \text{ allowances} + 0.78 \text{ allowances} = 3.40 \text{ total allowances}$$

Thus if one (1) regular ERC is given to and used by an average NGCC unit during the final compliance period, the total emissions allowed from the NGCC unit along with the steam unit emissions allowed by the corresponding gas-shift ERCs generated is represented by the following:

$$1 \text{ ERC} = 3.40 \text{ total allowances}$$

Combine through Generation Weighted Average from 2012

$$\frac{(3.4 \text{ tons} * 962,611,912 \text{ MWh}) + (1.64 \text{ tons} * 1,606,878,140 \text{ MWh})}{(962,611,912 \text{ MWh}) + (1,606,878,140 \text{ MWh})} = 2.30 \text{ tons}$$

If looking at both NGCC units and steam units and using the final compliance period subcategorized rates, the weighted average conversion ratio from ERCs to allowances is as follows:

$$1 \text{ ERC} = 2.30 \text{ allowances}$$

Option #3

Use a Hypothetical Nation-wide Rate Goal that Would Apply During the Interim Compliance Period

Interim Compliance Period Subcategorized Rate-Based Performance Standards

Steam Units: 1,544 lbs CO₂/MWh

NGCC Units 834 lbs CO₂/MWh

This method first calculates a hypothetical nationwide rate-goal that would apply during the interim compliance period under the CPP. This hypothetical interim period nation-wide rate goal is calculated in the same manner that each state's state-wide rate goals under the CPP were calculated. Next the method calculates 2012 average affected EGU emission rate, including steam units and NGCC units. Then the method calculates the amount of emissions an average affected EGU could emit if given one ERC and still comply with the hypothetical interim period nation-wide rate goal. This value becomes the ERC to allowance conversion factor.

Calculate the Hypothetical Interim Period Nation-wide Rate Goal

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

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

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

Hypothetical Interim Period Nation-wide Rate Goal = 1,278 lbs CO₂/MWh

Calculate the 2012 Average Affected EGU Emission Rate

Total Affected Unit CO₂ Emissions, Generation, and Actual Average Emission Rate in 2012
(Includes under construction steam and NGCC units that commenced operation in 2012)

Emissions: 2,178,716,430 tons

Generation: 2,569,490,052

$$2012 \text{ Average Affected EGU Emission Rate} = \frac{(2,178,716,430 \text{ tons CO}_2) \times (2,000 \frac{\text{lbs}}{\text{ton}})}{2,569,490,052 \text{ MWh}}$$

2012 Average Affected EGU Emission Rate = 1,696 lbs CO₂/MWh

Calculate Emissions Allowed Per ERC Given to an Average EGU

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

$$\frac{1,696 \text{ lbs } CO_2/MWh * (\text{affected unit generation})}{(1 \text{ ERC} + \text{affected unit generation})} = 1,278 \text{ lbs } CO_2/MWh$$

Solving for generation gives 3.06 MWh. To determine emissions from the affected unit, multiply the generation by the average affected unit emission rate:

$$1,696 \text{ lbs}/MWh * (3.06 \text{ MWh}) = 5,190 \text{ lbs } CO_2$$

Convert this to tons and an average affected unit from 2012 can emit 2.60 tons for each ERC it receives and still comply with the hypothetical interim period nation-wide rate-goal. Therefore, the conversion rate from ERCs to allowances is as follows:

$$1 \text{ ERC} = 2.60 \text{ allowances}$$

Option #4

Use a Hypothetical Nation-wide Rate Goal that Would Apply During the Final Compliance Period

Final Compliance Period Subcategorized Rate-Based Performance Standards

Steam Units: 1,305 lbs CO₂/MWh

NGCC Units 771 lbs CO₂/MWh

This method first calculates a hypothetical nationwide rate-goal that would apply during the final compliance period under the CPP. This hypothetical final compliance period nation-wide rate goal is calculated in the same manner that each state's state-wide rate goals under the CPP were calculated. Next the method calculates 2012 average affected EGU emission rate, including steam units and NGCC units. Then the method calculates the amount of emissions an average affected EGU could emit if given one ERC and still comply with the hypothetical final compliance period nation-wide rate goal. This value becomes the ERC to allowance conversion factor.

Calculate the Hypothetical Final Compliance Period Nation-wide Rate Goal

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

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

$$\frac{(1,606,878,140 \text{ MWh} \times 1,305 \text{ lbs/MWh}) + (962,611,912 \text{ MWh} \times 771 \text{ lbs/MWh})}{1,606,878,140 \text{ MWh} + 962,611,912 \text{ MWh}} =$$

Hypothetical Final Compliance Period Nation-wide Rate Goal = 1,105 lbs CO₂/MWh

Calculate the 2012 Average Affected EGU Emission Rate

Total Affected Unit CO₂ Emissions, Generation, and Actual Average Emission Rate in 2012
(Includes under construction steam and NGCC units that commenced operation in 2012)

Emissions: 2,178,716,430 tons

Generation: 2,569,490,052

$$2012 \text{ Average Affected EGU Emission Rate} = \frac{(2,178,716,430 \text{ tons CO}_2) \times (2,000 \frac{\text{lbs}}{\text{ton}})}{2,569,490,052 \text{ MWh}}$$

2012 Average Affected EGU Emission Rate = 1,696 lbs CO₂/MWh

Calculate Emissions Allowed Per ERC Given to an Average EGU

Calculate the amount of electricity an average affected unit from 2012 could generate and still comply with the hypothetical final compliance period nation-wide rate-goal if given one (1) ERC:

$$\frac{1,696 \text{ lbs } CO_2/MWh * (\text{affected unit generation})}{(1 \text{ ERC} + \text{affected unit generation})} = 1,105 \text{ lbs } CO_2/MWh$$

Solving for generation gives 1.87 MWh. To determine emissions from the affected unit, multiply the generation by the average affected unit emission rate:

$$1,696 \text{ lbs}/MWh * (1.87 \text{ MWh}) = 3,172 \text{ lbs } CO_2$$

Convert this to tons and an average affected unit from 2012 can emit 1.59 tons for each ERC it receives and still comply with the hypothetical final compliance period nation-wide rate-goal. Therefore, the conversion rate from ERCs to allowances is as follows:

$$1 \text{ ERC} = 1.59 \text{ allowances}$$