January 21, 2016

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Environmental Protection Agency
EPA Docket Center (EPA/DC), Mailcode 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460
(submitted via regulations.gov)

Re: NRG's Comments regarding proposed Federal Plan and Model Rules for the Clean Power Plan

Dear Sir/Madam:

NRG Energy, Inc. and its operating subsidiaries (collectively "NRG") submit these comments to the Environmental Protection Agency ("EPA" or "Agency") regarding the proposed Federal Plan and Model Rules for the Clean Power Plan ("Proposal"). NRG is the largest competitive power company in the U.S. NRG's power plants provide more than 50,000 Megawatts ("MW") of generation capacity and NRG's competitive retail providers serve almost 3 million customers throughout the country.

NRG's generation fleet comprises coal, natural gas-fired combined cycle, combustion turbine and thermal units, nuclear, wind and solar power plants. We are both one of the nation's largest owners and operators of renewable energy assets, and one of its largest emitters of CO2. Recognizing the need to address climate change to ensure a sustainable business and a sustainable future, NRG has announced goals to reduce its absolute CO2 emissions by 50% by 2030 and 90% by 2050. These comments represent the view of a major power sector emitter of CO2 that intends to achieve those reductions, while also reflecting NRG's considerable knowledge of energy markets, the bulk electric system, and of both operations and investment in traditional and innovative power sector technologies.

NRG appreciates this opportunity to provide feedback on EPA's proposed Federal Plan and Model Rules. Although states will have broad flexibility in designing compliance programs under the Clean Power Plan ("CPP"), the Federal Plan and Model Rules will establish strong regulatory precedents. Thus, it is imperative that EPA recognize the large influence the Federal Plan and Model Rules hold over the economic health and environmental performance of the power sector, and finalize the Proposal to ensure consistent state programs capable of achieving low-cost and low-carbon outcomes. To secure such outcomes, it is particularly important that EPA address shortcomings in the Proposal that would create unintended but serious distortions in competitive wholesale power markets, with negative implications for the economy, the continuous deployment of emerging clean energy technologies, and the CO2 trajectory of the power sector.

Our comments below are organized as follows:

- **Section I** responds to EPA's request for comment on whether a single Federal Plan and Model Rule regime should be mass-based or rate-based.

- **Section II** addresses problems that will be created by EPA's proposed methodology for allocating allowances to affected electric generating units ("EGUs") under mass-based programs in competitive wholesale power markets, and suggests improvements to reduce or eliminate these problems.

- **Section III** identifies flaws in EPA's proposed output-based allocation intended to address leakage from existing to new sources. EPA's proposed steps to mitigate such leakage are virtually certain to be ineffective, at least in competitive wholesale markets, and will lead to undesirable economic and environmental impacts. However, even if EPA's proposed steps to mitigate leakage were effective, or corrected to produce the Agency's intended outcomes, the intended results would still create undesirable economic and environmental impacts in regions of the country served by competitive wholesale markets. This section also recommends improvements to reduce or eliminate these problems.

  Section IV addresses EPA's proposal to continue to allocate free allowances under mass-based programs to affected units for a limited time after they permanently retire or otherwise cease operations.

Sections I – III above address and suggest improvements to features of the Proposal that will interact poorly with or create negative consequences in the nation's competitive wholesale power markets. This is especially important because competitive wholesale power markets serve the majority of US electricity load,[1] and EPA's final Federal Plan and the Model Rule have the potential to influence or determine how existing EGUs are regulated under the CPP in many states that are served by such markets. Because of this, it is imperative that EPA's final Federal Plan and the Model Rule provide frameworks that are consistent with the efficient operation of competitive wholesale markets. Further, the final rule should avoid unintended side effects that may be inconsistent with achieving long term reductions in power sector CO2 emissions. NRG respectfully offers these comments to help EPA achieve those important objectives.

I. If EPA promulgates only one regulatory regime through its final Federal Plan and Model Rule, that regime should be mass-based

[1] According to the Federal Energy Regulatory Commission ("FERC"), two-thirds of the nation's electricity load is served in regions with competitive wholesale markets. See the FERC website, "Electric Power Markets: National Overview." Accessed January 16th, 2016 at http://www.ferc.gov/market-oversight/mkt-electric/overview.asp.

Mass-based CO2 reduction programs will deliver greater environmental benefits at lower costs than rate-based ones. Mass-based programs are well-established and well-understood in a number of US states. In addition, mass-based programs better recognize the contributions of affected unit operational changes, such as reduced generation and retirement, towards producing the CO2 reductions necessary to meet emissions goals. Further, mass-based programs are more compatible with competitive wholesale power markets and, especially under the EPA's "trading ready" regime, likely to evolve into a broader and more efficient regime for reducing CO2 emissions. Lastly, mass-programs smoothly and authentically incorporate the carbon reduction benefits from renewable energy ("RE") & energy efficiency ("EE") without administratively-cumbersome, expensive, and potentially inaccurate crediting mechanisms. Particularly with regards to EE, if crediting mechanisms associated with rate-based plans are flawed or poorly administered, they may compromise the economic and environmental integrity of state CO2 mitigation efforts and interstate trading regimes.[2]

In its Proposal, EPA requested comment on whether, if it only finalizes one option, the Agency should finalize a mass-based or rate-based approach in proposed Federal Plan.[3] If EPA moves forward with just one program option for the Federal Plan, NRG recommends that the Agency do so with a mass-based option, due to the numerous benefits mentioned above, among others. If particular states favor a rate-based approach, they would still be able to develop such a plan on their own, without EPA either facilitating it or imposing it through a Federal Plan or Module Rule.

NRG's following comments focus on improvements needed for EPA's proposed mass-based Federal Plan and Model Rule to work in harmony with the wholesale power market regime under which competitive power generators produce roughly 38-40% of US electricity.[4]

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[2] Rate-based programs contemplated by the CPP would not credit RE or EE for *actual* CO2 reductions. Instead, rate-based programs would provide emission reduction credits ("ERCs") to generation from RE, or in the case of EE, to estimates of displaced electricity consumption. Generation from RE is straightforward to measure, even if attributing the direct CO2 benefits from RE remains challenging. However, accurately estimating displaced electricity consumption that would not have occurred absent a state EE program would require complex, consistently-administered methodologies. In evaluations of such EE measurement methodologies employed in existing state policies, academic studies have revealed gross differences between the amount of displaced electricity consumption credited by existing state EE methodologies and actual, real-world findings (see Levinson, Arik, "California energy efficiency: Lessons for the rest of the world, or not?", Georgetown University. Published by the National Bureau of Economic Research, April, 2014; also see Allcott, Hunt & Greenstone, Michael, "Is there an energy efficiency gap?", New York University and the University of Chicago. Published in MIT Department of Economics Working Paper series, July 2012). In contrast to rate-based programs, mass-based programs are designed to directly regulate CO2 emissions to meet a given budget, and they automatically avoid administratively-burdensome and potentially flawed crediting mechanisms for RE or EE that could jeopardize a rate-based program's environmental integrity.

[3] See pgs. 64968-9, FR, Vol. 80 No. 205 / Fri, Oct 23, 2015.

[4] See EIA's Electricity Data Browser on the Agency's website, 2014 data. Accessed online January 18th at http://www.eia.gov/electricity/data/.

II. The proposed allowance allocation to existing affected units under the mass-based Federal Plan and Model Rule will, in part, lead to undesirable impacts in competitive wholesale power markets

a. EPA's proposed allowance allocation would result in windfall profits for natural gas-fired generators operating in competitive power markets, distorting market outcomes without furthering the transition to cleaner energy technologies.

EPA proposes to freely allocate allowances to affected units based on their historic generation (i.e., their output of megawatt-hours during the years 2010 through 2012). This allocation disposes of the allowances in a state's budget that remain after the distribution of state-specific amounts of allowances into three proposed set-aside pools: (1) the Clean Energy Incentive Program, (2) the output-based allocation set-side, and (3) the renewable energy set-aside.[5]

EPA recognizes that its proposed approach to allocation would not change the pattern of generation operation or affect the level of emissions.[6] As is well known, in competitive power markets both bids and dispatch decisions are based on marginal costs. Holding a freely-allocated allowance for compliance imposes a marginal opportunity cost on the owner of an affected power plant that is equal to the market price that the owner would receive from selling the allowance instead of using it for compliance. Using a purchased allowance for compliance imposes the same marginal cost – the market price of the allowance – on the owner of the affected unit. For this reason, the affected unit's bids in competitive power markets will be the same whether it uses a freely-allocated or a purchased allowance for compliance purposes. In both cases, the marginal cost-based bid of the unit will include the same market value of the allowances needed to cover the CO2 emissions per MWH. Thus the bids will be the same in either case, and the dispatch and pattern of emissions that result from it will be unaffected by the free allocation.

EPA's proposed allocation to affected EGUs does not seem, however, to be based on a related and equally important feature of competitive markets. Specifically, in competitive markets, units that are marginal or "on the margin" (i.e., units that are setting the market price) in power markets recover their marginal costs in their bids, while units that are inframarginal (i.e., units that are already running when some other unit sets the price) recover the difference between the marginal unit's allowance costs and their own allowance costs. As demand levels increase daily or seasonally, dispatch proceeds from units with lower marginal costs (fuel, variable operations and maintenance costs, and any emission fees or allowance costs) to those with higher marginal costs. Thus "the margin" moves from plants with lower marginal costs to those with higher marginal costs as demand for electricity increases, and wholesale market electricity prices, which are set by the bids of the marginal units, increase as well. These higher prices during periods of higher demand benefit inframarginal power plants, and are typically essential for the recovery of their fixed costs. This is important because competitive power plants

[5] See p. 65016, FR Vol. 80, No. 205 / Fri, Oct 23, 2015.

[6] See p. 65017, FR Vol. 80, No. 205 / Fri, Oct 23, 2015.

typically can recover only their variable (or out-of-pocket) costs in energy prices when they themselves are "on the margin" and set the price in the wholesale market.

This well-established feature of competitive power markets means that natural gas combined cycle ("NGCC") units, as a general rule, will always recover at least their own allowance costs in energy prices, and may recover substantially more than their allowance costs when less efficient gas units are marginal.[7] Indeed, a moderate price on carbon would cause NGCC units operating in a competitive market to earn higher profits than they would without the price on carbon. Such profits result because less efficient units have higher CO2 emission rates and thus have higher allowance costs, which will set higher prices in those hours when the more efficient NGCC units are inframarginal. Importantly, NGCC plants will receive these higher profits without receiving any free allowances, since they recover their full cost of allowances when they are "on the margin" and recover more than their cost of allowances when they become inframarginal to less efficient plants, with higher allowance costs, that are needed to meet higher levels of demand and that pass those higher allowance costs into power prices through their marginal cost-based bids.

In light of this full cost recovery and additional profit for existing NGCC plants from a trading program without free allowances, EPA's 'base' allocation will simply create pure additional profits, above and beyond the enhanced earnings they would enjoy under a trading program for existing competitive NGCC units. These pure, additional profits due solely to free allocations meet the strictest economic definition of windfall profits. It is hard to imagine how these windfalls for existing fossil plants could help reduce carbon emissions or smooth the transition to a low-carbon power system, especially since the same allowances could be put to such uses under a variety of alternative allocations.

This same fundamental feature of competitive wholesale markets explains why judicious amounts of free allowances do *not* create windfalls for coal plants. First, consider the case when a coal plant's marginal costs are less than those of gas plants, as would be the case with a low price on carbon and a moderate to high price of natural gas. In this situation, coal plants will be infra-marginal when gas plants, including existing NGCC plants, are marginal and set the price in wholesale markets. But since coal plants emit significantly more CO2 per MWH than NGCC plants, the power price that coal plants receive will include the NGCC's marginal allowance costs, which are less than the coal plant's marginal allowance costs. Thus the market price received by the coal plant will recover less than coal plants' incremental allowance costs. As a result, inframarginal coal plants will lose operating margin and may find margins too thin to cover continued fixed operations and maintenance costs. In this situation, free allowances to cover the proportion of the coal plant's costs that are not covered by natural gas plants' allowance costs would simply compensate coal plants for the revenue and operating margin

[7] This is because more efficient NGCC units use less fuel (and emit less CO2) per MWH than less efficient natural gas units, and thus have lower marginal costs than these less efficient units. The more efficient gas units are therefore dispatched earlier and are price takers when the less efficient gas units are setting price. For this reason, these prices are higher than the fuel costs and any allowance costs of the more efficient units, which accordingly receive revenues in excess of their fuel and allowance costs.

they lost due to the price on carbon, without creating a windfall. The free allowances, as discussed above, would not change the bid levels of the coal plants, but they would reduce the cash outlays needed to buy enough offsets to comply with the CPP.

Next, consider the case where the price on carbon rises to high enough levels to make coal plants' marginal costs greater than those of NGCC plants, as intended by EPA in building block 2 of the BSER. In this situation, coal plants would run in far fewer hours, due to being displaced by the NGCC units with lower marginal costs. For some of these remaining hours, coal plants would be marginal and would recover their own allowance costs, but their overall revenues and operating margins would be reduced due both to their dramatically reduced sales volume and to the small number of hours when plants with higher costs are on the margin and setting price. As in the previous inframarginal case, a judicious amount of free allowances would be sufficient to compensate coal plants for these lost margins, without creating windfalls (that is, higher earnings than prior to the carbon regime).

Such a "no windfall" allocation of free allowances to competitive coal plants during the initial three compliance periods of the CPP could play a significant role in facilitating overall CO2 emission reductions and supporting the transition to a power sector with much lower carbon emissions. By providing competitive coal plants with a buffer against normal or expected income lost due to the CO2 trading regime, the coal plants will be protected from premature retirements due to an inability to afford the normal cap-ex needed for continued operations. Premature and unexpected retirement of coal plants could lead to a "dash to gas" that would lock in excessive amounts of new fossil generating capacity, while the more gradual and planned retirement can facilitate their replacement with a lower carbon mix of renewables, demand-side resources, and the minimum amount of new gas needed for reliability.[8] No-windfall allowances for competitive coal plants would also help preserve the financial wherewithal needed by the owners of those plants to continue to make profitable clean energy investments and to help drive a lower carbon power sector. Finally, such "no windfall" allocations will help buffer the impact of premature plant closures on jobs and tax revenues for local communities and states.

For all these reasons, NRG urges the EPA to modify the base allocation approach in the CPP, for units that are bid into competitive markets. Specifically, NRG recommends EPA continue to allocate the same number of allowances to competitive coal plants that would be allocated to them under the proposal, which we believe to be broadly consistent with the "no windfall" principles articulated above. However, to avoid creating windfalls for competitive natural gas plants, NRG recommends that the final Federal Plan and Model Rule eliminate the allocation to existing competitive NGCC plants and, instead, allow this portion of the allowances to be auctioned off by the state, or if the state does not desire to hold such an auction, to add them to one or several of the existing set-asides. In the alternative, if EPA should wish to reduce the windfall gains to existing NGCC plants, without eliminating them, it could allocate allowances to

[8] See the more full discussion of these alternative paths in NRG's initial comments on the CPP (docket EPA-HQ-OAR-2013-0602, submitted Dec 1, 2014, see pgs, 13-19, also pgs. 20-24).

them on the basis of their emissions output during 2010 – 2012, rather than their generation output. Because NGCC plants emit roughly one-half of a ton of CO2 per MWH, on average, this would roughly cut the size of the NGCC free allocation in half. While this would still provide windfall enrichment to the owners of existing NGCC plants, without achieving any additional emission reductions, it would at least be a smaller windfall, and could reallocate the conserved allowances to other set-asides or state auction.

b. The proposed rules' EGU allocation approach may function more effectively for units subject to cost of service regulatory regimes.

NRG wishes to emphasize that these recommended modifications are solely for EGUs that operate in competitive power markets. By contrast, EPA's proposed EGU allocation methodology seems better designed to address units that operate under a cost of service regime. Under cost-of-service regulation, utilities that own regulated affected units recover the costs of purchasing allowances in rates, not power prices. In a future where the CPP causes existing NGCC plants to run considerably more than they do today, and existing coal plants to run considerably less, the EPA's proposed generation-based allocation may roughly cover the allowance costs created by increased NGCC emissions and reduced coal emissions for affected units used by cost-regulated utilities to serve load. This approach may serve to protect customers from increased rates during the first three compliance periods, without creating windfalls or lost revenues for the owners of the cost-regulated assets. Thus, NRG recommends that EPA maintain its proposed allocation methodology for affected units that recover their costs through regulated rates set by a state, municipal, tribal, regional or cooperative authority.

Finally, NRG recommends that, under the Federal Plan and the Model Rule, the competitive market or cost of service allocation approach used for affected units should be revisited at the beginning of each compliance period, prior to the date the allowances are recorded, and changed if necessary to accommodate any change from or to a cost-of-service regulatory regime by particular affected units.

III. EPA's proposed output-based set-aside allocation fails to address leakage, and will promote unintended but negative consequences for achieving robust, low-cost CO2 reductions

a. Background.

In the final CPP and the Proposal, EPA recognizes that CO2 "leakage" could occur if increased dispatch, and thus CO2 emissions, from new NGCC units offset reduced dispatch and CO2 emissions from existing NGCC units.[9] The CPP requires states to address leakage, either by choosing to regulate new NGCC units, solely under state authority, in a manner comparable to existing units, or through some other means. Since EPA lacks the authority to regulate new NGCC emissions under this part of the Clean Air Act, in the Federal Plan EPA proposes an

[9] See p. 65019, FR Vol. 80, No. 205 / Fri, Oct 23, 2015.

output-based allocation ("OBA") set-aside, which would set aside allowances from a state's budget in a pool intended to incentivize existing NGCC units to increase generation instead of ceding it to new, unregulated NGCCs which do not have allowance costs to include in their dispatch decisions.[10]

While NRG understands EPA's desire to avoid excessive leakage of emissions to new NGCC units, the proposed OBA set-aside will, in our view, dramatically fail to achieve these goals in competitive wholesale power markets. Further, even assuming for the sake of argument that EPA's proposed OBA set-aside approach could successfully address existing-to-new NGCC unit leakage, in so doing it would suppress price signals needed for clean energy resources in competitive wholesale power markets by lowering marginal unit bids. Further, it is unclear what environmental benefits would actually be achieved from shifting generation from increasingly efficient new NGCC units to less efficient existing ones. In the end, the most certain outcome of the OBA proposal is the same as the flawed proposal to allocate free allowances to existing NGCC units – windfall profits for existing natural gas assets.

b. EPA's rationale for the OBA set-aside.

EPA explains in the Proposal that the OBA set-aside is intended to spur existing NGCC units to increase generation because, "owner/operators of eligible EGUs will have an incentive to generate more in order to receive more allowances."[11] EPA states that the OBA set-aside will not cause a state to exceed its mass-based budget, explaining in the Proposal that the OBA set-aside, "merely modifies the distribution of allowances in a manner designed to align the generation incentives for eligible EGUs in mass-based state with new emitting EGUs that are not subject to a mass-based limit, mitigating emissions leakage."[12] In the Proposal, EPA seeks comment on all aspects of the OBA set-side allowance allocation.[13]

c. Only true "updating" output-based allowances could lead NGCC units to bid at lower costs in competitive markets.

The proposed OBA approach will not have the effect EPA intends in competitive energy markets. It is true that new NGCC units will not have any allowance costs under the Model Rule or the Federal Plan, and thus would have lower market bids than they would if they were regulated comparably to existing NGCC units. But the proposed OBA approach will not reduce the marginal cost-based bids of existing NGCC units. It will not reduce the marginal costs of generation because the owner of an affected NGCC unit will not know whether the dispatch of the unit will result in the allocation of additional allowances until long after the dispatch actually occurs. As a result of this uncertainty, the OBA allocations, if they occur, will not affect

[10] See p. 65021, FR Vol. 80, No. 205 / Fri, Oct 23, 2015.

[11] See p. 65020, FR Vol. 80, No. 205 / Fri, Oct 23, 2015.

[12] See p. 65020, FR Vol. 80, No. 205 / Fri, Oct 23, 2015.

[13] See p. 65020, FR Vol. 80, No. 205 / Fri, Oct 23, 2015.

the marginal cost of production at the time of dispatch, but will instead affect the average cost of the unit at a future date. As such, they will not – and indeed cannot – affect the marginal cost based bids of existing NGCC units.

Only a very specific form of output based allowances – namely, *updating* output based allowances – could change the market dispatch of existing NGCC units. To be effective, however, updating output based allowances must directly and immediately couple the production of a ton of CO2 at an existing unit with issuance of a free allowance to that unit. In that case, the effect will be to reduce the marginal cost of production of the unit, because the existing NGCC unit will either be able to sell that allowance, or avoid purchasing it, as a direct and immediate, necessary result of producing electricity.[14] Either way will include this reduction in its marginal cost into its competitive market bid.

By contrast, EPA's OBAs would only be issued if an existing unit exceeds a 50% capacity factor, on average, over three years.[15] The multi-year capacity factor averaging used to determine the number of OBA set-aside allowances a given NGCC unit ultimately will receive creates extreme uncertainties regarding whether current generation will, in fact, receive enough allowances at some time in the future to cover its compliance obligation. For example, a unit that operates at a 60% capacity factor in year one of a compliance period but operates at a 40% capacity factor in the next two years would have an average 47 % capacity factor, and would not receive any OBA set-aside allowances. Further, it would not know until well into the third year whether it would in fact receive any allowances from the set-aside, and would not know how many it is to receive until sometime after the compliance period.

This massive uncertainty and delay of the award negates any "updating" characteristic of the OBA set-aside and cannot create the desired generation incentives in competitive markets. Instead of giving the affected unit a clear and known negative marginal cost at the time of dispatch, it gives it a highly uncertain lump sum of average revenue increases at some time in the future. Units bidding in competitive markets have no economic incentive, and typically would not be allowed by market rules, to include such indefinite and uncertain future lump-sum outcomes in their energy market bids. Marginal cost-based bids are profit-maximizing for bidders, and are essential to produce efficient prices in wholesale markets. Bidders have no incentive to base their bids based on possible future lump-sum benefits, and such bids would not produce efficient prices in wholesale markets. For this reason alone, EPA should find a different approach to leakage prevention in the final Federal Plan and the Model Rule.

[14] In this regard, true updating output-based allowances are very much like a negative fuel cost. Just as a generator knows how much fuel costs when turning on a plant, and it knows how much fuel they plan to use, they would also know what the price of allowances is and how many they are going to receive as a result of the same decision. As such, it is a negative marginal cost and it would be just as profit-maximizing for the generator to reduce their bid by the amount, as it is for the generator to include the marginal cost of their fuel in the bid.

[15] See p. 65021 of the Preamble, FR Vol. 80, No. 205 / Fri, Oct 23, 2015.

d. If EPA replaced the OBA approach with true updating output-based allowances, it would harm the development and continued operation of clean energy resources that help reduce CO2 emissions.

However, even if EPA were able to overcome these problems, e.g., by changing the OBAs to true updating output-based allocations in the final rule, the "fix" would result in lower prices in wholesale power markets and thus would hinder, rather than support, the deployment of low-carbon technologies.[16] If EPA fixes the OBA, it will harm no and low-carbon resources, and if it does not fix the OBA, it will fail to function as intended in competitive wholesale power markets and its only effect will be to create additional windfalls for existing NGCCs. For these reasons, NRG urges EPA consider a third approach to addressing leakage in the Federal Plan and Model Rule.

As with the proposed 'base' allocation methodology (discussed in Section II of these comments), these concerns with the Agency's proposed OBA set-aside are focused on their ineffectiveness in competitive wholesale power markets. The OBA approach may possibly function as intended for regulated cost-of-service utilities, who tend to centrally plan their operations based on average costs rather than marginal costs. However, some utilities regulated under cost-of-service regimes bid and dispatch their units in competitive markets, so EPA should avoid relying on the OBA set-aside to prevent leakage for any units that participate in a competitive wholesale market's dispatch process.

e. NRG's recommended alternative approach for addressing leakage.

NRG recognizes that the EPA lacks the authority under CAA Section 111(d) to require new NGCC units to be regulated comparably to existing units. However, given the almost certain ineffectiveness of the OBA set-aside approach in achieving anything other than windfall profits for existing NGCC units, and its potential unintended consequences on dampening the continued operation and development of low- and zero-carbon resources, EPA should consider dropping the set-aside altogether. Should the Agency move forward with efforts to mitigate existing-to-new NGCC unit leakage, there are more effective approaches to do so with fewer negative consequences for economic and environmental performance in competitive whole

[16] If the OBA set-side does work as EPA intends, the allocation would create unintended by negative outcomes for clean energy deployment. The lower bids from existing NGCC units would result in lower power prices when existing NGCC units are on the margin. This would suppress revenues needed for cost recovery and proper long and short run incentives for inframarginal units, including existing and uprated or new nuclear plants, merchant renewable assets, carbon capture & storage facilities, etc. This market distortion would be especially harmful to clean energy investment, since the effects of the updating OBA set-aside is to negate or remove the price signal of carbon allowances from energy markets, where it will otherwise contribute to the development and continued operation of lower carbon assets. Further, these distortions could be particularly significant at the relatively rare times of high demand that lead to higher capacity factors and which are responsible for a disproportionate share of the actual earnings of inframarginal power plants, including all clean energy power plants dispatched in and compensated through competitive wholesale markets.

markets. Accordingly, the Agency should consider the following for both the mass-based Federal Plan and the Model Rule:

- EPA should include and facilitate a 'rapid refile' option in the Federal Plan that would allow a state which receives a Federal Plan to quickly and easily refile a partial state plan to implement a trading system, under the state's own authority, in a manner that is fully comparable with existing units under the Federal Plan and consistent with the CPP's final emission guidelines.[17]
- In addition, EPA should make similar provisions to those above readily available as part of the Model Rule, giving states an easy and attractive route to regulate new NGCC units in a fully comparable way as existing NGCC units under state authority, within the context of the New Source Complement's expanded state budget.
- EPA should clearly provide for and facilitate states periodically extending regulation under state authority to new units in manners fully comparable with the regulation of existing units through the refiling and updating provisions in the final Federal Plan and the Model Rule.

IV. EPA's proposed allocation to coal units that cease operation or permanently retire appropriately balances positive incentives to retire with stewardship of allowance value

EPA has proposed to continue to award allowances for a limited number of years to units that have permanently retired or otherwise cease operations for at least two years.[18] The Agency intends for this allocation to counter the incentive to keep a unit operating simply to continue to receive allowances, while limiting the distribution of allowances to units that don't need them. EPA states that it believes that it has reached a reasonable middle ground between these objectives.

NRG agrees. The retirement of affected units due to age or economic inefficiency, in NRG's view, offers a very large source of extremely low-cost emission reductions to many states, and should be encouraged by the allocation provisions of the Federal Plan and the Model Rule. Too few allocations post-retirement will create an incentive to remain in operation, even nominally so, in order to continue to receive the allocations provided to operating plants. At the same time, and consistent with our comments in Sections II and III above, NRG does not view allocations that simply transfer value to various entities without supporting or enhancing reduced power sector emissions as a useful component of the Federal Plan and the Model Rule.

[17] The Proposal allows for states to receive primary authority for implementing certain portions of the emissions guidelines. EPA "encourages states and eligible tribes that do not submit approvable plans to request delegation of the federal plan if they wish to have primary responsibility for implementing the emission guidelines." See p. 65033, FR Vol. 80, No. 205 / Fri, Oct 23, 2015. The proposed delegation of authority to states should include options for adopting more effective, environmentally optimal means of mitigating leakage, such as the New Source Complement.

[18] See p. 65026-27, FR, Vol. 80 No. 205 / Fri, Oct 23, 2015.

EPA's proposed allocation to power plants that cease operation strikes an appropriate and effective balance between these competing principles, and should be maintained in the final Federal Plan and the Model Rule. Fewer allowances, or a shorter period of time, would likely lead to more emissions overall due to delayed retirement, while more allowances may do little or nothing to increase retirements.

There may continue to be concerns that units that cease operations but do not permanently retire will "cycle" into just enough operations to continue to receive the allowances during multiple two year periods of inactivity. The proposed allocation level, in our view, should deter any such behavior. However, to address any such concerns, EPA could consider eliminating the continued free allocations, after operations are ceased, for any units that cease operations for more than one two-year period after 2022.

Respectfully submitted,

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