ARIZONA DEPARTMENT
OF
ENVIRONMENTAL QUALITY

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Janice K. Brewer
Governor

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Director

BY EMAIL AND WEB SUBMISSION

December 1, 2014

To: Docket ID No. EPA–HQ–OAR–2013–0602

Re: Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Proposed Rule; 79 Fed. Reg. 34830 (June 18, 2014)

To Whom It May Concern:

Attached are the comments of the Arizona Department of Environmental Quality on alternative approaches to building block 2 of EPA's proposed guidelines for CO2 emissions from fossil fuel-fired electric generating units.

Sincerely,

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Arizona Department of Environmental Quality

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Arizona Department of Environmental Quality Comments on Alternative Methods for Calculating Redispatch and the Interim Goal

December 1, 2014

I. Summary

The following are the comments of the Arizona Department of Environmental Quality (ADEQ) on a proposed method for reducing the stringency of building block 2 (BB2) in EPA's proposed Clean Power Plan (CPP).[1] This proposal is based on an approach developed by the Arizona Utility Group (AUG), as described in the November 25, 2014 comments of the Salt River Project on the CPP.

As discussed in ADEQ's November 18, 2014 comments on BB2 and the interim goal, full implementation of BB2 in Arizona could jeopardize the reliability of Arizona's electricity supply and would result in substantial stranded investments to the detriment of Arizona rate payers. The proposal described in sections II and III would:

- Affect the goals for only eight states and thus have a minimal impact on the total CO_2 reductions achieved by the CPP.
- Avoid stranded investments by allowing Arizona utilities (and utilities in similarly situated states) to continue to operate coal-fired EGUs that have remaining book life in 2030.
- Avoid potential power shortages by preserving a portion of Arizona's current coal-fired base-load power plants while providing additional time to develop alternative methods of meeting base-load requirements.
- Require substantial, but less draconian, reductions in Arizona's rate.
- Result in substantial, but achievable, reductions in coal generation in Arizona.
- Provide a more reasonable glide path to compliance than the proposed interim goal.

ADEQ also supports a second component of AUG's proposal, using the section 111(b) standard as the rate for NGCC to calculate the reductions assumed in BB2. That component, however, would have a more substantial impact on CO_2 reductions achieved by the CPP.

[1] Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Proposed Rule; 79 Fed. Reg. 34830 (June 18, 2014); Docket ID No. EPA–HQ–OAR–2013–0602.

II. Excluding Units with Remaining Book Life from Redispatch

In the Notice of Data Availability (NODA), EPA acknowledges that "an additional way to address" concerns about stranded investments in connection with the interim goal "may be for the agency to take account of the book life of the original generation asset, as well as the book life of any major upgrades to the asset, such as major pollution control retrofits."[2]

ADEQ supports this alternative, but believes that it should be extended to address the final goal, as well as the interim goal. The potential for stranded investments does not go away at the end of the interim period. As documented in the SRP comments, many EGUs will have remaining book life in 2030. In order to assure that the application of building block 2 does not result in premature closure of these plants, EPA should adjust the redispatch calculation.

Specifically, ADEQ proposes that EPA exclude from redispatch any coal-fired generation with a remaining book life as of January 1, 2030.[3] Book life would be defined as the period ending on the later of:

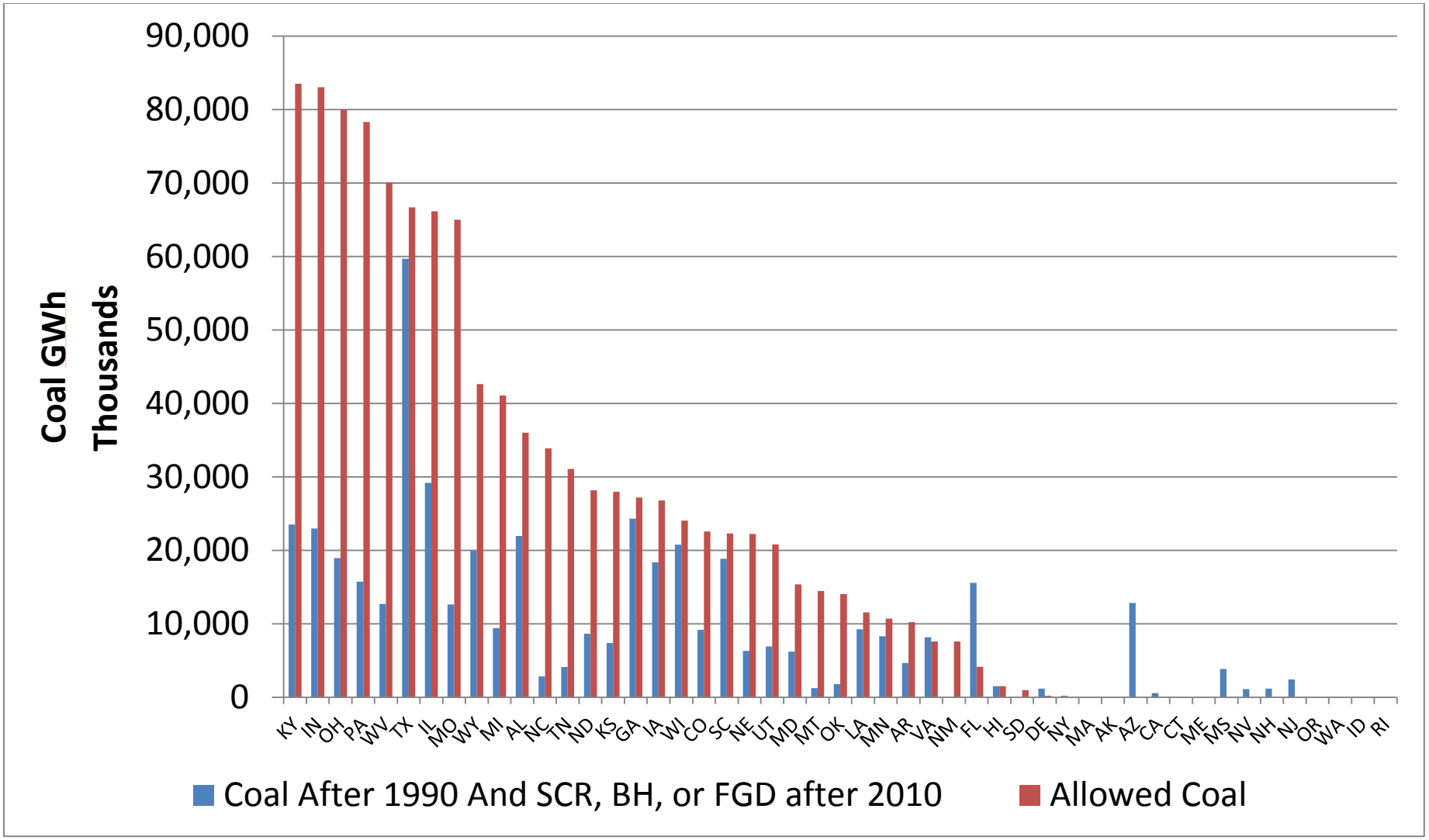
- 40 years after initial commencement of operation of the EGU; or
- 20 years after commencement of operation of significant air pollution controls.

For most plants, significant air pollution controls would consist of selective catalytic reduction systems (SCR), baghouses or flue gas desulfurization (FGD) systems. For small utilities, as defined by the Federal Energy Regulatory Commission (FERC), significant air pollution controls would also include selective non-catalytic reduction systems (SNCR) or electrostatic precipitators (ESP).

As noted in SRP's comments, this stranded investment exclusion would affect only those states where the amount of generation with book life remaining in 2030 exceeds the amount of redispatch assumed in building block 2. Figure 3-5 of SRP's comments, prepared by the Brattle Group, provides a graph identifying these states:

[2] 79 Fed. Reg. 64543, 64549 (Oct. 30, 2014).

[3] ADEQ believes that this is the appropriate cut-off date, since full compliance with the final rate-based goal is required beginning in 2030. In addition, this was the cut-off date used in the analysis by the Brattle Group reflected in Figure 3-5 of SRP's comments. ADEQ understands that AUG may propose an alternative date and would support any reasonable proposal (e.g. January 1, 2029, December 31, 2031) but prefers January 1, 2030.


Coal GWh
Thousands
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
KY IN OH PA WV TX IL MO WY MI AL NC TN ND KS GA IA WI CO SC NE UT MD MT OK LA MN AR VA NM FL HI SD DE NY MA AK AZ CA CT ME MS NV NH NJ OR WA ID RI
Coal After 1990 And SCR, BH, or FGD after 2010
Allowed Coal

The red bars reflect the amount of coal-fired generation that remains after application of BB2. The blue bars show the amount of generation that would be excluded from redispatch under the proposal. The proposal would only affect the goals in the eight states where the blue bar is higher than the red bar: Arizona, California, Delaware, Florida, Mississippi, Nevada, New Hampshire and New Jersey.

In the Appendix to these comments, ADEQ has used the Brattle data to calculate the approximate impact of the stranded investment exclusion on total CO_2 emissions. The results are summarized in the following table:

Alternative	**Basline CO2 Emissions (tons CO2)**	**Post-Redispatch Emissions (tons CO2)**	**Emissions Reduction from Redispatch (tons CO2)**	**% Reduction**
Proposal	2,152,655,140	1,822,759,902	329,895,237	15%
Stranded Investment Exclusion	2,152,655,140	1,844,305,285	307,781,580	14%

Thus, in terms of the number of states affected and the total amount of CO2 reductions achieved, the impact of the proposal would be minimal.

It should be noted that the Brattle data did not account for small utility EGUs that would be excluded from redispatch due to the installation of SNCR or ESP. ADEQ is aware, however, that Apache Unit 3 would qualify for the exclusion on that basis and took that into account in calculating the impact of the proposal. ADEQ does not believe that excluding small utility EGUs in other affected states would have a substantial impact on the CO_2 reductions achieved.

Under the proposal, Arizona's final goal would be 955 lbs CO_2/MWh, rather than the 702 lbs CO_2/MWh originally proposed in the CPP. The 34 % reduction in rate required of Arizona would still be substantial and would represent significant progress toward reducing greenhouse gas emissions. At the same time, it would be much more reasonable and equitable, when compared to the reductions required of other states, than the 52 % reduction required in the CPP proposal.[4] It would also be much more

[4] For example, it would bring Arizona's required rate reduction in line with the percentage reductions required in the other Four Corners states and our neighbor, Nevada:

CO: 35.4% reduction (2030 goal = 1,108 lb/MWhr)
NM: 34.0% reduction (2030 goal = 1,048 lb/MWhr)
NV: 34.5% reduction (2030 goal = 647 lb/MWhr)
UT: 27.1% reduction (2030 goal = 1,322 lb/MWhr)

http://www.azdeq.gov/environ/air/download/Energy_Mix.pdf (original source was EPA's maps).

consistent with EPA's stated goal of establishing "reasonable rather than maximum possible implementation levels" for each building block.[5]

III. Using Book Life to Schedule Redispatch During the Interim Period

ADEQ agrees with the AUG proposal to use remaining book life to schedule redispatch in calculating the interim goal. EPA could either take book life into account itself or allow states to do so in calculating state-specific goals. ADEQ also believes the AUG proposal to allow the states to establish EGU-specific redispatch or re-firing dates by permit or rule is reasonable.

As an alternative, EPA could, as suggested in ADEQ's previous comments, adopt a linear glide path for BB1 and BB2 that is consistent with the 10-year glide path provided for BB3 and BB4. The Appendix provides examples of what a linear glide path, combined with the other proposals in these comments, might look like.

IV. Using Section 111(b) Rate to Calculate BB2 Reductions

ADEQ agrees with SRP's comment that the state-specific emission factors used to calculate the NGCC component of the baseline and goal rates is inconsistent with "EPA's analysis regarding emission rate capabilities for new, highly efficient units under section 111(b)." In all but three states, EPA's method assumes that *existing* NGCCs will emit CO_2 at a lower rate than the lowest standard (1,000 lbs CO_2/MWh) for *new* NGCCs.

The Appendix calculates the impact of combining the stranded investment exclusion with an assumed NGCC rate no lower than 1,000 lbs CO_2/MWh. The following table summarizes the results:

Alternative	**Basline CO2 Emissions (tons CO2)**	**Post-Redispatch Emissions (tons CO2)**	**Emissions Reduction from Redispatch (tons CO2)**	**% Reduction**
Proposal	2,152,655,140	1,822,759,902	329,895,237	15%
Stranded Investment Exclusion	2,152,655,140	1,844,873,560	307,781,580	14%
Exclusion + NGCC 1000	2,152,655,140	1,939,138,155	213,516,985	10%

[5] 79 Fed. Reg. at 34859.