The EPA Acting Assistant Administrator for Air and Radiation, Janet McCabe, signed the following notice on October 27, 2014, and EPA is submitting it for publication in the Federal Register (FR). While we have taken steps to ensure the accuracy of this Internet version of the rule, it is not the official version of the rule for purposes of compliance. Please refer to the official version in a forthcoming FR publication, which will appear on the Government Printing Office's FDSys website (http://gpo.gov/fdsys/search/home.action) and on Regulations.gov (http://www.regulations.gov) in Docket No. EPA-HQ-OAR-2013-0602. Once the official version of this document is published in the FR, this version will be removed from the Internet and replaced with a link to the official version.

6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[EPA-HQ-OAR-2013-0602; FRL-9918-53-OAR]

RIN 2060-AR33

Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units

AGENCY: Environmental Protection Agency.

ACTION: Notice of data availability.

SUMMARY: The Environmental Protection Agency (EPA) is issuing this notice of data availability (NODA) in support of the proposed rule titled "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," which was published on June 18, 2014. In this document, the EPA is providing additional information on several topics raised by stakeholders and is soliciting comment on the information presented. The three topic areas are the emission reduction compliance trajectories created by the interim goal for 2020 to 2029, certain aspects of the building block methodology, and the way state-specific carbon dioxide (CO_2) goals are calculated.

DATES: Comments must be received on or before December 1, 2014.

ADDRESSES: Comments. Submit your comments, identified by Docket

ID No. EPA-HQ-OAR-2013-0602, by one of the following methods:

Federal eRulemaking portal: http://www.regulations.gov. Follow the online instructions for submitting comments.

Email: A-and-R-Docket@epa.gov. Include Docket ID No. EPA-HQ-OAR-2013-0602 in the subject line of the message.

Facsimile: (202) 566-9744. Include Docket ID No. EPA-HQ-OAR-2013-0602 on the cover page.

Mail: Environmental Protection Agency, EPA Docket Center (EPA/DC), Mail code 28221T, Attn: Docket ID No. EPA-HQ-OAR-2013-0602, 1200 Pennsylvania Ave., NW, Washington, DC 20460.

Hand/Courier Delivery: EPA Docket Center, Room 3334, EPA WJC West Building, 1301 Constitution Ave., NW, Washington, DC, 20004, Attn: Docket ID No. EPA-HQ-OAR-2013-0602. Such deliveries are accepted only during the Docket Center's normal hours of operation (8:30 a.m. to 4:30 p.m., Monday through Friday, excluding federal holidays), and special arrangements should be made for deliveries of boxed information.

Instructions: All submissions must include the agency name and Docket ID number (EPA-HQ-OAR-2013-0602). The EPA's policy is to include all comments received without change, including any personal information provided, in the public docket, available online at http://www.regulations.gov, unless the comment includes information claimed to be Confidential Business

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Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through http://www.regulations.gov or email. Send or deliver information identified as CBI only to the following address: Ms. Amy Vasu, c/o OAQPS Document Control Officer (C404-02), Office of Air Quality Planning and Standards, U.S. EPA, Research Triangle Park, North Carolina 27711, Attention Docket ID No. EPA-HQ-OAR-2013-0602. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on a disk or CD-ROM that you mail to the EPA, mark the outside of the disk or CD-ROM as CBI and then identify electronically within the disk or CD-ROM the specific information you claim as CBI. In addition to one complete version of the comment that includes information claimed as CBI, you must submit a copy of the comment that does not contain the information claimed as CBI for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR Part 2.

The EPA requests that you also submit a separate copy of your comments to the contact person identified below (see **FOR FURTHER INFORMATION CONTACT)**. If the comment includes information you consider to be CBI or otherwise protected, you

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should send a copy of the comment that does not contain the information claimed as CBI or otherwise protected.

The www.regulations.gov website is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through http://www.regulations.gov, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption and be free of any defects or viruses.

Docket: All documents in the docket are listed in the http://www.regulations.gov index. Although listed in the index, some information is not publicly available (e.g., CBI or other information whose disclosure is restricted by statute). Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials

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are available either electronically in http://www.regulations.gov or in hard copy at the EPA Docket Center, EPA WJC West Building, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding federal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742. Visit the EPA Docket Center homepage at http://www.epa.gov/epahome/dockets.htm for additional information about the EPA's public docket.

In addition to being available in the docket, an electronic copy of the proposed rule is posted on the World Wide Web (WWW) at: http://www2.epa.gov/cleanpowerplan/.

FOR FURTHER INFORMATION CONTACT: Ms. Amy Vasu, Sector Policies and Programs Division (D205-01), U.S. EPA, Research Triangle Park, NC 27711; telephone number (919) 541-0107, facsimile number (919) 541-4991; email address: vasu.amy@epa.gov or Ms. Marguerite McLamb, Sector Policies and Programs Division (D205-01), U.S. EPA, Research Triangle Park, NC 27711; telephone number (919) 541-7858, facsimile number (919) 541-4991; email address: mclamb.marguerite@epa.gov.

SUPPLEMENTARY INFORMATION:

Organization of This Document. The information presented in

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this document is organized as follows:

I. Background
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II. Stakeholder Input on Select Topics in the Proposed Rule
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C. Implementation of the Goal-Setting Equation
III. Topics Upon Which the EPA is Soliciting Additional Comment
A. The 2020 to 2029 Glide Path
B. Certain Aspects of the Building Block Methodology
C. Implementation of the Goal-Setting Equation

I. Background

A. Proposed Clean Power Plan

Under the authority of Clean Air Act (CAA) section 111(d), on June 18, 2014, the EPA proposed emission guidelines for states to follow in developing plans to address greenhouse gas (GHG) emissions from existing fossil fuel-fired electric generating units (EGUs) (79 FR 34830). The proposed rule, which we refer to as the Clean Power Plan, would continue progress already underway to lower the carbon intensity of power generation in the United States (U.S.). Lower carbon intensity means, for each megawatt-hour (MWh) of generation, fewer emissions of CO_2, which is a potent greenhouse gas that contributes to climate change. The proposal incorporates critical elements that reflect the information and views shared during what stakeholders have called an unprecedented effort by

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the EPA, beginning in the summer of 2013, to interact directly with, and solicit input from, a wide range of states and stakeholders. This effort encompassed several hundred meetings across the country with, among others, officials in state environmental and energy agencies, as well as public utility commissions; entities in the electricity sector, including utilities, generators, and system operators; and tribal governments, industry, citizens groups and members of the public. Many participants submitted written material and data to the EPA as well.

B. Purpose of the NODA

Since publication of the proposal on June 18, 2014, the EPA has held public hearings and has continued outreach to stakeholders. During the week of July 29, 2014, the EPA conducted eight days of public hearings in four cities. Over 1,300 people shared their thoughts and ideas about the proposal, and over 1,400 additional people attended those hearings. Agency officials have also continued to engage with states and stakeholders through meetings, webinars, and conference calls.

The agency has heard a broad range of questions, concerns, and constructive suggestions from stakeholders on how the proposed rule could be improved. Many of these comments and suggestions relate to the array of alternatives presented in the

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proposed rule. This document is not intended to address all of the many issues that have been raised; we will summarize and respond to all comments in the final rule. Rather, the purpose of this document is to describe and seek comment on several ideas raised by multiple stakeholders that may go beyond those for which the agency sought comment in the June 18, 2014 proposal. By issuing this notice, we are ensuring that other stakeholders and the public have the opportunity to consider these ideas as they formulate their own comments on the proposal. In section II, we describe the specific issues and ideas raised by stakeholders and explain which of those ideas we consider to be within or possibly beyond the scope of comment already requested. In section III, we further discuss the approaches stakeholders have suggested which go beyond the June 18, 2014 proposal and on which we are seeking comment through this document.

The purpose of this document is to bring these ideas to the attention of other stakeholders and the public and provide commenters with a sense of the way in which the EPA believes these ideas relate to determining the best system of emission reduction (BSER) so that they have the opportunity to consider these ideas as they are formulating their comments on the proposal.

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It should be noted that the topics discussed in the NODA interact with each other and some of them could have the effect of increasing the stringency of the BSER as reflected in each state's target, while others could have the impact of decreasing it. The effect of the ideas presented here may have different impacts in different states, increasing the stringency of the BSER as expressed in the state goals in some states while decreasing it in others. The EPA welcomes comment specifically on the potential changes identified in this document in terms both of the rationale for these changes and of their effects on the stringency of the state goals, as well as the ways in which the potential changes interact with each other.

C. Overview of Topics Discussed in this NODA

Since the June 18, 2014 proposed rule, the EPA has received feedback on a wide range of topics. This feedback includes comments from a significant number of stakeholders that may go beyond the scope of what the EPA originally took comment on in the proposal. The EPA would like to identify these ideas for other stakeholders and the public so that all stakeholders and the public are made aware of these ideas and have the opportunity to comment on them. The topics that the EPA is seeking additional comment on are: the compliance trajectory or glide path of emission reductions from 2020 to 2029, certain

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aspects of the building block methodology, and the way the state-specific CO_2 goals are calculated. These issues are described briefly here and discussed in more detail in sections II and III of this document.

Some stakeholders have expressed concern that, as proposed, the interim goals, which govern emission reductions over the 2020-2029 period, do not provide enough flexibility for some states - specifically, states in which building block 2 results in large amounts of the overall required CO_2 reductions relative to other building blocks - to choose measures other than relying heavily on re-dispatch from fossil steam generation (e.g., coal-, oil-, or gas-fired boilers) to natural gas combined cycle (NGCC) units to achieve the required reductions. Further, they have expressed concern that this effect of the interim goals severely limits the opportunity to fully take advantage of the remaining asset value of existing coal-fired generation. Some stakeholders have even suggested that the interim goals would force retirements of coal plants that could make unexpected events such as last winter's polar vortex more challenging to address. As reflected in the proposal, in a world impacted by climate change, such severe weather events are likely to become more frequent. The agency is seeking to ensure that, consistent with the BSER, the overall framework that we have proposed

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includes sufficient flexibility, particularly with respect to time and emission reduction strategies in meeting the required emission goals, to allow states and sources to readily respond to unexpected changes or demands on the system, such as severe weather. This flexibility also reflects consideration of cost (which could, in part, be reflected in concerns about stranded assets).

In section II.A, the EPA discusses these concerns in more detail, as well as two alternate approaches that have been suggested by stakeholders. We also explain that the original proposal already requests comment on one of these alternative approaches - achieving some reductions earlier than 2020 to allow for a more gradual reduction of emissions between 2020 and 2030. In section III.A, we discuss and solicit comment on another approach offered by stakeholders - the concept of phasing in the reductions required under building block 2 over time, just as reductions required under building blocks 3 and 4 are phased in over time.

Stakeholders, including states, have also noted concerns with the methodology used for the individual building blocks, particularly building blocks 2 and 3. With respect to building block 2, stakeholders have offered a range of views. Some have commented that this component should be less stringent (i.e.,

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require shifting less utilization from existing coal-fired units to existing NGCC units), some have offered that it should be more stringent (i.e., require shifting more utilization from existing coal-fired units to existing NGCC units), and others have offered that it should be more stringent in some states and less stringent in other states. Some stakeholders have also noted that they believe the higher levels of utilization of existing NGCC units proposed for building block 2 are not feasible in the early years of the 2020-2029 compliance period due to infrastructure constraints and recent significant capital investments at some existing coal-fired units.

Other stakeholders have suggested that focusing solely on increasing utilization of existing NGCC units ignores opportunities for emission reductions from the use of natural gas from states that are not already using natural gas for electricity generation.

With respect to renewable energy (RE), stakeholders have expressed concern about the discrepancy between setting targets based on in-state renewable assets or resources while allowing other states that import renewable energy to count certain amounts of that generation toward their compliance. Some have also expressed concern that the approaches proposed with respect to renewable energy impose greater stringency on states that

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have already taken action to promote and deploy renewable energy. With respect to nuclear facilities and generation, stakeholders have raised concerns about a variety of aspects of including nuclear power in the goal-setting equation.

In section II.B of this document, the EPA discusses these concerns in more detail, describes alternative approaches put forward by stakeholders and identifies which of these alternative approaches the EPA requested comment on in the original proposal. In section III.B, we discuss and solicit comment on additional concepts stakeholders have suggested for addressing concerns with the methodology used for building blocks 2 and 3. In particular, the EPA requests comment on ways that building block 2 could be expanded to include new NGCC units and natural gas co-firing in existing coal-fired boilers and ways that state-level RE targets could be set based on regional potential for renewable energy. Although a number of stakeholders have also commented that building block 1 is too stringent, we are not discussing it at length in this document because we have already requested comment on this in the June 18, 2014 proposal. Comments that stakeholders have offered on the treatment of nuclear power are also covered in the June 18, 2014 proposal and, therefore, we do not believe that it is

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necessary to request additional comment on those ideas in this document.

Stakeholders, including states, have also noted concerns with the way the state-specific CO_2 goals are calculated. These include concerns that the numeric formula for calculating each state's goal is not consistent in its application of the best system of emission reduction (BSER) for building block 2, as compared with building blocks 3 and 4, and concerns with the use of data for the single year 2012. In section II.C, the EPA discusses these concerns in more detail, describes alternatives noted by stakeholders and explains that the original proposal requests comment on some of the potential alternatives suggested by stakeholders. In section III.C we discuss and solicit comment on two ideas suggested by stakeholders: alternative approaches for the goal-setting equation and alternative uses of data in calculating the goals.

This document is not intended to be a complete summary of the wide variety of ideas that have been raised. The agency has heard many other concepts that are not highlighted in this document because they are covered in the June 18, 2014 proposal.

II. Stakeholder Input on Select Topics in the Proposed Rule

In this section, the EPA explains some of the concerns, and ideas to address those concerns, that have been raised by

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multiple stakeholders. We also explain how some of those ideas have already been addressed in the June 18, 2014 proposal and, in section III of this document, we identify the additional new ideas on which the agency is seeking comment.

A. The 2020 to 2029 Glide Path

Some stakeholders have expressed concern that the goal-setting methodology -- in particular, calculating the interim goals on the basis of achieving the shift in generation assumed under building block 2 by 2020 -- requires states to achieve such a significant portion of the required CO_2 emission reductions early in the interim period that it defeats the intended purpose of providing states flexibility in how they may achieve the required emission reductions. In addition, we have heard that there may be technical challenges associated with achieving all of the reductions that states would be required to make as early as 2020, when the interim period commences. Stakeholders also have expressed concerns that such a lack of flexibility would prevent them from taking advantage of more cost effective reduction strategies and from ensuring that the energy system can respond to severe weather events such as occurred during the polar vortex in 2014. The EPA is interested in considering additional stakeholder ideas, such as those regarding the 2020-2029 glide path, to ensure that the overall

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framework includes sufficient flexibility, particularly with respect to timing of and strategies for reducing emissions from the affected units so that states can develop cost-effective strategies, and states, utilities, grid operators and others can readily respond to unexpected changes or demands on the energy system, such as severe weather.

Stakeholders have suggested two ways of addressing these concerns. The first involves allowing credit for early CO_2 emission reductions that could be used to allow flexibility to defer additional CO_2 emission reductions until later in the 2020-2029 period. The second approach involves phasing in building block 2 over time, just as building blocks 3 and 4 are currently phased in.

1. Early Reductions

With regard to the suggestion that early reductions could be used as a way to ease the 2020-2029 glide path, the agency believes that the existing proposal provides both stakeholders and the EPA the latitude to consider this concept. In the proposed rule, the EPA requests comment on a range of possible approaches to this type of credit for early action (79 FR 34918-34919). In the first approach, full accounting of emission reductions continues to begin in 2020 but credit could be received for certain pre-2020 reductions that could be used to

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reduce the amount of reductions needed during the 2020-2029 period. The EPA also requests comment in the proposed rule on a second approach in which states could choose early (e.g., pre-2020) implementation of state goal requirements, which could provide states with the ability to achieve the same amount of overall emission reductions but do so by making some reductions earlier (79 FR 34919). The EPA recognizes that some measures may take longer than 2020 to implement, while others can be, and are being, implemented more quickly. Implementation of any of these ideas would allow states or sources to include such reductions in their compliance strategies in lieu of achieving the full measure of reductions otherwise required in 2020 to meet the interim goal, and would thereby result in states and/or sources being able to phase in these reductions.[1] It may be possible for at least some states to take advantage of these approaches by, for example, taking advantage of RE and demand-side energy efficiency (EE) projects already under development and scheduled to be implemented prior to 2020 or by expediting other projects

[1] It should be noted that, in the June 2014 proposal, the EPA recognized that programs that are implemented between 2015 and 2020, to the extent that they continue to generate low- or zero-carbon in 2020 and beyond, are beneficial, even in the absence of crediting such emission reductions toward compliance in 2020 because states possessing these programs will be better positioned to comply beginning in 2020 (79 FR 34918).

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currently scheduled to be implemented after 2020. The EPA is interested in these and other ways to ensure that states continue the progress they are making to reduce CO_2 from the power sector prior to 2020 and that this rule does not create disincentives for those pre-2020 actions.

2. Phasing in Building Block 2 and a More Gradual Glide Path

Some stakeholders have stated that significant shifts of generation away from coal-fired generators to NGCC units (as calculated under building block 2 and illustrated in the Regulatory Impact Analysis (RIA) in support of the June 18, 2014 proposal) will be difficult for some states to achieve by 2020 as a result of technical, engineering, and infrastructure limitations or other considerations, and may limit cost-effective options for emission reductions. According to these stakeholders, these concerns exist even though the proposal does not require all emission reductions to be achieved in 2020, but rather provides that the interim goal can be met on an average basis for the 2020-2029 period.

In the proposal, the EPA determined that emission reductions are feasible and achievable at fossil fuel-fired steam EGUs by shifting from more carbon-intensive EGUs to less

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carbon-intensive EGUs, as part of the BSER.[2] More specifically, the EPA concluded that, by shifting generation from fossil fuel-fired steam units (which are primarily coal-fired) to NGCC units, up to a utilization of 70% could be achieved by 2020, as part of building block 2 and for purposes of establishing state goals. In contrast, in the approach to building blocks 3 and 4, the EPA concluded that reductions in CO_2 emissions from fossil fuel-fired units associated with increased utilization of RE and EE would be achievable on a phased-in basis between 2020-2029, reflecting the necessary time needed for deployment (79 FR 34866).

We note that the design of the guidelines makes clear that states are not required to reach their targets using precisely the building blocks that EPA used to determine each state's goal. Nevertheless, some stakeholders have expressed concern that it may not be feasible to ensure significantly higher levels of utilization for existing NGCC units that might be required in order to meet the interim state goals because of the time required to improve natural gas pipeline infrastructure in some states, as well as other factors. Stakeholders have also stated that, while some coal-fired units have recently been

[2] See 79 FR 34862 for a discussion of the BSER analysis of building block 2.

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constructed and many have received significant capital investment (e.g., in the form of pollution control retrofits), some states' interim goals could not be achieved unless these units stop operating by 2020. According to stakeholders, this concern particularly applies for states that have both significant amounts of steam generation and significant amounts of existing NGCC capacity that is not currently being operated at high levels of utilization. While the EPA solicited comment in the proposal broadly on the proposed start date of 2020 (79 FR 34902), the proposal does not discuss specific potential rationales for phasing in dispatch changes under building block 2. Therefore, in this document, the EPA is explicitly requesting comment on that topic. More detail on specific suggestions we have heard from stakeholders is provided in section III.B of this document.

B. Certain Aspects of the Building Block Methodology

While the agency has already received significant feedback on all four building blocks, there are specific comments and concerns regarding particular aspects of the way in which building blocks 2 and 3 were designed that may not have been fully evident in the original proposal and that commenters may want to consider as they prepare their comments.

1. Stringency of Building Block 2

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With regard to the ultimate stringency of building block 2 (dispatch changes among affected EGUs), stakeholders have offered a wide range of views, with some suggesting that building block 2 should be less stringent, others suggesting that it should be more stringent and still others suggesting changes that could make it more stringent in some states and less stringent in others. Some stakeholders have expressed concerns that it might not be possible for all NGCC units to operate at capacity factors of 70%. Other stakeholders have raised concerns that, with respect to states with large amounts of steam generation, the proposed approach to building block 2 creates significant disparities in state goals between those states with little or no NGCC generating capacity and those with significant amounts of NGCC capacity not currently being used fully. Some stakeholders have also suggested that the EPA's BSER determination should recognize that there are additional opportunities to employ natural gas beyond what the EPA included in the proposed rule: the construction and/or increased utilization of new NGCC units and additional co-firing of natural gas at existing fossil steam units.

In the proposed rule, the EPA invited comment on whether the BSER should include: 1) increasing utilization of NGCC units that are under construction, from an expected capacity factor of

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55% to 70% (reflecting a 15% increase), and displacing generation from fossil fired-steam units by an equivalent amount (79 FR 34876); and 2) co-firing with natural gas (79 FR 34875). In the proposed rule, the EPA also discussed the opportunity to reduce CO_2 emissions at affected EGUs by means of the addition, and greater operation, of new NGCC units (i.e., beyond what is currently under construction). The agency also solicited comment on whether new NGCC units should be included as part of the BSER, and how to define state-level goals based on consideration of new NGCC deployment (79 FR 34876-77).

While the agency requested comment on the use of co-firing of natural gas and the inclusion of new NGCC units, a number of stakeholders have suggested that building block 2 should not focus purely on re-dispatch, but instead should focus more comprehensively or holistically on the use of natural gas as a means of reducing CO_2 from the power sector. This concept may go beyond ideas raised in the original proposal; therefore, the EPA invites comment on this idea, as discussed in section III.B.1 of this document.

It is also worth noting that, although the EPA calculated the proposed state goals on the basis of applying building block 2 on a state-by-state basis (under which generation from fossil fuel-fired steam units within the state is shifted to NGCC units

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within the state), the EPA also invited comment on whether building block 2 should be applied on a regional basis, under which generation from fossil fuel-fired steam units within a region is shifted to NGCC units within the region (79 FR 34865, 34899). The EPA is noting this idea to alert commenters to the fact that it might be another possible mechanism for addressing stakeholders' concerns about the disparity of the impact of building block 2 between states that have already invested significantly in developing NGCC generation and those that have not.

2. Methodology for Building Block 3 and How Building Block 3 Targets Relate to Compliance Options

Stakeholders have noted concerns both with the treatment of renewable generation and the treatment of nuclear generation in building block 3.

a. Approaches for RE target setting. Stakeholders have raised concerns regarding the renewable energy target-setting component of building block 3, specifically what they describe as a potential misalignment between estimating each state's target based on in-state renewables while allowing use of out-of-state

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renewables for compliance with state goals.[3] Stakeholders have expressed interest in a target-setting methodology that takes into account interstate exchanges of RE in the calculation of state goals, on the premise that such an approach would better align with existing state RE policies and potential claims on a given state's RE generation by parties from other states (such as renewable energy certificates and power purchase agreements). This feedback has been received both from states that are net suppliers of RE generation to other states and from states that are net consumers of RE generation produced in other states. Some stakeholders have highlighted that the state physically hosting the RE generation in question approved its siting, issued its permits, and may make other claims as to having supported its development and operation and, thus, has a stake in such renewable resources. Other stakeholders have raised concerns that, due to dynamics of the target-setting calculations related to the in-state nature of targets, the RE target-setting approaches in the June 2014 proposal may require substantially more RE development from states that have already invested considerably in RE while requiring less from states

[3] While the June 2014 proposal included two different approaches for quantifying RE targets to inform state goals, both approaches premised RE targets on in-state generation potential.

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that have not put significant effort into developing RE resources. Some stakeholders suggest that better aligning goal-setting to probable compliance approaches may mitigate some of these potential concerns.

The June 2014 proposed rule included two approaches for RE target-setting. The approach that the EPA proposed established state RE targets premised upon an average of state RPS requirements across states in certain regions (see 79 FR 34866-34869 and Chapter 4 of the technical support document (TSD) titled "GHG Abatement Methods," Docket ID No. EPA-HQ-OAR-2013-0602-17180). The EPA also requested comment on an alternative approach that used a state-by-state determination of RE targets, based on technical and market potential (see 79 FR 34869-34870 and "Alternative RE Approach Technical Support Document," Docket ID No. EPA-HQ-OAR-2013-0602-0458).

Both of these approaches focused on the ability to develop renewable generation within a state. At the same time, the EPA proposed that, for compliance, a state could take credit for any RE generation that was related to an enforceable measure in its state, whether that generation originated in its state or in another state. This approach was designed to reflect the nature of existing state policy that allows for compliance with out-of-state generation, such as renewable energy standards (RES).

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The proposed rule acknowledged the interstate nature of the electricity system (79 FR 34921-34922), while focusing requests for comment on alternative state plan options that could help states better align interstate RE measures and related emission reductions in their plan with the proposed in-state RE targets that informed their goal.[4] These options included:

1) allowing states to participate in multi-state plans to distribute the CO_2 emission reductions among states in the multi-state area equivalent to the total CO_2 emission reductions of each state's in-state emission reductions from RE measures, or to jointly demonstrate RE-related emission performance, which would make distribution of RE impacts unnecessary (note that these plans may be limited to, for example, RE or RE and EE, or they may encompass all of the building blocks);
2) allowing states to take into account only RE generation related to emission reductions occurring in-state; and
3) allowing a state to take credit for out-of-state emission reductions related to RE generation only if the

[4] There is also an extensive discussion of interstate effects and related compliance strategies in section VII of the TSD titled "State Plan Considerations," Docket ID No. EPA-HQ-OAR-2013-0602-0463.

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state demonstrates that the generation will not also be credited by the other relevant state(s).

Some stakeholders have suggested a different way to align state goal setting and state compliance through adjusting the state goal-setting method. Consistent with the proposed idea that states could take credit for renewables developed in other states if they were attributable to state policies such as RES programs, these stakeholders have suggested that state targets could be developed by defining regional RE targets, then assigning shares of those regional targets to individual states within the region. We believe this idea lies beyond the scope of the June 18, 2014 proposal; thus, we are sharing this idea more broadly and requesting comment on this idea, which is discussed in more depth in section III.

b. Inclusion of nuclear units in building block 3. Stakeholders have provided numerous suggestions about inclusion of nuclear power in the calculation of state goals and as a compliance option. The EPA believes that the topics that stakeholders, including states, have raised related to whether to, and if so, how to, include nuclear units that are currently under construction and at-risk existing nuclear capacity in the calculation of goals are covered in the original proposal (79 FR 34870-34871). We are carefully considering stakeholders comments

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on these topics and others for which we requested comment in the June 18, 2014 proposal.

C. Implementation of the Goal-Setting Equation

1. Goal-Setting Equation

Some stakeholders have raised concerns that the numeric formula for calculating each state's goal is not consistent in its application of the BSER for building block 2, as compared with building blocks 3 and 4. They state that the goal calculation for building block 2 not only reflects an increase in less carbon-intensive generation, but also applies an equal downward adjustment to each state's total existing fossil steam generation level in 2012, reflecting a generation shift away from higher-emitting fossil steam generation and toward lower-emitting NGCC generation. The result is that total generation is held constant, with only the mix of more and less carbon-intensive generation changing.[5] In contrast, they state, the approach in the proposal for incorporating building blocks 3 and 4 in the goal calculations does not reflect shifting generation away from fossil units because the total amount of generation is increased (including "megawatts" from EE as "generation")

[5] Note that, in states with under-construction NGCC units, the total fossil generation assumed in the proposed goal-setting equation exceeds the 2012 level due the 55% capacity factor assumed from these new sources.

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without any offsetting decrease in generation from 2012 fossil generation levels. Some stakeholders suggest that, by holding existing fossil generation at 2012 levels for purposes of goal calculation and estimating building blocks 3 and 4 independent of the interaction with those existing fossil generation levels, the state goals do not reflect the potential for added generation from building block 3 and avoided generation from building block 4 to shift generation away from existing fossil steam generation below the 2012 level and, therefore, do not reduce generation, and thus emissions, from affected fossil fuel-fired generation in keeping with the EPA's proposed approach to the BSER.

Since the EPA did not address this issue explicitly in the June 2014 proposal, the EPA discusses alternative approaches that have been suggested by stakeholders and solicits comment on these in section III.C of this document so that all stakeholders will have an opportunity to consider these ideas as they prepare their comments.

2. Alternatives to the 2012 Data Year

Since publication of the proposed rule, many states and other stakeholders have expressed concern over the use of 2012 as the single data year for calculating interim and final goals. Some states and stakeholders have identified anomalies with

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generation in their state or at their companies for 2012 that they believe make 2012 an inappropriate base year. At proposal, the EPA considered using average fossil generation and emission rate values over a longer period than a single year. As a result of the goal calculation methodology, the EPA determined that, on average, any potential changes to state goals using a multi-year base year would be minimal, and would result in increases for some states and decreases for others (see "Goal Computation Technical Support Document" at 4, Docket ID No. EPA-HQ-OAR-2013-0602-0460). Numerous stakeholders have expressed interest in obtaining Emissions and Generation Resource Integrated Database (eGRID) data for years prior to 2012 to foster comparison with results from the 2012 dataset. As is discussed further in section III.C.2 of this document, the EPA is making available the 2010 and 2011 eGRID data and requesting comment on the use of 2010 and 2011 data, in addition to 2012 data, in setting state-specific CO_2 goals.

III. Topics Upon Which the EPA is Soliciting Additional Comment

As discussed above, stakeholders, including states, have raised questions or concerns, and provided suggestions, regarding several topics that relate either to the EPA's determination of the BSER or to states' and sources' options for compliance with the rule requirements and, if addressed in the

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final rule, could result in changes to the stringency of the proposed emission rate-based CO_2 goals, at least for some states. The EPA is identifying these topics to ensure that all stakeholders have the opportunity to consider these topics as they comment on the proposal.

This document is not a comprehensive presentation of the issues raised by stakeholders or under consideration by the EPA. The issues presented here arise from the agency having heard concerns and suggestions raised about the stringency of the CO_2 goals; the timeframe required for complying with those goals and its potential impact on flexibility and cost; and unwanted effects that may arise from the differences between and among state goals. Potential changes to the rule based on any one of these issues could increase or decrease the stringency of the goals or shift stringency levels between and among states.

A. The 2020 to 2029 Glide Path

It was the EPA's intent in the proposal that, through the inclusion of a ten-year averaging period and other flexibility mechanisms, the interim goals would provide states with a reasonable glide path to compliance with their final goals by 2030. However, as noted in section II.A above, some stakeholders have expressed concerns with the approach that the EPA used to determine states' interim goals and have stated that,

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notwithstanding the flexibility provided in the proposal, significant shifts of generation away from coal-fired generators to NGCC units (as calculated under building block 2) will be necessary by 2020 and will be difficult for at least some states to reasonably achieve in that timeframe. To facilitate further consideration of these and other stakeholder concerns about the potential challenges associated with achieving all of the reductions that states may need to obtain as early as 2020, the EPA is seeking comment on two additional specific adjustments to the interim goal calculations, discussed below, that would allow for a more gradual phase-in of building block 2 during the 2020-2029 period.

With regard to the glide path, some stakeholders have also suggested that a phase-in of building block 1 would be appropriate. The EPA is also requesting comment on that idea.

Stakeholders have suggested at least two additional ways that a trajectory for a gradual phase-in could be developed to respond to their concerns. First, a phase-in schedule could be developed for building block 2 on the basis of whether, and to what extent, any additional infrastructure improvements (e.g., natural gas pipeline expansion or transmission improvements) are needed to support more use of existing natural gas-fired generation. To the extent that more infrastructure is needed,

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the methodology for building block 2 could be modified on the basis of how much utilization shift toward existing NGCC generation would be possible by 2020, by factoring in how quickly additional infrastructure could be developed to support any additional use of natural gas-fired generation by that date. This would result in two parameters, parallel to the way that building blocks 3 and 4 are implemented in the proposal. The first parameter would define an amount of utilization shift to existing natural gas that is feasible by 2020, and the second parameter would define how quickly that amount could grow until the full amount of natural gas utilization could be achieved as part of the BSER.

Second, building block 2 could be modified to respond to stakeholder concerns about the pace with which generation in some states may need to be shifted from higher-emitting to lower-emitting units. In particular, stakeholders have expressed a concern that shifting generation away from existing generating assets, particularly coal-fired EGUs, could, in some situations, result in limiting cost-effective options. As discussed in the proposal (79 FR 34925), due to the flexibility provided by the EPA's approach to establishing state goals, and the flexibility provided to states in developing plans to achieve those goals, the EPA believes that the proposal provides states the

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flexibility to specify appropriate requirements for individual EGUs, including coal-fired EGUs, taking into account the potential for stranded investments and other unit-specific factors. However, to the extent that stakeholders are concerned that the tools available to states under the proposal may, in some instances, be inadequate to address concerns regarding stranded investments, an additional way to address these concerns 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. For example, in its modeling, the EPA assumes a book life of 40 years for new coal-fired units.[6] The EPA requests comment on whether, and how, book life might be either used as part of the basis for the development of an alternative emission glide path for building block 2 or used to evaluate whether other ways of developing an alternative glide path (such as the phase-in approaches discussed above) would address stakeholders' stranded investment concerns. The EPA is providing this additional information, arising from stakeholder concerns, to

[6] IPM version 5.13 Documentation, Chapter 8, Financial Assumptions, available at: http://www.epa.gov/airmarkets/progsregs/epa-ipm/docs/v513/Chapter_8.pdf.

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allow additional continued engagement of stakeholders in the comment process.

It is also important to consider that changes to the structure of building blocks 2 and 3, as well as changes to the goal-setting equation discussed below in section III.D, would likely impact the glide path. The EPA continues to welcome other ideas on how to craft a glide path that offers states flexibility while still ensuring that they can achieve the final goals.

B. Certain Aspects of the Building Block Methodology

This section describes alternative approaches, including approaches based on regional considerations or allocations. In offering these stakeholder ideas for comment, the agency's intent is not to require regional plans. Rather, it is to respond to stakeholder concerns that currently proposed approaches could limit some states' flexibility in meeting the goals. To address this concern, the agency is offering additional stakeholder ideas that could support states' flexibility in achieving the goals. Under any of the approaches, each state would still have the option of submitting an individual CAA section 111(d) plan or of participating in a multi-state CAA section 111(d) plan.

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The EPA acknowledges that determining the component of the BSER related to shifting generation from fossil fuel-fired units to renewable units based on regional considerations or allocations among states could result in changes to state's goals relative to a non-regional approach. Furthermore, ultimate decisions about how a source may respond are dependent both on whether a state participates in a regional plan (which could effectively change the impact of the goals across the states involved) and on how a state assigns obligations to sources. The agency is also aware that how states decide to assign reduction obligations in their state plans, as well as a state's decision to develop an individual state plan or to participate in a regional plan, can play a significant role in how sources respond.

1. Stringency of Building Block 2

In section II.B.1 above, we identified stakeholder comments on the treatment of natural gas in building block 2 and described stakeholder suggestions for approaches that are covered in the June 2014 proposal. In this section, we further describe stakeholder comments and also present new approaches for the treatment of natural gas for which the agency is seeking comment. The EPA is providing this additional information,

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arising from stakeholder concerns, to allow additional continued engagement of stakeholders in the comment process.

Some stakeholders have raised concerns that, with respect to states with large amounts of steam generation, the proposed approach to building block 2 creates significant disparities in state goals between those states with little or no NGCC generating capacity, and those with significant amounts of NGCC capacity not currently being used fully. Stakeholders have also raised concerns that these disparities could result in distortions in regional electricity markets. Some stakeholders have suggested that these disparities could be reduced by increasing the obligation of those states with little or no NGCC generating capacity to employ natural gas beyond what the EPA included in the proposed rule, including the construction and/or increased utilization of new NGCC units and additional co-firing of natural gas at existing fossil steam units.

Greater use of new NGCC units or additional co-firing of natural gas at existing steam boilers could result in changes in natural gas use. Some have argued that if there is increased demand for natural gas for new NGCC units and/or co-firing, it could add upward pressure on natural gas prices. However, commenters may want to consider whether there are ways to incorporate new NGCC units and co-firing into the BSER that

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might not result in an overall increase in the amount of natural gas usage, For example, if the EPA adopts the type of more gradual glide path for building block 2 described above in section III.A, increases in natural gas use from new NGCC units and increased co-firing might leave the amount of overall natural gas use similar to what would result from what the EPA proposed in building block 2 (at least in the early years of the glide path).

Some stakeholders have suggested other reasons to consider new NGCC generation and natural gas co-firing as part of building block 2. They note that the incorporation of natural gas as part of the BSER should consider the cost and feasibility of the total amount of natural gas used, as opposed to the extent to which the gas is used for particular types of generation (i.e., existing NGCC generation, new NGCC generation, or co-firing). In the proposal, the EPA concluded that existing NGCC generation, which relies upon existing infrastructure, was the most cost-effective manner in which to base building block 2. However, there may be other important considerations that can shape the relationship of the BSER to natural gas consumption, such as the ability to build new infrastructure and the flexibility that co-firing could provide.

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These stakeholders note that this expanded approach would be more consistent with historic NGCC deployment, better reflect growing geographic availability of natural gas supply, contribute to expanded generation fuel diversity in states that currently have relatively little NGCC capacity, and offer more cost-effective emission reductions.

The EPA has identified one potential approach to accommodate these stakeholder suggestions about utilization of new NGCC generation or co-firing, especially in states with little or no existing NGCC capacity, to assist public engagement during the comment process and to solicit more specific comment. This approach would be to include an assumption about some minimum level of generation shift from higher-emitting to lower-emitting sources for all states containing some fossil steam generation in the state goals. In determining this minimum amount, it should be recalled that the proposal indicated a total amount of generation shift from fossil steam to NGCC generation assumed in building block 2 for each state.[7] The 2012 eGRID data, used for purposes of setting state goals, reflects the total generation for each state. Dividing the former by the

[7] See "Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for Existing Power Plants and Emission Standards for Modified and Reconstructed Power Plants" (June 2014). Docket ID No. EPA-HQ-OAR-2013-0602-0391 at 3-24.

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latter provides the percentage of each state's generation that is shifted from higher-emitting to lower-emitting sources. For example, on average, the states that are able to shift fossil steam generation to lower-emitting generation sources shift 55% of their fossil steam generation, on average, under the proposed approach. The lower quartile of these states shift approximately 12% of their fossil steam generation.[8]

The EPA solicits comment on whether to establish some minimum value as a floor for the amount of generation shift for purposes of building block 2, whether that shift takes the form of re-dispatch from steam generation to existing NGCC units, re-dispatch to new NGCC units, or co-firing natural gas in existing coal-fired boilers. The EPA also solicits comment on what that value should be, e.g., the lower quartile value of 12%, or any other value between 0 and the 55% average described above. To illustrate this minimum approach, if the lower quartile value

[8] This is based on the forty states that had: 1) NGCC capacity in 2012, and 2) some fossil steam generation from which shifting could occur. The 55% and 12% discussed here are non-weighted averages of the percentage fossil steam generation shift observed in each state, the nationwide percentage of fossil steam generation shift assumed was 28%. See "Goal Computation Technical Support Document," Docket ID No. EPA-HQ-OAR-2013-0602-0460, "Appendix 1 - State Goal Data and Computation," Docket ID No. EPA-HQ-OAR-2013-0602-0255, and "2012 Unit-level Data Using the eGRID Methodology," Docket ID No. EPA-HQ-OAR-2013-0602-0254.

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were used, a state with 100 MWh of fossil generation and no existing NGCC generation in 2012 would have a state goal premised on 12 MWh shifting from higher-emitting to lower-emitting NGCC generation.

The EPA also solicits comment on how this approach to add a minimum requirement for states that currently have little or no NGCC capacity should relate to the proposed approach that requires states with significant amounts of unused NGCC capacity to utilize up to 70% of that capacity. Note at the outset that the total nationwide amount of NGCC generation assumed under building block 2 is approximately 1,450 terrawatt-hours (TWh). Should the minimum generation shifts in states with little or no NGCC capacity be in addition to this total amount? Alternatively, should the total level of gas use for purposes of building block 2 be held the same? Under the latter approach, the amount of generation from states with higher amounts of NGCC capacity would be reduced in amounts equal to the additional NGCC generation applied to states with zero- or low-NGCC capacity states, for building block 2. This approach would further reduce the disparities between states with little or no NGCC capacity and those with significant amounts of NGCC capacity.

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Some stakeholders have made additional observations about natural gas co-firing, in response to the EPA's solicitation of comment in the proposed rulemaking (79 FR 34865). They have brought to the EPA's attention that there are some benefits associated with the co-firing of natural gas with coal that might make it a practical option for consideration in goal setting and compliance in lieu of, or in addition to, shifting from coal-fired steam generating units to NGCC units. For example, stakeholders point out that co-firing can reduce emissions of nitrogen oxides (NO_X); sulfur dioxide (SO_2); particulate matter; and hazardous air pollutants, including mercury. Co-firing could also reduce some portion of the costs related to control of these pollutants (depending on the extent of co-firing). Co-firing might also provide additional operational flexibility, particularly for coal-fired units that are regularly used at less than full load or that cycle regularly. Co-firing may allow units to ramp up and down more quickly, which could give a company the opportunity to take advantage of low fuel prices, when they occur, to achieve cost savings. Co-firing could allow additional time for implementation of strategies in state plans that have a lengthier implementation timeframe, such as building up a robust energy efficiency program. Further, co-firing could provide an

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opportunity to achieve emission reductions at existing higher-emitting units with relatively low levels of capital investment, thereby addressing companies' concerns about stranded assets. It should also be noted that utilities continue to announce conversions or plans to convert coal-fired steam boilers to natural gas.[9] We noted and requested comment on some, but not all, of these observations in the June 18, 2014 proposal (see 79 FR 34875-34876).

We are requesting comment on these aspects of the costs and potential benefits (or offsetting cost advantages) of co-firing natural gas at existing coal plants, to the extent they were not considered or presented for comment in the proposed rule, along with any other additional costs and potential benefits of such co-firing that could be considered in goal setting. In addition, we are requesting comment on other factors or variables that might affect the decision to use natural gas in co-firing at a particular unit (e.g., type, age, or size of a boiler), as well as factors that could limit the amount of co-firing that could be done. For units currently co-firing with natural gas, we

[9] "Coal unit retirements, conversions continue to sweep through power sector." M. Niven and N. Powell. SNL Financial, Charlottesville, VA. October 14, 2014. Accessed on 10/22/14 at: https://www.snl.com/InteractiveX/Article.aspx?cdid=A-29431641-13357.

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request comment on the benefits experienced and the extent to which co-firing is being done.

It should be noted that in its June 2014 proposal, the EPA stated that replacing fossil steam generation with new NGCC units and natural gas co-firing at existing fossil steam units may be considered the BSER for various reasons. New NGCC units and natural gas co-firing at existing fossil steam units may be considered part of a "system of emission reduction," in light of the broad definition of that phrase; for example, the affected sources can themselves undertake those actions (i.e., fossil steam generators may invest in new NGCC units and coal-fired steam generators may co-fire with natural gas); and steam generators may reduce their utilization, which, through the operation of the market, would lead to the construction of new NGCC capacity (see 79 FR 34885-90). In addition, replacing fossil steam generation with new NGCC units and natural gas co-firing at existing fossil steam units are "adequately demonstrated" in light of the extent to which they have already occurred.

As discussed above in section II.B, the June 2014 proposal already solicits comment on an alternative approach to addressing the concern that states with little existing natural gas infrastructure do not have the same opportunities to shift

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generation to lower-emitting NGCC units. We are highlighting this alternative approach from the June 2014 proposal so that stakeholders can consider whether this approach could address their concerns. Under this approach, regional availability of NGCC generation would be considered rather than just in-state availability of NGCC generation in setting building block 2 targets. Determining the appropriate levels of generation shift under building block 2 in a similar, regional manner -- using either the same regional structure as that defined by the EPA for the RIA of the proposed rule (i.e., six regions whose borders are informed by North American Electric Reliability (NERC) regions and Regional Transmission Organizations (RTOs))(79 FR 34865 n.142),[10] or some alternative regional structure -- could be another way to mitigate the concerns expressed by stakeholders that building block 2 has little or no effect on certain states with large amounts of coal-fired generation and limited excess NGCC capacity. The EPA seeks comment on the appropriate regional structure to use in such a

[10] See "Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for Existing Power Plants and Emission Standards for Modified and Reconstructed Power Plants" (June 2014) Docket ID No. EPA-HQ-OAR-2013-0602-0391 at 3-11; TSD on "GHG Abatement Measures" (June 2014), Docket ID No. EPA-HQ-OAR-2013-0602-0437 at 3-25.

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framework and the appropriate manner in which the goals could be derived and allocated among states.

2. Methodology for Building Block 3 and How Building Block 3 Targets Relate to Compliance Options

In section II.B.2 above, we identified stakeholder comments on the renewable energy target-setting component of building block 3 and described two methodological approaches for RE target-setting that are within the scope of the June 2014 proposal. In this section, we provide a conceptual discussion of a third methodological option for RE targets that some stakeholders have suggested and which we refer to here as a regionalized approach. This approach adjusts each state's RE target based on the RE potential available across a multi-state region in which the state is located. Under this approach, a state's goal would be informed by the opportunity to develop out-of-state RE resources as part of its state plan, and thus better align RE targets with the proposal to allow the use of certain out-of-state renewables for compliance, in accordance with stakeholder comments described in section II.B.2. This regionalized approach could group states into regions; aggregate RE generation potential across states within each region; and then reapportion the aggregate identified RE generation to individual states according to criteria that assume regional RE

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development in which parties in multiple states participate, regardless of the specific state where the generation occurs. One example of this type of regionalized approach would be grouping states into the regional structure shown in the June 2014 proposal[11] (79 FR 34866-34867); for each region, summing the RE target generation identified under the alternative approach in the June 2014 proposal for all states in that region; and then reallocating that summed generation proportionally to each state within that region by a chosen criterion, such as each state's share of total electricity sales within that region in 2012.[12] The EPA requests comment on this regionalized approach for RE target setting, and specifically on the reallocation criterion.

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[11] The regions were defined as follows, East Central: Delaware, District of Columbia, Maryland, New Jersey, Ohio, Pennsylvania, Virginia, West Virginia; North Central: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, North Dakota, South Dakota, Wisconsin; Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont; South Central: Arkansas, Kansas, Louisiana, Nebraska, Oklahoma, Texas; Southeast: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee; and West: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming. Alaska and Hawaii were considered as two individual regions. Because Vermont and the District of Columbia lack affected sources, no goals are being proposed for these jurisdictions.

[12] This criterion could be informed by publicly available data in 2012 Retail Sales of Electricity by State by Sector by Provider, as reported from EIA Form 861, available at: http://www.eia.gov/electricity/data/state/

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The agency also requests comment on several key methodological assumptions involved in this regionalized approach. First, the EPA requests comment on what the regional structure would be, as well as a justification for that structure. One option would be grouping states together that are currently involved in interstate RE exchanges and are likely to do so in the future, and would include a balance of states that are net suppliers and states that are net consumers of RE generation. We invite comment on how a potential regional structure for this regionalized RE approach could address these concerns.

Regional structures could be informed by NERC regions,[13] FERC Planning Regions,[14] RTOs,[15] current regional renewable energy credit tracking systems,"[16] or some other approach. We recognize

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[13] Further information is available at: http://www.nerc.com/AboutNERC/keyplayers/Pages/Regional-Entities.aspx.

[14] An illustrative map is provided on p. 4 of the document at the following link: http://www.ferc.gov/media/news-releases/2011/2011-3/07-21-11-E-6-presentation.pdf.

[15] Further information and an illustrative map are available at http://www.ferc.gov/industries/electric/indus-act/rto.asp.

[16] There are several renewable energy tracking systems that serve to issue and retire renewable energy credits (RECs) across regions in the U.S. More information, including an illustrative map, is available from the U.S. Department of Energy at http://apps3.eere.energy.gov/greenpower/markets/certificates.shtml?page=3.

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that some of these structures may need to be adjusted to conform to state boundaries for the purposes of informing state goals, and we invite comment on how to do so. In addition, some of these regional structures may yield isolated states, and we seek comment on whether these should be single-state regions or whether adjustments should be made to incorporate such states into multi-state regions. We also cite the regional structure used in the proposed target-setting approach and in compliance modeling as one example of a regional structure that could be used (79 FR 34866-34867). We noted above in section II.B.1, as well as in section III.B.1, that the June 2014 proposal sought comment on a regional approach to building block 2 and provided analysis using a structure informed by NERC regions and RTOs. It may be appropriate to use the same regional structure for building blocks 2 and 3, whether it is the one specified in the block 2 analysis or an alternative structure, particularly if transmission concerns are a primary driver of the structure. The EPA seeks comment on these regional structure considerations.

Second, the EPA requests comment on the criteria that should be used for reapportioning state RE targets within given regions, as well as a justification for those criteria. The agency believes that a useful criterion would provide a simple state-specific quantitative characteristic that reflects

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interstate patterns to develop RE potential at reasonable cost across a region. Total electricity sales in each state in 2012 is an example of a possible criterion. Another possible criterion is total generation in each state in 2012. The EPA requests comment on other possible criteria.

Third, the EPA requests comment on what components of the state RE targets should be regionalized under such an approach. For example, a regional approach may or may not apply to the entirety of each state's RE target from the alternative approach in the June 2014 proposal; the generation that would be reallocated across states in a given region may or may not include existing generation (as of 2012), incremental generation (beyond 2012 levels), or all types of RE generation (e.g., solar, wind) considered. In the June 2014 proposed rule, the EPA sought comment on the role of existing hydropower in target-setting (79 FR 34869), and we also request comment on whether a regionalized approach should or should not reallocate existing hydropower generation across states (even if all other types of RE generation are reallocated across states under a regionalized approach).[17]

[17] It should be noted that the EPA is not, in this document, addressing stakeholder comments concerning whether existing RE generation should be included in building block 3 or what types

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The EPA is requesting comment on the above approach, the extent to which the approach allows for states to address interstate RE concerns, and whether there are other ways to treat RE target-setting informing state goals that would take into account interstate effects. We are also still taking comment on the two approaches for RE target-setting specified in the June 2014 proposal. Finally, the EPA notes that there are a number of possible methodologies for using technical and economic renewable energy potential to quantify RE generation for purposes of state goals. The EPA invites comment on other possible techno-economic approaches.

C. Implementation of the Goal-Setting Equation

1. Goal-Setting Equation

As noted above in section II.C.1, stakeholders have raised concerns that the proposed numeric formula for calculating each state's goal is not consistent in its application of the BSER for incremental generation from existing NGCC units under

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of generation (e.g., hydropower) to include in existing RE or incremental RE, the possibility of a floor based on 2012 generation or the possibility of a limitation based on 2012 fossil fuel-fired generation – those issues are already clearly covered in the June 2014 proposal's request for comments and should be applied to this regionalized approach as well. Stakeholders are encouraged to provide input on these and other issues addressed in the proposal.

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building block 2, as compared with incremental RE generation and EE generation avoidance under building blocks 3 and 4. (For ease of reference, unless otherwise indicated, we refer to both incremental RE generation and incremental EE generation avoidance[18] as "incremental RE and EE.")[19] They state that, for building block 2, the formula subtracts 1 MWh of fossil steam generation and corresponding emissions from the 2012 baseline levels for every 1 MWh of incremental NGCC generation (subtracting emissions from the numerator and subtracting generation from the denominator of the goal calculation formula) (see 79 FR 34896 and "Goal Computation Technical Support Document," Docket ID No. EPA-HQ-OAR-2013-0602-0460, at 10-12). In the stakeholders' view, this approach reflects the assumption that incremental NGCC generation will supplant historical fossil steam generation levels.

In contrast, as the stakeholders also point out, the formula adds incremental RE and EE to 2012 baseline generation

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[18] EE avoidance is incorporated into the goal-setting formula as zero-emitting generation.

[19] This section discusses approaches for state goal calculations that focus specifically on the treatment of incremental RE generation and EE generation avoidance. The June 2014 proposal set out a methodology for state goal calculations that includes existing RE, and comments on that inclusion are within the scope of the proposal. The state goal calculation methods outlined in this section are independent of the treatment of existing RE.

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levels (in the denominator of that formula) but does not reduce the 2012 baseline levels of fossil generation (in the denominator of the formula) by that incremental RE and EE, or remove the corresponding emissions (in the numerator of that formula)(see 79 FR 34896 and "Goal Computation Technical Support Document," Docket ID No. EPA-HQ-OAR-2013-0602-0460, at 15-18). In the stakeholders' view, by holding existing fossil generation and the corresponding emissions at 2012 levels, and not reducing them based on the amounts of incremental RE and EE, the state goals fail to reflect the full potential, under the BSER, for incremental RE and EE to replace fossil steam generation. Instead, simply adding incremental RE and EE to the denominator, while making no equivalent subtraction from the 2012 levels of fossil generation and corresponding emissions, does not clearly indicate whether, and to what extent, that generation will replace existing fossil generation as opposed to future generation increases from existing sources.

Some stakeholders have suggested an alternative approach of applying generation from building blocks 3 and 4 to reduce fossil generation below 2012 levels in the goal calculation. They have stated that this alternative approach is more consistent with the treatment of generation under building block 2, while also achieving greater CO_2 reductions. They suggest that

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the alternative approach, in which incremental RE and EE explicitly replaces generation from fossil fuel-fired sources in the goal calculation, better represents the BSER by better reflecting the likely reductions in fossil generation (and corresponding reduction in emissions) that can be achieved by affected sources.[20]

The following subsections describe two different approaches for revising the state goal-setting formula to address this concern. These approaches are being shared more broadly to allow continued stakeholder engagement and to enhance the ability of stakeholders to submit substantive comments.

a. Replace all historical fossil generation on a pro rata basis. The proposed state goal-setting formula assumes a constant level of generation for total existing fossil generation greater than or equal to 2012 historical levels (i.e., the amount of fossil generation in the denominator of the state goal equation is greater than or equal to 2012 levels).[21] In the proposal,

[20] This alternative approach would be consistent with identifying, as part of the BSER, fossil generating sources replacing their historical generation levels with incremental RE and EE.

[21] Fossil generation in the formula is greater than 2012 historical levels in states where "existing" NGCC units were under construction during 2012 and, therefore, did not report generation in that year.

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incremental RE and EE was simply added to the denominator of the state goal formula. An alternative treatment of this incremental RE and EE would be to assume that it directly replaces 2012 fossil generation levels and the corresponding emissions on a pro rata basis across generation types (i.e., fossil steam and gas turbine). Although the incremental generation levels assumed for building blocks 3 and 4 would not change under this approach, this adjustment to the goal-setting formula would yield more stringent state goals.

Note that, under this alternative approach, the incremental RE would replace fossil steam and NGCC generation in proportion (i.e., pro rata) to their historical generation.

The incremental RE and EE is assumed to replace generation from existing fossil sources in both the goal-setting calculation approach in the June 2014 proposal and this alternative approach. However, these two approaches reflect two different interpretations of how this replacement occurs. Under the approach in the June 2014 proposal, incremental RE and EE could replace a generation increase from existing fossil sources that would otherwise occur after 2012, while under this alternative approach, incremental RE and EE could replace historical fossil generation below 2012 levels. The assumption is that the former of these two scenarios results in a smaller

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reduction in carbon intensity and, hence, a less stringent state goal than under the latter scenario. The former scenario also implicitly assumes significant increases in existing fossil generation beyond 2012 levels absent building block three or four.

This alternative approach would recognize a greater reduction potential in carbon intensity from incremental RE and EE, and it would be more closely analogous to the treatment of incremental NGCC generation identified under building block 2 (given that under the proposal, generation from building block 2 was assumed to reduce carbon intensity by replacing generation from 2012 levels). The rationale for this approach would be that the BSER for all fossil generation includes replacing that generation with incremental RE and EE. Moreover, this approach acknowledges that, taken by itself, such incremental generation would not necessarily replace the highest-emitting generation, but would likely replace a mix of existing fossil generating technologies.

b. Prioritize replacement of historical fossil steam generation. A second alternative approach would be similar to the one described above, but the adjustment would reflect incremental RE and EE first replacing *fossil steam* generation below 2012 levels rather than replacing *all fossil* generation on a pro rata basis.

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Subsequent to replacing fossil steam generation, if there were any remaining incremental RE or EE, it would replace gas turbine generation levels and the corresponding emissions. Therefore, the reduction in carbon intensity observed from this type of adjustment would be more than that estimated in the proposal's goal-setting formula and more than the alternative approach above, in section III.C.1.a, because incremental and avoided generation would replace generation from higher-emitting fossil steam sources first. The rationale for this alternative approach would be based on the view that, as part of the BSER, because fossil steam generation has higher carbon intensity, it should be replaced before NGCC generation.

By identifying the two alternative approaches above and providing more detailed data by which to assess them, the EPA is seeking additional engagement during the public comment process and supporting the ability of stakeholders to provide comment. The EPA is requesting comment on whether a formula change of this nature would better reflect the emission reduction potential from incremental RE and EE. In particular, the EPA is seeking comment on how the amount of incremental RE and EE in the June 2014 proposal relate to potential future generation increases from existing fossil sources. The EPA is also soliciting comment on approaches where some portion of such

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incremental generation is calculated to replace future increases in existing fossil generation with the remainder assumed to replace historical existing fossil generation. The EPA is also requesting comment on how to treat a state in which the incremental RE and EE exceeds historical fossil steam generation levels. Together, the approach in the proposal and the alternative approach in this document reflect a range of possible emission rate impacts that could be expected through the application of the incremental RE and EE in the state goal calculation. The EPA is seeking comment on which approach better reflects the BSER. At the same time, we note that the alternative state goal formula approaches listed here may raise a number of additional considerations. These approaches, for example, would increase the collective stringency of the state goals, which would likely increase both the costs and benefits of the proposed rule.

As noted above, at least some of these alternative applications of the target-setting equation would result in many states having tighter rate-based goals. Therefore, in considering any of these changes, the EPA would also consider how they relate to other issues discussed in this document, as well as in the original proposal, particularly inclusion of new NGCC units in the state goal calculation and alternatives to the

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2020-2029 glide path. While the goal-setting formula adjustments described here would tighten the state goals, the glide path adjustments discussed previously would have the offsetting effect of reducing the stringency of the goals. The EPA welcomes comment specifically on the potential changes identified in this document in terms both of the rationale for these changes and of their effects on the stringency of the state goals.

2. Alternatives to the 2012 Data Year

A number of stakeholders have raised concerns over the use of 2012 as the single data year for calculating interim and final goals. The EPA has identified several approaches that stakeholders may want to consider and upon which we are requesting comment. The EPA is seeking comment on whether we should use a different single data year or the average of a combination of years (such as 2010, 2011, and 2012) to calculate the state fossil fuel emission rates used in state goal calculations. The agency is also seeking comment on whether state-specific circumstances exist that could justify using different data years for individual states, as opposed to using the same data year, or combination of years, consistently across states.

Stakeholders have also expressed interest in obtaining eGRID data for years prior to 2012 in order to foster comparison

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with results from the 2012 dataset. The EPA is adding, to the docket for this action, data for the years 2010 and 2011 that are based on the same information sources and presented in the same format as the 2012 dataset used for the June 2014 proposed rule. We are also making these data available at: http://www2.epa.gov/cleanpowerplan/.

Dated: _____.

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Janet G. McCabe,
Acting Assistant Administrator,
Office of Air and Radiation.

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