6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R04-OAR-2022-0367; FRL-10406-02-R4]

Air Plan Approval; South Carolina; Second Planning Period Regional Haze Plan

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is approving a regional haze State Implementation Plan (SIP) revision submitted by the State of South Carolina on March 3, 2022 (hereinafter referred to as "Haze Plan"), as satisfying applicable requirements under the Clean Air Act ("CAA" or "Act") and EPA's Regional Haze Rule (RHR) for the regional haze program's second planning period. South Carolina's SIP submission was submitted to address the requirement that states must periodically revise their long-term strategies (LTSs) for making reasonable progress toward the national goal of preventing any future, and remedying any existing, anthropogenic impairment of visibility, including regional haze, in mandatory Class I Federal areas (hereinafter referred to as "Class I areas"). This SIP submission also addresses other applicable requirements for the second planning period of the regional haze program. EPA is taking this action pursuant to sections 110 and 169A of the Act.

DATES: This rule is effective **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: EPA has established a docket for this action under Docket Identification No. EPA-R04-OAR-2022-0367. All documents in the docket are listed on the regulations.gov web site. Although listed in the index, some information may not be publicly available, i.e., Confidential Business Information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available

either electronically through www.regulations.gov or in hard copy at the Air Regulatory Management Section, Air Planning and Implementation Branch, Air and Radiation Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303-8960. EPA requests that if at all possible, you contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section to schedule your inspection. The Regional Office's official hours of business are Monday through Friday 8:30 a.m. to 4:30 p.m., excluding Federal holidays.

FOR FURTHER INFORMATION CONTACT: Matthew Bloemer, Multi-Air Pollutant Coordination Section, Air Planning and Implementation Branch, Air and Radiation Division, Region 4, U.S. Environmental Protection Agency, 61 Forsyth Street, SW, Atlanta, Georgia 30303-8960. The telephone number is (404) 562-9653. Mr. Bloemer can also be reached via electronic mail at bloemer.matthew@epa.gov.

SUPPLEMENTARY INFORMATION:

I. Background

On March 3, 2022, the South Carolina Department of Health and Environmental Control (DHEC)[1] submitted a revision to its SIP to address regional haze for the second planning period.[2] South Carolina made this SIP submission to satisfy the requirements of the CAA's regional haze program pursuant to CAA sections 169A and 169B and 40 Code of Federal Regulations (CFR) 51.308. EPA has determined that the regional haze SIP revision for the second planning period meets the applicable statutory and regulatory requirements and is thus approving South Carolina's submission.

Through a notice of proposed rulemaking (NPRM) published on July 31, 2025 (90 FR

[1] On July 1, 2024, DHEC was restructured into a health agency, the Department of Public Health, and an environmental agency, the Department of Environmental Services (DES). In a letter dated June 20, 2024, South Carolina represented to EPA that all the functions, powers, and duties of the environmental divisions, offices, and programs of DHEC, including the authority to administer and enforce state implementation plans, are retained and continued in full force and effect under DES. The letter is in the docket for this rulemaking. The state agency will simply be referred to as "the State" or "South Carolina" for the remainder of this document.

[2] The March 3, 2022, SIP submission, with exception of the supporting modeling files and Confidential Business Information, is included in the docket for this rulemaking.

36005), EPA proposed to approve South Carolina's Haze Plan as satisfying the regional haze requirements for the second planning period contained in the CAA and 40 CFR 51.308. EPA described its rationale for proposing to approve the Haze Plan in the July 31, 2025, NPRM. Comments on the July 31, 2025, NPRM were due on or before September 29, 2025.

II. Response to Comments

In response to the NPRM, EPA received one set of comments from the National Parks Conservation Association (NPCA), Sierra Club, and the Coalition to Protect America's National Parks (hereinafter "Conservation Groups"); one set of comments from the Mid-Atlantic/Northeast Visibility Union (MANE-VU); and one set of comments from the Augusta Aiken Audubon Society, Coalition to Protect America's National Parks, NPCA, South Carolina Environmental Law Project, and Waccamaw Audubon Society. Additionally, EPA received a comment letter from an anonymous commenter about greenhouse gases[3] that is not relevant to this action, and two identical comments in support of this action from one individual. All comments received are available in the docket for this rulemaking. Summaries of the significant comments received and EPA's responses to these comments are below.

Comment 1: The Conservation Groups claim that EPA's new uniform rate of progress (URP) policy violates the CAA. These comments are discussed in more detail in Comments 1.a through 1.d. A response to these comments follows after Comment 1.d.

First, the Conservation Groups assert that EPA recently announced a new policy whereby if "visibility conditions for a Class I area impacted by a State are below the URP and the State has evaluated potential control measures and considered the four statutory factors, the State will

[3] Specifically, the commenter asks EPA to "account for the economic costs of carbon dioxide" in this action. However, greenhouse gases are non-haze forming and are therefore beyond the scope of this action, which is focused solely on visibility impairing pollutants and specifically the approvability of South Carolina's regional haze SIP for the second planning period. Nor does the commenter identify any legal duty for EPA to calculate such costs. The commenter cites to Executive Order 13990 as authority, but that executive order was revoked on January 20, 2025. The commenter also cites generally to the National Environmental Policy Act ("NEPA"), but it is long-settled that NEPA does not apply to EPA's actions approving SIPs. *See Appalachian Power Co. v. EPA*, 477 F.2d 495, 508 (4th Cir. 1973) (*quoting* the holding in *Getty Oil Co. (Eastern Operations), Inc. v. Ruckelshaus*, 467 F.2d 349, 359 (3d Cir. 1972) that "[it] is apparent that the Clean Air Act itself contains sufficient provisions for the achievement of those goals sought to be attained by NEPA").

have presumptively demonstrated reasonable progress for the second planning period." However, they state EPA's description of the new policy in its proposal to approve South Carolina's 2022 SIP Revision differs from earlier descriptions of the policy as originally announced in the Agency's proposal to approve West Virginia's SIP. They state that in the West Virginia proposal, EPA explained that, if visibility conditions at affected Class I areas[4] are projected to be below the URP, and the state considered the four factors, the state presumptively demonstrates reasonable progress and that absent from EPA's description of the new URP policy in the West Virginia proposal is a need for states to have "evaluate[d] potential control measures." The Conservation Groups assert that in EPA's proposal here, EPA incorporates this additional phrase into its description of the new URP policy for the first time, without explaining the significance of that purported change. Additionally, they state that EPA explicitly states that the new policy reflects only "a change in policy from *current guidance* as to how the URP should be used in the evaluation of regional haze second planning period SIPs."

Response 1: EPA disagrees with the Conservation Groups. EPA has not substantively changed the URP policy since it was announced in the West Virginia regional haze NPRM,[5] including in the South Carolina regional haze NPRM. In the South Carolina regional haze NPRM, EPA noted that "it is the Agency's policy, as announced in the recent proposed action for West Virginia's Regional Haze SIP for the second planning period, that, where visibility conditions for a Class I area impacted by a State are below the URP and the State has evaluated potential control measures and considered the four statutory factors, the State will have presumptively demonstrated reasonable progress for the second planning period for that area." Although the Conservation Groups are correct that EPA included the phrase "has evaluated potential control measures" within this sentence and that EPA did not include this phrase in the

[4] Areas statutorily designated as mandatory Federal Class I areas consist of national parks exceeding 6,000 acres, wilderness areas and national memorial parks exceeding 5,000 acres, and all international parks that were in existence on August 7, 1977. CAA section 162(a). There are 156 mandatory Class I areas. The list of areas to which the requirements of the visibility protection program apply is in 40 CFR part 81, subpart D.

[5] *See* 90 FR 16478 (April 18, 2025).

West Virginia NPRM when discussing the URP Policy, the inclusion of this phrase was merely descriptive and was not intended to announce any substantive deviation from EPA's URP policy. This is because evaluation of potential control measures for regional haze SIPs is conducted *pursuant to* the four factors. Specifically, the RHR text at 40 CFR 308(f)(2)(i) requires states to evaluate and determine the emission reduction measures that are necessary to make reasonable progress by considering the four statutory factors. Additionally, the full sentence quoted by the Conservation Groups in the South Carolina regional haze NPRM clearly indicates that it was merely summarizing the "Agency's policy, as announced in the recent proposed action for West Virginia's Regional Haze SIP." EPA confirms that the URP policy is as follows: where visibility conditions for a Class I area impacted by a State are below the URP and the State has considered the four statutory factors, the State will have presumptively demonstrated reasonable progress for the second planning period for that area.

Comment 1.a: The Conservation Groups state that EPA's URP policy violates the plain language of the CAA. They quote *Loper-Bright Enterprises v. Raimondo* for the proposition that "a statutory provision is interpreted 'using the traditional tools of statutory construction' to arrive at the provision's 'best reading.'"[6] They state that the starting point for that inquiry is the text of the Act and then assert that the plain language of 42 U.S.C. section 7491 bars EPA's proposed new policy.

The Conservation Groups note that section 7491(b)(2) requires states to develop plans that "make reasonable progress toward meeting the national goal" and that section 7491(g)(1) defines "reasonable progress," providing that, "in determining reasonable progress there shall be taken into consideration the costs of compliance, the time necessary for compliance, and the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any existing source subject to such requirements." They assert that "the dependent clause 'in determining reasonable progress' must be joined with the independent clause of that section –*i.e.*,

[6] 603 U.S. 369, 400, 403 (2024).

the four reasonable progress factors—to make sense." Thus, they suggest that "accurately reading those clauses together, the Act requires that states and EPA must determine what constitutes 'reasonable progress' based on the four statutory factors listed in Section 7491(g)(1)" and that "absent from the statutory text is any reference to the URP."

The Conservation Groups state that "EPA misreads this provision when, in its new URP policy, it changes the phrase 'taken into consideration' into 'considers.'" They maintain that "[t]he word 'consideration' means 'something that is considered as a ground of opinion or action' or 'the act of regarding or weighing carefully.'" The Conservation Groups state that "the things that states and EPA must 'take into consideration' are the four statutory factors listed in (g)(1)." Furthermore, they assert that "States and EPA must not merely 'consider' the four statutory factors, but must use them 'in determining reasonable progress,' confirming that the best reading of this statutory provision requires states to determine reasonable progress based on the four statutory factors, and not other unlisted factors." They state that "[h]ad Congress intended states to consider other factors, such as the URP, in determining what constitutes reasonable progress, it would have listed those factors in the statutory definition for 'reasonable progress.'"

The Conservation Groups also assert that "[t]he new URP policy also would only require states and EPA to apply the Act's text in certain scenarios" and that "[u]nder the new policy, even if a state conducted control analyses that show new or existing controls are reasonable based on the four statutory factors, states and EPA can ignore the results of those analyses and not require any emission reduction measures to make reasonable progress if they show all affected Class I areas are projected to be below the URP glidepath at the end of the planning period." They state that this would result in EPA and states "disregard[ing] the text that Congress set forth in section 7491(g)(1) requiring states to determine reasonable progress based on the four statutory factors. A policy that makes the statutory text superfluous in some cases, but not in others, is absurd."

The Conservation Groups claim that EPA's proposal for South Carolina approval is a prime example. They note that "South Carolina requested that EPA approve the 2022 SIP Revision without incorporating into the SIP any of the permit provisions the State determined were necessary to make reasonable progress—a request EPA proposes to grant." However, they assert that "EPA ignores that, in the 2022 SIP Revision, South Carolina determined that installation of wet flue gas desulfurization (wet FGD) on [International Paper – Georgetown's (IP-Georgetown)] No. 1 Recovery Boiler would cost just $3,100/ton of [sulfur dioxide (SO_2)] reduce," which the Conservation Groups suggest is a cost-effective control. South Carolina stated that the $3,100/ton value was no longer applicable, and rejected this potential control measure, because IP Georgetown had requested a federally enforceable limit on the Boiler's potential to emit of 330 [tons per year (tpy)] of SO_2 to be incorporated into the SIP. Thus, they state that "[b]ecause EPA proposes to grant South Carolina's request to exclude this limit from the SIP, the State's reason for rejecting wet FGD for the No. 1 Recovery Boiler is no longer valid. Yet, South Carolina and EPA still exclude wet FGD for the No. 1 Recovery Boiler despite the fact that South Carolina's own Four-Factor Analysis for IP Georgetown shows that this control is reasonable and cost-effective, and so, necessary to make reasonable progress for the facility, because they allege that all Class I areas affected by South Carolina pollution are projected to be below the URP glidepath." The Conservation Groups then claim that "[a]s a result, the new URP policy allows EPA and states to disregard the text that Congress set forth in section 7491(g)(1) requiring states to determine reasonable progress based on the four statutory factors. A policy that makes the statutory text superfluous in some cases, but not in others, is absurd."

The Conservation Groups then note that "[m]ultiple courts, including the Supreme Court, have held that the Clean Air Act's plain text requires that EPA engage in rigorous and substantive review of SIPs." They quote section 7491(b)(2)(B), which requires states to develop plans "that mak[e] reasonable progress toward meeting the national goal" and assert that this

"inherently requires EPA to assess whether SIP submissions provide adequate measures to achieve that goal." They also quote section 7410(k)(3), which requires EPA to determine if SIPs "meet all of the applicable requirements of this chapter," and argue that this provision requires EPA to "assess the adequacy, effectiveness, and reasonableness of SIPs to ensure they comply with the Act and its implementing regulations."

The Conservation Groups assert that "EPA's new URP policy would render these Clean Air Act requirements superfluous. In pointing to the new policy, EPA tries to evade its duty to review Four-Factor Analyses or control determinations to ensure that the technical bases for those analyses are adequately documented and the determinations are based on reasoned decision-making." They assert that the South Carolina proposal here is an apt example and note that "EPA's entire evaluation of South Carolina's Four-Factor Analyses spans just two pages of the proposal, one of which is devoted just to describing its new URP policy." They maintain that "[i]n its purported 'evaluation,' EPA merely makes conclusory statements that what South Carolina did in the 2022 SIP Revision was 'reasonable' without providing any explanations or analyses to support those statements." The Conservation Groups state that "EPA states that South Carolina 'reasonably' concluded that no new controls are necessary for [Century Aluminum of South Carolina Inc. (Century)]." But they assert that "[t]he only support EPA provides for that assertion is a bare claim that South Carolina evaluated the cost of controls consistent with the Control Cost Manual, but nowhere in the proposal does EPA explain how South Carolina's analyses complied with that Manual or whether the cost information used in the analyses was reliable or adequately documented." On the other hand, the Conservation Groups state that "readily available record evidence, including the Conservation Groups comments to the State on its draft 2022 SIP Revision, show that South Carolina neither followed the Control Cost Manual nor provided necessary documentation to support its analyses." They allege that "[r]ather than provide any rationale to support its assertions or grapple with the record before it, EPA points to its new URP policy to claim that South Carolina's control determinations for

Century are reasonable and the 2022 SIP Revision presumptively demonstrated reasonable progress for the second planning period."

In addition, the Conservation Groups state that "EPA's claim that the Act requires only reasonable progress and not maximal progress is a red herring" and "[t]he plain text of the Clean Air Act embodies Congress's determination that the rate of progress achieved by the emission reduction measures found to be reasonable based on the four statutory factors 'is, by definition, a reasonable rate of progress.'" They argue that "EPA tries to sever the word 'reasonable' from 'progress' in justifying its new URP policy to make a free-floating determination, unmoored from the four statutory factors, as to what is 'reasonable.'" On the contrary, the Conservation Groups maintain that "in severing 'reasonable' from "progress" here, EPA must also recognize the ordinary meaning of the word 'progress,' which is defined as 'gradual betterment' or 'a forward or onward movement.'" Thus, they assert that the "Agency cannot use its attempt to break this term apart to justify approving SIPs that improperly adopt the status quo instead of requiring facilities to adopt emission reduction measures that are reasonable based on a review of the four factors, and therefore, necessary to make reasonable progress toward the goal of remedying existing and preventing future impairment. In any event, the Agency cannot change the fact that Congress deliberately placed 'reasonable progress' under section 7491(g)'s heading of 'Definitions,' making it a statutorily defined term."

The Conservation Groups allege that "EPA's own interpretation of the Act's text in its 2017 RHR revision preamble demonstrates that the new URP policy violates the statute." From the preamble, they state that "EPA explained that the terms 'compliance' and 'subject to such requirements' in section 7491(g)(1) showed that 'Congress intended the relevant determination to be the requirements with which sources would have to comply in order to satisfy the [Clean Air Act's] reasonable progress mandate.'" Thus, they argue that "the Four-Factor Analyses must be the basis on which states determine the requirements that represent reasonable progress."

The Conservation Groups state that EPA cannot point to any asserted ambiguity or lack of explicit direction in 7491(g)(1) to claim it can interpret the statutory text to allow consideration of visibility conditions or the URP in determining what constitutes reasonable progress. Instead, they claim, "every tool" available must be used "to determine the best reading of the statute and resolve the ambiguity."

The Conservation Groups assert that "EPA also cannot escape *Loper-Bright*'s mandate to find the 'best reading' of the provision by citing Congress' instruction for EPA in section 7491(a)(4) to issue regulations as some indication of intent to delegate authority to EPA to undercut the Regional Haze Program" and "nothing in section 7491(a)(4) authorizes EPA to create a 'presumption' that a haze plan demonstrates reasonable progress, thereby excusing the state from implementing reasonable emission reductions based on a consideration of the statutory factors for a source, where affected Class I areas are on or below the URP." They further argue that "section 7491(a)(4) authorizes EPA only to 'promulgate regulations' 'after notice and public hearing.'" Therefore, they allege that "in a transparent attempt to avoid actually issuing any uniform, national "regulation" under sections 7491(a)(4) and 7607(d)(1)(J) articulating the Agency's interpretation of the Clean Air Act's visibility provisions, EPA is instead attempting to amend the RHR on a piecemeal, state-by-state basis." Moreover, they maintain that "EPA has failed to comply with section 7491(a)(4)'s mandate to issue any such regulation "after notice and public hearing."

The Conservation Groups also assert that "nothing in section 7491 suggests, let alone clearly states, that EPA has authority to create a presumption that, where a Class I area is on the so-called URP, states need not implement further emission reductions based on a consideration of the four statutory reasonable factors." Finally, the Conservation Groups state that "under section 7491(a)(4), EPA must 'promulgate regulations to *assure* reasonable progress toward meeting *the national goal.*' The national goal is 'the prevention of *any* future, and the remedying

of *any* existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution.'"

The Conservation Groups claim that Congress directed states to make reasonable progress in each successive planning period. They point to section 7491(b)(2)(B), which provides that states' plans must set forth long-term strategies "for making reasonable progress toward meeting the national goal" covering "ten to fifteen year" periods. They assert that the Act "does not contemplate prolonging progress toward attaining natural visibility conditions." The Conservation Groups argue that Congress "set a framework for EPA to establish iterative planning periods during which states must build on emission reductions achieved in each successive planning period." The Conservation Groups then state that "EPA claims in the proposal that it 'believe[s] this policy also recognizes the considerable improvements in visibility impairment that have been made by a wide variety of state and federal programs in recent decades.'" They contend that "[m]erely relying on past reductions, or expected ongoing reductions from the implementation of already existing air quality programs, again absurdly makes this statutory text superfluous by allowing states and EPA to evade the directive to continue making progress toward the natural visibility goal in each planning period if the states show that all affected Class I areas are projected to be below the URP at the end of the planning period." They conclude that "EPA relies on a factor that Congress could not have intended that it or states consider."

The Conservation Groups continue by stating "[c]ontinued delay in achieving the natural visibility goal is something Congress explicitly addressed in the 1990 Clean Air Act amendments. Although the reasonable progress provisions were enacted in the 1977 Amendments, EPA ignored them. In response, Congress forced EPA to act with its 1990 Amendments to the Act." Based on legislative history, the Conservation Groups further assert that states and EPA must make reasonable progress toward the natural visibility goal in each successive planning period.

Comment 1.b: The Conservation Groups assert that EPA's contemporaneous understanding of the Act reflects the best reading of the statute. The Conservation Groups cite *Loper-Bright* for the proposition that "an agency's contemporaneous understanding of a statutory provision may warrant respect in interpreting that provision." They assert that the RHR, as originally promulgated in 1999 "is the best evidence of EPA's 'contemporaneous' understanding of the Clean Air Act's requirements." Quoting a provision of the 1999 RHR, they state that it "required states and EPA to establish reasonable progress goals (RPGs) based on the four statutory factors." The Conservation Groups acknowledge that the 1999 RHR also required states to consider the URP in establishing RPGs but assert that "nothing in the 1999 RHR regulatory text allows states or EPA to ignore the requirement to determine the emission reduction measures necessary to make reasonable progress based on the four statutory factors."

The Conservation Groups also note that "[t]he 1999 RHR required that, '[i]n determining whether the State's goal for visibility improvement provides for reasonable progress towards natural visibility conditions, the Administrator *will evaluate* the demonstrations developed by the State pursuant to paragraphs (d)(1)(i) and (d)(1)(ii) of this section.' The cross-referenced paragraphs pertain to the state's demonstration of how the four factors were taken into consideration in establishing the RPGs. Thus, neither EPA nor states could treat the Four-Factor Analysis [(FFA)] required by the Act and the RHR as an ungraded, make-work exercise."

The Conservation Groups then quote that the 1999 RHR preamble and assert that it "made clear that states and EPA could not use the URP to avoid complying with the statutory and regulatory requirements of the haze program." The Conservation Groups also state that, "in the 1999 RHR, EPA had originally proposed 'presumptive 'reasonable progress targets,' similar to its new URP policy, which treats the URP as the target states should aim for but not exceed in their SIPs. But EPA ultimately rejected that approach in the final Rule." They conclude that "EPA rejected the notion that the URP itself necessarily represented reasonable progress." The

Conservation Groups cite to the 2017 RHR preamble, the 2019 Guidance,[7] and the 2021 Clarifications Memorandum[8] to make similar arguments as stated above.

The Conservation Groups state that "[a]t every opportunity since promulgating the original 1999 RHR, EPA has reaffirmed, reiterated, and repeated that relying on the URP to avoid adopting otherwise reasonable controls based on an analysis of the four statutory factors violates the Clean Air Act. EPA's new URP policy allows states and EPA to do exactly that, and so, cannot be the best reading of the statute. Rather, EPA's contemporaneous interpretation of the Act embodied by the 1999 RHR constitutes the best reading of the Act's haze requirements."

Comment 1.c: The Conservation Groups state that the context of the Act's visibility provisions confirms the best reading of the statute. Citing *United States Sugar Corp. v. EPA,* the Conservation Groups assert that "[t]he context of section 7491(g)(1) supports that EPA's contemporaneous interpretation of the Act is the best reading of the statute." They state that "section 7491(g)(1) does not list visibility conditions or the URP as factors that can be considered in determining what constitutes reasonable progress" whereas section 7491(g)(2), which defines Best Available Retrofit Technology (BART) "explicitly includes visibility as one of its five factors." They then quote *Intel Corp. Inv. Pol'y Comm. v. Sulyma*, for the proposition that "Congress acts intentionally and purposely when it includes particular language in one section of a statute but omits it in another." They assert that, "[b]ecause Congress intentionally omitted any reference to visibility in the definition of reasonable progress, it is clear that states may not reject controls based on assertions about visibility conditions at Class I areas." They then quote section 7491(b)(2) and assert that "states and EPA account for visibility impacts in determining which Class I areas are affected by in-state pollution sources and in selecting the

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[7] In reference to EPA's August 20, 2019, guidance titled: "Guidance on Regional Haze State Implementation Plans for the Second Implementation Period" ("2019 Guidance") which is available at: https://www.epa.gov/sites/default/files/2019-08/documents/8-20-2019_-_regional_haze_guidance_final_guidance.pdf.

[8] In reference to EPA's July 8, 2021, Clarification Memorandum titled: "Clarifications Regarding Regional Haze State Implementation Plans for the Second Implementation Period" ("2021 Clarification Memo") which is available at: https://www.epa.gov/system/files/documents/2021-07/clarifications-regarding-regional-haze-state-implementation-plans-for-the-second-implementation-period.pdf.

sources that contribute to impairment at those Class I areas to be addressed in the long-term strategy, but not in determining what emission reduction measures are necessary to make reasonable progress for those selected sources."

The Conservation Groups next state that section 7491 "does not contain any exemptions from the Act's reasonable progress requirements, including in cases where affected Class I areas are projected to be below the glidepath." They assert that "[t]his is again in stark contrast to section 7491(c), which contains explicit exemptions from BART that are based on visibility conditions. That Congress did not provide for similar, or any, exemptions from reasonable progress shows that Congress did not intend any exemptions such as EPA proposes here." They further assert that "EPA cannot create the exemption it proposes by invoking the de minimis principle, as courts have explained that 'an agency can't use [that principle] to create an exception where application of the literal terms would provide benefits, in the sense of furthering the regulatory objectives.'"

Finally, the Conservation Groups quote the 2017 RHR revision preamble regarding the collective significance of small amounts of pollutants to regional haze and conclude that "under EPA's new URP policy, states could evade the Act's reasonable progress requirements even for large sources of visibility impairing pollution, for which controls would likely result in large benefits."

Comment 1.d: The Conservation Groups state that the purpose of the Act's visibility provisions further confirms the best reading of the statute. They cite *Lissack v. Comm'r of Internal Revenue*, and quoting section 7491(a), the Conservation Groups assert that the purpose of the Act's visibility provisions "is the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution." The Conservation Groups also quote the 2017 RHR revision preamble, in which they assert "EPA rejected the idea that states could use the URP as a safe harbor, pointing to the Act's natural visibility goal." They conclude that, "[c]ontrary to

Congress's stated goal in establishing the Regional Haze Program, the new URP policy would allow states to adopt SIPs that do not include *any* additional measures to remediate anthropogenic visibility impairment during a given planning period."

Response to Comments 1.a through 1.d: EPA disagrees with the Conservation Groups' position that the URP policy articulated in our proposed approval of South Carolina's submission is inconsistent with the CAA. The Conservation Groups' reading of the statute is not the best, and they misconstrue the recently adopted policy in several ways. As noted by the Conservation Groups, under *Loper Bright*, courts seek to determine the "best reading" of a statute. *Loper Bright Enters. v. Raimondo*, 603 U.S. 369, 400 (2024).

First, EPA's recently adopted policy is consistent with the statute. Pursuant to CAA section 169A(a)(4), Congress explicitly delegated to EPA authority to promulgate regulations regarding reasonable progress towards meeting the national goal. As the Conservation Groups suggest, in determining the measures necessary to make reasonable progress towards the national visibility goal under CAA section 169A(a)(1), Congress mandated "tak[ing] into consideration the cost of compliance, the time necessary for compliance, and the energy and nonair quality environmental impacts of compliance, and the remaining useful life of any existing source subject to such requirement." *See* CAA section 169A(g)(1).

But this does not mean, as the Conservation Groups incorrectly state, that the recently adopted policy ignores the results of a state's FFA if a Class I area is below the URP. Rather, consistent with our discussion under the preamble of the 2017 RHR, the URP continues to serve as a regulatory planning metric to inform states' decision making when considering the four statutory factors. EPA disagrees with Conservation Groups' view that the recently adopted URP policy is an exemption to the statutory mandate; the policy continues to require states to take into consideration the four statutory factors. Being below the URP does not relieve a State of its obligations under the CAA and the RHR to make reasonable progress. Also, EPA still reviews a state's determination of whether additional control measures are necessary for reasonable

progress, whether the state submitted those measures for incorporation into the SIP, and whether the measures are consistent with other provisions in the CAA.

As required by the statute, South Carolina took into consideration the four statutory factors in CAA section 169A(g)(1) and determined that no additional controls were necessary to make reasonable progress. CAA section 169A(b)(2) requires SIPs to include "such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress." Congress explicitly stated its intent for states to only include mechanisms as may be necessary for Class I areas to achieve reasonable progress. South Carolina concluded that it was not necessary to incorporate any new emission limitations, schedules of compliance or other measures into its SIP. Thus, contrary to the Conservation Groups' statements, South Carolina did not ignore the results of its consideration of the four statutory factors.

Second, EPA disagrees with the Conservation Groups' statements that EPA's recently adopted policy allows states and EPA to entirely ignore the statutory directive to make reasonable progress toward the national visibility goal in the second planning period. Due to the iterative nature of the regional haze planning process, reasonable progress is not measured solely through the accomplishments in any one, discreet planning period. CAA section 169A(b)(2) requires SIPs to "contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress" toward the national visibility goal and 169A(g)(1) requires that "in determining reasonable progress there shall be taken into consideration the cost of compliance, the time necessary for compliance, and the remaining useful life of any existing source subject to such requirements." Not only has the State considered the four statutory factors and concluded that no additional control measures would be appropriate considering the outcome of its analysis, but the Class I areas affected by emissions from South Carolina remain below their respective URPs. In doing so, the State has adequately demonstrated that its current measures are all that are necessary to make reasonable progress in the second planning period.

Third, regarding the Conservation Groups' statements that "Congress set a framework for EPA to establish iterative planning periods during which states must build on emission reductions achieved in each successive planning period," there is no statutory or regulatory requirement that this process must include a new set of additional control measures each and every planning period. Not only is the statute clear on its face, but the legislative history supports EPA's reading of the CAA. The reconciliation report for the 1977 CAA amendments indicates that the term "maximum feasible progress" in CAA section 169A was changed to "reasonable progress" in the final version of the legislation passed by both chambers. Therefore, a State is required to determine only what constitutes reasonable progress toward the national visibility goal under CAA section 169A(a)(1), not achieve the maximal amount of visibility improvement each iterative planning period. Under the 2017 RHR, a state determines this by weighing and considering the four statutory factors under CAA section 169A(g)(1) against potential additional control measures to determine if any control measures are necessary for reasonable progress. It is therefore reasonable that, after considering the four statutory factors, South Carolina concluded that no additional measures are necessary to make reasonable progress in this planning period since the state's existing LTS is still making reasonable progress at the Class I areas impacted by a state's anthropogenic emissions and those Class I areas where South Carolina may be reasonably anticipated to cause or contribute to any impairment.

Fourth, EPA's change in policy does not create an exemption, de minimis or otherwise, from the statutory requirements. CAA Section 169A requires any state that contains a Class I area, or "which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area" to have an implementation plan that contains "such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward the national goal" of "the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution." *See* CAA sections 169A(a), (b).

EPA's recently adopted policy does not create an exemption to these statutory provisions. Under the policy, states are still required to identify measures necessary to make reasonable progress by "tak[ing] into consideration" the four statutory factors set forth in CAA section 169A(g)(1), and to submit measures necessary for reasonable progress to EPA to be reviewed for approvability into the SIP. A state is not exempted from this requirement simply because a particular Class I area is below the URP.

Both the CAA and the RHR then require the state to include those measures in its SIP. CAA section 169A(b)(2); 40 CFR 51.308(f)(2). However, regardless of whether the state identified additional measures for inclusion in its SIP, if the state takes into consideration the four factors, and the Class I areas the state contributes to are below the URP, the state will be presumed to be achieving reasonable progress towards the national goal for the second planning period with respect to that area. At no point in the process of identifying measures necessary to make reasonable progress toward the national goal does this new policy exempt a state from its statutory and regulatory obligations to identify measures necessary for reasonable progress by taking into consideration the four statutory factors and including any such measures in its SIP.

Fifth, the Conservation Groups incorrectly state that EPA's recently adopted policy is contrary to the purpose of the statute. EPA disagrees with that statement. The Conservation Groups failed to consider the plain language of the statute in their assertion that "[b]ecause Congress intentionally omitted any reference to visibility in the definition of reasonable progress, it is clear that states may not reject controls based on assertions about visibility conditions at Class I areas." The Conservation Groups misconstrue why Congress included in CAA section 169A(g)(2) an explicit requirement to consider "improvement of visibility" when determining BART but did not include a parallel explicit requirement for the determination of reasonable progress under CAA section 169A(g)(1).

CAA sections 169A(b)(2)(A) and (g)(7) make BART applicable to a "major stationary source," with the potential to emit 250 tons of any pollutant, that was in existence on August 7,

1977, but not "in operation" before August 7, 1962, and whether or not the type or quantity of that pollutant impacts visibility at any Class I area. The BART provision outlined in CAA section 169A(b)(2)(A) thus demonstrates Congressional intent for states to, first and foremost, focus attention directly on the presumed sources of visibility impairment. Because Congress directs states to look at specifically-identified ("BART eligible")[9] sources, it was reasonable for Congress to also specify that only those existing BART sources impacting visibility needed to be subject to the five BART statutory factors in section 169A(g)(2) ("Subject to BART"). *See* 70 FR 39104 at 39106-7 (July 6, 2005).

However, while the BART provisions mandate consideration of visibility in determining which sources are subject to BART and in selecting controls, the reasonable progress provisions make it optional for non-BART sources.[10,11] Specifically, there was no need to insert a "improvement in visibility" provision with respect to CAA section 169A(g)(1) since reasonable progress by definition includes improvement in visibility. *See* CAA section 169A(a)(1). CAA section 169A only ever speaks of reasonable progress in terms of making "reasonable progress toward meeting the national goal" of CAA section 169A(a)(1) of "the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution." *See* CAA sections 169A(a)(1), 169A(b)(2), and 169A(b)(2)(B). The only time the full phrase "reasonable progress toward meeting the national goal" is omitted is in CAA section 169A(g)(1), but it is clear from the three other instances of the use of the term in CAA section 169A that the best reading of that provision is that it is consistent with the three other times Congress used the term "reasonable progress" in CAA section 169A. Therefore, because visibility improvement is inherent in determining what

[9] *See* 40 CFR 51.301; 64 FR 35714 at 35738 (July 1, 1999); 70 FR 39104 at 39105 (July 6, 2005).
[10] *See*, *e.g*. 2019 Guidance at 36-37 ("EPA interprets the CAA and the Regional Haze Rule to allow a state reasonable discretion to consider the anticipated visibility benefits of an emission control measure along with the other factors when determining whether a measure is necessary to make reasonable progress.").
[11] EPA also notes that even in the first planning period, States could consider visibility in their reasonable progress determinations, so long as it was done in a reasonable way in accordance with the CAA. *See North Dakota v U.S. E.P.A.*, 730 F.3d 750, 766 (8th Cir. 2013).

is necessary for reasonable progress, it was not necessary for Congress to specifically add it to the reasonable progress considerations in CAA section 169A(g)(1). The Conservation Groups are therefore incorrect that EPA has attempted to "escape" *Loper Bright*'s mandate to find the best reading of the statute; we simply disagree with the Conservation Groups as to that best reading. EPA has interpreted "reasonable progress" in section 169A(g)(1) in light of the fact that that phrase clearly refers back to the three other times it is used in full, that is, "reasonable progress toward meeting the national goal." Considering a phrase in light of its whole statutory context, with a presumption that a phrase will be used consistently throughout a statutory provision, is one of the canonical, "traditional tools of statutory construction" that *Loper Bright* establishes as the judiciary's first stop in determining the best reading of the statute. *Loper Bright Enters. v. Raimondo*, 603 U.S. 369, 399-401 (2024).

Lastly, the Conservation Groups incorrectly state that EPA's application of the new policy is inconsistent with EPA's role under CAA section 110(k)(3). Congress delegated EPA authority to determine whether a SIP meets the requirements in CAA sections 169A and 169B. *See* CAA section 110(k)(3). The Conservation Groups assert that EPA lacks "authority" to create a presumption because nothing in CAA section 169A(a)(4) directs the Agency to create a presumption, and furthermore, even if it did, the Agency did not follow the 169A(a)(4)'s procedural requirements. The Conservation Groups misconstrue the role of the Agency's URP Policy and the articulated presumption. The Policy is not a regulation that states are required to follow. Rather, the presumption discussed in the proposal explains the Agency's thinking in reviewing states' second planning period SIPs. EPA is not only authorized to review such SIPs but is in fact obligated to do so under CAA section 110(k)(3). As such, the role of the Agency is not ministerial, and the recently adopted policy does not exempt EPA from meeting its statutory requirement. Thus, because South Carolina's SIP meets the statutory and regulatory requirements, EPA concluded that approval of South Carolina's SIP is reasonable.

Comment 2: The Conservation Groups state that "[u]sing the 'traditional tools' of construction, EPA cannot square its new URP policy with the RHR, just as it cannot square that policy with the Clean Air Act." They further state that "[t]he RHR's long-term strategy requirements track those of the Clean Air Act, requiring that such strategies 'must include the enforceable emissions limitations, compliance schedules, and other measures that are necessary to make reasonable progress pursuant to [40 C.F.R. § 51.308(f)(2)(i) through (iv)].'" They assert that 40 CFR 51.308(f)(2)(i) requires states to evaluate and determine the emission reduction measures that are necessary to make reasonable progress by considering the four factors (costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected anthropogenic source of visibility impairment) and suggest that 40 CFR 51.308(f)(2)(i) contains a dependent clause ("the State must evaluate and determine . . . the measures that are necessary to make reasonable progress") to make sense. Based on this grammatical argument, they state that "accurately reading these clauses together requires that states and EPA determine the measures that must be included in a state's long-term strategy *based on* the four factors" (emphasis in original comments) and that "[n]othing in sections 51.308(f)(2)(ii)-(iv) changes this requirement or allows states to reject otherwise reasonable measures that satisfy the four factors by pointing to the URP."

The Conservation Groups claim that "[t]he RHR's RPG provisions further make clear that the URP cannot supplant the requirement to conduct thorough and reasonable Four-Factor Analyses to identify necessary measures in the long-term strategy. Section 51.308(f)(3)'s requirement that states establish RPGs for their in-state Class I areas refers back to (f)(2)'s requirement to establish emission limits and other measures necessary to make reasonable progress." They further state that "section 51.308(f)(2) is directly linked to the four factors, as the emission limits and measures necessary to make reasonable progress must be based on the four factors."

The Conservation Groups proceed to claim that "[t]he purpose and history of the 2017 RHR revision confirm these requirements. As EPA explained in the 2017 RHR revision preamble, one purpose of the revised Rule was to clarify misunderstandings in the interpretation and application of the 1999 RHR." Citing to the 2017 RHR, they state that EPA clarified that the URP is not and was never intended to be a "safe harbor."[12] Furthermore, they claim that EPA declined to explicitly state in the RHR itself that the URP is not a safe harbor because it believed that point was already clear. Quoting the 1999 RHR, the Conservation Groups likewise cite to language in which EPA stated that "[t]he URP was never intended to be a safe harbor."[13]

The Conservation Groups state that EPA has "explained that the Four-Factor Analysis is not a box checking exercise; rather, states must engage in thorough and reasoned analyses to satisfy the requirements of the RHR" and that "[c]ontrary to EPA's new URP policy, a state's mere mention or reference to the four statutory factors is not sufficient to demonstrate that the state conducted those analyses in compliance with the RHR." They further assert that "EPA has time and time again explained that treating the URP as a safe harbor, as the Agency proposes to do with its new URP policy, violates the RHR."

The Conservation Groups conclude by stating that "the text of the RHR specifically requires EPA to engage in rigorous and substantive reviews of state SIP submissions" and suggest that "EPA relies on the new URP policy to evade its substantive review duties."

Response 2: EPA disagrees with the Conservation Groups' position that the URP policy is inconsistent with the RHR. This comment tracks many of the issues the Conservation Groups raised with respect to their allegations that EPA's recently adopted URP policy is inconsistent with the CAA. For example, they assert that EPA's policy is inconsistent with the regulatory requirement that the LTS "must include the enforceable emissions limitations, compliance schedules, and other measures that are necessary to make reasonable progress" and that this

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[12] *See* 82 FR 3093.
[13] *See* 82 FR 3093-94.

policy allows states or EPA to reject otherwise reasonable emission reduction measures that satisfy the four statutory factors based on the URP. Just as the URP policy does not create an exemption to the CAA's statutory provisions, it also does not create exemptions to the RHR. Under the policy, and consistent with 40 CFR 51.308(f)(2), states are still required to identify measures necessary to make reasonable progress by considering the four statutory factors set forth in CAA section 169A(g)(1), and to submit measures necessary for reasonable progress to EPA to be reviewed for approvability into the SIP. A state is not exempted from this requirement simply because a particular Class I area is below the URP.

Both the CAA and the RHR then require the state to include those measures in its SIP. CAA section 169A(b)(2); 40 CFR 51.308(f)(2). However, regardless of whether the state identified additional measures for inclusion in its SIP, if the state takes into consideration the four factors, and the Class I areas the state contributes to are below the URP, the state will be presumed to be achieving reasonable progress towards the national goal for the second planning period with respect to that area. At no point in the process of identifying measures necessary to make reasonable progress toward the national goal does this new policy exempt a state from its statutory and regulatory obligations to identify measures necessary for reasonable progress by taking into consideration the four statutory factors and including any such measures in its SIP. We do not agree with the Conservation Groups that the RHR's use of "by considering" with regard to the four factors in 51.308(f)(2) means that the national goal of visibility and a state's progress towards that goal is wholly excluded from a state and EPA's consideration.

Because EPA's recently adopted policy is that there is a presumption that the state's second planning period SIP is making reasonable progress for a Class I area, if the state has taken into consideration the four statutory factors and that area is below the 2028 URP, EPA has concluded that this SIP is fully approvable. To meet the RPG requirements under 40 CFR 51.308(f)(3), the RPGs established by a state must reflect the measures it deemed to be necessary to make reasonable progress within the applicable implementation period and must be projected

to be achieved by the end of the applicable implementation period. Therefore, it is sufficient under 40 CFR 51.308(f)(3) that this SIP establishes RPGs that reflect visibility conditions that are projected to be achieved by the end of the second planning period.

Comment 3: The Conservation Groups claim that "[b]eyond violating the plain language, intent, context, and purpose of both the Clean Air Act and the RHR, EPA's application of its new URP policy in the proposal here is both internally inconsistent and inadequately explained. As a result, EPA fails to provide a 'satisfactory explanation' for its proposal to approve the 2022 SIP Revision, making the proposal arbitrary and capricious in violation of both the CAA and the APA." This comment, along with individual points raised by the Conservation Groups, are summarized and responded to in Comments 3.a and 3.b below.

Comment 3.a: The Conservation Groups state that EPA's proposal to approve South Carolina's 2022 SIP Revision is internally inconsistent in at least three ways. First, the Conservation Groups state that "EPA claims that its new URP policy does not treat the URP as a safe harbor; yet EPA's statements explaining its new policy underscore that it does." They state that this is contrary to the 1999 RHR, 2017 RHR revision, 2019 Guidance, and 2021 Clarification Memo which all state that the URP is not a safe harbor. Furthermore, they state that "if EPA's new URP does not treat the URP as a safe harbor," then the "Agency's explanation and application of its new policy in the proposal is inconsistent and not adequately explained, all of which also violates the Clean Air Act and fundamental principles of reasoned agency decisionmaking."

Second, the Conservation Groups state that "EPA notes in the proposal that states' source selection methods must be 'reasonable' and 'reasonably explained' but fails to explain or address anywhere in the proposal whether the new URP policy requires that states' Four-Factor Analyses be based on reliable, reasonable, and well-documented information." They claim that EPA's new URP policy therefore allows the Agency and states to treat the FFAs as an "ungraded box checking exercise," in violation of the CAA and RHR. They state that this further makes EPA's

proposal here internally inconsistent, arbitrary, and capricious, because states are required to conduct reasonable source selection processes but then permitted to conduct unreasonable and unsupported FFAs. They claim also that this makes EPA's new policy irrational, as states are still required to select sources, consider a "meaningful set" of control measures, and conduct FFAs "without any requirement that this process affect the ultimate outcome of the SIP."

Third, the Conservation Groups assert that "EPA explains that all measures that the State determines are necessary to make reasonable progress must be included in the SIP but also states in the proposal that permit measures that South Carolina determined are necessary are now 'moot' and do not need to be included in the SIP." The Conservation Groups say that the proposal "repeatedly states that measures, new or existing, that are found to be necessary must be included as federally enforceable SIP measures as required by 42 U.S.C. § 7491(b)(2) and 40 C.F.R. § 51.308(f)(2)." Despite this, they claim that "[i]n the 2022 SIP Revision, South Carolina determined that existing measures contained in permit provisions for Century, [Santee Cooper Cross Generating Station (Cross), Santee Cooper Winyah Generating Station (Winyah)], and IP Georgetown are necessary to make reasonable progress and prevent future impairment in this second planning period, and so, proposed to incorporate those permit provisions into the SIP. Similarly, South Carolina again determined in the 2025 SIP Supplement that updated permit provisions for Cross, Winyah, and IP Georgetown are necessary to make reasonable progress, and so, proposed to incorporate those permit provisions into the SIP. Yet, buried in a footnote in the proposal, EPA now asserts that these permit provisions are 'moot' and that the Agency is not incorporating any permit provisions into the SIP."

The Conservation Groups conclude by saying that "[n]othing in the proposal or letters EPA cites from the State analyzes, let alone demonstrates, that these permit provisions are no longer necessary to make reasonable progress or prevent future impairment." They state in the December 2024 letter EPA cites in which South Carolina withdrew the permit provisions for Century from the SIP, that South Carolina "explicitly explained that it was in the process of

updating a 'standalone regional haze construction permit' for Century and that the State would 'submit the final construction permit in a supplement to the final SIP as part of the request for materials proposed for adopting into the regulatory portion of the South Carolina SIP.'" The Conservation Groups note that "EPA points only to its new URP policy and South Carolina's request to approve the 2022 SIP Revision without any permit provisions based on that new policy to support its refusal to incorporate these measures into the SIP. Therefore, they state that "EPA's application of its new URP policy here is both internally inconsistent with its own explanations of the Clean Air Act's and RHR's requirements and in violation of those same requirements."

Response 3.a: As discussed in more detail in response to Comments 1.a through 1.d, EPA disagrees with the comment that the URP policy is a "safe harbor" or an exemption to the RHR requirements. Being below the URP does not relieve a state of its obligations under the RHR to make reasonable progress.

Regarding the comment that EPA fails to explain or address anywhere in the proposal whether the new URP policy requires that states' FFAs be based on reliable, reasonable, and well-documented information, EPA disagrees. The NPRM explained that "40 CFR 51.308(f)(2)(iii) plays an important function in requiring a state to document the technical basis for its decision making so that the public and EPA can comprehend and evaluate the information and analysis the state relied upon to determine what emission reduction measures must be in place to make reasonable progress." In the NPRM, EPA also explained that "[r]egarding cost and engineering information, the State provided the underlying cost calculations associated with the cost summaries in Section 7.8 of the plan for Century, Cross, IP-Georgetown, and [WestRock Charleston Kraft, LLC (WestRock-Charleston)], and the proposed FFAs in Appendix G provide engineering analyses evaluating potential new control measures." This technical data is also discussed in more detail in Responses 11.b, 11.c, and 11.d.

EPA also disagrees with the Conservation Groups' assertion that approval of the Haze Plan under the new URP policy without any of the permit provisions is arbitrary, capricious, and an abuse of authority and does not comply with the substantive requirements of the CAA and RHR. EPA proposed to approve the Haze Plan without the permit conditions, as requested by South Carolina in its June 4, 2025, letter, based on the new URP policy.[14] South Carolina considered the four statutory factors for Century, IP-Georgetown, Cross, and Winyah in technical analyses. Subsequently, South Carolina clarified in its June 4, 2025, letter that it is not necessary to include in the SIP any final permit conditions for these evaluated facilities and that statements appearing in South Carolina's submittal concerning existing or additional measures are no longer applicable. In addition, South Carolina never submitted its 2025 SIP Supplement, and it confirmed in its June 4, 2025, letter that it does not intend to submit or include final permit conditions for these facilities for incorporation into the regulatory portion of the South Carolina SIP. As discussed in the NPRM, because South Carolina considered the four statutory factors for these facilities and visibility conditions at all Class I areas to which South Carolina contributes are below the URP, South Carolina has demonstrated that it has made reasonable progress for the second planning period without any measures in the regulatory portion of the SIP for these facilities.

Comment 3.b: The Conservation Groups claim that EPA fails to adequately explain how the new URP policy creates only a "Presumption" that a SIP is approvable. They state the "EPA asserts in the proposal that its new URP policy does not create a safe harbor but creates only a 'presumption' that a SIP demonstrates reasonable progress and is approvable." In general, they

[14] South Carolina's letter states: "The South Carolina Department of Environmental Services (Department) is requesting a full approval of the Regional Haze State Implementation Plan (SIP) for South Carolina Class I Federal Areas for Second Planning Period (2019-2028) submittal dated March 3, 2022 (SC-132) pursuant to the policy announced in the Environmental Protection Agency's (EPA) April 18, 2025, proposed approval of West Virginia's (90 FR 16478) Regional Haze SIP and reaffirmed in the proposed approval of South Dakota's Regional Haze SIP (90 FR 20425) on May 14, 2025. . . . per the presently applicable EPA policy, South Carolina's SIP submittal meets the requirements of the Clean Air Act (CAA) for demonstrating reasonable progress towards the visibility goal; therefore, no additional or existing measures need to be adopted into the SIP as part of the long-term strategy for this planning period. As a result, it is not necessary to include in the SIP any final permit conditions for any of the evaluated facilities, and according to the policy, Section 7.9 of the SIP, Appendix G-3 of the SIP, and statements appearing in Section 7.8 of the SIP concerning existing or additional measures are no longer applicable."

state "a presumption establishes a 'legal inference or assumption that a fact exists,' 'unless the adversely affected party overcomes' the presumption with other evidence." They claim that "even if the new URP policy created only a presumption that a SIP is approvable, the new policy still violates the plain text of the Clean Air Act and the RHR, as well as EPA's interpretations of the Act and Rule." Additionally, they claim that "EPA cannot point to any 'clear congressional authorization' for the authority to create a presumption that, where a Class I area is on the so-called URP, states need not implement further emission reductions based on a consideration of the four statutory reasonable factors." They conclude by saying that "[i]n any case, EPA cannot cure the legal errors in the new policy by claiming the policy creates only a presumption, and so, is somehow different than treating the URP as a safe harbor."

The Conservation Groups further claim that "EPA does not explain the operation of the purported presumption created by its new policy anywhere in the proposal. As noted, the presumption appears to relieve EPA of its duty to substantively review a State's control determinations and Four-Factor Analyses where the Agency concludes that the State has triggered that presumption. Otherwise, it is entirely unclear what role the 'presumption' serves in EPA's review of SIPs." Thus, the Conservation Groups maintain that "the presumption created by the new policy also relieves states of the obligation to demonstrate reasonable progress in a manner that is reasonable and adequately documented." They state that EPA proposes to relieve South Carolina of those obligations here, and "even though South Carolina determined that existing measures are necessary to make reasonable progress and prevent future impairment for Century, Cross, Winyah, and IP Georgetown, EPA proposes to grant the State's request to exclude all of those measures from the SIP based on its new URP policy. Treating the new URP policy as a presumption is contrary to the burdens set forth in the Clean Air Act and the RHR." They assert that "[n]othing in the statute or the RHR allows EPA to shift that burden off the states or the Agency."

The Conservation Groups continue by saying that "if the new URP policy does, in fact, create only a presumption that a SIP is approvable, then there must be circumstances in which the presumption can be overcome." They state that "[n]owhere in the proposal, however, does EPA articulate what those circumstances would be or whether or not they are present for South Carolina's 2022 SIP Revision." They assert that "EPA's proposal here fails to provide adequate notice of the Agency's rationales in support of its proposed action."

The Conservation Groups go on to describe three circumstances that "potentially could overcome the new URP policy's presumption that a SIP is approvable." The first circumstance raised by the Conservation Groups "is that all Class I areas affected by pollution from the state — here, South Carolina — are not projected to be below the URP glidepath at the end of the planning period. As discussed in detail below, however, that circumstance *is* present here." The second circumstance raised by the Conservation Groups is that a state "entirely fails to evaluate potential control measures or consider the four statutory factors for any sources or group of sources." The third circumstance raised by the Conservation Groups is that "although states evaluated potential control measures and considered the four statutory factors, they failed to do so reasonably or in compliance with the requirements of the Clean Air Act and the RHR."

Response 3.b: Initially, EPA disagrees with the Conservation Groups' assertion that the URP policy creates a presumption that the SIP is approvable. Rather, the new policy creates a presumption that Class I areas are making reasonable progress. Furthermore, EPA disagrees with the assertion that EPA has not clearly explained how its new policy creates a presumption that Class I areas are making reasonable progress. As first articulated in West Virginia's April 18, 2025, notice and reiterated in other actions, including this action, where projected 2028 visibility conditions for a Class I area impacted by a state are below the URP and the state has considered the four statutory factors, the state will have presumptively demonstrated that its LTS is adequate to make reasonable progress for the second planning period for that area. Thus, EPA has articulated two requirements that must be met for the presumption to be applicable.

Furthermore, EPA notes that just because a Class I area is below the URP does not mean that a state is relieved of its obligations under the CAA and the RHR to make reasonable progress, as well as a multitude of other rule requirements that must be satisfied. In other words, the URP is not a "safe harbor," as that phrase has sometimes been used, because EPA still must review a state's determination whether additional control measures are necessary to make reasonable progress, if control measures are necessary, determine whether the state submitted those measures for incorporation into the SIP, and evaluate whether the measures are consistent with other provisions in the CAA, as EPA did here in approving South Carolina's SIP. EPA is not required, in acting on the state's submission, to speculate about what facts or circumstances would necessitate a disapproval.

Comment 4: The Conservation Groups state that "[t]he new URP policy violates the Clean Air Act's procedural requirements, as it is inconsistent with both national policy and actions taken on second planning period SIPs by nearly every EPA region" and that "[t]he new policy also effectively revises the RHR without complying with the Act's rulemaking requirements and is intended to have national scope and effect." This comment, along with individual points raised by the Conservation Groups, are summarized and responded to in Comments 4.a through 4.d below.

Comment 4.a: The Conservation Groups assert the while "EPA acknowledges that its new policy reflects 'a change in policy' regarding the URP," it "ignores that its announcement of this change in a regional SIP action, and continued application of that policy in other regional SIP actions, including this one, violates the Clean Air Act's requirements that SIP actions be consistent with national policy."

Citing the 1999 RHR and 2017 RHR, as well as its 2019 Guidance and 2021 Clarification Memo, the Conservation Groups state that "EPA's new URP policy is incompatible with its own longstanding policy that the URP is not a safe harbor, and the mere fact that a Class I area is projected to be on or below the URP glidepath does not allow states to conduct unreasonable

Four-Factor Analyses or ignore reasonable emission reduction measures. Not only is this EPA's longstanding policy, it is also the Agency's national policy."

The Conservation Groups then quote CAA section 7601(a)(2)(A), which requires EPA to "assure fairness and uniformity in the criteria, procedures, and policies applied" in acting on SIPs and EPA's consistency regulations at 40 CFR part 56. They allege that "[b]ecause EPA's proposed approval of the South Carolina 2022 SIP Revision is based on an interpretation of the Clean Air Act that 'varies from national policy,' the Agency is required under 40 C.F.R. § 56.5(b) to obtain the concurrence of the relevant EPA Headquarters Office before finalizing the proposed approval. Yet, nothing in the record indicates that the regional office obtained that concurrence."

The Conservation Groups then cite 40 CFR 56.5(c) and EPA's 1975 "State Implementation Plans — Procedures for Approval/Disapproval Actions, OAQPS No. 1.2-005A" and state that "the record includes no reference to the Agency's SIP Review Guidelines, let alone indicates that EPA complied with them." Additionally, they assert that "[b]ecause EPA's proposal 'would significantly affect emission control regulations' or 'have significant national policy implications,' a full interagency review and concurrence is required." With respect to this interagency review, the Conservation Groups state that "Executive Order 12,866 requires review by the Office of Management and Budget of any 'significant regulatory actions,' which includes actions that '[r]aise novel legal or policy issues arising out of legal mandates.'" They state that "the record shows no attempt at compliance," but rather "that EPA's proposal incorrectly states that compliance is not required.

The Conservation Groups conclude that "EPA cannot take action or approve a SIP that violates applicable Clean Air Act requirements." They state that "by applying the new URP policy that sharply departs from national policy, EPA proposes to do just that. EPA's proposed piecemeal approach to rewriting its national URP policy arbitrarily and impermissibly 'institutionalize[s] the kind of inconsistencies that prompted Congress to enact' § 7601(a)(2) in

the first place." They further note that "[b]ecause EPA has failed to demonstrate that it complied with the Agency's own consistency regulations, as required by 40 C.F.R. § 56.5, the Agency's proposed action is contrary to law."

Citing 40 C.F.R. 56.5(a), the Conservation Groups assert that along with requiring consistency with national policy, EPA's regulations require that EPA regional office SIP actions "[a]re as consistent as reasonably possible with the activities of" [sic] other EPA regions" in accordance with 42 U.S.C. 7601(a)(2)(A) in order to "assure fairness and uniformity in the criteria, procedures, and policies applied by the various [EPA] regions in implementing and enforcing" the Act. The Conservation Groups state that "EPA's current proposal to approve the 2022 SIP Revision based on its new URP policy is inconsistent with SIP actions taken by nearly every other EPA region, as well other EPA Region 4 actions, stating that 'the URP . . . is not a 'safe harbor.'" Due to this alleged inconsistency, the Conservation Groups assert that EPA's proposed approval "violates the Clean Air Act's and its implementing regulations' requirements."

Response 4.a: Under *FCC v. Fox*, an agency's change in policy is not arbitrary and capricious if the agency acknowledges the change, believes the new policy to be better than the one it replaces, and "show[s] that there are good reasons for the new policy." *See* 556 U.S. 502, 515. EPA did not change the policy *sub silentio*, as it stated its reasons for implementing this recently adopted policy. EPA announced this change in the proposed approval of West Virginia's regional haze SIP on April 18, 2025. *See* 90 FR 16478. In Section I, *What action is the EPA proposing?* of that notice, EPA states that "[b]ased on our change in policy discussed in section V of this document, EPA proposes that West Virginia's regional haze SIP meets the statutory and regulatory requirements for the regional haze second planning period." EPA more fully articulated the substance of the change in policy in Section V, *The EPA's Rationale for Proposing Approval*, of that notice. *Id*. at 16482-84. As EPA explained in the proposal for this action, the changed policy is prospective, which addresses the primary concern in *FCC v. Fox.*

Additionally, EPA notes that the legislative history of CAA section 169A is consistent with the Agency's change in policy. The Agency has articulated its rationale for this change, including that this change "aligns with the purpose of the statute and RHR, which is achieving 'reasonable' progress, not maximal progress, toward Congress' natural visibility goal." *See* 90 FR 36005, 36017 (July 31, 2025). The reconciliation report for the 1977 CAA amendments, indicates that the term "maximum feasible progress" in 169A was changed to "reasonable progress" in the final version of the legislation passed by both chambers. *See* Legislative History of the CAA Amendments of 1977 P.L. 95-95 (1977), *H.R. Rep. No. 95-564*, at 535. This change in the final version of the statute indicates that Congress did not require SIPs to contain measures to make the maximal possible progress towards the national goal in each Haze SIP. Instead, Congress intended for Class I areas to achieve a rate of progress that was reasonable, taking into consideration the four statutory factors under CAA section 169A(g)(1). Therefore, EPA's recently implemented policy is consistent with the Congressional intent behind the original framing of CAA sections 169A.

EPA disagrees that its change in policy means that all its actions on second planning period regional haze SIPs that pre-date its proposed approval of the West Virginia second planning period submittal are inconsistent with the new policy. On April 18, 2025, EPA announced its policy regarding the use of the URP in the context of determining reasonable progress. On July 7, 2025, in EPA's final action approving the West Virginia regional haze SIP for the second planning period articulated the policy. *See* 90 FR 29737 (July 7, 2025). The recently adopted policy is consistent with EPA's long-standing position that the URP is not a "safe harbor." As stated in Responses 1 and 1.a through 1.d, EPA's new policy establishes a presumption that the reasonable progress requirements of the CAA and the RHR are met if the state has taken into consideration the four statutory factors and the visibility impairment for each Class I area is projected to be below the URP (*i.e.*, the "glidepath") at the end of the applicable planning period. Unlike treating the URP as a "safe harbor," the policy does not exempt or allow

a state to evade the requirements of the CAA or the RHR. Treating the URP as a "safe harbor" would exempt states from considering the four statutory factors and would allow states to exclude measures necessary for reasonable progress from the SIP. Simply stated, final actions pre-dating the recent URP policy weighed the URP differently in evaluating whether regional haze plans met the requirements of the CAA and the RHR.

EPA acknowledges that under this policy, the URP informs EPA actions on SIPs differently than previous actions, which may result in a different conclusion. Under 40 CFR 51.308(f)(3)(i), RPGs are to be established by a state that contains a Class I area to "reflect the visibility conditions that are projected to be achieved by the end of the applicable implementation period as a result of those enforceable emissions limitations, compliance schedules, and other measures required under paragraph (f)(2) of this section that can be fully implemented by the end of the applicable implementation period, as well as the implementation of other requirements of the CAA." The change in policy leaves this process intact. As before our change in policy, a state must still identify "enforceable emissions limitations, compliance schedules, and other measures" [40 CFR 51.308(f)(2)], by taking into consideration the four statutory factors, and EPA will approve any such measures that are submitted by the State as measures necessary for reasonable progress as long as they are consistent with other provisions of the CAA. States' only other obligation under 40 CFR 51.308(f)(3) applies only when the RPG for a Class I area affected by emissions from the state is above the URP. In that case, states must provide a robust demonstration "that there are no additional emission reduction measures for anthropogenic sources or groups of sources in the State that may reasonably be anticipated to contribute to visibility impairment in the Class I area that would be reasonable to include in the long-term strategy." Because EPA's URP policy only applies when a Class I area is below its URP, the new policy does not impact this obligation either.

EPA's Regional Consistency regulations at 40 CFR part 56, and in particular 40 CFR 56.5(a) and (b), are not relevant to this action. 40 CFR 56.5(a) requires, in relevant part, that

"[e]ach responsible official in a Regional Office, including the Regional Administrator, shall assure that actions taken under the act . . . [a]re as consistent as reasonably possible with the activities of other Regional Offices." 40 CFR 56.5(b) requires that a "responsible official in a Regional office shall seek concurrence from the appropriate EPA Headquarters office on any interpretation of the Act, or rule, regulation, or program directive when such interpretation may result in application of the act or rule, regulation, or program directive that *is inconsistent* with Agency policy" (emphasis added). As EPA expressly indicated in the proposal for this action the approval is *consistent* with the change in Agency policy, first announced in *Air Plan Approval; West Virginia; Regional Haze State Implementation Plan for the Second Implementation Period*. 90 FR 16478 (April 18, 2025). Therefore, there is no obligation under EPA's Regional Consistency regulations for anyone in the Region to seek concurrence from EPA Headquarters to take action consistent with EPA policy. For the same reason, this action is also consistent with the actions of other EPA Regional Offices. The lack of relevance of these regulations to this action accounts for the lack of materials related to compliance with the Regional Consistency process in the docket for this rulemaking. Finally, as noted below, this action is not subject to EO 12866.

Comment 4.b: The Conservation Groups cite the preamble to the 2017 RHR, and they assert that there are two ways EPA's new URP policy effectively revises the national RHR. First, the Conservation Groups maintain that the new URP policy "creates an exception to the national RHR's categorical prohibition against relying on the URP as a safe harbor from reasonable control measures." They further note that "EPA claims that the Clean Air Act and the RHR allow states to avoid control measures that are reasonable under the four statutory factors, and so, necessary to make reasonable progress where the state demonstrates that affected Class I areas are meeting the URP." Thus, they allege that "EPA has revised a rule that, as a matter of law, allows no exceptions, into a rule that allows exceptions when (or where) EPA decides that all affected Class I areas are meeting the URP." Second, the Conservation Groups maintain that

"the proposed action changes the applicability of the RHR's URP policy, making that national policy inapplicable to South Carolina." They further argue that "[t]he proposed action thus amends the national, categorical URP policy to no longer be national or categorical."

The Conservation Groups cite CAA section 7491(a)(4) and claim that EPA cannot support its attempt to effectively amend the RHR through regional SIP actions. They state that "this section requires EPA to undergo a rulemaking process to promulgate regulations."

The Conservation Groups further cite 7607(d)(1), as requiring "the 'promulgation or *revision* of regulations under part C of subchapter I of [the Act] (relating to prevention of significant deterioration of air quality and protection of visibility)' to be carried out using the procedures in Section 7607(d)." They also state that "[t]he [Clean Air] Act's rulemaking procedures require that EPA include in the docket all data, information, and documents related to the methodology for the proposed revision, as well as an explanation of the major legal interpretations underlying the rule." The Conservation Groups further note that "this action is subject to the requirement in Executive Order 12,866 for interagency review by the Office of Management and Budget; and in turn, the procedures in Section 7607(d) require EPA to provide the results of such review in the docket prior to the date of proposal and finalization." The Conservation Groups assert that EPA has not followed these procedures.

Response 4.b: EPA does not agree that the new policy effectively revises the RHR. Rather, as described in Response 2, the policy is consistent with the existing RHR. Moreover, the requirements of CAA section 307(d) apply only to specific enumerated types of actions under the CAA and to "such other actions as the Administrator may determine."[15] Actions on SIPs are not one of the enumerated actions, and the Administrator has not determined that this action is subject to 307(d) pursuant to section 307(d)(1)(V). Therefore, the procedures in 307(d) do not apply to this action.

[15] *See* CAA section 307(d)(1).

Comment 4.c: The Conservation Groups cite the preamble to the 2017 RHR revision, in which "EPA concluded that judicial review of the Rule—including EPA's national policy position that the URP is not a safe harbor against implementing reasonable control measures—should be centralized in the D.C. Circuit." They then assert that, "[e]ven if the proposed action does not amend the nationally applicable RHR (it does), EPA must publish a finding that the revisions to the Agency's national Rule, which embodies its national URP policy are 'based on a determination of nationwide scope [and] effect.'"[16]

The Conservation Groups discuss two recent U.S. Supreme Court decisions that pertain to the effect of a "determination of nationwide scope and effect" on venue, *EPA v. Calumet Shreveport Refining, LLC et al.* ("*Calumet*"), No. 23-1229 (June 18, 2025) and *Oklahoma et al. v. EPA et al.* ("*Oklahoma*"), No. 23-1067 (June 18, 2025). Citing to *Calumet*, they assert that "Here, the key driver of EPA's action is its new URP policy. EPA gives no other 'intensely factual' consideration for proposing to approve South Carolina's 2022 SIP Revision despite ample evidence that additional emission reduction measures are necessary to make reasonable progress." They continue to state that "[w]here EPA does purport to draw a conclusion regarding the State's Four-Factor Analyses, EPA does so in a conclusory fashion without any substantive review." Furthermore, they argue that "EPA's new URP policy allows EPA to evade fact-intensive review of a state's Four-Factor Analyses, instead substituting a purely ministerial determination as to whether the SIP submittal contains Four-Factor Analyses, regardless of whether they are rational or supported by the record."

Again citing *Calumet*, the Conservation Groups state that "'EPA relies on determinations of nationwide scope or effect to reach *a presumptive resolution*, those determinations qualify as the primary driver of its decision,' and EPA's action is therefore based on a determination of nationwide scope or effect. That is precisely what has happened here: EPA has made a presumptive resolution of the issue of whether South Carolina's 2022 SIP Revision makes

[16] Citing 42 U.S.C. 7607(b)(1).

reasonable progress." They maintain that "the Agency's resolution of that central issue is indisputably based on the Agency's new URP policy that purportedly allows EPA to determine that the 2022 SIP Revision presumptively demonstrates reasonable progress." The Conservation Groups continue to state "[t]hat there are particular facts that might cause EPA to depart from this presumption (and which facts EPA does not even specify) would be merely 'peripheral.' Indeed, EPA has now proposed to apply its new URP policy to approve multiple SIPs across EPA Regions without any hint that any of those SIPs might fail the 'presumption.'" They further state that EPA's new policy is "based on the same determinations of nationwide scope and effect" that it made in the 2017 RHR revision.

The Conservation Groups acknowledge that the Supreme Court held that "EPA still has a role in deciding whether a regional action is based on a determination of nationwide scope or effect. While in dicta the Supreme Court theorized that it would be rare for EPA to fail to make the determination of nationwide scope and effect despite it being appropriate to do so, the Court only mentioned issue preservation as a potential obstacle to reviewability of such a failure." They further state that "[t]he Act gives EPA discretion to make the determination of nationwide scope and effect; in such a circumstance, it is arbitrary and capricious for EPA to fail to explain why it is or is not exercising that discretion."

Response 4.c: The Conservation Groups' claim that EPA "must" publish a finding that this action is "based on a determination of nationwide scope [or] effect" is unsupported and incorrect. Under CAA section 307(b)(1),[17] a petition for review of an action that is "locally or regionally applicable may be filed only in the United States Court of Appeals for the appropriate circuit," with one exception: if (i) the action "is based on a determination of nationwide scope or effect" and (ii) "if in taking such action the Administrator finds and publishes that such action is based on such a determination," then any petition for review must be filed in the D.C. Circuit.

[17] *See* 42 U.S.C. 7607(b)(1).

Thus, if a locally or regionally applicable action is "based on a determination of nationwide scope or effect," the CAA's venue provision expressly grants the EPA Administrator complete discretion to invoke, or decline to invoke, the exception to the general rule that challenges be heard in the appropriate regional circuits. The Supreme Court has recognized that "[b]ecause the 'nationwide scope or effect' exception can apply only when 'EPA so finds and publishes' that it does, EPA can decide whether the exception is even potentially relevant." As the D.C. Circuit has also stated, the "EPA's decision whether to make and publish a finding of nationwide scope or effect is committed to the agency's discretion and thus is unreviewable." Although a court may review "whether a locally or regionally applicable action is based on a determination of nationwide scope or effect *when EPA so finds and publishes*…. a court may not 'second-guess' the agency's discretionary decision to make and publish (or not) a finding of nationwide scope or effect."

The Administrator has not made and published a finding that this action is based on a determination of nationwide scope or effect. Accordingly, any petition for review of this action must be filed in the United States Court of Appeals for the appropriate regional circuit.

Comment 5: The Conservation Groups state that "[e]ven if EPA's new URP policy does not violate the Clean Air Act and RHR (it does), EPA cannot approve South Carolina's 2022 SIP Revision based on that policy." They further note that "[a]s EPA explains in its proposal here, to qualify for presumptive approval under the new policy, all Class I areas, both in-state and out-of-state, that may be affected by pollution from the state must be projected to be below their respective URP glidepaths at the end of the planning period." The Conservation Groups assert that "[n]either EPA nor South Carolina demonstrate that all Class I areas affected by South Carolina pollution will be below their respective glidepaths in 2028."

The Conservation Groups raise three individual reasons to justify their assertion above. First, they claim all states rely on the Interagency Monitoring of Protected Visual Environments (IMPROVE) monitoring network to develop their URP glidepaths, but recent threats raise

significant concerns about the continued operation of the network. Second, they claim neither EPA nor South Carolina clearly states whether they relied on adjusted URP glidepaths, but to the extent they do, those adjustments do not comply with the requirements of the RHR. Third, they claim neither EPA nor South Carolina clearly identifies the Class I areas that may be affected by pollution from South Carolina, but to the extent they do, EPA and South Carolina both ignore additional out-of-state Class I areas that are affected by South Carolina pollution. Each of these points raised are summarized and responded to in more detail in Comments 5.a through 5.c below.

Comment 5.a: The Conservation Groups note "the importance of the IMPROVE network to the Regional Haze Program (and other Clean Air Act programs)" and point out that "the Trump Administration issued a stop-work order on multiple contracts to maintain the IMPROVE network earlier this year." They state that, "[a]lthough those contracts appear to have been reinstated, funding cuts for air quality monitoring remains an issue, threatening the continued operation of the IMPROVE network." The Conservation Groups conclude that "[w]ithout the IMPROVE network, not only would states be unable to meet the RHR's monitoring requirements, but they also could not show that their SIPs qualify for approval under EPA's new URP policy."

Response 5.a: EPA disagrees that there are any issues with the IMPROVE network that are relevant to our action on the Plan. From the time that South Carolina worked on the Haze Plan up until it submitted the Plan to EPA, the IMPROVE network was in operation. Additionally, as stated in the Haze Plan, and required by the rule, South Carolina continues to support and participate in the IMPROVE network. Concerns about the future funding of the IMPROVE network are speculative, out of the control of South Carolina, and beyond the scope of the basis for our action on the Haze Plan.

Comment 5.b: The Conservation Groups cite the provisions of the RHR concerning the URP and RPGs and note that "neither EPA nor South Carolina state whether they rely on

adjusted or unadjusted glidepaths." They provide further context by stating that "[i]t appears that [Visibility Improvement State and Tribal Association of the Southeast (VISTAS)] relied on EPA's glidepath adjustments from the Agency's September 2019 Modeling Technical Support Document (2019 Modeling TSD). In the VISTAS final Regional Haze Air Quality Report (Final VISTAS Modeling Report), VISTAS explains that the URP can be adjusted to account for the contribution of international anthropogenic emissions on visibility impairment at Class I areas to derive a 'default adjusted' glidepath, citing EPA's 2018 Technical Guidance on Tracking Visibility Projects for the Second Implementation Period of the Regional Haze Program (2018 Visibility Tracking Guidance)."

The Conservation Groups assert that the "VISTAS and EPA glidepath adjustments fail to satisfy the requirements of the RHR" because "[i]n its 2019 Modeling TSD, EPA highlighted substantial problems with available data and methods for adjusting Class I area glidepaths based on both international and prescribed wildland fire emissions." Additionally, they state that "EPA also noted that the science on which modeling contributions from international emissions rests is questionable, stating that '[d]ue to the uncertainty in many of the calculations and modeling and ambient data, additional scrutiny of the initial glidepath adjustments are warranted.'" The Conservation Groups note several data and modeling limitation for prescribed fires, which include: limited existing emissions data and that data does not "accurately" capture the year-to-year variability with these emissions; the categorization of fires between wildfires (considered natural emissions) and prescribed fires (considered anthropogenic emissions) is uncertain; and the impacts of prescribed fires are likely double counted since they are already accounted for when estimating conditions on 20 percent most impaired days. They state that EPA did not include contributions from prescribed fire in its proposed adjustments to the glidepath in the 2019 Modeling Technical Support Document. Finally, they state that "these adjustments allow EPA and states to 'flatten out' the glidepaths for the relevant Class I areas to make it *appear* that

these Class I areas are on track to meet the Clean Air Act's goal of achieving natural visibility conditions when that is not the case."

Therefore, the Conservation Groups claim that "[t]o the extent EPA and South Carolina rely on VISTAS or EPA URP glidepath adjustments, those adjustments do not satisfy the requirements of the RHR." They conclude by saying that "[n]either South Carolina nor EPA can properly rely on URP adjustments that do not comply with the RHR" and that "EPA also cannot show that the South Carolina 2022 SIP Revision satisfies the new URP policy for presumptive approval."

Response 5.b: EPA disagrees with this comment. South Carolina used an unadjusted value for "natural visibility conditions on the most impaired days." For example, at Cape Romain Wilderness Area (Cape Romain), this value is 9.78 deciview (dv), as shown in Figure 3-1 of South Carolina's Haze Plan. This value corresponds to the unadjusted value for natural conditions at Cape Romain (9.78 dv) found in Appendix A of EPA's June 3, 2020, "Recommendation for the Use of Patched and Substituted Data and Clarification of Data Completeness for Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program,"[18] which provides updates to EPA's December 20, 2018, "Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program,"[19] This is further supported by information contained in Table 4-1 of the "VISTAS Future Year Model Projections Report Task 9a" found in Appendix E-6 in South Carolina's Haze Plan. In this report, the unadjusted value for natural conditions at Cape Romain is 9.79 dv,[20] whereas the calculated adjusted value is 11.89 dv. Additionally, for the nearby Class I areas outside of South Carolina, Okefenokee National Wilderness Area (Okefenokee) and

[18] *See* https://www.epa.gov/sites/default/files/2020-06/documents/memo_data_for_regional_haze_0.pdf.
[19] *See* https://www.epa.gov/sites/default/files/2018-12/documents/technical_guidance_tracking_visibility_progress.pdf.
[20] The 9.79 dv value corresponds to the value in Appendix A of EPA's 2018 "Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program," which was the guidance that was available at the time the VISTAS Report in Appendix E-6 was developed. This value was revised to 9.78 in the updated 2020 EPA memorandum referenced above.

Wolf Island National Wilderness Area (Wolf Island), which are impacted by emissions from sources in South Carolina, Georgia also used unadjusted values for natural visibility conditions in their glidepath analysis. Therefore, neither South Carolina nor Georgia made adjustments to the glidepath for the Class I areas impacted by sources in South Carolina, so the Conservation Groups' concerns about hypothetical adjustments to the glidepath are not relevant to the URP analysis being relied upon by EPA in this action.

Comment 5.c: The Conservation Groups cite CAA section 169A(b)(2), and assert that "[t]he Act requires states in which a Class I area is located or 'the emissions from which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area' to develop a SIP that makes reasonable progress toward the natural visibility goal." They also state that similar language is found in 40 CFR 51.308(f), which says that states must address regional haze at all in-state Class I areas "and in each mandatory Class I Federal area located outside the State that may be affected by emissions from within the State." And finally, they cite the 2019 Guidance for the same assertion. They state that "[n]either South Carolina in the 2022 SIP Revision nor EPA in its proposal here clearly specify which out of state Class I areas the State identified as being impacted by South Carolina pollution." Therefore, the Conservation Groups claim that South Carolina failed to satisfy the CAA requirement that the State identify affected Class I areas, and EPA failed to adequately explain the basis for its proposal to approve the states identification of Class I areas.

The Conservation Groups further state that Table 10-3 and Figure 10-1 of South Carolina's submittal identifies the top 10 Class I areas outside of South Carolina impacted by the State's projected 2028 emissions but that "[n]either EPA nor South Carolina clearly state whether any of the Class I areas listed in Table 10-3 or Figure 10-1 of the 2022 SIP Revision are the Class I areas that South Carolina identifies as being affected by-instate pollution." The Conservation Groups thus contend that South Carolina did not "satisfy the Clean Air Act's

requirement that it identify affected Class I areas" and cite to CAA section 169A(b)(2) and 40 CFR 51.308(f)(2) in support of this statement.

The Conservation Groups also assert that "even assuming South Carolina identified the 10 Class I areas listed above, the State still failed to properly identify all out-of-state Class I areas affected by South Carolina pollution, and so, neither South Carolina nor EPA can show that all affected Class I areas are projected to be below their respective URP glidepaths at the end of the planning period." They state that "South Carolina relied on VISTAS modeling to identify affected out-of-state Class I areas. However, the VISTAS modeling, and South Carolina's identification of Class I areas based on that modeling, is highly flawed." The Conservation Groups identify two specific concerns with the VISTAS modeling and claim that the modeling did not meet the Clean Air Act's requirements.

First, the Conservation Groups state that "South Carolina identified the Class I areas noted above based on its statewide emissions of only SO_2 and [nitrogen oxides (NOx)] and did not consider direct emissions of [particulate matter (PM)]" and the State also did not "consider other haze-forming pollutants, like NH_3 and VOCs." On that account, they argue that "South Carolina failed to consider all emissions of visibility impairing pollutants in identifying affected Class I areas." They further highlight that "South Carolina identified only the 'top 10 Class I areas outside of South Carolina' that are affected by pollution from the State." However, the Conservation Groups argue that "neither the Clean Air Act nor the RHR allow states to identify only the most or top impacted Class I areas, or otherwise set a cutoff for the identification of affected Class I areas" and that "[b]oth the statute and the regulation require states to identify *any* Class I area to which a state contributes to any impairment." They maintain that the "[c]ontrolling precedent mandates that words like 'any' must be given their literal, 'capacious' meanings" and that "[t]he plain language of the Act mandates that EPA and the states broadly identify all Class I areas to which in-state pollution may contribute to visibility impairment, and not some subset of those states." On that account, the Conservation Groups assert that "EPA's

own summary of South Carolina's identification of affected Class I areas shows that the State's process did not meet requirements of the Clean Air Act."

Second, the Conservation Groups claim that "the VISTAS modeling was riddled with errors and inaccuracies, rendering that modeling highly unreliable." They state that the VISTAS modeling significantly underpredicted the contribution of sulfate to visibility impairment on the 20 percent most impaired days, that it relied on data that "did not reflect the dramatic shift in nitrate contribution to visibility impairment over the five-year period representing current conditions from 2014 to 2018." The Conservation Groups continue by claiming that VISTAS' Particulate Matter Source Apportionment Technology (PSAT) tagging process was flawed and that VISTAS applied PSAT tagging to sulfate and nitrate separately, even though those pollutants act in combination with other haze pollutants to cause visibility impairment. They conclude that "[a]s a result, the VISTAS modeling arbitrarily and incorrectly excluded large sources of SO_2 and NOx, thereby likely ignoring out-of-state Class I areas that are affected by South Carolina pollution sources."

The Conservation Groups claim that "even the flawed VISTAS modeling on which South Carolina relied to identify affected Class I areas shows that South Carolina pollution contributes to impairment at numerous Class I areas that the State and EPA ignore." Furthermore, they state that "VISTAS PSAT modeling results in the 2022 SIP Revision appendices show that South Carolina sulfate and nitrate pollution contributes to impairment at even more Class I areas beyond the 10 listed above," including 29 other Class I areas in the US and one International Park in Canada. They claim that neither South Carolina nor EPA demonstrate, or can demonstrate, that these additional Class I areas are projected to be below their respective URP glidepaths at the end of this planning period. They additionally assert that the same VISTAS modeling shows that many of these 30 areas are projected to be above their unadjusted and adjusted glidepaths at the end of this planning period. Finally, the Conservation Groups assert that "South Carolina and EPA cannot rely on glidepath adjustments for these Class I areas to

claim that they will be below their glidepaths in 2028, as the methods for glidepath adjustments on which South Carolina and EPA potentially rely did not meet the requirements of the RHR."

In conclusion, the Conservation Groups claim that South Carolina and EPA "do not and cannot show that all Class I areas affected by South Carolina pollution will be below their respective URP glidepaths at the end of the planning period, EPA's proposal to approve the 2022 SIP Revision based on its new URP policy is arbitrary, capricious, and contrary to the law."

Response 5.c: EPA disagrees with these comments. The RHR requires states to submit a LTS that addresses regional haze visibility impairment for each mandatory Class I area within the State and for each mandatory Class I area located outside the State that may be affected by emissions from the State.[21] However, while the statute says "for a State the emissions from which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area,"[22] there is no specific statutory or regulatory requirement to identify the precise set of Class I areas that may be affected by emissions from the state, and there is no requirement to establish a source contribution threshold in identifying those areas.

The Conservation Groups also reference additional Class I areas that they claim are potentially affected by emissions from South Carolina and may potentially be above the 2028 URP for those areas. EPA does not agree that emissions from South Carolina cause or contribute to visibility impairment at all of those areas or that any or all of those areas are above the 2028 URP.[23] The VISTAS modeling results cited by the Conservation Groups do not support the claim that all of those additional areas "may be affected" by emissions from South Carolina (or that emissions from South Carolina are "reasonably anticipated to cause or contribute any impairment in those areas"). While EPA has not identified a numerical "cause or contribute" threshold, EPA does not agree, in this instance, that *any* non-zero contribution can or should be

[21] *See* 40 CFR 51.308(f)(2).
[22] *See* CAA section 169A(b)(2).
[23] The RPGs for the areas identified by the Conservation Groups are below the adjusted 2028 URP. *See* Haze Plan Appendix F-3.

considered to "cause or contribute" to visibility impairment to an out-of-state Class I area. Thus, states should merely reasonably document contributions from emissions in their state to out-of-state Class I areas and ensure that they meet the regulatory requirements, which South Carolina has done. As the Conservation Groups themselves note, South Carolina did so here in Table 10-3 and Figure 10-1 of its submittal, which contains highlights of even more detailed information contained in Appendix E-7.

EPA similarly disagrees with the Conservation Groups' claims about VISTAS' modeling. Detailed responses to the modeling comments discussed above and other related comments regarding the VISTAS modeling can be found in Responses 6.a, 7, and 8 below.

Comment 6: The Conservation Groups contend that EPA's proposal to approve South Carolina's reliance on the VISTAS' visibility modeling is arbitrary, capricious, and contrary to law because the Agency ignored significant flaws in this modeling. They state that they informed VISTAS and EPA of significant errors in the visibility modeling through a 2021 letter and that EPA did not acknowledge these errors in the NPRM. They contend these errors affected the source selection process for all of the VISTAS states. Consequently, they assert that South Carolina improperly excluded major sources of haze-forming pollution from FFAs. These alleged errors are addressed in Comments 6.a through 6.c below.

Comment 6.a: The Conservation Groups contend that the VISTAS modeling significantly underpredicted the contribution of sulfates to visibility impairment at Class I areas on the 20 percent most impaired days and that this underprediction was largest during the summer months when sulfate extinction is known to be a major contributor to visibility impairment, and when visibility impairment is most problematic. They also assert that these errors resulted in the modeling not meeting VISTAS' model performance goals and modeling acceptance criteria for a number of Class I areas. They provide examples of specific Class I areas in and around South Carolina where they contend the visibility modeling exceeded the acceptance criteria for sulfate at Great Smoky Mountains National Park (Great Smoky

Mountains) by -6.92 percent and at Okefenokee by -11.42 percent and that at Cape Romain the modeling "barely satisfies" the less than plus or minus 30 percent criteria at -28.85 percent. They further assert that, although the State claims it corrected for these underpredictions through the use of relative response factors (RRFs) for its 2028 future year projections, neither South Carolina nor EPA assessed whether use of RRFs adequately corrected for errors in the modeling. They state that according to EPA's 2018 Modeling Guidance, the effectiveness of RRFs is dependent on the type of data used to calculate them.[24]

Response 6.a: EPA disagrees that there are significant flaws in South Carolina's 2028 visibility modeling that resulted in excluding major sources of haze-forming pollution from evaluation via FFAs for the second planning period. As the Conservation Groups state, South Carolina relied upon the photochemical visibility modeling performed by VISTAS to project the impact of the State's 2028 SO_2 and NOx emissions on visibility in both in-state and out-of-state Class I areas. VISTAS performed the modeling in accordance with the principles described within EPA's 2018 Modeling Guidance.[25] In 2018, EPA approved the Quality Assurance Project Plan[26] prepared by VISTAS for performing the modeling and reviewed and provided comments on the VISTAS Modeling Protocol. EPA also reviewed the VISTAS final modeling reports and data relied upon by South Carolina and found them acceptable.

Regarding sulfate predictions, Figure 6-7 of South Carolina's Haze Plan shows the results of the normalized mean bias and normalized mean error statistical model performance tests for sulfates across the VISTAS region. Figure 6-7 does show that the modeled sulfate levels are biased low, with some values falling outside of the model performance criteria. However, as discussed below, these biases are not uncommon in photochemical modeling analyses and can be addressed with additional analyses. As noted by the Conservation Groups,

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[24] EPA's *Modeling Guidance for Demonstrating Air Quality Goals for Ozone, $PM_{2.5}$ and Regional Haze* (November 29, 2018) ("2018 Modeling Guidance") is in the docket for this rulemaking and is also available at: https://www.epa.gov/sites/default/files/2020-10/documents/o3-pm-rh-modeling_guidance-2018.pdf.
[25] *Id*.
[26] The April 3, 2018, Quality Assurance Project Plan for the VISTAS II Regional Haze Project is located in Appendix A-1 of the Haze Plan.

the normalized mean bias (NMB) statistic on the 20 percent most impaired days for Cape Romain in South Carolina shows model underprediction, but it is within the VISTAS performance criteria. Figure 6-27 in South Carolina's Haze Plan graphically shows that the VISTAS Criteria for NMB (less than plus or minus 30 percent) and Normalized Mean Error (NME) (less than plus or minus 50 percent) are met for the Cape Romain Class I area in South Carolina.

Model bias and error, either high or low, is not uncommon in photochemical modeling analyses due to uncertainties in model inputs and the scientific model formulation, and the fact that all air quality models are simplified approximations of the complex phenomena of atmospheric chemistry, fate, and transport of pollutants. Section 6.0 of EPA's 2018 Modeling Guidance discusses uncertainties that may affect model results and provides recommendations to mitigate modeling bias and uncertainty. South Carolina acknowledges that model performance generally underpredicted observed concentrations on the 20 percent most impaired days but stated that model performance was assessed at the "one atmosphere" level and was deemed acceptable for its regulatory determinations in the Haze Plan (which references the 2018 Modeling Guidance in several instances). The 2018 Modeling Guidance states that it is not appropriate to use a "bright-line test" for distinguishing between adequate and inadequate photochemical model performance for a single performance test statistic.[27] EPA's 2018 Modeling Guidance instead recommends using a "weight of evidence" approach for evaluating model performance holistically.[28]

As discussed in Section 5.2(d) of EPA's "Guideline on Air Quality Models" contained in 40 CFR part 51, Appendix W, there are no specific levels of any model performance metric that indicate acceptable model performance. The decision regarding acceptability is heavily

[27] *See* 2018 Modeling Guidance at 69 ("Further, even with a single performance test, it is not appropriate to assign "bright line" criteria that distinguish between adequate and inadequate model performance.").
[28] *Id.* ("[T]he EPA recommends that a "weight of evidence" approach be used to determine whether a particular modeling application is valid for assessing the future attainment status of an area.").

influenced by professional judgment of the reviewing authority, which is EPA in this case. Based upon the overall performance of the model for all pollutants affecting visibility, considered holistically, South Carolina's conclusions that the modeling is acceptable for use in the regional haze SIP analyses are reasonable, and South Carolina provided a reasonable explanation for the model bias.

Just as importantly, South Carolina took appropriate steps to correct for this model bias. The Haze Plan explains that the model is applied in a relative sense through the calculation of RRFs following the procedures in 2018 Modeling Guidance for calculating 2028 future year visibility impacts, which mitigates concerns about the low bias in the sulfate model predictions. As described in EPA's 2018 Modeling Guidance, RRFs are "the fractional change in air quality concentrations that is simulated due to emissions changes between a base and a future year emissions scenario."[29]

Applying the model in a relative sense using the RRFs is an important tool in mitigating the impacts of the sulfate modeling underpredictions in the 2011 baseline year on the model projections for the 2028 future year. Section 4.1 of the 2018 Modeling Guidance provides a detailed explanation of why EPA recommends photochemical modeling be applied in a relative sense and explains that problems posed by model bias are expected to be reduced when using the relative approach. Section 7.2.6.1 of South Carolina's Haze Plan explains the calculation of 2028 visibility estimates using the RRF approaches contained in EPA's 2018 Modeling Guidance. Using the RRF approach with an average of five years of IMPROVE[30] data on the 20 percent most impaired days and 20 percent clearest days along with the relative percent modeled change in all the PM species between 2011 and 2028 reduces the influence of the bias in sulfate-modeled (and other PM species) values in the 2011 baseline year. The 2028 visibility impairment projection is derived primarily from the five-year average of actual IMPROVE

[29] *Id.* at 103.
[30] IMPROVE visibility monitoring data is available at: https://vista.cira.colostate.edu/Improve/.

monitoring data in 2009–2013 that was then scaled in a relative sense by the modeling results. If the model were being applied in an absolute sense, the low bias in the sulfate modeled values would have a larger impact on the 2028 visibility projections. For these reasons, South Carolina's use of the VISTAS model results to inform source selection was reasonable due to the use of RRFs to minimize the impacts of model bias. Additionally, regardless of the sulfate model performance, a specific source selection approach is not required by the RHR. South Carolina reasonably selected the nine facilities (five of which are in-state) that have the highest impact on visibility at the State's Class I area, as well as out-of-state Class I areas, for emissions control analysis (*see* Response 7.a) and considered the four statutory factors. EPA finds that South Carolina's source selection methodology is consistent with the RHR because it was reasonable and resulted in the selection of a reasonable set of sources contributing to visibility impairment at Class I areas affected by South Carolina's sources.

Comment 6.b: The Conservation Groups state that VISTAS relied on an "outdated" 2011 baseline year for its 2028 future year emissions projections and assumed that electric generating units (EGUs) would operate in the exact same manner in 2028 as they did in 2011. Thus, they assert that the model assumptions and results are incorrect because EGUs are likely to have different load utilization in 2028 than in 2011.

Response 6.b: South Carolina's use of a 2011 base emissions inventory year to project emissions out to 2028 (the end of the second planning period) is reasonable in this instance. Although it is always preferable to use the most recent information available for modeling, the 2011 baseline year inventory used by VISTAS was the latest region-wide inventory available at the time that South Carolina's SIP submittal was being developed during the VISTAS technical work, which took place from December 2017 to February 26, 2021.[31] In EPA's experience, coordination among states such as those in the VISTAS region takes time,

[31] *See* "Timeline" for the VISTAS II Regional Haze Project at: https://www.metro4-sesarm.org/content/vistas-regional-haze-project-intro.

and the modeling involved is time-consuming, highly technical, and resource intensive. The modeling generally requires hundreds of hours of time to gather the model input data (*e.g.*, emissions, meteorology, land-use, etc.), prepare modeling protocols, perform the modeling, and analyze the results. The computational resources to run photochemical models are also very large. "Mainframe" clusters of a large number of computer processors are required to run the models, and even using these powerful computers, it takes weeks of computer run-time for a full-year model simulation. Additionally, EPA's newer 2016-based modeling platform only became available in September 2019,[32] after VISTAS had already invested a considerable amount of time and money into the regional haze modeling analysis, including the Comprehensive Air Quality Model with Extensions (CAMx) PSAT source apportionment modeling that was used to identify sources to evaluate or reasonable progress. EPA develops the National Emissions Inventory (NEI) suitable for use in such models every three years.[33] By design, the regional haze program requires states to spend significant time in the planning phase, and this generally necessitates the use of a baseline year that is substantially earlier than the date the state submits its SIP to EPA.

In addition, there is no RHR requirement regarding the baseline year for regional photochemical modeling (nor is photochemical modeling required). At the time VISTAS began their regional haze modeling, EPA did not have a more recent baseline emissions inventory year available for state use in the second period regional haze plans. Furthermore, South Carolina explains the use of this particular baseline year and states that the 2011 emissions inventory was the most recently available quality-assured statewide emissions inventory when the VISTAS project began for the second planning period.[34] Moreover, prior to using this data, South

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[32] *See* "Technical Support Document for EPA's Updated 2028 Regional Haze Modeling" at: https://www.epa.gov/visibility/technical-support-document-epas-updated-2028-regional-haze-modeling.

[33] For more information on the NEI, *see* https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei.

[34] *See* Haze Plan at 22 ("The year 2011 was selected as the modeling base year because the VISTAS 2028 emissions inventory is based on the 2011 Version 6 EPA modeling platform. For the analyses in this SIP, this period consists of those years surrounding 2011 (i.e. 2009-2013)"). *See also* Haze plan at 47 ("Calendar year 2011 satisfies the criteria in EPA's modeling guidance episode selection discussion and is consistent with the base year modeling platform. Specifically, EPA's guidance recommends choosing a time period which reflects the variety of

Carolina discussed the selection of this baseline year emissions inventory and received confirmation from EPA to use this emissions inventory.[35]

The 2011 emissions inventory was used to estimate emissions of visibility impairing pollutants in 2028. VISTAS applied reductions expected from federal and state regulations to the visibility impairing pollutants NOx, PM, and SO_2. South Carolina's 2028 emissions projections are based on the State's technical analysis of the anticipated emission rates and level of activity for EGUs, other point sources, non-point sources, on-road sources, and off-road sources based on their emissions in the 2011 base year, considering growth and additional emissions controls to be in place by 2028. In addition, the VISTAS emissions inventory for 2028 accounts for post-2011 emission reductions from promulgated federal, state, local, and site-specific control programs.

Although South Carolina used 2011 as its emissions inventory base year, as required by the RHR at 40 CFR 51.308(f)(2)(iii), South Carolina also examined more recent emissions inventory information for SO_2 and NOx for the years 2017, 2018, and 2019 and compared these emissions to the 2028 emission projections that were used for modeling purposes in Section 7.6.5, Table 7-19 of its Haze Plan. This helped to ensure that the State adequately considered more recent emissions inventory information when developing LTS. The technical information provided in the docket demonstrates that the emissions inventory in the Haze Plan adequately reflects projected 2028 conditions. Given the aforementioned reasons, EPA finds the use of the 2011 baseline year by VISTAS (and thus South Carolina) reasonable. Additionally, regardless of the use of a 2011 baseline year, a specific source selection approach is not required by the

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meteorological conditions that represent visibility impairment on the 20 percent clearest and 20 percent most-impaired days in the Class I areas being modeled (high and low concentrations). This is best accomplished by modeling a full calendar year. In addition, the 2011/2028 modeling platform was the most recent available platform when VISTAS started their modeling work. EPA's 2016-based platform became available at a later date after VISTAS had already invested a considerable amount of time and money into the modeling analysis. Using the 2016-based platform was not feasible from a monetary perspective, nor could such work be done in a timely manner.").

[35] *See* the January 29, 2018, e-mail from EPA (Richard Wayland) regarding use of a 2011 base year by VISTAS for regional haze in the docket for this rulemaking.

RHR. South Carolina reasonably selected the nine facilities (five of which are in-state) that have the highest impact on visibility at the State's Class I area, as well as out-of-state Class I areas, for emissions control analysis (*see* Response 7.a) and considered the four statutory factors. EPA finds that South Carolina's source selection methodology is consistent with the RHR because it was reasonable and resulted in the selection of a reasonable set of sources contributing to visibility impairment at Class I areas affected by South Carolina's sources.

Comment 6.c: The Conservation Groups state that VISTAS used "outdated" monitoring data for its 2028 future year projections that did not reflect an observed shift in nitrate contribution to visibility impairment in the southeastern United States in the recent past. They therefore contend that this resulted in the exclusion of major NOx sources from the modeling results.

Response 6.c: Regarding the Conservation Groups' comment that the 2009–2013 modeling base period did not reflect more recent changes in nitrate contributions, EPA discussed its views on this issue in detail in the NPRM. Nitrates are also discussed in Response 8, below. EPA agrees that after the 2009–2013 timeframe, nitrate impacts have become more significant on some of the 20 percent most impaired days, especially considering the significant decrease in SO_2 emissions and measured sulfate concentrations as acknowledged in the NPRM. EPA nonetheless agrees with South Carolina's conclusion that for the second planning period, sulfates remain the dominant visibility-impairing pollutant at the Class I areas affected by South Carolina and that it is therefore reasonable for South Carolina to focus on SO_2-emitting sources during this period.

Comment 7: The Conservation Groups state that the purported errors in the VISTAS modeling discussed in Comment 6 were carried forward into the source selection process for VISTAS states, including South Carolina, and that those errors caused VISTAS, and the states that relied on the VISTAS process, to improperly exclude sources from FFAs. In addition to the modeling errors, they state that South Carolina adopted VISTAS' "unreasonable" source

screening process that uses Area of Influence (AoI) and PSAT analyses and applied unreasonably high source selection thresholds. Based on these reasons, they conclude that EPA's proposal to approve the State's source selection method is arbitrary and capricious. The Conservation Groups' specific comments on this topic are addressed in Comments 7.a through 7.h, below.

Comment 7.a: The Conservation Groups claim that South Carolina employed unreasonably high source selection thresholds for the AoI analysis, which were too restrictive and resulted in the identification of only six South Carolina sources at the AoI step. Specifically, they assert that by using percentage-based source selection thresholds, the State's calculated threshold in absolute terms was higher for Class I areas with the most severe visibility impairment, meaning that fewer sources were identified at the AoI step for Class I areas with the worst impairment. The Conservation Groups state that for the areas with the worst visibility impairment, more sources should be selected to make progress toward the natural visibility goal.

The Conservation Groups state that after performing the AoI analysis and creating initial lists of facilities for PSAT tagging, the VISTAS states then compared their lists and collaborated on the final list of facilities for which AoI impacts were significant enough to warrant further evaluation. They state that South Carolina failed to provide any information on how the VISTAS states went through this comparison process or any criteria used to determine whether an AoI impact is significant enough. They contend that EPA and the State therefore failed to adequately explain the AoI step in the selection process.

Response 7.a: EPA disagrees with this comment. The RHR does not require states to consider evaluating controls for all sources, all source categories, or any or all sources in a particular source category. Nor does the RHR expressly specify criteria for minimum source selection thresholds.

These flexibilities are, however, not unbounded. The RHR requires that "[t]he State should consider evaluating major and minor stationary sources or groups of sources, mobile

sources, and area sources. The State must include in its implementation plan a description of the criteria it used to determine which sources or groups of sources it evaluated and how the four factors were taken into consideration in selecting the measures for inclusion in its long-term strategy."[36] In addition, the technical basis for source selection must also be documented, as required by 40 CFR 51.308(f)(2)(iii). Thus, states must utilize a reasonable source selection methodology, and whatever choices states make regarding source selection should be reasonably explained.[37] South Carolina met these requirements. Specifically, South Carolina discussed the criteria it used to determine which sources or groups of sources were evaluated by the State, including the use of AoI analysis, photochemical modeling (*e.g.*, PSAT), and associated source selection thresholds for AoI and PSAT tagging in its Haze Plan. South Carolina documented its use of these approaches in extensive detail within Section 7.5 of the Haze Plan and Appendix D-1 of the Haze Plan (relating to AoI analysis) and Section 7.6 and Appendices E-1a, E-1b, E-2a, E-2b, E-2c, E-2d, E-2e, E-2f, E-3, E-4, E-5, E-6, E-7a, and E-8 of the Haze Plan (relating to PSAT analysis).

South Carolina's documentation adequately demonstrates why its source selection methodology – including the use of an AoI threshold contribution of nitrate of three percent or more or sulfate of two percent or more for in-state sources, and a threshold contribution of four percent sulfate plus nitrate out-of-state sources for follow-up PSAT tagging and a one percent PSAT threshold on a pollutant-by-pollutant basis for source selection – is reasonable. For the reasons stated herein and in the NPRM, EPA finds that South Carolina's source selection methodology was reasonable and resulted in the selection of a reasonable set of sources contributing to visibility impairment at Class I areas affected by South Carolina's sources. The State's methods for selecting sources for a control analysis and the State's AoI and PSAT analyses identified sources in South Carolina having the highest impact on visibility at Class I

[36] *See* 40 CFR 51.308(f)(2)(i).
[37] *See* 90 FR 36005, 36007.

areas at the end of the second planning period and identified sources outside of South Carolina having the largest impacts on visibility at Cape Romain. A specific source selection approach is not required by the RHR.[38]

The results of this methodology were reasonable as well. South Carolina selected for emissions control analysis the nine sources with the largest visibility impacts (accounting for both SO_2/sulfate and NOx/nitrate[39]) at Cape Romain and nearby Class I areas in neighboring states. On the whole, SO_2 emissions from the five in-state sources selected by South Carolina for further analysis are projected to impact visibility at Class I areas as described in Table 1, below.

Table 1: Sulfate PSAT Contributions (Percent) for the Five Sources Selected for Further Analysis in Nearby Class I Areas on the 20 Percent Most Impaired Days*

Sources** Sulfate PSAT Contributions to Class I Areas	Cape Romain (SC)	Okefenokee (GA)	Wolf Island *** (GA)
WestRock-Charleston	3.88	-	-
Century	2.43	-	1.30
Cross	2.34	1.22	1.34
Winyah	1.39	-	-
IP–Georgetown	1.71	-	-

*Note that fields with a "-"indicate that visibility impacts are below one percent.
**The Class I areas listed in Table 1, above, are included because the South Carolina facilities in this table have a sulfate PSAT contribution of one percent or more at one or more of these areas.
*** Wolf Island has no IMPROVE monitor. Visibility at Wolf Island is assumed to be the same as the nearest Class I area monitor located at Okefenokee.

Although these five sources are the largest contributors within South Carolina to visibility impairment at Class I areas, most anthropogenic impacts to visibility at Cape Romain come from outside of South Carolina. This is illustrated in Figure 7-18 of the Haze Plan, which provides the contributions from 2028 SO_2 and NOx emissions to visibility impairment from all source sectors

[38] Both of these approaches (AoI and PSAT) are example methods in the 2019 Guidance. *See* subsection "b) Estimating baseline visibility impacts for source selection" on pages 12–15 of the 2019 Guidance. PSAT is a type of photochemical modeling which is item 4 on page 13 of the 2019 Guidance. VISTAS' AoI analyses involve items 1–3 on page 13 of the 2019 Guidance.
[39] South Carolina selected sources for PSAT modeling based on the combined impact of sulfate plus nitrate. Sulfates and nitrates were modeled together in the PSAT modeling with the other PM species that impact visibility (*e.g.*, direct PM, organic carbon, elemental carbon, etc.). There were no sources with a sulfate impact below the PSAT threshold(s), but a sulfate plus nitrate impact above the threshold(s).

for the 20 percent most impaired days in units of inverse megameters (Mm^{-1}). The entries in Table 2, below, show the contributions from South Carolina, all other VISTAS states, and other Regional Planning Organizations (RPOs) to Cape Romain.

Table 2: Contributions of 2028 SO_2 and NOx Emissions from All Source Sectors to Visibility Impairment for the 20 Percent Most Impaired Days for Cape Romain (Mm^{-1})*

Class I Area	Projected 2028 Impairment on 20% Most Impaired Days**	SC	All other VISTAS States	CENRAP Region ***	LADCO Region ***	MANE-VU Region ***	All other Regions ***
Cape Romain	52.82	4.20	6.46	1.87	3.74	1.57	2.36

*Reference "ATTACHMENT_A_PSAT_TAG_RESULTS_adjusted_09-02-2020.xls" included in the docket. The columns to the right of "Projected 2028 Impairment on 20% Most Impaired Days" do not add up to the values in the "Projected 2028 Impairment on 20% Most Impaired Days" column due to international emissions and boundary emissions visibility impacts not shown in this table.
** Value represents visibility impairment from all anthropogenic and natural sources.
*** "CENRAP" refers to Central Regional Air Planning Association (which is associated with the Central States Air Resource Agencies (CENSARA)); "LADCO" refers to Lake Michigan Air Directors Consortium; MANE-VU; *See also* https://www.epa.gov/visibility/visibility-regional-planning-organizations.

Table 2 illustrates that South Carolina's in-state SO_2 and NOx emissions account for a relatively small percentage (eight percent) of total visibility impairment at Cape Romain impacted by South Carolina sources.[40]

Likewise, the PSAT Tag Results spreadsheet referenced in Section 6.3 of Appendix E-7a of the Haze Plan shows the visibility impacts on a facility-by-facility basis due to SO_2 emissions. Specifically, the spreadsheet referenced in Attachment A of Appendix E-7a shows the following SO_2 visibility impacts to Class I areas impacted by South Carolina sources on the 20 percent most impaired days in units of Mm^{-1}.

Table 3: 2028 SO_2 Visibility Impacts to Cape Romain on the 20 Percent Most Impaired Days (Mm^{-1})

Source	Cape Romain
WestRock-Charleston	0.523
Century	0.327
Cross	0.316
Winyah	0.187

[40] These percentages were calculated by dividing the "SC" column by the "Projected 2028 20% Most Impaired Days Column" and multiplying by 100.

IP-Georgetown	0.230
Total of South Carolina Selected Sources	1.583
South Carolina Total Contribution	3.252
All Sources (including out-of-state contribution)	15.464

The above data in Table 3 further supports that South Carolina's source selection thresholds and source selection methodology were reasonable. Specifically, on the 20 percent most impaired days, South Carolina's in-state sources selected for further analysis are responsible for approximately 48.68 percent of South Carolina's total in-state SO_2 visibility impairment at Cape Romain.[41] States are not required by the RHR to select every source in the state, and South Carolina selected the in-state sources with the largest visibility impacts on in-state and nearby Class I areas.

Table 3 also shows that most emissions of visibility-impairing sulfates that impact South Carolina's Class I area on the 20 percent most impaired days are emitted from outside of South Carolina. The same general pattern holds for the 20 percent least impaired days as well. South Carolina does not have jurisdiction through its SIP to regulate sources outside of state boundaries. South Carolina did, however, request FFAs from other states for an additional four facilities outside of South Carolina through the interstate consultation process.[42] The "regional" nature of the regional haze program necessarily requires South Carolina to rely on reasonable progress made by other states, just as other states must rely on South Carolina to make reasonable progress.

Turning to the Conservation Groups' other source selection comments, they assert that by using a percentage threshold for AoI, the calculated threshold in absolute visibility impact terms was higher for Class I areas with the most severe visibility impairment, which resulted in fewer sources being evaluated for reasonable progress for the most visibility-impaired Class I

[41] These percentages were calculated by dividing the "Total of Selected South Carolina Sources" row in Table 3 by the "South Carolina Total Contribution" row and multiplying by 100.
[42] *See* Haze Plan at Section 7.6.

areas. Thus, the Conservation Groups assert that the use of a percentage threshold was unreasonable.

EPA disagrees with this comment. As noted above, states have flexibility to adopt any source selection methodology so long as the methodology is reasonable, and their choices are reasonably explained. A percentage threshold, rather than one using an absolute visibility threshold (Mm^{-1} or dv), allowed South Carolina – like every other VISTAS state – to select sources with the largest visibility contributions to each Class I area regardless of the magnitude of visibility impairment at a Class I area. This approach is reasonable. Use of a percentage-based threshold produced a relative ranking of visibility impairment to allow the State to focus on the sources contributing to the largest amount of visibility impact at each individual Class I area. Therefore, EPA finds that South Carolina's source selection method is reasonable and adequately explained for the reasons discussed above and within our proposal.

In addition, EPA disagrees with the Conservation Groups' assertion that EPA and South Carolina failed to adequately explain the AoI step of the source selection process. The AoI and PSAT tagging steps were described in sections 7.5 and 7.6 of the Haze Plan, and EPA evaluated the process in the NPRM. The two-step process of screening with the AoI analysis and then applying the more refined PSAT source apportionment modeling to sources that met the initial AoI screening criteria is a sound technical approach for identifying sources to evaluate for reasonable progress. Elements of South Carolina's AoI approach are discussed in EPA's 2019 Guidance as a viable method to assess sources' visibility impacts to Class I areas.[43] South Carolina, along with many of the VISTAS states, also relied upon the AoI initial screening approach in its first planning period Haze Plan. VISTAS used the AoI analysis as an initial screening step because it is a much simpler and less resource intensive approach than using PSAT tagging to model hundreds to thousands of potential sources. The AoI screening approach

[43] EPA's 2019 Guidance at 12-14 discussing Q/d (emissions (Q) divided by distance to a Class I area (d)), trajectory analyses, residence time analyses, and source apportionment photochemical modeling (*e.g.*, CAMx PSAT).

identified a smaller subset of sources that could undergo refined analysis using PSAT modeling. EPA finds the two-step process of first screening with the AoI analysis followed by use of the more refined PSAT source apportionment modeling to sources is valid, reasonable, and adequately explained. Regarding the assertion that South Carolina failed to provide any information on how the VISTAS states went through its comparison process, this comment is not germane to South Carolina's selection of sources for PSAT analysis because all of the facilities above the State's AoI thresholds were selected for PSAT analysis. As discussed above, EPA finds South Carolina's source selection method reasonable and adequately explained.

Comment 7.b: The Conservation Groups state that VISTAS considered sulfate and nitrate separately in the PSAT model analyses, which the Conservation Groups allege does not align with how these pollutants act in combination in the atmosphere along with other haze precursors, to contribute to light extinction and visibility impairment. As a result, they argue that VISTAS likely underestimated the overall visibility impact of individual sources in its PSAT analysis.

Response 7.b: EPA disagrees with Conservation Groups' assertion that VISTAS' separate consideration of sulfate and nitrate undermines its analysis of visibility impacts. Sulfates and nitrates were modeled together in the PSAT modeling with the other PM species that impact visibility (*e.g.*, direct PM, organic carbon, elemental carbon, etc.). Section 7.6.2 of the Haze Plan summarizes the results of the PSAT modeling. This section states: "[t]he adjusted PSAT results were used to calculate the percent contribution of each tagged facility to the total sulfate and nitrate point source (EGU + non-EGU) contribution at each Class I area." Table 7-11 of the Haze Plan contains the specific PSAT results for Cape Romain. South Carolina considered the PSAT modeled results for sulfate and nitrate separately only to compare against its selected one percent PSAT threshold for each of these pollutants to identify a reasonable number of sources for further analyses. The State's approach is reasonable for the reasons discussed above, and it was adequately justified in the Haze Plan and in EPA's NPRM.

Comment 7.c: The Conservation Groups state that VISTAS used an outdated 2028 emissions projection to "tag" sources. They note that although VISTAS documented that the initial 2028 emission inventory projections were updated for the final modeling, the associated PSAT modeling did not use the final 2028 inventory. The Conservation Groups state that VISTAS scaled predicted sulfate and nitrate to the corresponding changes in SO_2 and NOx emissions in the updated 2028 inventory using a linear relationship between sulfate and nitrate concentrations. They argue ample evidence shows that there is a non-linear relationship between emissions and sulfate/nitrate concentrations, and that this resulted in additional errors into the modeling.

Response 7.c: EPA disagrees with this comment. VISTAS used the original 2028 emissions inventory to perform the PSAT modeling, and the original PSAT results were linearly scaled to reflect the updated 2028 emissions. Although linear scaling introduces some uncertainty to the final PSAT results, EPA agrees with VISTAS and South Carolina that adjusting the results to account for VISTAS' updated 2028 emissions inventory using linear scaling is a reasonable approach to account for VISTAS' updated 2028 emissions projections and is a better approach than relying on the original PSAT modeling.

Linear scaling of photochemical modeling results to account for changes in emissions is, in most cases, reasonable and is an accepted practice by EPA. For example, EPA guidance recommends using EPA's Modeled Emission Rates for Precursors (MERPs) for evaluating the impacts of secondary particulate matter of 2.5 micrometers or less in diameter ($PM_{2.5}$) in Prevention of Significant Deterioration (PSD) modeling analyses and allows for and recommends scaling of photochemical modeling results based on emissions.[44] This guidance recommends an approach where the $PM_{2.5}$ impacts are estimated using an archived national-scale

[44] *See* "Clarification on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and $PM_{2.5}$ under the PSD Permitting Program," April 30, 2024, Memorandum from Tyler Fox to Regional Office Modeling Contacts is available at: https://www.epa.gov/sites/default/files/2020-09/documents/epa-454_r-19-003.pdf.

photochemical modeling analysis, performed using CAMx and Community Multiscale Air Quality (CMAQ)[45] photochemical models, that uses hypothetical emissions sources, and then linearly scaling the photochemical modeling results using the ratio of the PSD project-specific source emissions to the modeled emissions from the hypothetical source (*see* Equation 1 on page 3 of the referenced April 30, 2024, MERPs memorandum). This approach is widely used and accepted by state air quality agencies and EPA to account for secondarily formed $PM_{2.5}$ from precursor emissions (SO_2 and NOx) for PSD modeling analyses. Since the regional haze modeling uses linear scaling with CAMx and for the same $PM_{2.5}$ precursors (SO_2 and NOx) as the MERPs analyses, EPA finds the method of linear scaling of PM precursor emissions conducted by VISTAS to be an acceptable practice.

Comment 7.d: The Conservation Groups note that South Carolina relied on the PSAT modeling results for its multiple in-state sources that are located less than 50 kilometers (km) from Cape Romain and claim that PSAT modeling has been shown to be unreliable for sources that are within a short distance from a Class I area,[46] referencing Federal Land Manager (FLM)[47] guidance that addresses regional grid models. According to the Conservation Groups, this guidance shows that regional grid models are not preferred for sources located close to Class I areas and that the grid size used by VISTAS is too small to produce accurate results for those sources.

Response 7.d: The Conservation Groups state that PSAT modeling has been shown to be unreliable for sources located less than 50 km from a Class I area. However, they do not provide any specific model performance information demonstrating that the CAMx model nor the PSAT

[45] *See* https://www.epa.gov/cmaq for further information on CMAQ.
[46] Citing to 2021 Gebhart North Carolina Report at 4.
[47] EPA's regulations define "Federal Land Manager" as "the Secretary of the department with authority over the Federal Class I area (or the Secretary's designee) or, with respect to Roosevelt-Campobello International Park, the Chairman of the Roosevelt-Campobello International Park Commission." *See* 40 CFR 51.301. The U.S. National Park Service (NPS), U.S. Fish and Wildlife Service (FWS), and U.S. Forest Service (USFS) are collectively referred to as the "Federal Land Managers" or "FLMs" throughout this notice.

source apportionment tool have poor model performance for evaluating visibility impacts from sources located within 50 km of any of the Class I areas located in South Carolina.

Instead, the Conservation Groups provide qualitative arguments to support their assertion. They assert that the FLMs' Air Quality Related Values Work Group (FLAG) Guidance indicates that photochemical grid models are not the preferred model for evaluating visibility impacts from sources less than 50 km from Class I areas and reference the use of direct plume impact models. However, they are inappropriately citing the FLAG guidance and recommendations, which is not intended to apply to photochemical grid modeling or outside of the permitting context. The FLAG reference to direct plume models (*e.g.*, Plume Visibility Model) is only for evaluating visibility impacts under the New Source Review (NSR)/PSD (NSR/PSD) permitting regulations and is not applicable to regional haze analyses. EPA's regional haze regulations and guidance do not require evaluations of direct plume impacts separate from the photochemical modeling analyses used for regional haze visibility analyses. Therefore, the argument is not relevant for the visibility analyses for regional haze.

The Conservation Groups separately contend that South Carolina's correlation analysis of the sulfate AoI versus PSAT presented in Section 7.6.3 of the Haze Plan is flawed. They point out the scatter in the AoI/PSAT ratio data for distances less than 100 km in Figure 7-29 of the Haze Plan and argue this makes the State's correlation conclusions invalid. They also refer to the scatter in the sulfate fractional bias values in Figure 7-30 in the Haze Plan and argue the AoI versus PSAT correlation is invalid. EPA disagrees. While there is more scatter between the data points less than 100 km from the Class I area, there is clearly a trend that the AoI values are much larger than the PSAT values within 100 km compared to the ratios for further distances. There is logic to this result due to the way the AoI metric is calculated using the Extinction Weighted Residence Times (EWRT) multiplied by the Emissions (Q) divided Distance (d) (EWRTxQ/d). The EWRT is calculated using the frequency that winds (represented by Hybrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT) back trajectories) pass over a

specific geographic area (represented by a modeling grid cell) on the path to the Class I area.[48] For sources located less than 100 km from a Class I area, there is likely to be a higher frequency of the HYSPLIT back trajectories passing over the 12 km grid cell containing the source, thus the EWRT and AoI value will be larger. The CAMx PSAT modeling is a more refined photochemical modeling approach that calculates the atmospheric fate and transport of the PM precursors and their chemical reactions to form visibility impairing pollutants (*e.g.*, ammonium sulfate). Therefore, compared to the AoI screening process, the refined PSAT technique is less likely to overestimate the visibility impacts for sources located within 100 km of the Class I area. Regarding the scatter of the data resulting in the AoI to PSAT fractional bias correlation, EPA acknowledges that there is scatter in the data which is reflected in the 0.72 coefficient of determination (R^2) value shown in Figure 7-30 in the Haze Plan. However, this level of correlation is not uncommon in these types of modeling data analyses, and the results are reasonable. For these reasons, South Carolina's correlation approach is valid.

The photochemical modeling employed by VISTAS and South Carolina is the most refined methodology available for evaluating regional haze visibility impacts. Moreover, South Carolina's AoI screening process identified sources located within 50 km of its Class I areas, including the WestRock-Charleston and Century facilities located 29 km and 39 km, respectively, from Cape Romain that met the PSAT source selection criteria and further underwent reasonable progress analysis. As discussed above, South Carolina demonstrated in Section 7.6.3 of the Haze Plan that the AoI screening technique tends to overestimate visibility impacts for sources located within 100 km of a Class I area. Based upon this AoI overestimation, in Section 7.6.4 of the Haze Plan, South Carolina explains why some sources located less than 100 km from its Class I areas were not tagged for PSAT modeling and thus were not selected for FFAs. South Carolina's justification regarding why the other sources within 100 km were not selected for FFAs is reasonable.

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[48] *See* Section 7.5 of the Haze Plan for additional detail.

Comment 7.e: The Conservation Groups claim that South Carolina's use of a percent-based threshold at the PSAT step biased the process against heavily polluted Class I areas. They explain that reliance on the percent-based threshold would require source impacts to be 80 times larger for the most visually impaired Class I areas versus the least visually impaired Class I areas to be selected.

Response 7.e: EPA disagrees with this comment. Section 7.6.4 of the Haze Plan explains the State's rationale for using a one percent PSAT threshold to select sources for a reasonable progress evaluation. Using a percentage-based threshold enabled the State to identify the sources that contribute most to visibility impairment at the Class I areas, regardless of the magnitude of visibility impairment at each Class I area. Therefore, South Carolina's targeting of sources with the largest visibility contributions to each Class I area regardless of magnitude of visibility impairment at a Class I area is reasonable. Use of a percentage-based threshold produced a relative ranking of impacts on visibility impairment, allowing the State to focus on the sources with the greatest visibility impacts on each individual Class I area. Regardless of whether a relative or absolute threshold was used, South Carolina's source contribution threshold identified the largest sources for evaluation of emissions measures. Therefore, the methodology is reasonable and was adequately documented in its Haze Plan.

Comment 7.f: The Conservation Groups claim that neither South Carolina nor EPA have provided adequate justification to support the source selection thresholds, and therefore, the source selection process is arbitrary and capricious. They state four ways in which South Carolina's justification misses the mark. First, they argue that South Carolina did not provide an explanation for why it set a different selection threshold for out-of-state sources, or with regard to that threshold, include a description of the criteria used to determine which sources or groups of sources it evaluated in violation of 40 CFR 51.308(f)(2)(i). Second, they argue that South Carolina effectively claims that the URP is a safe harbor in violation of the CAA, RHR, and EPA interpretation, and the State did not need to select additional sources because Cape Romain is

projected to be below the URP in 2028 without any additional controls. Third, the Conservation Groups assert that South Carolina inappropriately claims that emission reductions already achieved in the second planning period excuses the State from selecting additional sources. Lastly, the Conservation Groups maintain that South Carolina unreasonably set its selection thresholds to only select the largest sources for further analysis, pointing to EPA guidance. They note that the USFS explained that South Carolina's source selection process found the sources selected by South Carolina accounted for just 24 percent, 12 percent, 47 percent, and 38 percent of emissions that impact Linville Gorge National Wilderness Area (Linville Gorge), Shining Rock National Wilderness Area (Shining Rock), Joyce Kilmer-Slickrock (Joyce Kilmer), and Cohutta National Wilderness Area (Cohutta), respectively.

Response 7.f: EPA disagrees with the Conservation Groups' contention that South Carolina did not adequately justify its source selection thresholds.

First, regarding the out-of-state AoI threshold, no out-of-state sources exceeded South Carolina's in-state thresholds of two percent sulfate or three percent nitrate at Cape Romain; therefore, the higher out-of-state threshold had no impact on the outcome of the Haze Plan. As discussed in Response 7.a, South Carolina's source selection method is reasonable and adequately explained.

Second, EPA disagrees with the Conservation Groups' assertion that South Carolina effectively claims that the URP is a safe harbor, and the State did not need to select additional sources because Cape Romain is projected to be below the URP in 2028 without any additional controls. As discussed in Response 7.a, South Carolina did not claim the URP to be a safe harbor. South Carolina based its source selection on AoI and PSAT analyses, selected the sources with the largest visibility impacts to Class I areas impacted by South Carolina, and considered the four statutory factors.

Third, the comment that South Carolina "claims that already achieved emission reductions in the second planning period excuse it from selecting additional sources" is unclear.

The Haze Plan contains no such statement. As discussed in Response 7.a, South Carolina's source selection methodology is reasonable and is adequately documented in its Haze Plan. The fact that sources were not selected for FFAs for either SO_2 or NOx for this planning period is the result of the reasonable application of the State's source selection process and source selection thresholds.

Finally, EPA disagrees with the Conservation Groups assertion that South Carolina unreasonably set its selection thresholds to only select the largest sources for further analysis. As discussed further in Response 7.a, states have flexibility to adopt any source selection methodology so long as the methodology is reasonable and their choices are reasonably explained. A percentage threshold, rather than one using an absolute visibility threshold (Mm-1 or dv), allowed South Carolina – like every other VISTAS state – to select sources with the largest visibility contributions to each Class I area regardless of the magnitude of visibility impairment at a Class I area, which EPA agrees is reasonable. Regarding the four Class I areas identified in Comment 7.f, no South Carolina facility exceeded the State's AoI source selection thresholds.[49] As discussed in Response 7.a, EPA evaluated South Carolina's source selection process and determined it to be reasonable; thus, the facilities the State selected for further analysis were reasonable.

Comment 7.g: The Conservation Groups contend that EPA did not address "significant flaws" in the VISTAS modeling and source selection process and that EPA improperly concluded that South Carolina's selection of five in-state sources was reasonable because it enabled the identification of sources with the largest visibility impacts. They argue that this is contrary to EPA's guidance which states that a source selection threshold that captures only a small portion of a state's contribution to visibility impairment in Class I areas is more likely to

[49] New-Indy Catawba Pulp and Paper Plant (New-Indy Plant) was the South Carolina facility with the largest impact to Linville Gorge (0.77 percent sulfate; 0.02 percent nitrate), Shining Rock (0.46 percent sulfate; 0.03 percent nitrate), Joyce Kilmer (0.19 percent sulfate; 0.00 percent nitrate), and Cohutta (0.34 percent sulfate; 0.04 percent nitrate).

be unreasonable and contrary to the CAA which does not authorize states or EPA to select only the largest contributors to visibility impairment. They assert that South Carolina should have used a different selection method with a lower threshold, such as a Q/d with a threshold of five or lower, to capture the meaningful portion of in-state sources.

Response 7.g: EPA disagrees with the assertion that South Carolina's selection of the five in-state sources contributing to visibility impairment at Class I areas is contrary to EPA's guidance. The PSAT modeling performed by VISTAS found that the five sources selected by South Carolina for further analysis have the largest contribution to visibility impairment of any point sources in the State. As discussed in Response 7.a, the PSAT modeling results show that the total cumulative contribution to visibility impairment on the 20 percent most impaired days at South Carolina's Class I area from all SO_2 and NOx emitting sources in the State is relatively small, at about 8.0 percent for Cape Romain based on Table 2, above.[50] Given state discretion in selecting sources to evaluate for emissions controls, and since the SO_2 and NOx emissions from all point sources in South Carolina contribute a relatively small amount to the total visibility impairment at its Class I area, the State's selection of the five largest in-state sources that contribute to visibility impairment is reasonable.

Regarding the Conservation Groups' claim that the State should have adopted a different selection method (such as Q/d) with a lower threshold to select more sources in South Carolina, as discussed above, a state is not required to evaluate all sources of emissions in each planning period. Instead, a state may reasonably select a set of sources for an analysis of control measures. Selecting a set of sources for analysis of control measures in each planning period is also consistent with the RHR, which sets up an iterative planning process and anticipates that a state may not need to analyze control measures for all sources in a given SIP revision. Moreover, use of Q/d (which simply involves dividing the quantity of emissions by the distance to a Class I area) does not consider transport direction/pathway, dispersion and photochemical

[50] *See* footnote 40.

processes, or the particular days that have the most anthropogenic impairment due to all sources. Therefore, compared to photochemical modeling, using a simple Q/d technique, as the Conservation Groups suggest, would have resulted in a less accurate quantification of visibility impacts on Class I areas. As discussed in detail above, South Carolina's reliance on VISTAS modeling and the State's source selection methodology are well documented within the SIP submittal and reasonable.

Comment 7.h: The Conservation Groups state that EPA asserts in its proposal that South Carolina's source selection method is reasonable because: (1) visibility conditions at in-state Class I areas are projected to improve and have improved since the baseline period, (2) EPA's evaluation of the 2015-2019 IMPROVE data on the 20 percent most impaired days for Cape Romain confirmed that ammonium sulfate is the dominant visibility impairing pollutant at this area during that time period, and (3) ammonium nitrate contributions to regional haze at the State's Class I area remain relatively low at eight percent of the total visibility impairment as compared to ammonium sulfate at 56 percent. They argue, however, that projected visibility condition improvement at South Carolina's Class I areas and the fact that those areas are below their respective URPs are not a valid basis to approve the State's flawed selection method. They state that despite EPA's URP policy, the URP is not a safe harbor and that states cannot avoid requiring sources to install reasonable controls merely because there have been emissions reductions due to ongoing air pollution controls since the first planning period or because visibility is projected to improve at Class I areas. The Conservation Groups state that even if Class I areas impacted by South Carolina sources are already on or below the glidepath, the CAA and RHR still require the State to engage in rigorous source selection and conduct FFAs to determine whether additional control measures are reasonable.

Response 7.h: EPA agrees that the URP is not a "safe harbor" to avoid evaluating and determining the emission reduction measures that are necessary to make reasonable progress by considering the four statutory factors. However, being below the URP is relevant to whether a

state needs to perform a "robust demonstration" based on the requirements in 40 CFR 51.308(f)(3)(ii)(A) and 40 CFR 51.308(f)(3)(ii)(B).[51] It is also relevant to EPA's application of the URP Policy. EPA's responses addressing the URP Policy are contained in Responses 1 through 5. EPA did not approve South Carolina's source selection methodology based on projected visibility improvement at any Class I area or the URP. *See* the NPRM and Response 7.a that projected visibility condition improvement at South Carolina's Class I areas and the fact that those areas are below their respective URPs. As discussed in Response 7.a, South Carolina based its source selection on AoI and PSAT analyses, not on the URP.

Comment 8: The Conservation Groups assert that EPA incorrectly endorses South Carolina's decision to exclude consideration of NOx controls in any FFAs, and therefore, EPA ignores an important aspect of the problem. They contend that VISTAS' modeling did not accurately reflect the shift in the 20 percent most impaired days and the corresponding increase in the contribution of nitrate to visibility impairment at Southeastern Class I areas. They state that more of the 20 percent most impaired days now occur in the winter, when nitrate plays a bigger role in visibility impairment; that South Carolina explained in its SIP that "nitrate concentrations are higher on winter days and are more important for the coastal sites where the 20% most impaired days occur during the winter months;" and that Cape Romain is a coastal Class I area.

The Conservation Groups claim that EPA, South Carolina, and the USFS have noted that nitrate's contribution to visibility impairment has increased in recent years. They contend that South Carolina's Haze Plan confirms that nitrate contributes to a substantial portion of light extinction at several Class I areas, and that on multiple of the 20 percent most impaired days, for impacted Class I areas during the 2015-2019 period, nitrate is the biggest contributer. Furthermore, they note that more recent IMPROVE data at Great Smoky Mountains shows the

[51] Emissions from South Carolina are not reasonably anticipated to contribute to visibility impairment in any Class I areas that are above the 2028 URP, which is relevant to whether a state needs to perform a "robust demonstration" based on the requirements in 40 CFR 51.308(f)(3)(ii)(A) and 40 CFR 51.308(f)(3)(ii)(B).

contribution of nitrate to light extension on the 20 percent most impaired days have increased. They also note EPA's general expectation that states will, at a minimum, consider both SO_2 and NOx in this planning period, and they assert that there are multiple sources of significant NOx emissions that South Carolina should have analyzed for NOx controls.

Response 8: EPA disagrees with this comment. The RHR does not prescribe which visibility impairing pollutants must be evaluated in the FFAs. When selecting sources for analysis of control measures, a state may focus on the PM species that dominate visibility impairment at the Class I areas affected by emissions from the state and then select only sources with emissions of those dominant pollutants and their precursors. EPA has recommended that states that do not evaluate SO_2 and NOx in both source selection and control evaluations show why consideration of these pollutants would be unreasonable, especially if the state considered both of these pollutants in the first planning period.[52]

South Carolina followed these recommended approaches here. South Carolina considered both SO_2 emissions (via sulfates visibility impacts) and NOx emissions (via nitrates visibility impacts) in the source selection process. As part of the Haze Plan, South Carolina presented the results of PSAT modeling conducted by VISTAS to estimate the projected impact of statewide SO_2 and NOx emissions across all emissions sectors in 2028 on total light extinction for the 20 percent most impaired days in all Class I areas in the VISTAS modeling domain. The result of this process was that while sources were selected for SO_2 control analysis determinations, no sources in South Carolina met the State's nitrate source selection thresholds. Therefore, South Carolina did not select any sources for a NOx emissions control evaluation. Contrary to the Conservation Groups' assertion that South Carolina made a "decision" not to consider NOx controls in any FFAs, it was South Carolina's application of its source selection process, in combination with data and modeling showing that SO_2 is the dominant visibility impairing pollutant, that resulted in South Carolina only selecting sources for SO_2 emissions

[52] South Carolina considered SO_2 for FFAs conducted in the first planning period. *See* 82 FR 39079.

control analyses and not NOx emissions control analyses.

Additionally, to better understand the trends in PM species contributions to visibility impairment, South Carolina examined more recent IMPROVE monitoring data. More recent IMPROVE monitoring data shows that ammonium sulfate remains the dominant visibility impairing pollutant at Cape Romain and neighboring Class I areas as discussed in Section 2.5.2 of the Haze Plan (particularly Figures 2-4 through 2-6 for the 2009–2013 period) and in Section 2.6.2 (particularly Figures 2-7 through 2-9 for the 2014–2018 period). The 2015–2019 IMPROVE monitoring data (the most recent data available at the time) from the IMPROVE website identifies the relative contributions of PM species contributing to the total visibility impairment at Cape Romain, which is shown in Table 4, below. In spite of increased nitrate contributions on the 20 percent most impaired days (as the Conservation Groups note, often on winter days), as indicated in that table, ammonium nitrate contributions to regional haze at Cape Romain remain relatively low at around eight percent of the total visibility impairment as compared to ammonium sulfate at 56 percent.

Table 4: 2015–2019 Speciated IMPROVE Monitoring Data (Percent) for Cape Romain[53]

	Ammonium Sulfate	Ammonium Nitrate	Organic Carbon	Elemental Carbon	Fine Soil	Coarse mass	Fine Sea Salt
Cape Romain	56	8	19	5	1	7	3

Furthermore, in Table 7-14 of the Haze Plan, the State provided a calculation of the sulfate and nitrate EWRT used in the AoI analysis for Cape Romain for the 20 percent most impaired days, demonstrating that the sulfate EWRT are significantly higher than the nitrate EWRT. This further supports the importance of focusing on SO_2 emissions reductions for this planning period. The State's rationale for focusing on SO_2 controls in the FFAs is summarized

[53] *See* the spreadsheet containing the 2015–2019 speciated IMPROVE monitoring data for South Carolina's Class I area included in the docket for this rulemaking.

in South Carolina's SIP submittal and the NPRM.[54]

With respect to the Conservation Groups' assertion that nitrate is the biggest contributor to light extinction on multiple of the 20 percent of most impaired days for Cape Romain during the 2015–2019 period (especially on winter days), as described above, the average nitrate contribution across the 20 percent most impaired days is still relatively small. Thus, while nitrate impairment may be relatively high on a particular day, the data that states are required to use for regional haze as specified in 40 CFR 51.301 and 40 CFR 51.308(f)(1) show ammonium nitrate only contributed around eight percent the total visibility impairment (during the 2015–2019 period). Regarding the comment on the contribution of nitrates to visibility impairment at Great Smoky Mountains, it is unclear why the Conservation Groups are referencing nitrate impacts at this Class I area in this rulemaking. Using the data available at the time, the VISTAS PSAT modeling analyses projects that the cumulative nitrate visibility impact at Great Smoky Mountains from all NOx emissions sources in South Carolina is 0.4 percent (all South Carolina sources modeled nitrate at Great Smoky Mountains (0.014 Mm^{-1}) divided by total modeled nitrate impact at Great Smoky Mountains (3.382 Mm^{-1}) = 0.0041 x 100 = 0.4 percent)).[55] Regardless, the NPS chart referenced by the Conservation Groups shows that sulfates continue to be the dominant visibility impairing pollutant at Great Smoky Mountains on the most impaired days.[56]

For these reasons, South Carolina's justification for not evaluating sources selected for SO_2 emission control analyses for a separate NOx emission control analysis is reasonable for this planning period. The trends in PM species' contributions to visibility impairment will continue to be evaluated in future planning periods. If the data warrants consideration of NOx controls in future planning periods, EPA expects that South Carolina will address potential NOx controls in

[54] *See* Haze Plan, Section 2, particularly Figure 2-4, Section 7 (particularly Figures 7-14 through 7-18), and Section 10 (particularly Figures 10-1); 90 FR 36012.
[55] *See* "ATTACHMENT_A_PSAT_TAG_RESULTS_adjusted_09-02-2020.xls" spreadsheet included in the docket for this rulemaking.
[56] *See* Exhibit 38 to the Conservation Groups' September 29, 2025, comment letter.

future regional haze SIP revisions.

Comment 9: The Conservation Groups assert that EPA ignores that South Carolina unreasonably excluded significant sources from FFAs. They state that to correct errors in the source selection method, EPA must require South Carolina to assess additional sources identified by NPS and NPCA [Williams Generating Station (Williams Station), Wateree Generating Station (Wateree Station), Cope Generating Station (Cope Station), Sylvamo Eastover Mill (Sylvamo Mill, formerly International Paper – Eastover), Argos Harleyville Cement Plant (Argos Plant), Holcim Holly Hill Plant (Holcim Plant), New-Indy Plant (formerly Resolute FP US INC), WestRock Florence Paper Mill (WestRock-Florence)] which have emissions that likely contribute to impairment in Class I area. Furthermore, the Conservation Groups assert that EPA must find that the State arbitrarily refused to consider cost-effective control upgrades or measures improving efficiency of existing controls at these sources and Winyah. Additionally, they claim that South Carolina's analysis unlawfully relied on unenforceable, speculative emission reductions to avoid conducting control analyses for several of those facilities, and the State arbitrarily and unlawfully refused to conduct FFAs for several EGUs that contribute to visibility impairment in Class I areas. The comments regarding specific sources identified by the Conservation Groups are addressed in Comments 9.a, 10, and 10.a-10.c, below.

Response 9: As explained in Response 7.a and in the NPRM, the RHR does not require states to select and consider controls for all sources, all source categories, or any or all sources in a particular source category. Nor does the RHR expressly specify criteria for minimum source selection thresholds. States have discretion to choose reasonable source selection criteria, and sources that meet the state's criteria are selected for an evaluation of potential control options for specific visibility impairing pollutants by considering the four statutory factors in CAA section 169A(g)(1).

South Carolina did not select Williams Station, Wateree Station, Cope Station, Sylvamo Mill, Argos Plant, Holcim Plant, New-Indy Plant, or WestRock-Florence for FFAs because these

facilities did not exceed the State's source selection thresholds. As discussed in Response 7.a, South Carolina's source selection methodology is reasonable and is adequately documented in its Haze Plan. Winyah exceeded the State's source selection threshold for SO_2, and as discussed in Responses 10 and 10.a-10.c, below, EPA has determined that South Carolina's effective controls demonstration for Winyah is reasonable. As discussed in Response 8, NOx impacts were considered by the State, but no sources were selected for a NOx control evaluation because visibility impacts for NOx did not exceed the State's source selection threshold. *See* Responses 7.a (source selection), 8 (nitrates/NOx controls), and 10 (Winyah) for further discussion.

Regarding the claim that South Carolina's analysis unlawfully relied on unenforceable, speculative emission reductions to avoid conducting control analyses for several of those facilities, EPA disagrees that a SIP enforceable mechanism must be put in place for those sources. Williams Station, Wateree Station, Cope Station, Sylvamo Mill, Argos Plant, Holcim Plant, New-Indy Plant, and WestRock-Florence were not selected for control evaluation because they did not exceed the State's source selection thresholds, and therefore, no measures are necessary at these facilities for reasonable progress. As discussed in Response 7.a, South Carolina's source selection methodology is reasonable and is adequately documented in its Haze Plan. The fact that these sources were not selected for FFAs for either SO_2 or NOx for this planning period is the result of the reasonable application of the State's source selection process and source selection thresholds. Although Winyah exceeded the State's source selection threshold for SO_2, EPA has determined that South Carolina's effective controls demonstration for Winyah is reasonable. *See* Response 10 for further discussion. South Carolina did not identify any measures at Winyah as necessary for reasonable progress. Because no measures are necessary for reasonable progress at these nine facilities, the CAA and RHR do not require South Carolina to include enforceable measures for these facilities in its LTS.

Comment 9.a: The Conservation Groups assert that VISTAS' modeling and source selection process was arbitrary and capricious and unreasonably excluded the following eight

"significant" sources that "likely contribute to impairment at one or more Class I areas with a [cumulative] Q/d of 5 or more" – Williams Station (Q/d of 209.65), Wateree Station (Q/d of 8.98), Cope Station (Q/d of 6.99), Sylvamo Mill (Q/d of 191.18), Argos Plant (Q/d of 54.87),[57] Holcim Plant (Q/d of 132.82), New-Indy Plant (Q/d of 115.29) and WestRock-Florence (Q/d of 84.8). They state that EPA's proposal does not evaluate emissions from any of these eight sources and that there are likely reasonable and cost-effective controls available for these sources that would be necessary to make reasonable progress.

The Conservation Groups further assert that Williams Station is very close to Cape Romain and the scrubber and selective catalytic reduction (SCR) systems can likely be cost-effectively optimized or upgraded. For Sylvamo Mill, they contend that South Carolina excluded the source because it discontinued burning coal in one of its boilers even though there are no restrictions on any of the boilers that prohibit the use of coal. For the New-Indy Plant, the Conservation Groups state that according to the USFS, the plant is the largest source in South Carolina contributing to visibility impairment at multiple Class I areas in North Carolina and Georgia. They claim that the plant contributes over 38 percent of South Carolina's emissions that impact Linville Gorge, over 26 percent of South Carolina's emissions that impact Shining Rock, over 19 percent of South Carolina's emissions that impact Cohutta, and nearly 13 percent of South Carolina's emissions that impact Joyce Kilmer.

Response 9.a: EPA disagrees that the Agency must require South Carolina to conduct FFAs for Williams Station, Wateree Station, Cope Station, Sylvamo Mill, Argos Plant, Holcim Plant, New-Indy Plant, and WestRock-Florence. These sources did not exceed South Carolina's source selection thresholds, and EPA has determined that the State's source selection methodology is reasonable. *See* Responses 7.a and 8 for further discussion.

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[57] The comment appears to erroneously use the cumulative Q/d value from the "Argos Cement" facility in Shelby County, Alabama. According to the NPCA's Regional Haze Interactive Map (2024), the Q/d for Argos Plant (labeled as "Harleyville Cement Plant" on the map) should be 54.87, instead of the 5.49 originally stated in the comment. *See* https://experience.arcgis.com/experience/46dd650b65284b64bf38ccba0e90af8b/?org=npca.

The assertion that the Q/d values for these eight sources are greater than five appears to be the overarching basis for the Conservation Groups' argument that South Carolina unreasonably excluded these sources from FFAs. However, as discussed in Response 7.g, the use of Q/d (which simply involves dividing the quantity of emissions by the distance to a Class I area) does not consider transport direction/pathway, dispersion and photochemical processes, or the particular days that have the most anthropogenic impairment due to all sources. When compared to photochemical modeling, using a simple Q/d technique would have resulted in a less accurate quantification of visibility impacts on Class I areas. EPA has determined that the State's source selection methodology is reasonable for the reasons discussed in the NPRM and this notice of final rulemaking (NFRM). *See* Responses 7.a and 8 for further discussion.

Regarding the specific comments about Williams Station, Sylvamo Mill, and New-Indy Plant, again, these sources were not selected for further analysis, and EPA agrees with the State's source selection methodology. *See* Response 9.

Comment 10: The Conservation Groups assert that South Carolina unreasonably refused to conduct an FFA for Winyah on the basis that it is effectively controlled. The Conservation Groups argue that the plain language of the CAA and RHR do not allow EPA or the State to eliminate sources from analysis based on the assertion that sources are "effectively controlled." Instead, they comment that the CAA and RHR require states to consider the four statutory factors for any existing source that is reasonably anticipated to cause or contribute to any impairment of visibility in any Class I area and determine the emission reduction measures necessary to make reasonable progress. They state that the RHR and CAA require South Carolina to develop a LTS "that addresses regional haze visibility impairment" for each affected Class I area, and that flexibility in recent EPA guidance does not override the CAA and the RHR. They contend that South Carolina failed to conduct FFAs for EGUs such as Winyah despite their contribution to visibility impairment. They assert that although Winyah exceeded source selection thresholds, the State exempted the facility from an FFA by claiming it had "effective controls" in place. The

Conservation Groups claim that the State therefore attempted to "re-write" the CAA and the RHR to include an exemption from the required FFA that does not exist anywhere in the plain text, defeating the requirement to eliminate all anthropogenic visibility pollution and failing to reasonably conduct or reasonably explain the source selection process.

The Conservation Groups continue by stating that the CAA makes clear that Congress intended states to analyze all potentially available control measures to reduce emissions contributing to impairment. They argue that, beyond the four statutory factors, the CAA does not provide any other bright line requirement for how much pollution a control must potentially reduce before it must be considered. The Conservation Groups maintain that once a state is "subject to" the requirements of the regional haze program, an FFA must be conducted to identify all potentially available controls for that source to make reasonable progress. They also claim that, in any event, the State failed to show that Winyah is effectively controlled and that EPA relied on the State's December 12, 2024, letter that attempts to withdraw all permit conditions from the 2022 SIP revision.

The Conservation Groups note that the concept of "effectively controlled" sources only appears in EPA's 2019 Guidance and 2021 Clarification Memo, which they assert cannot override the plain language of the CAA and RHR. They also assert that EPA has repeatedly explained that states cannot categorically exclude sources from an FFA simply because the source has existing controls and must provide source-specific explanations as to why their decisions for excluding sources from FFAs are reasonable.

Finally, the Conservation Groups argue that there are likely feasible and cost-effective controls available for Winyah that are reasonable and therefore necessary for reasonable progress. The Conservation Groups' specific comments on these controls are addressed in Comments 10.a through 10.c, below.

Response 10: EPA disagrees with these comments. CAA section 169A(b)(2) does not discuss which sources, types of sources, or groups of sources must be considered to determine

reasonable progress. Reasonable progress is addressed in CAA section 169A(g)(1) in that States must "take into consideration" (1) the costs of compliance; (2) the time necessary for compliance; (3) the energy and non-air quality environmental impacts; and (4) the remaining useful life of "any existing source subject to such requirements." The RHR does not require states to consider controls for all sources, all source categories, or any or all sources in a particular source category or provide minimum source selection criteria. The RHR requires that "[t]he State should consider evaluating major and minor stationary sources or groups of sources, mobile sources, and area sources. The State must include in its implementation plan a description of the criteria it used to determine which sources or groups of sources it evaluated and how the four factors were taken into consideration in selecting the measures for inclusion in its long-term strategy." *See* 40 CFR 51.308(f)(2)(i). In addition, the technical basis for source selection must also be documented, as required by 40 CFR 51.308(f)(2)(iii). Thus, States must utilize a reasonable source selection methodology, and whatever choices States make regarding source selection should be reasonably explained. Therefore, EPA disagrees with the notion that CAA sections 169A(b)(2) and (g)(1) and the RHR prohibit states from forgoing a full FFA based on a state's determination that a source is effectively controlled.

EPA likewise disagrees that forgoing an FFA on an effectively controlled source defeats the requirements in the CAA and RHR to eliminate all anthropogenic visibility pollution. As outlined in the 2017 RHR, "EPA has consistently interpreted the CAA to provide States with the flexibility to conduct four-factor analyses for specific sources, groups of sources or even entire source categories, depending on State policy preferences and the specific circumstances of each State."[58] However, within the bounds of the flexibility afforded to states, EPA also stated that states must "exercise reasoned judgment when choosing which sources, groups of sources or source categories to analyze."[59]

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[58] *See* 82 FR 3088 (January 10, 2017).
[59] *Id.*

While states have the option to analyze all sources, the 2019 Guidance explains that "an analysis of control measures is not required for every source in each implementation period," and that "[s]electing a set of sources for analysis of control measures in each implementation period is … consistent with the Regional Haze Rule, which sets up an iterative planning process and anticipates that a State may not need to analyze control measures for all its sources in a given SIP revision."[60] EPA therefore recognizes, consistent with the RHR, that analyses regarding reasonable progress are state-specific and based on the individual circumstances for each state and source.

In the 2019 Guidance, EPA recognized that a State may reasonably decide not to select sources that have recently installed effective controls.[61] EPA notes that if a source's emissions are already well-controlled, it is unlikely that further cost-effective reductions are available. In such a scenario, the state should explain why it is reasonable to assume that a full FFA would likely result in the conclusion that no further controls are necessary.[62]

EPA agrees that guidance cannot override the plain language of the CAA and RHR. However, EPA's citations to guidance documents in the NPRM were simply intended to provide further context on what is generally considered to be a reasonable approach to fulfill the statutory and regulatory requirements addressing regional haze for the second planning period. EPA acknowledges that the suggestions in those guidance documents are not binding but are generally assumed to be reasonable. States can deviate from the suggestions within EPA guidance documents.

EPA disagrees that EPA and South Carolina failed to show that Winyah is effectively controlled, or that EPA fails to defend the conclusion that no other controls are likely available or cost effective for this facility. In this case, South Carolina evaluated Units 1-4, including permit limitations, control efficiencies, regulations, actual emissions, past emission trends, and

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[60] *See* 2019 Guidance at 9.
[61] *See id.* at 22-25.
[62] *See id*. at 23.

projected 2028 emissions to demonstrate that the existing high level of control makes it reasonable to conclude that the controls are effective and that a full FFA would likely result in the conclusion that no further controls are necessary. EPA reviewed this evaluation and determined that South Carolina's consideration of effective controls is reasonable and consistent with the RHR. Scrubber systems are widely considered the best control technology for reducing SO_2 emissions, as they can achieve very high removal efficiencies, making them highly effective at capturing SO_2 from industrial flue gases.[63] For the purpose of SO_2 control measures, an EGU that has add-on flue gas desulfurization (FGD)[64] and that meets the applicable alternative SO_2 emission limit of the Mercury and Air Toxics Standards (MATS) Rule for power plants is one example of a scenario in which it may be reasonable for a state not to select a particular source for further analysis because the two limits in the rule [0.20 pounds per million British thermal units (lb/MMBtu) for coal-fired EGUs or 0.30 lb/MMBtu for EGUs fired with oil-derived solid fuel] are low enough that it is unlikely that an analysis of control measures for a source already equipped with a scrubber and meeting one of these limits would conclude that even more stringent control of SO_2 is necessary to make reasonable progress.[65] EPA analyzed the controls and confirmed that Winyah Units 1 through 4 are equipped with wet scrubber systems that routinely achieve a high SO_2 control effectiveness (with recent yearly averages fluctuating between 96.9 to 97.2 percent) that has been and is meeting the MATS SO_2 emission limit.[66] The typical SO_2 removal efficiency range for wet scrubbers ranges from 90 to 98 percent.[67] Thus, it is unlikely that an FFA would result in the conclusion that further SO_2 emissions control measures are necessary for reasonable progress in the second planning period. Therefore, EPA finds South Carolina's effective controls demonstration for Winyah to be reasonable.

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[63] *See* Section 5, Chapter 1, of EPA's "Air Pollution Cost Control Manual" (CCM), available at https://www.epa.gov/economic-and-cost-analysis-air-pollution-regulations/cost-reports-and-guidance-air-pollution.
[64] FGD is a type of scrubber system.
[65] *See* 2019 Guidance at 23.
[66] *See* 90 FR 36012 and EPA's analysis of EGUs in South Carolina found in the spreadsheet file called "SC EGU scrubber efficiency analysis 2017-2023" (hereinafter "EGU scrubber efficiency spreadsheet), included in the docket for this rulemaking.
[67] *See* Table 1.1 on page 1-3, Section 5, Chapter 1 of the CCM.

Regarding the comment concerning reliance on the State's December 12, 2024, letter, that letter only addresses Century. EPA proposed to approve the Haze Plan without the permit conditions, as requested by South Carolina in its June 4, 2025, letter, based on the new URP policy. South Carolina considered the four statutory factors for Century, IP-Georgetown, Cross, and Winyah in technical analyses. Subsequently, South Carolina clarified in its June 4, 2025, letter that it is not necessary to include in the SIP any final permit conditions for these evaluated facilities and that statements appearing in South Carolina's submittal concerning existing or additional measures are no longer applicable. In addition, South Carolina confirmed in its June 4, 2025, letter that it does not intend to submit or include final permit conditions for these facilities for incorporation into the regulatory portion of the South Carolina SIP. As discussed in the NPRM, because South Carolina considered the four statutory factors for these facilities and visibility conditions at all Class I areas to which South Carolina contributes are below the URP, South Carolina has demonstrated that it has made reasonable progress for the second planning period without any measures in the regulatory portion of the SIP for these facilities.

Comment 10.a: The Conservation Groups assert that there are likely feasible and cost-effective controls available to reduce emissions from Winyah based on their assertion that South Carolina used an incorrect distance for Winyah to Cape Romain in its source selection process. They note that South Carolina used a distance of 51.4 km but argue that South Carolina should have used a distance of 24.5 km, the distance between Winyah and the northeast edge of Cape Romain. Furthermore, the Conservation Groups assert that this distance is more than double the distance that should have been utilized in PSAT modeling and that this error was further compounded by the unreliability of PSAT modeling at such close distances, resulting in incorrect projections of visibility impairment from Winyah at Cape Romain. The Conservation Groups assert that the State failed to correct this error in its response to comments and ignored the comment.

Response 10.a: It is unclear how the distance from Winyah to Cape Romain used in the State's source selection process is relevant to the Conservation Groups' argument that there are likely feasible and cost-effective controls to reduce emissions at Winyah. South Carolina selected Winyah for further analysis because it exceeded the State's source selection thresholds. The State then concluded that the source is effectively controlled, and EPA agrees with that decision for the reasons discussed in the NPRM and Response 10. The distance used in South Carolina's source selection process has no relevance to the feasibility and cost-effectiveness of controls for Winyah.

For the reasons discussed in Response 7.a., South Carolina's source selection methodology is reasonable and resulted in the selection of a reasonable set of sources contributing to visibility impairment at Class I areas affected by South Carolina's sources. Furthermore, EPA disagrees with the Conservation Groups' claim that PSAT modeling at such close distances results in incorrect projections of visibility impairment. *See* Response 7.d for discussion regarding PSAT modeling of facilities close to Class I areas. EPA disagrees with the assertion that South Carolina failed to correct this error and ignored the comment. EPA finds that South Carolina's Haze Plan provided adequate documentation regarding use of the 51.4 km distance and that South Carolina's source selection process was appropriate and well supported.

Comment 10.b: The Conservation Groups assert that South Carolina failed to conduct the required FFA at Winyah for the four EGUs, which are all equipped with wet scrubber and SCR systems, that would demonstrate that SO_2 and NOx emissions control systems can be optimized or upgraded. They also state that South Carolina's claim that the wet scrubber efficiency is 90 percent and the facility is meeting maximum achievable control technology (MACT) emission limits does not constitute an FFA or show that the four EGUs at Winyah are effectively controlled. Furthermore, the Conservation Groups assert that the scrubbers and SCR systems at Winyah have demonstrated the capability to operate at a significantly lower emission rate and the emission control systems are capable of better performance. With respect to this claim, the

Conservation Groups cite to historical monthly SO_2 emissions data and state that this data reflects "the lax title V permit requirements." The Conservation Groups assert that modern wet scrubber systems are capable of performing at an efficiency of 98 percent, whereas Winyah's title V permit requires the scrubber systems on Units 1 and 2 to achieve a 30-day average efficiency of 95 percent and Units 3 and 4 to achieve an efficiency of 90 percent.

Furthermore, the Conservation Groups also assert that historical monthly NOx emissions data are erratic, show that the SCR systems are underperforming, and are a reflection of the "lax title V requirements for the SCR systems." The Conservation Groups state that none of Winyah's four SCR systems are achieve emission rates that a modern SCR is capable of achieving, which they cite from the 2021 Kordzi Report is a monthly average of 0.05 lb/MMBtu. The Conservation Groups also state that because these systems are already installed, it is likely that substantial gains can be achieved very cost-effectively with little to no capital costs by simply running the SCR systems more efficiency all year and/or using more reagent.

Response 10.b: Regarding the comments concerning SO_2 emissions and SO_2 control efficiencies, EPA agrees with South Carolina's determination that it is unlikely that an FFA would result in the conclusion that further SO_2 emissions control measures at Winyah are necessary for reasonable progress in the second planning period, and therefore, EPA finds South Carolina's effective controls demonstration for Winyah to be reasonable. *See* Response 10 for further discussion. As detailed in that response, the units are equipped with wet scrubber systems that routinely achieve high SO_2 control effectiveness, scrubber systems are widely considered the best control technology for reducing SO_2 emissions, and the units are subject to the MATS Rule SO_2 emission limit of 0.20 lb/MMBtu.

Regarding the comments concerning NOx emissions and NOx control efficiencies, EPA has determined that South Carolina's decision to not evaluate sources selected for SO_2 emission control analyses for a separate NOx emission control analysis is reasonable for this planning period. *See* Response 8.

Comment 10.c: The Conservation Groups assert that EPA improperly proposes to grant South Carolina's request to remove necessary permit provisions for Winyah from the 2022 SIP Revision that the State determined are necessary to make reasonable progress and prevent future impairment. They state that South Carolina reaffirmed that determination in its 2025 SIP supplement which proposed to incorporate updated permit provisions for Winyah into the SIP. The Conservation Groups assert that South Carolina and EPA entirely rely on the new URP policy to remove these measures from the SIP and that the new policy violates both the CAA and the RHR. Furthermore, the Conservation Groups argue that South Carolina failed to follow the CAA's procedural requirements to hold a public notice and comment process before removing the existing permit provisions for Winyah from the SIP. Lastly, the Conservation Groups note that they raised practical enforceability issues on Winyah's draft permit modification and that EPA must require South Carolina to correct errors in the updated permit provisions before incorporating those provisions into the SIP.

Response 10.c: EPA disagrees with this comment. As discussed in the NPRM and this NFRM, South Carolina has demonstrated reasonable progress without the need for additional measures in the LTS under the URP policy, and the URP policy is consistent with the CAA and RHR. *See* Responses 1-4. Because EPA is not approving any permit conditions into the SIP, nor does it have any enforceable permit conditions to incorporate, the comments regarding the practical enforceability of the Winyah permit conditions are irrelevant. Furthermore, as discussed in Response 11.e, the State did not submit its 2025 SIP supplement to EPA and it is not necessary to re-notice the Haze Plan at the state level.

Comment 11: The Conservation Groups assert that EPA shirks its duty to review South Carolina's source-specific FFAs. They state that EPA proposes to "rubber stamp" the SIP submission without engaging in any meaningful and independent analysis of South Carolina's FFAs to ensure they comply with the CAA and the RHR. The Conservation Groups claim EPA merely restated what South Carolina did and that EPA entirely failed to grapple with the record

before it and thus shirked its duties under the Act. They note that EPA stated in its 2021 Clarification Memo that EPA expects states to "undertake rigorous reasonable progress analyses that identify further opportunities to advance the national visibility goal" and that if FFAs "evaluate a reasonable range of potential control options, we anticipate that in many cases states will find that new (i.e., additional) measures are necessary to make reasonable progress." The Conservation Groups state that "South Carolina did not require any of the sources to adopt additional control measures to make reasonable progress" and that EPA accepts the State's analysis to ignore and reject available, feasible, and likely cost-effective controls "without question" which they contend violates the CAA and RHR. Furthermore, the Conservation Groups assert that the State relied on the URP to justify what the Conservation Groups characterize as "flawed Four-Factor Analyses and reasonable progress determinations," which they allege violates the CAA and RHR. The Conservation Groups' specific comments on the FFAs are addressed in Comments 11.a through 11.e, below.

Response 11: EPA disagrees with these comments. EPA's approval of the Haze Plan is a proper exercise of EPA's authority under the CAA. Congress crafted the CAA to provide for states to take the lead in developing implementation plans but balanced that decision by requiring EPA to review the plans to determine whether a SIP meets the requirements of the CAA. When reviewing SIPs, EPA must consider not only whether the state considered the appropriate factors in making decisions, but also whether it acted reasonably in doing so. In undertaking such a review, EPA does not usurp the state's authority but ensures that such authority is reasonably exercised.

Contrary to the comment that the Agency "shirks" its CAA obligations, EPA has performed its duties with diligence. EPA carefully evaluated the Haze Plan and the associated record and engaged in a thorough analysis of each control option, including each of the underlying cost assumptions used in the calculations. South Carolina conducted extensive technical work in support of its SIP submittal, and EPA independently evaluated each FFA,

including costs, and compared each FFA's control determination against EPA's CCM. These FFAs are discussed in more detail in Responses 11.a through 11.d. As discussed in the NPRM and this NFRM, South Carolina has demonstrated that it has made reasonable progress for the second planning period without the need for any additional measures, including measures at the facilities that underwent FFAs, because South Carolina considered the four statutory factors and visibility conditions at all Class I areas to which South Carolina contributes are below the URP. Regarding the Conservation Groups' assertion that the URP policy violates the CAA and RHR, *see* Responses 1, 1.a through 1.d, and 2.

Comment 11.a: The Conservation Groups assert that South Carolina's cost-effectiveness analyses are arbitrary, the State did not provide an objective metric for assessing the cost-effectiveness of controls analyzed, and the State improperly rejected controls that its own FFAs showed are reasonable and cost effective, particularly when compared to the thresholds adopted by other states in the second planning period, instead relying on exiting measures. The Conservation Groups provide examples for Century and IP-Georgetown. They state that although the CAA does not require the State to "use a bright line rule" for determining cost-effectiveness, South Carolina is required to explain why the State has exercised its discretion in a given manner. The Conservation Groups assert that South Carolina was required to provide a reasoned basis for its decisions by establishing a cost-effectiveness threshold or explaining and justifying some other objective measure for determining cost-effectiveness and applying that threshold consistently across the FFAs. Furthermore, they claim that South Carolina did not meet its duty to document the technical basis supporting its source-specific analyses, including modeling, monitoring, cost, engineering, and emissions information. The Conservation Groups also comment on the escalation of the dollar-year control cost analyses using the Chemical Engineering Plant Cost Index (CEPCI) and assert that access to the CEPCI annual index is necessary for the public to be able to meaningfully review the cost analyses and determine whether those analyses are reasonable, reliable, and well-supported.

Lastly, the Conservation Groups assert that the State adopted unsupported and unreliable cost information in its FFAs and asserts that South Carolina's lack of basic documentation precludes any independent review from verifying control analyses which is contrary to the CAA and the RHR. Specifically, the Conservation Groups refer to the FFA for Cross and note that the State identified three possible controls and subsequently determined that only one was reasonable and only conducted a cost analysis on the single option. The Conservation Groups state that if a source prepares a flawed, incomplete, or undocumented FFA, EPA must require that the State either require the source to make the necessary corrections or make the corrections itself to ensure that the FFAs are fully supported. They assert that the State must provide and make publicly available all required documentation to ensure that the FFAs are fully supported, including the underlying cost inputs and cost-effectiveness calculations. They also assert that the lack of critical information and documentation not only precludes South Carolina and any independent review from verifying control analyses but is contrary to the CAA and the RHR.

Response 11.a: EPA disagrees with these comments. With respect to cost effectiveness determinations for regional haze in the second planning period, the CAA and RHR do not provide a specific cost effectiveness threshold or any requirement for states to establish bright line cost effectiveness thresholds when evaluating control costs in FFAs. The CAA and the RHR instead require states to evaluate the costs of compliance, and EPA's 2019 Guidance recommends that states follow the recommendations in EPA's CCM to facilitate apples-to-apples comparisons of different controls options for the same source and comparisons across different sources.[68] Therefore, each state has discretion to provide a justification for the outcome of an FFA, including how the cost of compliance factor and any selected cost threshold impacted the state's decision-making.

The preamble to the RHR speaks to the flexibility afforded to states when considering the

[68] *See* 2019 Guidance at 31.

cost of compliance factor.[69] Inherent in this flexibility is the possibility that some states may choose bright-line cost effectiveness thresholds, and others may instead choose to adopt a different methodology to determine whether controls are cost effective. For states that choose to use bright-line cost-effectiveness thresholds, those thresholds may differ from state to state. Different states may take different approaches to comply with the RHR, and various methods of complying with the RHR may be reasonable depending on a number of varying circumstances (*e.g.*, number and type of sources in the state; magnitude of emissions of visibility impairing pollutants from sources in the state; visibility impairment at impacted Class I areas). Given this flexibility, EPA disagrees that cost effectiveness thresholds in one state should be determinative of whether controls are cost-effective in another State. The Conservation Groups effectively suggest that EPA's determinations regarding the approvability of bright-line cost-effectiveness thresholds in the states, such as Colorado, Nevada, and New Mexico, should serve to set a nationwide cost-effectiveness floor. South Carolina was not required by the CAA or RHR to adopt a similar bright-line cost effectiveness threshold and the Conservation Groups themselves do not suggest a specific bright-line threshold, let alone provide rationale to support such a threshold.

Given that a state is not required to set a bright-line cost threshold by the RHR, the discretion afforded to the State to determine whether costs are reasonable, and the justification provided by South Carolina to determine whether control costs were reasonable for the second planning period as discussed in Responses 11.b, 11.c, and 11.d, EPA concludes that South Carolina's FFA determinations for Century, IP-Georgetown, and Cross were reasonable.[70] As discussed in the NPRM and this NFRM, South Carolina has demonstrated that it has made

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[69] *See*, *e.g.*, 82 FR 3078, 3088 (January 10, 2017) ("While these final revisions to the RHR continue to provide States with considerable flexibility in evaluating the four reasonable-progress factors, we expect States to exercise reasoned judgment when choosing which sources, groups of sources or source categories to analyze."); 2019 Guidance at 4 ("States have discretion to balance these factors and considerations in determining what control measures are necessary to make reasonable progress.").

[70] WestRock-Charleston permanently shut down after South Carolina submitted its Haze Plan; therefore, the State's FFA for this source is no longer relevant. The April 14, 2024, permit rescission letter is in the docket for this rulemaking.

reasonable progress for the second planning period without the need for any additional measures, including measures at the facilities that underwent FFAs, because South Carolina considered the four statutory factors and visibility conditions at all Class I areas to which South Carolina contributes are below the URP.

EPA disagrees with the comments regarding the State's use of CEPCI for escalating costs. The CEPCI is published monthly by the magazine Chemical Engineering and has been used for decades in regulatory cost effectiveness analyses, and it is one of the tools that allows for a comparison to be made between cost effectiveness analyses at different facilities over various years. EPA's CCM cost-effectiveness spreadsheet allows for the use of CEPCI, and other well-known cost indices, to escalate costs.[71] EPA agrees that as of September 2024, accessing this cost index is now a paid subscription. However, in the Haze Plan, each facility that used a CEPCI index value to escalate costs, cited to the specific year and CEPCI index value used. Furthermore, EPA independently evaluated the each of the FFAs, including the costs and methodology and EPA determined the State's use of CEPCI indices to be reasonable and appropriate.

EPA disagrees with the assertion that the FFA for Cross was inadequate and flawed because the source only conducted an FFA on a single control option and did not identify any cost-effective control measures for its EGUs. In Appendix G-2 of Haze Plan, the source adequately justified why an FFA was not performed on the other three control options identified. Cross noted that Units 1-4 are already controlled by wet FGD, which provides the greatest SO_2 reduction of the available add-on controls, thus retrofitting with a different add-on control technology was not further evaluated. *See* Response 11.d. As such, EPA agrees that South Carolina's decision to only conduct a cost analysis for fuel switching option is reasonable.

EPA finds the assumptions used in the cost-effectiveness calculations submitted in the Haze Plan to be appropriately documented and reasonable. The State included all relevant

[71] Available at: https://www.epa.gov/sites/default/files/2019-05/sncrcostmanualspreadsheetvf_april_2019.xlsm.

information, justifications used, and support for each cost provided in the cost calculation within Appendix G-2 for EPA to independently review the cost analyses. EPA finds that South Carolina has sufficiently documented and provided costs, methodology, vendor estimates, and emissions information for EPA to make an independent determination that South Carolina's FFAs satisfies the CAA and the RHR.

Comment 11.b: The Conservation Groups assert that South Carolina's FFA for Century improperly inflates the cost of controls. They claim that Century provided outdated and incomplete emissions data by providing SO_2 emissions apportionment data across various processes from its 2004 title V permit renewal application. They assert that Century assigns SO_2 emissions to its bake oven and potlines using a combined total and must instead provide emissions data on a unit-by-unit basis for NOx, SO_2, and PM for the last five years. They further assert that Century erroneously omitted a significant source of emissions from its FFA by excluding its bake oven from its SO_2 FFA because it accounts for 7.35 percent (334 tons) of the total SO_2 from the facility in 2028. They claim that this is not an insignificant amount of SO_2 emissions and must be included in the FFA. In addition, the Conservation Groups allege the following errors in Century's FFA that EPA must require the State to correct.

First, they state that the wet and dry scrubber efficiencies utilized are too low in comparison to the efficiencies in EPA's CCM and that documentation is insufficient to support the facility's deviation from the CCM's recommended control efficiency.

Second, they state that Century failed to provide vendor information to South Carolina, contrary to the requirements of the RHR, and that EPA must require South Carolina to obtain, review, and provide its analysis of the vendor information.

Third, they reference EPA's CCM and state that use of a 20-year equipment life, instead of a 30-year equipment life, for the dry scrubber is incorrect.

Fourth, they state that Century's URP safe harbor argument is not allowed under the CAA or RHR.

Fifth, they state that Century's argument to avoid controls because of emission reductions from another source category is misplaced and not supported by the RHR which does not provide the State with discretion to exclude a source selected for the FFA because sources in another category are reducing emissions.

Sixth, they state that Century erroneously included sales tax in its cost analysis, as pollution control equipment is exempted from sales tax in South Carolina.

Seventh, they state that Century erroneously combined the costs of controls by identifying the bake oven and potlines as individual emission units to solicit separate bids: one for the bake oven and a second for the potrooms. The Conservation Groups state that the effect of combining the costs of control for two distinct emission units resulted in a higher cost per ton amount. The Conservation Groups state that EPA rejected a similar approach from Texas and must also reject South Carolina's reliance on Century's combined approach and calculate the cost effectiveness for the bake oven and potlines separately.

Eighth, they claim that Century's annual cost for its dry scrubber contains significant errors and that when the "correct" calculation method is followed, the total annual cost using the figures Century provides in its analysis is nearly three times lower ($10,772,422 rather than $34,878,587). The Conservation Groups also state that "Century's capital cost of $109,760,060 is similarly in error, as from its own figures this cost should be $25,242,560."

The Conservation Groups state that the 2021 Kordzi Report corrects these errors and provides a revised FFA which shows that dry scrubbers are cost-effective. Using the updated values, the Conservation Groups revised the dry scrubber cost-effectiveness calculations for the potlines and the bake oven, each, showing a revised cost-effectiveness value of $7,748/ton (in comparison to the $9,105/ton value provided by Century), for the bake oven dry scrubber and $2,223/ton (in comparison to the $2,611/ton provided by Century) for the potlines dry scrubber. As a result, the Conservation Groups state that the revised analysis for the dry scrubbers for the bake oven and potlines are cost-effective and that EPA must require South Carolina include

emission limitations in the SIP commensurate with a dry scrubber for the Century potlines and a dry scrubber for the bake oven.

With respect to the wet scrubber FFA, the Conservation Groups allege the following errors that EPA must require the State to correct. First, they state that Century failed to provide any explanation or justification for the more than seven-fold increase in the contingency cost between Century's initial contingency cost calculation ($929,410) for the wet scrubber and the subsequently revised cost ($6,722,732). The Conservation Groups state that South Carolina must require that Century fully explain and justify the $6,722,732 figure or remove it from the analysis.

Second, they state that Century's wet scrubber cost-effectiveness calculation contains numerous unsupported figures that must be supported, including: (1) capital costs of approximately $26 million for a wastewater pretreatment and piping system; (2) indirect annual costs of approximately $2 million for various engineering and permitting items; and (3) direct annual costs of approximately $3.5 million for various annual operating cost items. Furthermore, the Conservation Groups assert that the wet scrubber costs do not follow the procedure outlined in in the CCM, from where Century obtains other cost items. They identify other costs of concern – (1) a "very unreasonable" labor charge of $1,547,366 in comparison to the CCM methodology; (2) charges for various chemicals and failing to document and justify their use (*e.g.*, hydrochloric acid, an unidentified polymer, an unidentified organosulfide, ferric chloride and sodium hydroxide); and (3) undocumented and unjustified charges of $846 million and $681 million for filter cake sludge and reverse osmosis brine reject disposal costs. Additionally, the Conservation Groups assert that there is no way for the public to separate out and independently construct the bake oven and potline scrubbers in the wet scrubber cost-effectiveness calculation.

Third, they assert that EPA must require South Carolina to either provide support for all calculations or follow EPA's CCM, in addition to revising the costs so that there are separate calculations for the bake oven and potlines.

Citing to the RHR and EPA guidance, the Conservation Groups contend that EPA cannot approve South Carolina's request to remove existing permit provisions for Century from the 2022 SIP Revision that are necessary to make reasonable progress and prevent future impairment. They claim that state-issued permits cannot conflict with SIP requirements and that EPA and South Carolina "violated these requirements" in two ways. First, they argue that the State has proposed to modify Century's construction permit in a way that conflicts with the Haze Plan. The Conservation Groups assert that the 2022 SIP Revision identified permit Condition C.15 from Permit No. TV-0420-0015 as one of the existing measures that is necessary to make reasonable progress. That permit provision provides that the monthly average sulfur content limit for coke used at Century "shall not exceed 2.22% by weight" with a permitted exception to use coke with a sulfur content of three percent under a reduced operating scenario. However, South Carolina issued a draft permit modification in 2024 that would allow Century to increase the sulfur content limit for coke to three percent, regardless of the level of facility operations. The Conservation Groups state that the draft permit does not explain the discrepancy between the coke sulfur limit in the draft permit and that identified as necessary in the SIP. The Conservation Groups assert that EPA must therefore require South Carolina to either (1) retain the 2.22 percent coke sulfur limit in Century's final modified permit for incorporation into the regulatory portion of the SIP, or (2) conduct a new FFA for Century assuming compliance with the revised three percent coke sulfur limit in the draft permit.

Second, the Conservation Groups assert that EPA proposes to improperly approve the State's request to entirely remove existing permit provisions for Century from the Haze Plan. They state that the State's December 12, 2024, letter to EPA withdrawing these provisions does not explain or provide any analysis of how the 2.22 percent content limit is no longer necessary to make reasonable progress and that EPA's reliance on this letter to disregard a limit previously determined to be necessary for Century is arbitrary, capricious, and contrary to law. They also argue that EPA cannot rely on the URP policy to ignore South Carolina's determinations on

measures necessary for reasonable progress and that EPA's statement in the NPRM that the State's request to incorporate permit conditions into the SIP is moot under the new policy is arbitrary and capricious.

Response 11.b: The Conservation Groups claim that Century assigns SO_2 emissions to its bake oven and potlines in a combined total and should instead provide emissions data on a unit-by-unit basis for NOx, SO_2, and PM for the last five years. EPA disagrees with this comment. Table 7-21 of the South Carolina Haze Plan provides the SO_2 emissions for Century on a unit-by-unit basis, for the modeled baseline (2011), and 2028 projected future emissions. EPA finds the emissions data provided to be appropriate as there is no requirement to provide data for each of the last five years. Furthermore, EPA notes that emissions from the prior five years would not be a valid representation of emissions because two of the four potrooms were not operated in those years but are expected to resume operation by 2028. With respect to PM and NOx, the RHR does not prescribe which visibility impairing pollutants must be evaluated in FFAs. EPA's 2019 Guidance on page 11 states "[w]hen selecting sources for analysis of control measures, a state may focus on the PM species that dominate visibility impairment at the Class I areas affected by emissions from the state and then select only sources with emissions of those dominant pollutants and their precursors." EPA agrees with South Carolina's focus on SO_2 emissions from its selected sources during the second planning period. *See* Response 8 for further discussion.

The Conservation Groups also claim that Century provided outdated and incomplete emissions data by providing SO_2 emissions apportionment data across various processes from its 2004 title V permit renewal application. Although the emission data used is from an older title V permit renewal application, EPA finds the use to be reasonable for the purpose of Century's FFA because it apportioned the 2028 annual SO_2 emissions from the VISTAS modeling study by using the 2004 title V permit emission limits for the Bake Oven and each potroom to pro-rate and estimate individual emissions for 2028 (363 tpy for Bake Oven and 930 tpy for each

potroom).[72] As 2028 annual SO_2 emissions were calculated by applying allotted (and active) permit limits to emissions projections that were modeled only a year before submission of the Haze Plan, EPA finds that the emissions data provided is neither outdated or incomplete.

The Conservation Groups erroneously contend that Century omitted its bake oven from its FFA. The Haze Plan states "[b]ased on the above information, this four-factor analysis is focused on the Bake Oven and the Potline Potrooms as these sources constitute 99.95 percent of Century's permitted SO_2 emissions."[73]

The Conservation Groups assert that the wet and dry scrubber efficiencies utilized in the cost analyses are too low in comparison to the efficiencies in EPA's CCM and that there is no justification for this deviation. However, the CCM states that wet scrubbers have an SO_2 control efficiency "between 90 and 98% with new designs achieving 99% removal,"[74] and that dry sorbent injection (DSI) scrubbers have efficiencies ranging from 50 to 70 percent.[75] As the Century FFA uses a wet scrubber SO_2 control efficiency of 93 percent[76] and a DSI efficiency of 90 percent,[77] EPA finds that the efficiencies used were within CCM guidance.

The Conservation Groups claim that Century failed to provide vendor information to South Carolina, contrary to the requirements of the RHR requirement, and that EPA must require the State to obtain, review, and provide its analysis of the vendor information. EPA disagrees. The RHR does not mandate the level of detail that must be provided for the cost calculations or require States to provide vendor information,[78] and vendor information was provided in Appendix G-2 of the Haze Plan.

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[72] *See* Section 3.0 of Appendix G-2 of the Haze Plan Submittal.
[73] *Id.*
[74] *See* Section 5 of the CCM*, Table 1.1: Comparison of Wet and Dry Scrubbers*.
[75] *See* Section 5 of the CCM, Section 1.2.1.3: *Other Designs*.
[76] Century matched the target efficiency used for a wet scrubber retrofit installation in South Carolina for a source in a similar industry (electrode production), as well as RACT/BACT/LAER Clearinghouse (RBLC) data from EPA which indicated that a smelter in Kentucky operates a scrubber with a design control efficiency of 93 percent. *See* Section 5.0 of Appendix G-2 of the Haze Plan Submittal.
[77] The Century FFA uses a DSI efficiency of 90 percent based on vendor information. *See* Section 5.0 of Appendix G-2 of the Haze Plan Submittal.
[78] 40 CFR 51.308(f)(2)(iii) states that, "[t]he State must document the technical basis, including modeling, monitoring, cost, engineering, and emissions information, on which the State is relying to determine the emission

Regarding Century's utilization of a 20-year equipment life for the dry scrubber, EPA evaluated the cost analysis used by Century for the DSI scrubber and found that the change from a 20-year useful life to the 30-year useful life would only reduce the cost-effectiveness from $10,323 to $9,347. South Carolina received this comment during the state-level comment period on the draft Haze Plan and responded to it.[79] The State did not alter its plan as a result of this comment, and EPA finds that conclusion to be reasonable.

The Conservation Groups state that Century's URP safe harbor argument is not allowed under the CAA or RHR and is utilized unlawfully. EPA disagrees that Century and South Carolina relied on the URP as a safe harbor. Although Century discusses the URP in its FFA, Century considered the four factors and performed a full FFA, independent of the URP, calculated cost-effectiveness values of $10,323/ton for dry scrubber controls and $7,485/ton[80] for wet scrubber controls, and determined that there are no cost-effective SO_2 control measures for the facility. EPA agrees that the URP is not a "safe harbor" to avoid requiring additional reasonable progress measures. *See* Response 7.h for further discussion.

The Conservation Groups state that Century's argument to avoid controls because of emission reductions from another source category is misplaced and not supported by the RHR which does not provide the State with discretion to exclude a source selected for the FFA because sources in another category are reducing emissions. EPA disagrees that Century is avoiding controls by relying on emission reductions from another source category as Century performed a full FFA which determined that there are no cost-effective SO_2 control measures for the facility.

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reduction measures that are necessary to make reasonable progress in each mandatory Class I Federal area it affects."

[79] *See* Haze Plan, Appendix H-3 at 47 (pdf numbering) and H-4 at 9 (pdf numbering).

[80] *See* spreadsheet included in the docket for this rulemaking titled "Century revised cost analysis.xlsx." The revised cost analysis at an assumed 99 percent control efficiency for wet scrubbers with a five percent interest rate and 30-year life determined the cost effectiveness calculated to be $7,486 per ton of SO_2 reduction. The difference in costs is due to rounding. *See* Haze Plan at 165.

EPA agrees with the Conservation Groups that a sales tax charge should not have been included in the cost analyses due to South Carolina's Sales and Use Tax Exemption for pollution abatement equipment.[81] However, removing the sales tax from the cost analysis for the wet scrubber only accounts for approximately 1.6 percent of the total direct cost, which would not appreciably change the overall cost/ton identified by the FFA.

The Conservation Groups erroneously assert that Century's annual cost for its dry scrubber contains significant errors and that when the correct calculation method is followed, the Total Annual Cost is more than three times lower ($10,772,422 rather than $34,878,587). The Total Annual Cost figure accounts for the Total Annual Cost of all four DSI potroom scrubbers ($8,035,388 each) and the Total Annual Cost for the singular DSI bake oven scrubber ($2,737,034), which correctly amounts to $34,878,587. The Conservation Groups are similarly incorrect regarding the "capital cost" figure of $109,760,060, as this figure provides the Total Capital Cost which accounts for the Total Capital Investment (TCI) for all four DSI potroom scrubbers ($25,242,560 each) and the TCI for the singular DSI bake oven scrubber ($8,789,820), which correctly amounts to $109,760,060.

EPA disagrees with the comment about erroneously combining the costs of controls for the bake oven and potrooms. Appendix G-2 of the Haze Plan states that "in addition to the control equipment, Century's direct capital and operating costs would include constructing and operating a wastewater collection, conveyance, and pretreatment system for wet scrubber blowdown from five scrubbers under the wet scrubber control option scenario." As Century's direct capital and operating costs would also include constructing and operating a potable water piping network to supply all five wet scrubbers with makeup water, EPA finds Century's combined cost analysis for all five wet scrubbers to be reasonable. Regarding the alleged similarities between the Century approach and the Texas approach that was disapproved in 2016, EPA disagrees with the comparison. As stated in the NFRM on the Texas action, "Texas

[81] *See* South Carolina Code §12-36-2120(17).

employed a large, superficially refined control set consisting of a mix of large and small sources from a number of different source categories located within varying distances of Class I areas."[82] This approach is distinguishable from the Century approach that combined cost analyses for two types of sources at the same facility.

There is no requirement in the CAA or the RHR for states to establish bright line cost effectiveness thresholds when evaluating control costs in FFAs. *See* Response 11.a. The CAA and the RHR require states to evaluate the costs of compliance. EPA evaluated South Carolina's conclusion that the units at Century are well controlled for SO_2 and additional controls are not needed for the purpose of remedying any existing anthropogenic visibility impairment at Cape Romain and find it to be reasonable.

To explain the increase in the contingency cost provided in the revised FFA from the original FFA, Century revised this cost to incorporate a change in the method of calculation for Contingency costs from the 6th edition CCM (published 1995) to the 7th edition CCM (published 2021). The 6th edition of the CCM stated that the contingency cost may be calculated as three percent of the Purchased Equipment Cost,[83] while the 7th edition states that the cost may be calculated by multiplying the total direct and indirect costs by a contingency factor[84] (Century utilized a contingency factor of 0.10). The equations used to calculate the Contingency cost are documented in the 'Notes' section of both the original and revised FFA cost analyses.[85] As Century revised the Contingency cost to utilize an updated method of calculation, EPA finds the increased value to be justified.

Regarding the claim that there is no support or documentation for numerous costs, EPA finds the costs used in the Century FFA to be appropriately documented and reasonable. The State included all relevant information, justifications used, and support for each cost provided in

[82] *See* 81 FR 296, 313-314 (January 5, 2016).
[83] *See* Section 5 of the 6th Edition CCM, December 1995, *Table 1.3 Capital Cost Factors for Gas Absorbers*.
[84] *See* Section 5 of the 7th Edition CCM, April 2021, Section *1.3.3.2 Installation Cost*.
[85] *See* the original and revised cost analyses in Appendix G-2 of the Haze Plan.

the cost calculation within Appendix G-2. As discussed above, the RHR does not mandate the level of detail that must be provided for the cost calculations. Additionally, the figures pointed out by the Conservation Groups in Century's FFA each represent costs for not one but five wet scrubbers and were analogous to costs presented by other wet scrubber cost analyses[86] in Region 4, or provided costs for unique systems, from vendors, using facility-specific parameters.

The Conservation Groups claim that Century does not follow the procedure outlined in the wet packed tower absorber example in the CCM. While EPA's 2019 Regional Haze Guidance recommends that the CCM be used for determining costs, the RHR does not mandate it. EPA's Guidance allows for alternative approaches to cost calculations.

The Conservation Groups assert that undocumented and unjustified costs of concern include: (1) a labor charge of $1,547,366; (2) charges for various chemicals; and (3) charges of $846 million and $681 million for filter cake sludge disposal (FCSD) and reverse osmosis brine reject disposal (ROBRD) costs. EPA carefully evaluated the Haze Plan and the associated record and engaged in a thorough analysis of each control option, including the underlying cost assumptions used in the calculations for Century. In Table 1 of Appendix G-2 of the Haze Plan, Century documents each line-item of the cost analysis. In this table, Century documents: (1) the labor charge as a Direct Annual Cost of operating the 'Water Supply/Wastewater Collection, Conveyance, and Pretreatment' system; (2) the various chemicals listed by the Conservation Groups as chemicals used to manage the wet scrubber water supply, wastewater collection, conveyance, and pretreatment system, while specifically defining the organosulfide as TMT-15[87] and describing the polymer as having 40 percent active content; and (3) the FCSD and ROBRD as Annual Disposal Costs. The Conservation Groups also stated that Century failed to justify the use of these chemicals, however all the chemicals listed in the FFA (Lime, Hydrochloric Acid, Polymer, Organosulfide, Ferric Chloride, and Sodium Hydroxide) have valid uses in the

[86] *See* WestRock Fernandina Beach Mill Wet Scrubber Costs in Appendix G-2 of the Florida Department of Environment's 2021 submittal addressing regional haze for the second planning period.
[87] TMT-15 refers to the trade name for a 15 percent aqueous solution of sodium trimercapto-triazine.

treatment of wastewater. Chemicals such as sodium hydroxide and lime are used in order to raise the pH of the wastewater in order to optimize precipitation of metal compounds, while acids, such as hydrochloric acid, are used in conjunction with ferric chloride for chemical precipitation.[88] Organosulfide chemicals such as TMT are also used to precipitate and remove heavy metals.[89] Polymers are utilized as a flocculent to aid in the settling process during which precipitated metals are removed from solution.[90] EPA notes that the $846 million and $681 million costs listed by the Conservation Groups for the FCSD and ROBRD, is incorrect as the Table lists these costs as $845,796, and $680,952, respectively. EPA's assessment of the wet scrubber found that removal of the $1,547,366 labor charge, FCSD, and ROBRD costs, and Annual Chemicals costs, only reduced the cost-effectiveness from $7,485/ton[91] to $6,526/ton. South Carolina received these comments regarding "undocumented and unjustified costs" during the state-level comment period on the draft Haze Plan and responded to them.[92] The State did not alter its plan as a result of these comments, and EPA finds that conclusion to be reasonable.

Concerning the Conservation Groups' assertion that EPA must require South Carolina to either provide support for all calculations or follow EPA's CCM, in addition to revising the costs so that there are separate calculations for the bake oven and potlines, EPA disagrees. South Carolina provides support for all calculations through the information provided in Appendix G-2 of the Haze Plan. As discussed above, while EPA's 2019 Guidance recommends that the CCM be used for determining costs, the RHR does not mandate it. EPA's 2019 Guidance also allows for alternative approaches to cost calculations.

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[88] *See* EPA's "Development Document for Final Effluent Limitations Guidelines and Standards for Commercial Hazardous Waste Combustors Chemicals," available at: https://www.epa.gov/sites/default/files/2015-11/documents/chwc-eg_dd_2000.pdf.

[89] *See* EPA's 'Technical Development Document for Proposed Supplemental Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category,' available at: https://www.epa.gov/system/files/documents/2023-03/steam-electric-tdd_proposed_feb-2023_0.pdf

[90] *See* EPA's "Development Document for Final Effluent Limitations Guidelines and Standards for Commercial Hazardous Waste Combustors Chemicals," available at https://www.epa.gov/sites/default/files/2015-11/documents/chwc-eg_dd_2000.pdf.

[91] The revised cost analysis at an assumed 99 percent control efficiency for wet scrubbers with a five percent interest rate and 30-year life determined the cost effectiveness calculated to be $7,485 per ton of SO_2 reduction. *See* Haze Plan at 165.

[92] *See* Haze Plan, Appendix H-3 at 51 (pdf numbering) and H-4 at 9 (pdf numbering).

Concerning South Carolina's request to remove existing permit provisions for Century, EPA proposed to approve the Haze Plan without permit conditions for Century, as requested by South Carolina in its June 4, 2025, letter, based on the new URP policy. South Carolina considered the four statutory factors for Century in technical analyses. Subsequently, South Carolina clarified in its June 4, 2025, letter that it is not necessary to include in the SIP any final permit conditions for Century and that statements appearing in its submittal concerning existing or additional measures are no longer applicable. In addition, South Carolina confirmed that it does not intend to submit or include final permit conditions for Century for incorporation into the regulatory portion of the South Carolina SIP. As discussed in the NPRM, because South Carolina considered the four statutory factors for Century and visibility conditions at all Class I areas to which South Carolina contributes are below the URP, South Carolina has demonstrated that it has made reasonable progress for the second planning period without any measures in the regulatory portion of the SIP for Century. For these reasons, EPA's statement that the State's request to incorporate permit conditions into the SIP for Century is moot is not arbitrary and capricious, nor is EPA's reliance on the State's letters.

Comment 11.c: The Conservation Groups assert that South Carolina's reasonable progress FFA for Cross is inadequate and flawed. First, the Conservation Groups state that Cross did not consider any additional improvements or upgrades to its existing scrubber systems and instead focused its analysis solely on separate add-on control systems. The Conservation Groups state that the justification provided by South Carolina for not considering additional add-on SO_2 controls is a red herring. The Conservation Groups justify their position stating that EPA has long indicated that upgrades to existing FGD (and SCR) systems are likely cost-effective and should be investigated through an FFA. The Conservation Groups assert that scrubber upgrades and/or optimizations for Unit 2 should have been investigated and included as part of the FFA and also assert that the existing scrubber on Unit 2 has not been operating consistently since 2012. They state that the scrubber is required by permit to maintain an 87 percent SO_2 removal

efficiency, substantially lower than the 98 percent efficiency that a modern wet scrubber is capable of attaining.

Second, the Conservation Groups assert that Cross, South Carolina, and EPA mistakenly relied on the fact that all four EGUs are equipped with wet FGDs and are meeting the MATS SO_2 emission limits to exclude them from an FFA. The Conservation Groups state that Cross and South Carolina misinterpreted the "effectively controlled" language in the 2019 Guidance, and thus, the source should have evaluated control optimizations for these units in the FFA.

Third, the Conservation Groups assert that Cross failed to consider any NOx controls as part of the FFA and that the NOx emission limits for Units 1, 2, and 4 are above the 0.05 lb/MMBtu monthly limit that modern SCR systems can attain. The Conservation Groups state that South Carolina should have required that the SCR systems be evaluated for optimization and/or upgrade. They state that this is especially important since "nitrate concentrations are higher on winter days and are more important for coastal sites [such as Cape Romain] where the 20 percent most impaired days occur during the winter months" and that data from the second planning period demonstrates large nitrate impacts at Cape Romain associated with anthropogenic emissions. Based on this information, the Conservation Groups state that South Carolina should have made the nitrate threshold lower than the SO_2 threshold because the AoI threshold used by South Carolina requires that nitrate impacts be proportionately larger than SO_2 impacts in order to be selected for PSAT tagging. As such, no sources were tagged for nitrates.

Fourth, the Conservation Groups assert that the only control considered is a switch to a low sulfur coal and that this switch cannot be independently assessed because it depends on confidential data concerning the costs of Cross' current and lower sulfur replacement coals.

The Conservation Groups state that, as a result, South Carolina neglected to require reasonable, cost-effective controls on Cross and that EPA must require South Carolina to conduct an appropriate FFA for Cross, including assessing available reasonable control measures (*e.g.*, permit limits, optimization of equipment efficiency, and equipment upgrades, etc). They

state that it is likely to achieve substantial gains very cost-effectively with little to no capital costs by running the existing controls efficiency, using more reagent, and/or setting lower emissions rates.

The Conservation Groups also state that EPA ignored South Carolina's determinations on the measures necessary for reasonable progress, including enforceable permit conditions for Cross, and that EPA's identification of these measures as moot under the new policy without addressing the State's findings or providing a rational explanation is arbitrary and capricious. The Conservation Groups also contend that before EPA incorporates necessary existing permit conditions for Cross into the SIP, EPA must require the State correct the errors in those permit provisions. They claim that the permit conditions in the 2025 SIP supplement significantly differ from those in Cross's updated permit finalized on December 31, 2024. The Conservation Groups also raised issues regarding the practical enforceability of the revised permit provisions for Cross at the state level. Specifically, the Conservation Groups note that South Carolina inappropriately included illegal exemptions from the relevant haze emission limits during periods of start-up, shutdown, and malfunction. The Conservation Groups contend that South Carolina must correctly identify the permit provisions proposed for inclusion in South Carolina's regional haze SIP for Cross.

Response 11.c: EPA disagrees with the Conservation Groups' assertion that South Carolina's FFA for Cross is inadequate and flawed. Units 1-4 are equipped with wet FGDs and are permitted to comply with the MATS SO_2 emission limit of 0.20 lb/MMBtu. Units 1, 3, and 4 are permitted and required under a consent decree to achieve a 30-day rolling average removal efficiency for SO_2 of at least 95 percent, and Unit 2 is required to achieve a 30-day rolling average removal efficiency for SO_2 of at least 87 percent.[93, 94] The consent decree also required

[93] *See* Consent Decree, *U.S. v. S.C. Public Service Authority*, Civil Action No. 2:04cv822 (D.S.C., Charleston Division) (filed June 24, 2004) at Paragraphs 64-66. This consent decree is included in the docket for this rulemaking.

[94] *See* Cross' title V Permit No. TV-0420-0030, Condition 5.E.18 for the 30-day rolling average removal efficiency for SO_2 for Units 1 through 4. This permit is included in the docket for this rulemaking.

Cross to upgrade the wet FGDs on Units 1 and 2 to increase removal efficiency through upgrades of existing FGD modules in order to meet the SO_2 emission limits specified in the consent decree. EPA analyzed the controls and confirmed that Cross Units 1-4 are equipped with wet scrubber systems that routinely achieve a high SO_2 control effectiveness. From 2017 through 2023, the average yearly SO_2 removal efficiencies were between 96.8 percent and 98.1 percent (Unit 1), between 91.6 percent and 95.5 percent (Unit 2), between 97.2 percent and 98.3 percent (Unit 3), and between 97.6 percent and 98.3 percent (Unit 4).[95] The typical SO_2 removal efficiency range for wet scrubbers ranges from 90 to 98 percent.[96] Thus, it is unlikely that an FFA would result in the conclusion that further SO_2 emissions control measures are necessary for reasonable progress in the second planning period. Therefore, EPA finds South Carolina's effective controls demonstration for Cross to be reasonable.

Regarding the comment that Unit 2 has not been operating consistently since 2012, EPA reviewed the recent historical scrubber efficiency data for Unit 2 between 2017 and 2023 and found that the typical average yearly SO_2 removal efficiencies fluctuate between 91.6 percent and 95.5 percent, well above the required control efficiency required by consent decree. While new wet FGD scrubbers can achieve greater than 98 percent SO_2 removal efficiency, Unit 2's wet FGD was installed in 1984, upgraded in 2005 to maintain the 87 percent removal efficiency by June 30, 2006, and designed to meet a limit of a control efficiency of up to 91 percent (as required by the consent decree).

EPA disagrees with the assertion that South Carolina misinterpreted the "effectively controlled" language in the 2019 Guidance. As mentioned above, EPA's analysis confirms that the units are "not uncontrolled or lightly controlled." Furthermore, these units are subject to the MATS Rule and are each equipped with wet FGDs that routinely achieve high SO_2 control efficiencies. Thus, it is unlikely that an FFA would result in the conclusion that further SO_2

[95] *See* footnote 66 regarding EGU scrubber efficiency spreadsheet.
[96] *See* Table 1.1 on pages 1-3, Section 5, Chapter 1 of the CCM.

emissions controls (including emissions control measures) are necessary for reasonable progress in the second planning period. EPA also notes that there is no statutory or regulatory requirement to consider all technically feasible measures or any particular measures.[97] As such, EPA finds that South Carolina's decision to only conduct a cost analysis for fuel switching to be reasonable.

Regarding the comments concerning NOx controls and nitrate impacts, EPA has determined that South Carolina's decision to not evaluate sources selected for SO_2 emission control analyses for a separate NOx emission control analysis is reasonable for this planning period. *See* Response 8.

EPA disagrees with the Conservation Groups that the cost information for switching to a low sulfur fuel cannot be independently assessed because it contains confidential data concerning the costs of Cross' current and lower sulfur replacement coals. Although the specific costs for the current and lower sulfur coal were not explicitly provided in the cost analysis, the overall difference in cost is reasonable and within the values provided in EPA's "New Coal-Fired Power Plant Performance and Cost Estimates"[98] as well as within the range based on the recent average coal prices from various locations in the U.S.[99]

EPA disagrees with the Conservation Groups that EPA ignored South Carolina's determination on the measures necessary for reasonable progress for Cross. EPA proposed to approve the Haze Plan without permit conditions for Cross, as requested by South Carolina in its June 4, 2025, letter, based on the new URP policy. South Carolina considered the four statutory factors for Cross in technical analyses. Subsequently, South Carolina clarified in its June 4, 2025, letter that it is not necessary to include in the SIP any final permit conditions for Cross and that statements appearing in its submittal concerning existing or additional measures are no

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[97] *See* 2019 Guidance at 29.
[98] EPA document titled "New Coal-Fired Power Plant Performance and Cost Estimates," prepared by Sargent & Lundy, (August 27, 2009). This document is included in the docket for this rulemaking.
[99] "Coal Markets" report issued on October 27, 2025. This document is included in the docket for this rulemaking and also available at https://www.eia.gov/coal/markets.

longer applicable. In addition, South Carolina never submitted its 2025 SIP Supplement, and it confirmed in its June 4, 2025, letter that it does not intend to submit or include final permit conditions for Cross for incorporation into the regulatory portion of the South Carolina SIP. As discussed in the NPRM, because South Carolina considered the four statutory factors for Cross and visibility conditions at all Class I areas to which South Carolina contributes are below the URP, South Carolina has demonstrated that it has made reasonable progress for the second planning period without any measures in the regulatory portion of the SIP for Cross. For these reasons, EPA's statement that the State's request to incorporate permit conditions into the SIP for Century is moot is not arbitrary and capricious.

Comment 11.d: The Conservation Groups assert that South Carolina's FFA for IP-Georgetown was highly flawed, and therefore, EPA must require the State to correct several alleged errors and cannot finalize approval of the Haze Plan. They claim that EPA must require a NOx FFA and include emission limitations commensurate with reasonable NOx controls in the SIP; include emissions limitations in the SIP that cover operational fuel use changes; and require an FFA for the No. 2 Recovery Boiler because the assertions that the unit is effectively controlled are misplaced. They also argue that EPA must require corrections to the "grossly inflated" cost analyses for the power boilers, specifically raising concerns with the use of EPA's EGUs cost algorithms for wet and dry scrubbers that are limited to EGUs, as IP-Georgetown is not an EGU, and instead use worksheets for industrial boilers. In addition, the Conservation Groups state that EPA should not allow the use of EPA's spray dryer absorber (SDA) worksheet, as this worksheet is intended for EGUs.

Furthermore, the Conservation Groups assert EPA must not allow for the use of an unjustified retrofit factor and that South Carolina must either require actual documentation that demonstrates the problems the facility would encounter in installing the controls are in fact unusual or revise the FFA using retrofit factors of 1.0. They also state that EPA must require IP-Georgetown to explain how the boiler's heat rating was converted from million British thermal

units per hour (MMBtu/hr) to megawatts (MW), as this may result in additional corrections that must be made to the scrubber cost-effectiveness calculation. They further allege that EPA must require the removal of the allowance for funds used during construction (AFUDC) costs from IP-Georgetown's wet and dry scrubber cost-effectiveness calculations, which is not allowed under EPA's CCM overnight method (citing to *Oklahoma v. EPA*, 723 F.3d 1201, 1212 (10th Cir. 2013), where the court found EPA had reasonable basis for rejecting Oklahoma's cost estimates that included the AFUDC costs), and the removal of the "additional undocumented very large fee" for an engineering procurement construction (EPC) contract, citing to EPA's CCM default approach. The Conservation Groups assert that IP-Georgetown can use the "multiple lump sum" contracts that include Engineering and Construction Management Costs without adding the large fee associated with an EPC contract. Lastly, the Conservation Groups assert that EPA must require the use of unit-specific NOx, SO_2, and PM emissions because the cost-effectiveness calculation is inaccurate and cannot be verified.

The Conservation Groups cite to the 2021 Kordzi Report which provided revised cost analyses using revised inputs (reduced retrofit factor from 1.5 to 1.0, deselected the EPC Contract option, removed the owner's cost and AFUDC, and revised the Capital Recovery Factor from 0.069 based on a 30-year life and an interest rate of 5.5 percent to 0.053 based on a 30-year life and an interest rate of 3.25 percent). According to the Conservation Groups, the revised cost analysis shows that the wet scrubbers on IP-Georgetown's power boilers would be cost-effective at $4,380/ton.

Furthermore, the Conservation Groups assert that EPA improperly proposes to approve South Carolina's request to remove existing permit measures that are "necessary to make reasonable progress" and prevent future impairment for IP-Georgetown. They argue that EPA's conclusory statement that incorporation of permit conditions into the SIP is "moot" under the new URP policy is arbitrary and capricious because the 2025 SIP Supplement included finalized permit conditions and proposed to incorporate them into the SIP; the State proposed the 2025

SIP Supplement because it determined that the permit conditions were necessary for reasonable progress, nothing in the record demonstrates that this determination is no longer valid, South Carolina and EPA purport to eliminate measures that the State previously deemed necessary to make reasonable progress; the URP policy does not automatically "moot" measures deemed necessary for reasonable progress; and the policy contradicts the CAA and the RHR.

Response 11.d: EPA disagrees with the assertion that South Carolina's FFA was highly flawed. Regarding the comments concerning a NOx FFA, EPA has determined that South Carolina's decision to not evaluate sources selected for SO_2 emission control analyses for a separate NOx emission control analysis is reasonable for this planning period. *See* Response 8. With respect to the claim that International Paper-Savannah grossly inflated the power boilers' cost analyses by incorrectly using EPA's Retrofit Cost Analyzer (RCA)[100] because this spreadsheet is limited to EGUs and IP-Georgetown is not an EGU, EPA disagrees. EPA's RCA spreadsheet uses the same equations and methodology as EPA's CCM, Section 5, Chapter 1, "Wet and Dry Scrubbers for Acid Control." Furthermore, the spreadsheet also indicates that it "allows users to estimate the capital and annualized costs for installing and operating scrubbers for reducing sulfur dioxide […] from fossil-fuel combustion units and other industrial sources of acid gases." With that same rationale, EPA disagrees with the Conservation Groups' claim that EPA's RCA spreadsheet is only suited for EGUs. The Conservation Groups also assert that this spreadsheet is not viable for emission units with emissions below 0.06 lb/MMBtu. EPA disagrees and notes that in the IPM Model document for "SDA FGD Cost Development Methodology," this is a recommended value.[101] In addition, a value below the floor rate results in a conservatively higher cost-estimate further supporting IP-Georgetown's decision that an SDA or FGD on the power boilers is not cost-effective.

EPA also disagrees with the Conservation Groups that the use of a retrofit factor of 1.5

[100] EPA's Retrofit Cost Analyzer, *see* https://www.epa.gov/power-sector-modeling/retrofit-cost-analyzer.
[101] *See* https://www.epa.gov/system/files/documents/2024-05/13527-002-sda-fgd-cost-methodology_final_march-2024.pdf.

was not justified. The FFA for IP-Georgetown states that the costs associated with the increased retrofit factor take into account the challenges associated with the installs such as limited space around the power boilers. Whether the exact retrofit factor was appropriately justified, the wet FGD and the SDA controls were not found by the State to be cost-effective. Using a retrofit factor of 1.0 would produce a lower cost-effectiveness value (roughly $13,900 for the SDA and $8,000 for the wet FGD).[102] South Carolina received this comment during the state-level comment period on the draft Haze Plan and responded to it.[103] The State did not alter its plan as a result of these comments, and EPA finds that conclusion to be reasonable

Although the calculations for converting the boiler's heat rating from MMBtu/hr to MW were not included in EPA's RCA worksheet, IP-Georgetown provided the information needed to convert the heat input from the heat output given in MMBtu/hr for the power boilers. Each power boiler is rated at 592 MMBtu/hr. The Conservation Groups reference the 2021 Kordzi Report, which state that if the boiler's heat rating is expressed in terms of heat output, the equivalent conversion is 1 megawatt hour (MWh) is equivalent to 3.413 MMBtu. Using this conversion factor results in a power output of 173.5 MW. The heat input in MW is calculated using the boiler's efficiency. American Forest & Paper Association's (AFPA's) emission control study[104] states that a boiler's efficiency can be assumed to be 85 percent, except for wood-fired boilers, which can be assumed to have a 65 percent efficiency. In Appendix G-2c of the Haze Plan, IP-Georgetown indicates that the power boilers burn coal, wood/bark, and tire-derived fuel (TDF) and state that "[w]ood/bark and TDF continue to provide about 85% of the heat input to the power boilers." Using the two efficiencies provided by AFPA and the actual proportion of fuel burned in the power boilers, EPA calculated the weighted average efficiency of the boiler to be 68 percent. This calculated weighted efficiency was multiplied by the power output of 173.5

[102] *See* spreadsheet titled "IP-Georgetown revised costs.xlsx," in the docket for this rulemaking. Minor differences in the cost compared to what was submitted by IP-Georgetown in Appendix G-2g of the Haze Plan can be attributed to rounding.
[103] *See* Haze Plan, Appendix H-3 at 52 (pdf numbering) and H-4 at 10 (pdf numbering).
[104] AFPA's emission control study is included in Appendix G-2 of the Haze Plan.

MW, resulting in 118 MW of power, which is approximately equal to the value used by IP-Georgetown in the cost-effectiveness spreadsheet (118.4 MW).[105] EPA finds IP-Georgetown's MW value used in the cost analyses to be reasonable and does not agree with the assertion that this may bear additional corrections to the cost-effective calculations. Furthermore, as discussed above, the RHR does not mandate the level of detail that must be provided in the cost calculations.

EPA agrees with the assertion that AFUDC costs should not be included in IP-Georgetown's cost-effectiveness calculations for the wet and dry scrubber and that these costs are not allowed under the CCM's overnight method. South Carolina received and responded to this comment during the state-level comment period on the draft Haze Plan.[106] The State did not alter its plan as a result of these comments, and EPA finds that conclusion to be reasonable.

EPA disagrees with the assertion that South Carolina should remove the fees for using an EPC contract and instead use multiple lump sum contracts that include the Engineering and Construction Management costs. EPA's CCM does not identify multiple lump sum contracts as a "default" methodology, but instead identifies both options as viable methods to estimate the capital and annual costs. EPA finds that IP-Georgetown's inclusion of 15 percent EPC fees is reasonable because EPA's CCM states that costs for turnkey contracts, such as an EPC contract, may be 10 to 15 percent higher than those calculated using a multiple lump sum contract; EPA's template RCA spreadsheets for EPC projects include a 15 percent EPC fee; and when the "EPC Project" box is unchecked the cost calculations do not include the 15 percent EPC fee.

Additionally, EPA disagrees with the assertion that the cost-effectiveness value is inaccurate because IP-Georgetown did not include unit-specific NOx, SO_2, and PM emissions. EPA agrees with South Carolina's focus on SO_2 emissions from its selected sources during this period. *See* Response 8.

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[105] *See* Table B-1 of Appendix G-2c of the Haze Plan at 258 (pdf numbering).
[106] *See* Appendix H-3 at 52-53 (pdf numbering) and H-4 at 10 (pdf numbering) to the Haze Plan.

With respect to the assertion that cost-effectiveness was improperly calculated using the total annual cost of the control evaluated (wet FGD and dry FGD) and dividing by the combined tons of SO_2 emissions removed for both power boilers, EPA finds this approach to be reasonable because the total annual cost used includes the estimated cost for one wet FGD or one dry FGD, and if the cost-effectiveness calculations were re-calculated to be unit specific rather than combined, the resulting cost-effectiveness value would be significantly higher, further justifying the State's determination that the costs are not cost-effective.

For the above reasons, EPA thus disagrees that adopting wet scrubbers for the power boilers would result in the wet scrubbers being cost-effective at $4,380/ton. EPA evaluated each assumption used in the cost analyses as part of the pre-hearing process and throughout the Haze Plan development process.

Based on the aforementioned responses to each of the Conservation Groups' comments, EPA agrees with the State's conclusions that no measures for IP-Georgetown are necessary for reasonable progress.

EPA disagrees with the Conservation Groups that EPA is improperly proposing to approve South Carolina's request to remove the measures identified as necessary make reasonable progress and prevent future impairment for IP-Georgetown from South Carolina's regional haze SIP. EPA proposed to approve the Haze Plan without permit conditions for IP-Georgetown, as requested by South Carolina in its June 4, 2025, letter, based on the new URP policy. South Carolina considered the four statutory factors for IP-Georgetown in technical analyses. Subsequently, South Carolina clarified in its June 4, 2025, letter that it is not necessary to include in the SIP any final permit conditions for IP-Georgetown and that statements appearing in its submittal concerning existing or additional measures are no longer applicable. In addition, South Carolina never submitted its 2025 SIP Supplement, and it confirmed in its June 4, 2025, letter that it does not intend to submit or include final permit conditions for IP-Georgetown for incorporation into the regulatory portion of the South Carolina SIP. As

discussed in the NPRM, because South Carolina considered the four statutory factors for IP-Georgetown and visibility conditions at all Class I areas to which South Carolina contributes are below the URP, South Carolina has demonstrated that it has made reasonable progress for the second planning period without any measures in the regulatory portion of the SIP for IP-Georgetown. For these reasons, EPA's statement that the State's request to incorporate permit conditions into the SIP for IP-Georgetown is moot is not arbitrary and capricious.

Comment 11.e: The Conservation Groups argue that approval of the Haze Plan without any of the permit provisions that the State determined are necessary to make reasonable progress is arbitrary, capricious, and an abuse of authority because South Carolina substantively revised the Haze Plan via letters dated December 2024 and June 2025, EPA's NPRM is based on the new policy, and the new policy violates the CAA and the RHR. In so doing, the Conservation Groups assert that South Carolina and EPA failed to follow the public notice requirements for SIP rulemakings under the CAA. They state that EPA's final rule must only reflect the SIP revision package that was subject to the CAA's rulemaking procedures.

Regarding the alleged violation of the substantive requirements of the CAA and RHR based on the new URP policy, the Conservation Groups claim that EPA has repeatedly explained, including in its NPRM, that measures determined to be necessary to make reasonable progress toward remedying existing impairment and preventing future impairment must be included as federally enforceable measures in the regulatory portion of the State's SIP. They assert that the 2022 Plan explains that existing permit measures for Century, IP-Georgetown, Cross, and Winyah were all necessary to make reasonable progress and prevent future impairment, and so, the State proposed to incorporate those measures into the regulatory portion of the SIP as required by the CAA and RHR. They also state that South Carolina did not provide any analysis or claim that the permit conditions for Century, IP-Georgetown, Cross, or Winyah were no longer necessary for reasonable progress or to prevent future impairment in its

December 2024 and June 2025 letters and that EPA did not provide such an analysis in the NPRM.

Regarding public notice, the Conservation Groups contend that a SIP revision is only effective after the state adopts the revision following reasonable notice and public hearings and EPA adopts the plan via its rulemaking procedure which involves public notice and comment. They then argue that states do not have an independent power of amendment, citing to *Nat. Res. Def. Council, Inc., Project on Clean Air v. EPA*, 478 F.2d 875, 883 (1st Cir. 1973), *supplemented* 484 F.2d 1331. The Conservation Groups assert that South Carolina improperly removed permit measures that are necessary to make reasonable progress from the Haze Plan without providing an opportunity for notice and comment and that EPA did not include any of the existing permit measures that the State determined were necessary to make reasonable progress and prevent future impairment for Century, IP-Georgetown, Cross, and Winyah. The Conservation Groups claim that South Carolina substantively revised the Haze Plan via one letter withdrawing the permit provisions for Century and another letter withdrawing the permit provisions for IP-Georgetown, Cross, and Winyah without the opportunity for public comment at the state level. They also state that rather than providing comment on a proposal to remove permit provisions from the Haze Plan, South Carolina provided an opportunity for public comment on a proposed 2025 SIP Supplement to incorporate updated permit provisions for IP-Georgetown, Cross, and Winyah into the regulatory portion of the SIP and that the Conservation Groups submitted multiple public comments on that proposal.

Response 11.e: EPA disagrees with the Conservation Groups' assertion that approval of the Haze Plan under the new URP policy without any of the permit provisions is arbitrary, capricious, and an abuse of authority and does not comply with the substantive requirements of the CAA and RHR. EPA proposed to approve the Haze Plan without permit conditions, as requested by South Carolina in its June 4, 2025, letter, based on the new URP policy. South Carolina considered the four statutory factors for Century, IP-Georgetown, Cross, and Winyah in

technical analyses. Subsequently, South Carolina clarified in its June 4, 2025, letter that it is not necessary to include in the SIP any final permit conditions for these evaluated facilities and that statements appearing in its submittal concerning existing or additional measures are no longer applicable. In addition, South Carolina confirmed that it does not intend to submit or include final permit conditions for these facilities for incorporation into the regulatory portion of the South Carolina SIP. As discussed in the NPRM, because South Carolina considered the four statutory factors for these facilities and visibility conditions at all Class I areas to which South Carolina contributes are below the URP, South Carolina has demonstrated that it has made reasonable progress for the second planning period without any measures in the regulatory portion of the SIP for these facilities.

EPA also disagrees with Conservation Groups' assertion that South Carolina failed to follow the public notice requirements for SIP rulemakings under the CAA and that South Carolina must re-notice the Haze Plan. South Carolina provided a 40-day public comment period on the Haze Plan, and EPA provided a 60-day public comment period on its NPRM. South Carolina sufficiently and fairly apprised the public of the issues involved which encompassed whether any measures were necessary for reasonable progress, whether enforceable measures such as permit conditions should be incorporated into the SIP for any source, and the content of those permit conditions. In fact, the Conservation Groups submitted multiple public comments on permit conditions in both South Carolina's and EPA's public comment periods. Thus, whether any permit conditions should be incorporated into the SIP at all, and the content of those permit conditions, was at issue during the state-level public comment period.

Consequently, the Conservation Groups are not prejudiced by South Carolina's alleged failure to provide a second round of notice and comment at the state level. The Conservation Groups already provided a 90-page comment letter to the State with multiple technical exhibits advocating for their desired Haze Plan and addressing the enforceability of the permit conditions.

Regarding public participation on the new policy, EPA developed this policy, not South Carolina, and the instant federal rulemaking provided a sufficient forum for public participation on the application of that new policy to the Haze Plan. EPA, as the author of the policy, is in the best position to address comments on it, and the Agency has responded to the approximately 16 pages of adverse comment on the new policy submitted by the Conservation Groups.

The relevance of the comment concerning the State's proposed 2025 SIP supplement is unclear. South Carolina never submitted a final supplement with enforceable permit conditions to EPA because the State later requested that the Agency approve its SIP revision under the new policy. As discussed in the NPRM and NFRM, under the new policy, South Carolina has demonstrated reasonable progress without the need for additional measures in the LTS.

EPA also disagrees that South Carolina and EPA violated the substantive requirements of the CAA and RHR. South Carolina clarified in its June 4, 2025, letter that it is not necessary to include in the SIP any final permit conditions for the evaluated facilities and that statements appearing in South Carolina's submittal concerning existing or additional measures are no longer applicable. EPA is approving the Haze Plan under the new policy, and that policy is consistent with the CAA and RHR for the reasons discussed in the NPRM and in Responses 1-4, above.

Comment 12: The Conservation Groups state that the CAA and RHR require states to consult with the FLMs that oversee the Class I areas impacted by a state's sources, SIP revisions must meet certain procedural and consultation requirements, and consultation must be early enough for state officials to meaningfully consider the views expressed by the FLMs. They contend that the RHR further requires states to provide for continuing consultation between the states and the FLMs and to meaningfully address the FLMs' comments in the proposed SIP. They further contend that consultation is not a box checking exercise; it is a mandatory, iterative process requiring the state to meaningfully consider and incorporate into the SIP the concerns of the agencies responsible for managing the Class I areas' resources impacted by pollution from the state.

The Conservation Groups allege that South Carolina improperly failed to engage in FLM consultation on its decision not to submit the 2025 SIP Supplement to EPA and to instead request that EPA remove from the Haze Plan existing permit provisions that the State had determined were necessary to make reasonable progress and prevent future impairment. They claim that this alleged failure is contrary to the CAA and RHR's consultation requirements and that the State's decision was a significant revision to the Haze Plan. They state that "[a]lthough South Carolina engaged in formal consultation with FLMs on its proposed 2025 SIP Supplement, nothing in the record suggests that South Carolina consulted with the FLMs regarding its decision to withdraw these permit conditions or its broader decision not to submit the 2025 SIP Supplement, as required by the RHR."

Response 12: EPA disagrees with this comment. As discussed in the NPRM, South Carolina provided its draft Haze Plan to the FLMs on July 27, 2021, prior to the start of the public comment period which opened on November 26, 2021, and included a summary of the conclusions and recommendations of the FLMs in the proposed plans issued for public review, thereby satisfying the consultation requirements of CAA section 169A(d) and 40 CFR 51.308(i)(2) for the second planning period.

As discussed in Response 11.e, EPA proposed to approve the Haze Plan without permit conditions based on the new URP policy, as requested by South Carolina in its June 4, 2025, letter. South Carolina sufficiently and fairly apprised the FLMs of the issues involved, and thus, whether any measures were necessary for reasonable progress, whether enforceable measures such as permit conditions should be incorporated into the SIP for any source, and the content of those permit conditions, was at issue during FLM consultation. Furthermore, pursuant to 40 CFR 51.308(i)(2), South Carolina's consultation process provided the opportunity for the FLMs to discuss their assessment of impairment of visibility in any mandatory Class I area and recommendations on the development and implementation of strategies to address visibility impairment.

Consequently, the FLMs are not prejudiced by South Carolina's alleged failure to provide a second round of consultation. The FLMs already provided comments to the State advocating for their desired Haze Plan. Regarding public participation on the new policy, EPA developed this policy, not South Carolina, and the instant federal rulemaking provided a sufficient forum for public participation on the application of that new policy to the Haze Plan. EPA, as the author of the policy, is in the best position to address comments on it. For these reasons, no further FLM consultation was required on the Haze Plan. *See* Response 11.e regarding the irrelevance of the State's proposed 2025 SIP supplement.

Comment 13: The Conservation Groups state that EPA did not analyze how haze-forming emissions from in-state sources impact communities surrounding these facilities. They maintain that regional haze plans have significant potential to achieve co-benefits for people and that pollution reductions required by the regional haze program could reduce disproportionate air pollution burdens in the surrounding communities.

Additionally, the Conservation Groups state that the same pollutants that travel hundreds of miles to obscure scenic views at National Parks also contribute to disparate health impacts for people living closest to polluting facilities. They also state that these polluting facilities are often located in low-income communities and communities of color. They further state that "[s]tudies have also found that those living in communities of color and low-income communities tend to experience higher levels of PM and NOx pollution than other communities. These adverse health effects are particularly problematic for disproportionately impacted communities, as residents in these communities tend to have less access to quality health care to treat the health impacts of environmental pollution when they arise." Finally, the Conservation Groups state that EPA has explained that states can consider these community impacts in their FFAs under the statutory "non-air quality environmental impacts" factor and that EPA "should consider the impacts from the South Carolina facilities discussed above and explain how a strong Regional Haze Plan can mitigate harm to communities."

Response 13: EPA disagrees with this comment. Neither the CAA or the RHR requires states or EPA to consider the impacts of pollution on communities near potentially affected facilities when developing or reviewing a regional haze plan.

Comment 14: EPA received comments from the MANE-VU, disagreeing with "EPA's use of the URP as a factor in finding a state has "presumptively demonstrated" reasonable progress in its haze SIP."[107] First, MANE-VU states that section 169A(g)(1) of the CAA sets forth the four factors a state must apply in evaluating potential emission reductions from sources within its borders. They then note that "EPA now invokes an extra-statutory fifth factor, the URP" which "[a]s framed by the EPA, . . . can override a statutory four factor analysis finding that while additional requirements placed on visibility-impairing sources constitute 'reasonable progress,' these can be dismissed because the impacted Class I area is below the URP." MANE-VU notes that "[b]ecause the URP is a regulatory creation outside the CAA section 169A(g)(1) definition of determining reasonable progress, . . . the URP as a factor to supersede a statutory four factor analysis is not permissible." MANE-VU states that "CAA section 169A(g)(1) explicitly defines how to determine reasonable progress, and the EPA has received no authority from Congress to impose an additional overriding regulatory criterion that goes beyond the statutory factors [*see, e.g., Loper Bright Enterprises, et al. v. Raimondo, et al*. 603 U.S. 369 (2024)]."

Similarly, MANE-VU states that "EPA 'believes' that its change in policy to use the URP as a metric "aligns with the purpose of the statute and RHR, which is achieving 'reasonable' progress, not maximal progress, toward Congress' natural visibility goal." *See* 90 FR 36017. Based on this understanding, MANE-VU claims that "EPA could dismiss requirements to achieve progress below the URP because it would be considered "maximal

[107] MANE-VU is a RPO that consists of representatives from Connecticut, Delaware District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New york, Pennsylvania, Penobscot Nation, Rhode Island, Saint Regis Mohawk Tribe, and Vermont. RPOs coordinate efforts and resources to evaluate technical information and develop air quality plans across tribes and states. However, the September 29, 2025, letter represents only the opinions from the non-federal and non-tribal partners.

progress" even if "reasonable progress" as determined using the four Clean Air Act statutory factors would result in greater progress than the URP," saying that, "[t]he URP metric is … an impermissible reframing of "reasonable progress" from what Congress intended."

Additionally, MANE-VU remarks how the URP is not a "safe harbor" from reducing further emissions but is rather a straight-line tracking metric from the 2000-2004 baseline to the 2064 natural visibility goal set by EPA in regulation. They say that the RPG, according to the CAA and the RHR at 40 CFR 51.308(d)(1), are established by states to improve visibility on most impaired days and ensure no degradation in visibility on clearest days. They insist that the established RPGs are set to achieve incremental improvement in visibility to meet the 2064 goal and that the URP "is merely an "upper bound" measuring stick to indicate whether the rate of improvement remains on track." MANE-VU states that EPA now invokes the URP as the determinative metric rather than the state-determined RPGs for their Class I areas. MANE-VU acknowledge that the neither the URP, nor the RPGs are enforceable metrics, and they assert that, "it seems incongruous the EPA it seems incongruous that EPA would opt for a URP untethered from the CAA and ignore the extensive work of the states."

Response 14: For the reasons discussed in Responses 1-4 regarding the URP policy, EPA disagrees with MANE-VU's comments.

Comment 15: EPA received comments from the Augusta Aiken Audubon Society, the Coalition to Protect America's National Parks, NPCA, the South Carolina Environmental Law Project, and the Waccamaw Audubon Society in opposition to EPA's proposed approval of South Carolina's Haze Plan. These Commenters claim that the Haze Plan would allow for more than 40,000 tons of uncontrolled haze-causing pollutants to continue to be released each year. They assert that due to a "flawed methodology that ignored" NOx and PM emissions and "exempted multiple large polluting facilities from review," South Carolina improperly concluded that "almost no new reductions in pollution are warranted."

These Commenters further assert that the Haze Plan does not comply with the CAA and EPA is incorrectly approving it. Moreover, they insist that EPA's reliance on a "new policy" is also a violation of the CAA. They also allege that the new policy violates the CAA, reverses EPA's longstanding position that the URP is not a safe harbor, and is inconsistent with existing EPA policy and actions across other EPA regions.

Lastly, these Commenters note that South Carolina did not finalize a SIP supplement that included permit provisions for multiple facilities and that instead of submitting the supplement to EPA, the State requested that the Agency approve its Haze Plan under the new policy without permit conditions. They claim that EPA is letting South Carolina of the hook for making reasonable progress because the Agency is approving the Haze Plan without permit conditions that the State had previously concluded were necessary to make reasonable progress.

Response 15: EPA disagrees with these comments. The Commenters do not provide any explanation as to how the Haze Plan would allow for more than 40,000 tons of uncontrolled haze pollutants to be released each year; why the State's methodology is flawed; why the plan does not comply with the CAA; and why the URP policy is inconsistent with the CAA, existing policy, and actions across other regions. Nonetheless, EPA refers the commenters to the responses in this NFRM including Response 7.a regarding the State's source selection methodology and Response 8 regarding the focus on SO_2 controls; Responses 1-4 regarding the URP policy; and Response 11.e regarding permit conditions.

III. Final Action

EPA is approving South Carolina's March 3, 2022, SIP revision as satisfying the regional haze requirements for the second planning period contained in 40 CFR 51.308(f).

IV. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. *See* 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices,

provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- Is not subject to Executive Order 14192 (90 FR 9065, February 6, 2025) because SIP actions are exempt from review under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq*.);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it approves a state program;
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001); and
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA.

Because this Haze Plan merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law, this Haze Plan for the State of South Carolina does not have Tribal implications as specified by Executive Order

13175 (65 FR 67249, November 9, 2000). Therefore, this action will not impose substantial direct costs on Tribal governments or preempt Tribal law. The Catawba Indian Nation (CIN) Reservation is located within the boundary of York County, South Carolina. Pursuant to the Catawba Indian Claims Settlement Act, S.C. Code Ann. 27-16-120 (Settlement Act), "all state and local environmental laws and regulations apply to the [Catawba Indian Nation] and Reservation and are fully enforceable by all relevant state and local agencies and authorities." The CIN also retains authority to impose regulations applying higher environmental standards to the Reservation than those imposed by state law or local governing bodies, in accordance with the Settlement Act.

This action is subject to the Congressional Review Act, and EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by **[Insert date 60 days after date of publication in the *Federal Register*]**. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. *See* section 307(b)(2).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

Dated: December 2, 2025.

Kevin McOmber,
Regional Administrator,
Region 4.

For the reasons stated in the preamble, EPA amends 40 CFR part 52 as follows:

PART 52 – APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq*.

Subpart PP – South Carolina

2. In § 52.2120(e), amend the table by adding an entry for "Regional Haze Plan – Second Planning Period" at the end of the table to read as follows:

§ 52.2120 Identification of plan.

* * * * *

(e) * * *

Provision	**State effective date**	**EPA approval date**	**Explanation**
**	**	**	*
Regional Haze Plan – Second Planning Period	3/3/2022	**[Insert date of publication in the Federal Register],** 90 FR **[Insert Federal Register page where the document begins]**	

[FR Doc. 2025-22565 Filed: 12/10/2025 8:45 am; Publication Date: 12/11/2025]