

**EPA Response to Public Comments on the EPA’s Proposed Approval of the West Virginia
Department of Environmental Protection’s Class VI Primacy Application**

Docket ID: EPA-HQ-OW-2024-0357

Section 1422 of the Safe Drinking Water Act (SDWA) directs the U.S. Environmental Protection Agency (EPA) to establish requirements that states, territories, and federally recognized Tribes must meet to be approved for primary enforcement responsibility, also referred to as “primacy”, for implementing an Underground Injection Control (UIC) program, including a Class VI program. An applicant seeking primacy under SDWA Section 1422 for a Class VI program must demonstrate to the EPA that the applicant's Class VI program meets Federal requirements, including jurisdiction over underground injection and provisions for the necessary civil and criminal enforcement remedies, so that the proposed program is protective of underground sources of drinking water (USDWs).

On November 27, 2024, the EPA published a proposed rule in the Federal Register (89 FR 93538) to approve the state of West Virginia’s application to implement a UIC program for Class VI injection wells within the state. The proposal established a 33-day public comment period that closed on December 30, 2024. The EPA held an all-day in-person and virtual public hearing on December 30, 2024 in Charleston, West Virginia. The EPA received a total of 9,012 public comments. The comments received were from individual citizens, energy and industry groups, environmental and civil rights non-government organizations, a U.S. Senator, and others. The majority of the written comments the EPA received on the proposal were in the form of “mass mailing” letter campaigns.

The EPA reviewed all 9,012 comments received and considered each unique oral and written comment, including relevant attached reports and papers, before finalizing its decision to approve West Virginia’s Class VI primacy application. Copies of unique comments are available as part of the public record and can be accessed through the EPA’s docket (EPA–HQ–OW–2024–0357) at <https://regulations.gov>. The materials referenced in this response to public comments document are also available in the docket.

This document summarizes the public comments received on the proposed rule and provides the EPA's responses. It is organized into several topic-specific sections that reflect commenters’ arguments supporting and opposing primacy approval as follows:

- *Comments about the primacy decision-making process*, including opportunities for public input on the EPA’s proposed approval and assertions that the EPA is “fast-tracking” the decision on Class VI primacy.
- *Comments about West Virginia’s Class VI statutes and regulations*, and whether the state’s Class VI regulations, including requirements for transitioning from Class II to

Class VI injection wells, are as stringent as the Federal Class VI requirements.

- *Comments about the Program Description*, including comments about the WVDEP's technical capabilities and capacity to oversee Class VI projects; the WVDEP's financial resources to oversee a Class VI program; and the WVDEP's past enforcement of UIC program requirements.
- *Comments about transfer of long-term liability* related to the provisions of W. Va. Code §22-11B-12 for transfer of long-term liability from the operator to the state.
- *Comments about environmental justice*, including concerns about environmental burdens on underserved communities in West Virginia.
- *General comments including* the safety of geologic sequestration (GS), Class II injection and oil and gas regulations, other technologies, and climate change.

Comments about the EPA's Primacy Decision-making Process

Commenters supporting primacy approval assert that West Virginia's Class VI primacy application meets all the requirements of 40 CFR Part 145 and satisfies all applicable statutory and regulatory standards for EPA approval. These commenters supported the EPA's evaluation and proposed approval of West Virginia's primacy application.

EPA Response: The EPA agrees with these commenters that approving West Virginia's application for Class VI primacy is appropriate. The EPA conducted a thorough review of West Virginia's Class VI primacy application and determined that it meets the requirements of 40 CFR parts 124, 144, 145 and 146. Based on its review of the application that West Virginia submitted on May 1, 2024, as well as subsequent revisions to the application, the EPA has determined that West Virginia has developed sufficiently stringent requirements for Class VI wells and that the WVDEP has the capacity and expertise needed to implement a robust Class VI program. The EPA evaluated for stringency and effectiveness West Virginia's applicable state statutes and regulations, Class VI Program Description, Attorney General's statement, the amended Class VI addendum to the memorandum of agreement (MOA) between the EPA and West Virginia, the interagency MOA between the WVDEP and the West Virginia Geologic and Economic Survey (WVGES), and the interagency MOA between the WVDEP and the West Virginia Department of Health (WVDOH).

Commenters, including those participating in mass mailing campaigns, requested that the EPA extend the public comment period. They asserted that the comment period was shorter than that for other recent Class VI primacy actions and spanned the time between the Thanksgiving and winter holidays. They also asserted that the timing precludes meaningful public

involvement. They asserted that the timing does not meet the goals of a December 9, 2022 letter from former Administrator Michael Regan to state governors encouraging inclusive public participation. Commenters also requested that the EPA hold additional public hearings around the state, asserting that the hearing was held on a Monday, at a time when many people are at work. Commenters also asserted that no hearings were being held in specific counties where Class VI projects are proposed to be located. Some expressed concern that not all residents have the broadband access needed to participate fully in the virtual component of the public hearing. Commenters expressed concern that no newspaper notice was published in the papers that serve the counties where projects are anticipated to be sited.

EPA Response: The EPA understands the importance of providing opportunity for public input but disagrees that extending this comment period was necessary. The EPA gave requests to extend the comment period careful consideration and determined that the 33-day comment period, which included an all-day public hearing, was appropriate, offered a meaningful opportunity for public comment, and resulted in robust input from the public. To provide the public with additional time to review and prepare comments on the West Virginia UIC Class VI proposed rule, the Agency made publicly available a pre-publication version of the proposed rule on November 22, 2024. Subsequently, the proposed rule was published in the Federal Register on November 27, 2024, officially initiating the public comment period, which concluded on December 30, 2024, for a total of 33 days. Therefore, commenters had access to the proposed rule for a total of 38 days. The EPA received 9,012 comments from stakeholders, demonstrating that the public comment period was adequate.

This additional public review time for West Virginia’s proposed Class VI program is in addition to the public participation efforts offered by the state of West Virginia on its Class VI regulations prior to applying to the EPA for UIC Class VI primacy. These public participation efforts included a 30-day public comment period from June 23, 2021 to July 23, 2021, a virtual public hearing on July 23, 2021, a 36-day public comment period from June 12, 2023 to July 18, 2023, and a public hearing on June 18, 2023 in Charleston, West Virginia.

The EPA disagrees that its review and decision-making process is inconsistent with former Administrator Regan’s letter to governors. In a letter¹ to state governors and Tribal leaders, the Administrator recommended that states and Tribal leaders seeking Class VI primacy incorporate environmental justice (EJ) and equity considerations into proposed UIC Class VI programs, including inclusive public participation in Class VI permitting. The EPA first notes that the Administrator’s letter does not speak to how the EPA should conduct primacy reviews and approvals. The letter instead describes environmental justice recommendations for state and Tribal Class VI programs. The EPA reviewed West Virginia’s primacy application in the context of

¹ A near-identical letter was sent individually to state governors and Tribal leaders.

this letter and the Agency's August 2023 "Environmental Justice Guidance for UIC Class VI Permitting and Primacy" and found that the application addresses the EPA's recommendations for: an inclusive public participation process; consideration of EJ impacts on communities; a process to enforce Class VI regulatory protections that are as stringent as the federal Class VI regulations; and provisions to potentially incorporate additional mitigation measures if overburdened communities live near a Class VI project. As described further in the EPA's responses to environmental justice comments below, West Virginia has committed to incorporating environmental justice components into its program.

The EPA disagrees that inadequate newspaper notice was provided. As required at 40 CFR 145.32(b)(2), the EPA published notice of the draft rule approving primacy (and the December 30th public hearing) in "enough of the largest newspapers in the State to provide Statewide coverage." Specifically, the EPA published notice in four large newspapers across West Virginia to provide coverage statewide: the *Charleston Gazette-Mail*, the *Times West Virginian*, the *Intelligencer* and *Wheeling News Register*, and the *Herald Dispatch*. Statewide coverage was appropriate given the state-wide interest in the Class VI primacy application. The EPA regulations require statewide coverage, i.e., coverage across the state, but there is no requirement to publish in newspapers so that there is physical circulation in every county and include counties in which proposed projects are contemplated at the time of the public notice. In addition, the EPA published public notice of the proposed rule on regulations.gov as well as a public notice of the public hearing and rule proposal on the EPA's website at <https://www.epa.gov/aboutepa/epa-region-3-mid-atlantic#pn>. A link to that website was provided in the newspaper notices. The EPA adds that, when the WVDEP issues proposed Class VI permitting decisions about specific projects, it will publish public notice in a newspaper that is local to the project area (see Program Description, page 10).

The EPA also disagrees that additional public hearings were necessary. The EPA held a public hearing on December 30, 2024, in Charleston, West Virginia. The hearing included multiple sessions from 9:00 am until 7:00 pm in order to accommodate work and personal schedules. Further, to encourage wide participation, the EPA provided the option to attend the public hearing both virtually, in-person, and through dial-in numbers for those without Internet access. The EPA accepted all comments provided both in-person, over the virtual platform, and over the phone, and provided ample speaking time for everyone who requested to provide oral comments. Because the scheduled hearing length allowed for it, the hearing officer offered the participants who spoke additional time. All interested parties were afforded the same opportunity to comment via regulations.gov, by mail, by hand delivery, and by email directed to individuals at the EPA. Emails and phone numbers of were also provided in the public notice for any person seeking additional information from EPA staff. Upon request, the EPA met with a representative of the Ohio River Valley Institute on December 17, 2024. The EPA acknowledges

concerns that not all residents have broadband access to the Internet; for this reason, the virtual platform also provided call-in options to allow participants to provide testimony over the phone. A transcript of the hearing, including all oral comments received, is available in the docket for this final primacy decision. The EPA considered written and oral comments equally.

Some commenters alleged that the EPA was fast-tracking its decision on Class VI primacy for West Virginia, citing to the length of time the EPA reviewed West Virginia's Class VI primacy application relative to other primacy application reviews.

EPA Response: The Agency conducted a careful review in line with statutory and regulatory requirements and afforded all stakeholders a meaningful opportunity for public input. The Agency completed a thorough review of the state's primacy application. After over two years of coordination and consultation, on May 1, 2024, West Virginia submitted to the EPA a program revision application to add Class VI wells to the State's SDWA section 1422 UIC program. Prior to the formal application submission, the EPA and West Virginia consulted on the application, particularly to address any stringency issues with the state's proposed Class VI program, including its statutes and regulations. The EPA conducted a comprehensive technical and legal evaluation of West Virginia's Class VI primacy application to assess and confirm that the State's UIC Class VI permitting regulations are as stringent as the Federal regulations, the State met all other EPA regulatory requirements for a Class VI program, and the State will implement an effective Class VI program.

In particular, the EPA performed a line-by-line review of West Virginia's Class VI rules in WV CSR 47-13 against the provisions of the federal UIC regulations at 40 CFR Parts 124, 144, and 146. The EPA determined that West Virginia's regulations are as stringent as—or more stringent than—the federal requirements. This will ensure that Class VI projects in the state will be sited, operated, monitored, and closed in a manner that protects USDWs. The EPA worked with West Virginia to address any stringency issues with their Class VI statutes and regulations prior to West Virginia's submittal of the Class VI primacy application.

The Agency also evaluated for stringency and effectiveness West Virginia's Class VI Program Description, Attorney General's statement, the amended Class VI addendum to the MOA between the EPA and West Virginia, the interagency MOA between the WVDEP and the West Virginia Geologic and Economic Survey, and the interagency MOA between the WVDEP and the West Virginia Department of Health.

The EPA evaluated West Virginia's Class VI Program Description against 40 CFR 145.23 and determined that the WVDEP's permitting, administrative, and judicial review procedures, and its compliance evaluation and enforcement mechanisms are adequate to oversee Class VI wells and ensure that permittees comply with the requirements. As discussed further in the EPA's

responses to comments about the Program Description below, the EPA evaluated the Program Description to ensure that the state has the technical expertise, capacity, and resources to effectively review permit applications and oversee operators.

The EPA evaluated West Virginia's Class VI Attorney General's statement against 40 CFR 145.24 to ensure it met Federal requirements. The EPA also reviewed West Virginia's amended Class VI MOA addendum against 40 CFR 145.25 to ensure it contains the necessary provisions pertaining to agreements on coordination, permitting, compliance monitoring, enforcement, and EPA oversight. The EPA reviewed the WVDEP's interagency MOA with the WVGES, which will make available additional technical expertise to support permit application reviews. The EPA also reviewed the WVDEP's interagency MOA with the WVDOH to review the proposed area of work and permit application details and provide input to assist in permit determinations. The EPA also verified that West Virginia has the authority to implement all requirements found in 40 CFR 145 Subpart B and 40 CFR 146 Subpart H.

Some commenters asserted that West Virginia provided limited time to review House Bill 4491 and Senate Bill 162. A commenter noted that House Bill 5045 was passed in 32 days apparently at the behest of the EPA.

Public participation and public review afforded by the West Virginia legislature for West Virginia House Bill 4491 and Senate Bill 162 are outside the scope of this Class VI primacy application review. House Bill 4491 was enacted and codified at West Virginia Code § 22-11A-3 (Carbon Dioxide Sequestration Pilot Program) the prohibition against underground CO₂ sequestration without a permit and clarified the difference between CO₂ injection for GS and for other purposes and codified at West Virginia Code §22-11B (Underground Carbon Dioxide Sequestration and Storage), which establishes a regulatory framework for the development and approval of CO₂ GS facilities and designates the WVDEP as the responsible agency to oversee Class VI wells in the state. Senate Bill 162 (enacted and codified at §20-1-22) authorizes the West Virginia Division of Natural Resources to lease state-owned pore spaces in certain areas for GS.

The amount of public participation or public review afforded by the West Virginia legislature surrounding the enactment of these pieces of legislation is not relevant to the EPA's review of whether West Virginia's Class VI UIC program meets EPA requirements for approval. While the EPA regulations do require a state, prior to submitting a primacy application, to conduct public participation activities regarding the state's intent to adopt a UIC program (40 CFR 145.31(a)), the EPA regulations do not require public review of specific legislation. Moreover, the public participation requirement at 40 CFR 145.31(a) is for states seeking approval of a new UIC program, and the present action concerns West Virginia's application to revise an existing UIC program (and is governed by 40 CFR 145.32). Regardless, West Virginia did provide substantial

public participation opportunities surrounding its promulgation of its Class VI regulations as discussed above. With respect to HB 5045, the EPA had raised potential stringency concerns to the WVDEP, and the EPA understands that HB 5045 was passed to address those concerns raised by the EPA to the WVDEP. There is nothing inappropriate with a state taking legislative action to fix potential concerns identified by the EPA.

Comments about West Virginia's Statutes and Regulations

Commenters who supported EPA approval of Class VI primacy for West Virginia said that the state's Class VI regulations meet or exceed the EPA's UIC Class VI rule requirements.

EPA Response: The EPA agrees with commenters that West Virginia's proposed Class VI program meets the EPA regulatory requirements and that approving Class VI primacy for the WVDEP is appropriate. The EPA conducted a thorough line-by-line review of West Virginia's Class VI regulations and has determined that they meet the requirements of the federal Class VI regulations.

Commenters expressed concern that West Virginia's planned 4-year timeline for identifying Class II wells that need to be transitioned to Class VI wells, as described in its Program Description, does not meet the requirements at 40 CFR 145.23(f)(1).

EPA response: The EPA regulations at 40 CFR 145.23(f)(1) require that a UIC program description include a "schedule for issuing permits within five years after program approval to all injection wells within the state which are required to have permits," and, for Class VI programs, "a schedule for issuing permits within two years after program approval." EPA regulations also require the program description to include the "priorities ... for issuing permits, including the number of permits in each class of injection well which will be issued each year during the first five years of program operation," and, for Class VI programs, "the priorities for issuing permits and the number of permits which will be issued during the first two years of program operation." 40 CFR 145.23(f)(2). EPA regulations also require that a program description include a description of the procedure whereby the Class VI program will notify certain Class I and Class V permittees injecting CO₂ for purposes of geologic sequestration of the need to apply for a Class VI permit within one year of Class VI program approval. 40 CFR 145.23(f)(4).

The EPA first notes that 40 CFR 145.23(f)(1) does not impose a requirement to issue Class VI permits within two years, but to describe a schedule for issuing Class VI permits within two years of program approval. The WVDEP's Class VI Program Description includes this schedule, in which the WVDEP anticipates receiving two to four well permit applications during the first two years, and WVDEP review for nine to twelve months following the date of a complete permit

application (under proposed staffing levels and with full applicant cooperation). West Virginia Program Description, page 14. There is no similar EPA regulatory requirement for the WVDEP to identify in the program description a schedule for reviewing all existing Class II wells to determine whether any are approaching the risk thresholds identified at 40 CFR 144.19 for transition from Class II to Class VI. While EPA regulations do require the WVDEP to describe how they will notify certain Class I and Class V permittees of the need to apply for a Class VI permit within one year of Class VI program approval, there is no analogous provision related to existing Class II permittees that may be approaching the risk thresholds identified at 40 CFR 144.19. Regardless, the WVDEP's Class VI Program Description provides that the WVDEP will evaluate existing Class II wells within four years of obtaining Class VI primacy to determine whether any existing Class II wells are approaching the risk thresholds for transitioning transition to Class VI. The EPA regulations at 40 CFR 145.23(f) do not require this. However, the EPA supports this effort by the WVDEP. Furthermore, the EPA emphasizes that if any Class II permittee meets the thresholds identified in 40 CFR 144.19, they must independently apply for and obtain a Class VI permit. The permitting authority has the discretion to make this determination in the absence of an owner or operator notification and application for a Class VI permit and, in doing so, require the owner or operator to apply for and obtain a Class VI permit in order to continue injection operations. 40 CFR 144.19(b). In the event that such a permittee does not notify the WVDEP and obtain a Class VI permit, the owner or operator may be subject to specific enforcement and compliance actions to protect USDWs from endangerment, including corrective action or cessation of injection under sections 1423 and 1431 of the SDWA. See 75 FR 77230, 77245 (Dec. 10, 2010).

One commenter cited to WV CSR 47-13-14.3.2, asserting that it conflicts with and is less stringent than the EPA's regulations at 40 CFR 145.23(f)(1), which the commenter argues provide no exceptions for Class II wells that need Class VI permits. This citation is to the West Virginia regulation governing the timeline, following West Virginia obtaining UIC primacy in 1983, for then-existing injection wells to obtain a UIC permit. It requires existing injection wells to obtain a UIC permit "as expeditiously as practicable and in accordance with the schedule contained in the [1983] State UIC Program description, but no later than 4 years from the effective date of this rule or as required under subsection 7.3 for wells injecting hazardous waste." While the stringency of this provision is beyond the scope of this rulemaking, which is limited to adding Class VI primacy to West Virginia's existing program, the EPA notes that the four-year timeline is consistent with EPA regulations at 40 CFR 144.31(c)(1), which provides in nearly identical terms that existing injection wells must obtain a UIC permit "as expeditiously as practicable and in accordance with the schedule in any program description under § 145.23(f) or (for EPA-administered programs) on a schedule established by the Regional Administrator, but no later than 4 years from the approval or promulgation of the UIC program, or as required

under § 144.14(b) for wells injecting hazardous waste.” The four-year deadline for permit applications is also consistent with 40 CFR 145.23(f)(1), which requires a program description to include a schedule for issuing permits for non-Class VI wells within five years of program approval.

Commenters alleged that West Virginia’s regulations are narrower than the federal Class VI regulations with respect to the need of a Class II well permittee to apply for a Class VI permit. One commenter also requested that new regulations or guidance be issued to elaborate on the nine risk factors to consider for Class II to Class VI well conversion identified in 40 CFR 144.19(b).

The EPA disagrees that West Virginia’s Class VI regulations allow improper use of Class II wells for injection of carbon dioxide for long-term storage. EPA regulations at 40 CFR 144.19 require that “owners or operators that are injecting carbon dioxide for the primary purpose of long-term storage into an oil and gas reservoir must apply for and obtain a Class VI geologic sequestration permit when there is an increased risk to USDWs compared to Class II operations” considering nine factors enumerated in 40 CFR 144.19(b). The state regulation at WV CSR 47-13-13.1.3 mirrors the EPA’s regulation. WV CSR 47-13-13.1.3 states that “owners or operators that are injecting carbon dioxide for the primary purpose of long-term storage into an oil and gas reservoir must apply for and obtain a Class 6 geologic sequestration permit when there is an increased risk to USDWs compared to Class 2 operations” and lists the same nine factors in 144.19(b) for consideration. In the Program Description (pg. 15), the WVDEP commits to staff coordinating with the WVDEP’s Office of Oil and Gas (OOG) to obtain the data needed for this review.

As noted by one commenter, EPA regulations provide that the Class VI regulations at 40 CFR part 146, subpart H apply to “any wells used to inject carbon dioxide specifically for the purpose of geologic sequestration, *i.e.*, the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations.” 40 CFR 146.81(b). West Virginia’s Class VI regulations include very similar language: “This section establishes criteria and standards for underground injection control programs to regulate any Class 6 carbon dioxide geologic sequestration injection wells, for long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations.” WV CSR 47-13-13.1. Nonetheless, the commenter argues that because West Virginia also adopted the EPA’s regulations regarding the transition of Class II wells to Class VI, that West Virginia sets forth a narrower metric for which Class II wells need to obtain a Class VI permit. The EPA disagrees. West Virginia adopted the same regulatory scheme as the EPA governing the transition of Class II to Class VI, as well as nearly identical language as used by the EPA describing the applicability of its Class VI regulations.

The statement at 40 CFR 146.81(b) that subpart H applies “any wells used to inject carbon dioxide specifically for the purpose of geologic sequestration” does not change this conclusion. How the EPA interprets the EPA regulatory text at 40 CFR 146.81(b) along with the EPA regulatory text at 40 CFR 144.19 is beyond the scope of this action approving West Virginia for Class VI primacy. However, the EPA notes that the text of 40 CFR 144.19(a) is clear that an owners or operators of Class II wells “must apply for and obtain a Class VI geologic sequestration permit” when they are “injecting carbon dioxide for the primary purpose of long-term storage into an oil and gas reservoir” and “there is an increased risk to USDWs compared to Class II operations.”

One commenter asserted that long-term storage of carbon dioxide always increases risks compared to Class II enhanced recovery (ER) and therefore would always require transition from Class II to Class IV. However, that is not what the regulations require. The EPA’s regulations at 144.19 were crafted to allow for “site-specific flexibility while providing appropriate protection of USDWs from endangerment.” 75 FR 77245 (Dec. 10, 2010). The likelihood of increased risks to USDWs of Class II operations versus Class VI operations is outside the scope of this action, which is approving West Virginia for Class VI primacy. Similarly, comments regarding the EPA’s Class VI regulations including 40 CFR 144.19 are outside the scope of this primacy decision.

One commenter also requested that the EPA wait to act on WV’s Class VI primacy application until the EPA issues new regulations or additional guidance (beyond a 2015 memorandum) to elaborate on the risk factors identified in 40 CFR 144.19(b). The availability of additional guidance elaborating on the EPA’s Class VI regulations is outside the scope of appropriate considerations governing the EPA’s decision-making process for whether to approve or deny West Virginia’s application for Class VI primacy. The EPA agrees that further clarification would be useful on the transition from Class II to Class VI and anticipates offering more clarification in the near future.

Commenters interpreted the EPA’s proposed rule as incorporating by reference into federal regulations the following West Virginia Code provisions that commenters argue improperly waive or limit liability (Sections 22-11B-8(a) and 22-11B-12(e)(2)-(3)), improperly allow mineral drilling through a CO₂ site (Section 22-11B-9(a)), and improperly transfer property rights (Sections 22-11B-12(e)(1), 22-11B-18, and 22-11B-19).

The EPA has revised the final rule from the proposed rule to expressly exclude from the list of statutes and regulations incorporated by reference those West Virginia Code provisions that were raised by commenters and which commenters argue improperly waive or limit liability (Sections 22-11B-8(a) and 22-11B-12(e)(2)-(3)), improperly allow mineral drilling through a CO₂ site (Section 22-11B-9(a)), and improperly transfer property rights (Sections 22-11B-12(e)(1), 22-11B-18, and 22-11B-19) (collectively, the “Excluded Provisions”).

Part 147 of the CFR sets forth the applicable UIC program for each state. 40 CFR 147.1(a).² For state-administered programs, part 147 of the CFR describes the major elements of that program, including the MOA, the program description, and “the relevant State or Tribal statutes and regulations.” 40 CFR 147.1(c). “State or Tribal statutes and regulations that contain standards, requirements, and procedures applicable to owners or operators [are] incorporated by reference pursuant to regulations of the Office of the Federal Register.” *Id.* One reason that the EPA incorporates by reference the state regulatory provisions which contain requirements for owners or operators is to make clear that the EPA may enforce these State and tribal provisions against the owners or operators. 40 CFR 147.1(e) (“Regulatory provisions incorporated by reference (in the case of approved State or Tribal programs) or promulgated by the EPA (in the case of EPA-administered programs) ... are enforceable by the Administrator pursuant to section 1423 of the SDWA.”); *see also* 42 U.S.C. § 300h-2(a) (providing the EPA with secondary enforcement authority in primacy states).

In its proposed rule, the EPA proposed to incorporate those “requirements applicable to owners or operators of Class VI wells set forth in the State statutes and regulations” in the “EPA-Approved West Virginia SDWA § 1422 Underground Injection Control Program Statutes and Regulations for Well Class VI” and listed in table 1 in 40 CFR § 147.2450(a) (“Table 1”). *See* 89 FR 93544 (Nov. 27, 2024). The list in Table 1 of the proposal included WV Code Chapter 22, Article 11B, including the sections mentioned above which commenters expressed concern about. For the sake of simplicity and to ensure that the EPA did not inadvertently fail to incorporate by reference a provision that the EPA might enforce, the EPA had opted to identify in Table 1 each article of West Virginia statutes and regulations that included Class VI UIC requirements applicable to owners or operators of Class VI wells. However, the EPA did not intend to propose to incorporate every aspect of Article 11B into federal regulations. Rather, the EPA sought to incorporate only the provisions that included UIC Class VI requirements that the EPA could enforce against owners or operators of UIC Class VI wells pursuant to section 1423 of the SDWA.

In response to these comments, in the final rule the EPA is expressly excluding from the list of statutes and regulations incorporated by reference those West Virginia Code provisions that commenters argue improperly waive liability (Sections 22-11B-8(a) and 22-11B-12(e)(2)-(3)), improperly allow mineral drilling through a GS site (Section 22-11B-9(a)), and improperly transfer property rights (Sections 22-11B-12(e)(1), 22-11B-18, and 22-11B-19). The EPA reviewed each of those provisions and has determined that none include UIC Class VI requirements applicable to owners or operators of Class VI wells that the EPA might enforce

² This could be a state administered program approved by the EPA, or a Federally administered program promulgated by the EPA (or in some cases, a state administered program for some well classes, and a Federally administered program for other well classes). 40 CFR 147.1(b).

pursuant to section 1423 of the SDWA. In fact, as explained elsewhere in this response to comments document, the EPA has determined that none of these provisions are part of the federally approved Class VI UIC program. For example, how a state treats pore space rights (Sections 22-11B-12(e)(1), 22-11B-18, and 22-11B-19) is beyond the scope of the EPA's considerations for whether to approve a state for primacy. Similarly, how a state treats sequestered CO₂ for purposes of other state laws beyond the UIC context (section 22-11B-8(a)) is outside of what the EPA considers in making a primacy decision. The EPA regulations clarify that "[w]here an approved State program has a greater scope of coverage than required by Federal law [,] the additional coverage is not part of the federally approved program." 40 C.F.R. § 145.1(g). The Excluded Provisions are outside the scope of the federal requirements for state underground injection control programs and would thus not be part of the approved program in any case. However, to ensure that this is clear, Table 1 of this final rule expressly excludes the Excluded Provisions to make clear that they are not part of the federally approved program.

Some commenters argued that a West Virginia statutory provision, W. Va. Code Section 22-11B-8(a), renders West Virginia's UIC Class VI program less stringent than the EPA's UIC Class VI program. The provision states:

For the purposes of this article and in all other respects, any carbon dioxide injected and sequestered in accordance with an underground injection control permit issued by the secretary shall not be considered a pollutant and the operation and existence of such a carbon dioxide sequestration facility shall not be considered a public nuisance.

These commenters argue that this provision, if adopted into federal law, would remove CO₂ injected in accordance with a UIC permit from the definition of "pollutant" as that term appears in other state and federal regulations and statutes—including the federal Clean Air Act and Clean Water Act and their state analogues (the West Virginia Air Pollution Control Act and the West Virginia Water Pollution Control Act)—making West Virginia's Class VI program less stringent than the EPA's program. Additionally, these commenters argue that the provision's "public nuisance waiver" makes West Virginia's program less stringent than the EPA's program because West Virginia's program waives state law protections that would otherwise apply to Class VI facility operations, while the EPA's program expressly leaves state protections and legal remedies in place.

Consistent with its statutory authority, the EPA concludes that West Virginia's program meets the minimum requirements for approval. 42 U.S.C. § 300h-1(b)(1). Nothing in the Safe Drinking

Water Act or EPA regulations requires the EPA to disapprove a state program where the program meets the EPA's minimum requirements, but the State also has state law provisions that may hypothetically waive liability or expressly waive liability relating to laws outside the minimum requirements of the EPA's Class VI program. The EPA has acknowledged in the past "that the UIC program was intended by Congress to be implemented by the States whenever possible." 49 FR 20155 (May 11, 1984).

Consideration of how an exclusion conditional upon UIC permit compliance may possibly impact implementation of other statutes and regulations outside of the UIC regulatory regime is not a consideration of UIC primacy application review and is outside the scope of the EPA's approval.

The EPA disagrees that W. Va. Code Section 22-11B-8(a) renders West Virginia's Class VI UIC program less stringent than the EPA's UIC program. First, the provision does not address the SDWA or UIC program requirements. Instead, it addresses whether CO₂ is considered a "pollutant" for purposes of other, non-UIC West Virginia state or local laws that use the term "pollutant." The term "pollutant," however, is not an operative term in the SDWA, the EPA's UIC regulations, or West Virginia's UIC regulations, which one commenter noted.³

The possible ways in which the state regulates CO₂ injected and sequestered in accordance with a UIC Class VI permit may impact other non-UIC state and local laws that use the term "pollutant" is not a relevant consideration to the EPA's analysis of whether West Virginia meets the EPA's regulatory requirements for UIC Class VI primacy. The EPA's UIC primacy regulations require West Virginia to adopt and administer UIC permitting requirements as stringent as the EPA's requirements, as well as meet all EPA regulatory requirements for UIC compliance evaluation programs, enforcement authority, sharing of information with the EPA, and the EPA's technical criteria and standards for Class VI wells. See 40 CFR Part 145 and 40 CFR Part 146 Subpart H. While West Virginia must demonstrate to the EPA that it meets each of these requirements, the EPA's review does not extend to how West Virginia treats sequestered CO₂ injected and sequestered in accordance with a permit may affect administration of other state and local laws outside of the UIC program, including the West Virginia Air Pollution Control Act and West Virginia Water Pollution Control Act. Whether West Virginia Code Section 22-11B-8(a) might cause West Virginia's state National Pollutant Discharge Elimination System program to be inconsistent with applicable federal CWA requirements or cause West Virginia's state programs

³ The term "pollutant" is used two times in the WV regulations and one time in the EPA regulations solely in reference other regulatory regimes. "Pollutant" is used one time in the EPA UIC regulations (40 CFR 144.31(e)(6)(vi)) and one time in the West Virginia UIC regulations (WV CSR 47-13-14.10.4.e.5) within the permit application requirement to list certain other permits or approvals, including a Clean Air Act approval that uses the term pollutant. The West Virginia UIC regulations (WV CSR 47-13-14.2.4.a.1) use the term once more when describing information to be submitted to the WVDEP for wells covered by rule (Class 6 wells are not allowed to be covered by rule and must be permitted), which include state Clean Water Act pollutant loads and schedules for attaining compliance with water quality standards.

to be inconsistent with applicable federal Clean Air Act (CAA) requirements is beyond the scope of this rulemaking. Rather, the EPA will consider the potential implications of West Virginia Code Section 22-11B-8(a) for the State's compliance with federal requirements under the CWA and CAA in the relevant contexts, as appropriate and in accordance with the EPA's oversight authorities under those statutes. Any impacts on those programs are outside the approval of this program, and the EPA's decision to approve and codify the West Virginia Class VI UIC program does not constitute a finding or approval in any way with respect to impacts on other programs.

One commenter argued that W. Va. Code Section 22-11B-8(a) makes West Virginia's UIC program less stringent than the EPA's because it removes sequestered CO₂ from the definition of "contaminant" as that term is used in the SDWA and West Virginia UIC regulations. The term "contaminant" is defined for purposes of SDWA (42 U.S.C. § 300f(6)) and West Virginia's UIC program (WV CSR 47-13-2.15). The commenter argued that the terms "pollutant" and "contaminant" are commonly used together or even interchangeably and are generally understood to be synonyms. Therefore, according to the commenter, W. Va. Code Section 22-11B-8(a) should be interpreted to exclude from the SDWA definition of "contaminant" any CO₂ sequestered in accordance with a UIC permit.

The EPA disagrees. The SDWA and West Virginia's UIC program clearly and consistently use the statutorily defined term "contaminant" or the phrase "endangerment of underground sources of drinking water" and do not use the term "pollutant" as part of the operative provisions of the West Virginia UIC Class VI program. If the West Virginia legislature intended to exclude CO₂ sequestered consistent with a Class VI permit from the SDWA definition of "contaminant," the legislature could have easily used the term "contaminant," or the phrase "pollutant or contaminant," but the state legislature chose not to.

Some commenters interpret West Virginia Code Section 22-11B-8(a) as applying not only to West Virginia state and local laws that use the term "pollutant," but also federal laws such as the Clean Water Act (CWA) and Clean Air Act (CAA). One such commenter argued that the SDWA does not allow state UIC regulations to relieve parties of liability for violations of other federal environmental laws, and that the EPA cannot issue a rule that would purport to relieve entities of their Congressionally established liability under federal law.

For the same reasons as discussed above regarding the impact of West Virginia Code Section 22-11B-8(a) on other non-UIC state and local laws, whether West Virginia Code Section 22-11B-8(a) may have possible impacts on federal environmental statutes beyond the SDWA is out of scope of this particular action, which reviews West Virginia's UIC Class VI program against EPA regulatory requirements for UIC Class VI programs.

Nonetheless, the EPA wishes to emphasize that it does *not* interpret W. Va. Code Section 22-11B-8(a) as removing or diminishing federal environmental authorities outside of the UIC program, including under the CWA and CAA. To the extent that sequestered CO₂ otherwise falls within the federal definitions of “pollutant” for purposes of the CWA or “air pollutant” for purposes of the CAA, or any other federal statute using the term “pollutant,” a state statute cannot exclude the sequestered CO₂ from these federal definitions. The Supremacy Clause of the U.S. Constitution provides that federal law “shall be the supreme Law of the Land ... any Thing in the ... Laws of any State to the Contrary notwithstanding.” U.S. Const. art. VI, cl. 2. “Where state and federal law ‘directly conflict,’ state law must give way.” *PLIVA, Inc. v. Mensing*, 564 U.S. 604, 617 (2011); *see also Crosby v. National Foreign Trade Council*, 530 U.S. 363, 372 (2000) (“[S]tate law is naturally preempted to the extent of any conflict with a federal statute”).

Two commenters argued that WV Code Section 22-11B-8(a) impermissibly carves out sequestered CO₂ from other federal environmental laws such as the CAA and CWA as a result of EPA’s adoption of the provision into federal law. The commenters appear to refer to the EPA’s standard process of incorporating by reference into the Code of Federal Regulations (CFR) the state statutes and regulations that contain UIC standards, requirements, and procedures applicable to owners or operators of UIC-regulated injection wells.

As explained above and re-emphasized in this section, in response to commenters that interpreted the EPA’s proposed rule as incorporating West Virginia Code Section 22-11B-8(a) into the CFR, the final rule expressly excludes West Virginia Code Section 22-11B-8(a) from the Agency’s incorporation by reference. The agency incorporates by reference “State ... statutes and regulations that contain [UIC] standards, requirements, and procedures applicable to owners or operators” of UIC injection wells.⁴ 40 CFR 147.1(c). West Virginia Code Section 22-11B-8(a) contains no UIC standards or requirements applicable to owners or operators of UIC injection wells. Instead, the provision addresses how sequestered CO₂ is regulated under other, non-UIC laws that use the term “pollutant”. As explained above, how West Virginia regulates CO₂ sequestered for purposes of other non-UIC laws is not a relevant consideration to the EPA’s analysis of whether West Virginia meets the EPA’s regulatory requirements for UIC Class VI primacy. Pursuant to 40 CFR 145.1(g)(2), state UIC program requirements with a greater scope of coverage than required under the federal UIC regulations are not part of the federally approved program, and therefore would not be incorporated by reference. For these reasons, the EPA is not incorporating by reference West Virginia Code Section 22-11B-8(a).

⁴ See 40 CFR 144.3 (defining “owner or operator” to mean the owner or operator of a “facility or activity” subject to regulation under the UIC program, and defining “facility or activity” to mean a “UIC ‘injection well’”).

Commenters called W. Va. Code Section 22-11B-8(a) a blanket “pollution exemption” without condition.

W. Va. Code Section 22-11B-8(a) is not a blanket “pollution exemption,” as some commenters called it, because an exclusion for injected CO₂ is available only so long as a permittee is in compliance with a UIC permit, which prohibits endangerment of USDWs. While the EPA concludes that WV Code Section 22-11B-8(a) is outside the scope of its review for this action, the EPA notes that the conditional exclusion in WV Code Section 22-11B-8(a) excludes carbon dioxide injected and sequestered from the definition of “pollutant” only when done so in accordance with a UIC permit. Stated differently, the exclusion is conditional upon compliance with a permit and does not apply when the CO₂ is not injected and sequestered in accordance with a permit. UIC permits are designed to ensure that the injected CO₂ remains sequestered within the authorized injection zone. If CO₂ is not sequestered in accordance with a permit, W. Va. Code Section 22-11B-8(a) would not apply, and the CO₂ would be considered a pollutant for purposes of other laws.

WV Code Section 22-11B-8 contains the following savings clause at WV Code 22-11B-8(b): “The secretary’s and the commission’s authority as set forth in this article shall not otherwise limit the authority or jurisdiction of the secretary and the commission in any manner.” WV Code 22-11B-8(b) appears to leave the WVDEP’s authorities, such as under the West Virginia Air Pollution Control Act and West Virginia Water Pollution Control Act, in full force and effect in the event that there is noncompliance with a UIC permit. On December 31, 2024, the EPA requested the WVDEP provide an interpretation of WV Code Section 22-11B-8, which the WVDEP’s General Counsel replied to on January 10, 2025. See Document ID No. EPA-HQ-OW-2024-0357-0075. The WVDEP’s interpretation supports the EPA’s interpretation of WV Code Section 22-11B-8 described directly above.

The EPA notes that conditional exclusions for regulation of Class VI wells under the federal Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA” or “federal Superfund”) when a permittee is operating in accordance with a UIC permit may provide a helpful analogy to understand how W. Va. Code 22-11B-8(a) may fit into the state UIC regulatory scheme. RCRA and CERCLA effectively defer to the UIC program as the primary regulatory scheme governing underground injection of CO₂ to avoid duplicative implementation and enforcement across environmental media programs. The RCRA conditional exclusion in 40 CFR 261.4 excludes from the definition of hazardous waste CO₂ streams that would otherwise be regulated as hazardous waste under RCRA subtitle C that meets specified conditions including that injection of the CO₂ stream must be in compliance with the applicable requirements for UIC Class VI wells. As stated in the final 2014 rule preamble: “the UIC Class VI injection well requirements ... are specifically designed to

ensure that the CO₂ ... will be isolated within the injection zone. The EPA concluded that the elimination of exposure routes through these requirements, which are implemented through a SDWA UIC permit, will ensure protection of human health and the environment such that RCRA subtitle C regulation would be duplicative and unnecessary.” 79 FR 353 (Jan. 3, 2014).

The CERCLA conditional exclusion is found in the definition of “federally permitted release” at 42 U.S.C. §9601(10)(G), which includes underground injection authorized in accordance with UIC permit. Both of those provisions exclude CO₂ injection from their respective statutory and regulatory schemes but only so long as injection is authorized in accordance with a UIC permit. In other words, CERCLA and RCRA effectively defer to UIC regulation, but only so far as the project complies with UIC requirements. West Virginia Code Section 22-11B-8(a) could be viewed as taking the same approach with respect regulation of carbon sequestration facilities across media programs within the state.

Commenters argued that the EPA’s primacy approval would unlawfully adopt a public nuisance waiver in light of West Virginia Code Section 22-11B-8(a) which provides that “the operation and existence of ... a carbon dioxide sequestration facility shall not be considered a public nuisance.”

The EPA finds that the provision’s exclusion of CO₂ sequestration facilities from state public nuisance law to be outside the scope of this action. The EPA’s primacy regulations require West Virginia to adopt and administer UIC permitting requirements as stringent as the EPA’s requirements, as well as meet all EPA regulatory requirements for UIC compliance evaluation programs, enforcement authority, sharing information with the EPA, and the EPA’s Class VI technical criteria and standards for Class VI wells. See 40 CFR Part 145 and 40 CFR Part 146 Subpart H. How West Virginia public nuisance law (public nuisance is considered a type of state common law tort) treats CO₂ sequestration facilities is beyond the scope of that analysis, including the analysis of West Virginia UIC enforcement authority. 40 CFR 145.13.

One commenter argued that the nuisance law provision in W. Va. Code Section 22-11B-8(a) makes West Virginia’s Class VI program less stringent than the EPA’s program because W. Va. Code Section 22-11B-8(a) would remove the ability for state or local governments to take legal action to abate a public nuisance related to the CO₂ sequestration facility. The commenter cites to 42 U.S.C. § 300j-8(e), the SDWA citizen suit provision, which states that nothing in that provision “shall be construed to prohibit, exclude, or restrict any State or local government from ... bringing any action or obtaining any remedy or sanction in any State or local court.” 42 U.S.C. § 300j-8(e). The EPA disagrees with the commenter’s interpretation of this language. The EPA interprets this language to mean that the SDWA citizen suit provision does not prohibit a state or local government from pursuing any other available remedy or sanction in state or local court. In other words, the SDWA citizen suit provision does not displace or diminish the availability of any existing state or local legal remedies. This language has nothing to do with the

requirements for state UIC primacy and does not require a state to have available certain state or local remedies to obtain primacy. Instead, it means that if a state does have any such remedies available, the SDWA citizen suit provision does not displace them.

The same commenter argues that the SDWA cannot remove the ability of any person to seek relief under other relevant laws citing another clause in 42 U.S.C. § 300j-8(e) which provides that “[n]othing in [the citizen suit provision] shall restrict any right which any person (or class of persons) may have under any statute or common law . . . to seek any other relief.” The EPA interprets this sentence to mean that the SDWA citizen suit provision does not restrict any existing legal right that any person may have to seek any relief beyond that provided in the SDWA citizen suit provision itself. The provision concerns the SDWA citizen suit provision and does not concern requirements for UIC primacy. The EPA’s UIC primacy approval (and the SDWA citizen suit provision itself) does not have the effect of restricting what sort of relief may be available for public nuisance, which is a purely state common law issue.

One commenter expressed concern that West Virginia law would allow for production wells to be drilled into carbon dioxide storage areas, referring to W. Va. Code § 22-11B-9(a). The commenter argued that allowing additional wells to occur in an area approved for GS appeared contrary to the federal program, specifically 40 C.F.R. § 146.84(c)(2) (regarding identification of all wells that may penetrate the confining zone(s)) and 40 C.F.R. § 146.95(b)(1)(vii) (regarding injection depth waivers).

The EPA disagrees that W. Va. Code § 22-11B-9(a) causes West Virginia’s Class VI program to be less stringent than that required by EPA regulations. The provision specifies in full that:

Nothing in this article shall be deemed to affect the otherwise lawful right of a mineral owner to drill or bore through a carbon dioxide storage facility if done in accordance with the secretary’s underground injection control permit rules or any other applicable legal requirements which are intended to protect the carbon dioxide storage facility against the escape of carbon dioxide.

West Virginia Code § 22-11B-9(a) does not conflict with or undercut any federal UIC regulation or requirement for UIC primacy. The EPA’s underground injection control program regulates injection wells, which are used to place fluid (CO₂ in the case of Class VI wells) underground. See 40 CFR 144.3. Production wells, on the other hand, are wells that are used to bring oil and gas to the surface. Regulation of production wells is largely governed by state law. The EPA’s UIC regulations do not directly regulate when and where production wells may be drilled, and do not specifically prohibit the drilling of new wells (production or injection) within the area of review (AoR) or through the confining zones of a UIC injection well, Class VI or otherwise.

That said, under both EPA and the WVDEP UIC regulations, no UIC well owner or operator may operate a UIC well or conduct any other injection activity that endangers USDWs. 40 CFR 144.12(a). If a new production well were authorized to be drilled within the AoR and through the confining zone(s) of a Class VI UIC injection well project, the Class VI well owner or operator would still be required to operate the UIC injection well in a manner that prevents endangerment to USDWs, up to and including ceasing injection activity. The 2010 Class VI rule preamble addressed the possibility of changing conditions, including new “artificial penetrations” such as production wells, within the AoR. As stated in the rule preamble, “To ensure that management of GS projects reflect up-to-date information, today’s rule requires periodic reviews of the AoR and corrective action, testing and monitoring, and emergency and remedial response plans (§ 146.84(e), § 146.90(j), and § 146.94(d)).” 75 FR 77247 (Dec. 10, 2010). The corresponding West Virginia regulations requiring periodic review of such plans are found at WV CSR 47-13-14.9.5 (AoR and corrective action plan), WV CSR 47-13-13.6.2.j. (testing and monitoring plan), and WV CSR 47-13-13.7.4 (emergency and remedial response plan).

As defined in 40 CFR 146.84, the area of review is the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan to delineate the area of review for a proposed geologic sequestration project, periodically reevaluate the AoR delineation, and perform corrective action that meets regulatory requirements and is acceptable to the Director (i.e., the permitting authority) (“AoR and corrective action plan”). 40 CFR 146.84(e) requires that the AoR for GS projects be reevaluated at a fixed frequency, not to exceed five years as specified in the AoR and corrective action plan, or when monitoring and operational conditions warrant. In addition, owners or operators must also review the AoR and corrective action plan itself following the most recent AoR reevaluation and submit an amended plan or demonstrate to the Director that no amendment to the AoR and corrective action plan is needed. Consistent with 40 CFR 146.84, the Class VI well owner or operator must submit an amended AoR and corrective action plan to reflect any new production well within the AoR. A new production well within the AoR, particularly one that penetrates the confining zone, would likely warrant a reevaluation of the area of review prior to the next scheduled periodic reevaluation.

40 CFR § 146.90 requires owners or operators of Class VI wells to develop and implement a comprehensive testing and monitoring plan for their projects that includes comprehensive injectate monitoring, corrosion monitoring of the well’s tubular, mechanical, and cement components, pressure fall-off testing, ground water quality monitoring, CO₂ plume and pressure front tracking, and, at the permitting authority’s discretion, surface air and soil gas monitoring. Mechanical integrity testing is also required pursuant to 40 CFR 146.89 to verify proper well construction, operation, and maintenance. The emergency and remedial response

plan describes actions the owner or operator must take to address movement of the injection or formation fluids that may cause an endangerment to a USDW during construction, operation, and post-injection site care periods. Periodic review of the testing and monitoring plan and emergency remedial response plan is tied to the re-evaluation of the AoR. A review of such plans must take place within one year of an AoR reevaluation, following significant changes to the facility, or when required by the Director. As the Class VI rule preamble notes, "The iterative process by which [the testing and monitoring plan] and other required plans are reviewed throughout the life of a project will promote an ongoing dialogue between the owner or operator and the Director." 75 FR 77259 (Dec. 10, 2010). The EPA also notes that the WVDEP and the EPA would both retain emergency authority to act as necessary if a new production well causes or threatens fluid migration into USDWs or unauthorized injection zones such that there is an imminent and substantial endangerment to the health of persons.

In West Virginia, the Office of Oil and Gas within the WVDEP issues "Well Work Permits" for both injection wells and production wells. In West Virginia, all wells, even those with a UIC permit, still require a separate drilling permit, referred to as a "Well Work Permit," to perform any work on the well site, including drilling, or conversion to an injection well. A UIC permit does not override the need for a drilling permit. The Office of Oil and Gas within the WVDEP issues all well work permits and would be aware if production wells were going to penetrate a zone used for CO₂ sequestration and would consider this information when creating permit conditions for the well work permit.

Moreover, West Virginia Code § 22-11B-9(a) appears to limit the right a mineral owner to drill through the AoR associated with a CO₂ storage facility, requiring that it must be done in accordance with UIC permit rules "or any other applicable legal requirements which are intended to protect the carbon dioxide storage facility against the escape of carbon dioxide." For instance, in West Virginia a permit for oil and gas production cannot be issued if the proposed well work "will constitute a hazard to the safety of persons; ... [d]amage would occur to publicly owned lands or resources; or [t]he proposed well work fails to protect fresh water sources or supplies." WV Code Section 22-6-11.

Finally, the EPA disagrees that West Virginia Code Section 22-11B-9(a) conflicts with 40 C.F.R. 146.84(c)(2) or 40 C.F.R. 146.95(b)(1)(vii). First, 40 C.F.R. 146.84(c)(2) requires that owners or operators of Class VI wells, as part of developing the AoR plan, identify all penetrations, including active and abandoned wells and underground mines, in the area of review that may penetrate the confining zone(s). West Virginia Code § 22-11B-9(a) does not undercut the requirement at 40 C.F.R. 146.84(c)(2), which concerns existing wells. In addition to ongoing testing and monitoring of the GS project, if a new production well is drilled within the AoR after the owner or operator complied with 40 C.F.R. § 146.84(c)(2), the owner or operator would

account for the new penetration pursuant to 40 CFR 146.84(e) as discussed above. Second, 40 C.F.R. § 146.95(b)(1)(vii) identifies one of the factors that the EPA must evaluate when deciding whether to grant an injection depth waiver: “Planned or permitted water, hydrocarbon, or mineral resource exploitation potential of the proposed injection formation(s) and other formations both above and below the injection zone to determine if there are any plans to drill through the formation to access resources in or beneath the proposed injection zone(s)/formation(s).” West Virginia Code § 22-11B-9(a) does not undercut this requirement. In fact, 40 C.F.R. § 146.95(b)(1)(vii) appears to recognize and accept that there may be future plans for mineral resource exploitation above and below the Class VI injection zone, and requires that the Director (here, the WVDEP) submit to EPA documentation of any such planned exploitation to help the EPA decide whether to grant an injection depth waiver.

Comments About the Program Description

Commenters supporting approval of West Virginia’s Class VI primacy application assert that the WVDEP has demonstrated the capacity, experience, and expertise needed to implement a Class VI program in the state. They assert that the WVDEP is experienced with UIC permitting and has gained familiarity with West Virginia’s geology and historic UIC deep well operations through a long history of overseeing Class I, II, III, IV and V injection wells and its oversight of oil and gas production wells. They assert that the WVDEP has the capacity to implement the Class VI program, with more staff available to review Class VI permit applications concurrently than EPA Region 3. They also assert that the WVDEP Program Description demonstrates an appropriate framework to process Class VI applications and ensure compliance with Class VI permits.

EPA Response: The EPA agrees with these commenters that the WVDEP’s proposed Class VI program has met the requirements at 40 CFR Parts 124, 144, 145, and 146, and that approving West Virginia’s Class VI primacy application under SDWA section 1422 is appropriate. The EPA worked closely with the WVDEP as the state developed its regulations and Class VI primacy application, and the final primacy application reflects the EPA’s recommendations. The EPA conducted a comprehensive technical and legal evaluation of West Virginia’s final Class VI primacy application to assess and confirm that the state’s proposed UIC Class VI program meets Federal regulatory requirements, including permitting regulations and Class VI technical standards as stringent as the EPA’s. Additionally, the EPA evaluated the effectiveness of the WVDEP’s proposed Class VI program. For instance, the EPA reviewed how the WVDEP intends to oversee Class VI permit applicants and well owners or operators, including by reviewing permit applications, monitoring compliance with permits, and taking enforcement actions when appropriate. As part of its evaluation of the WVDEP’s primacy application, the EPA reviewed the WVDEP’s description of the state agency staff who will carry out the Class VI program, including number, occupations, and general duties, as well as the WVDEP’s Program Description to ensure

that West Virginia has demonstrated that the state's Class VI program will have adequate in-house staff or access to contractor support in all relevant technical disciplines including site characterization, modeling, well construction, testing and monitoring, financial responsibility, regulatory and risk analysis. The EPA also determined that the WVDEP has adequate staff capacity and financial resources to implement the Class VI program and enforce its Class VI UIC regulations (see Program Description, pages 2-3).

Some commenters asserted that West Virginia regulators lack the expertise and experience to properly manage the Class VI program, referencing Class II oversight concerns (e.g., related to maintaining and plugging Class II wells). Commenters, including those participating in mass mailing campaigns, expressed concern that the WVDEP is understaffed and the additional responsibility over the Class VI well program would further strain the state's regulatory capacity. They allege numerous compliance-related concerns with injection wells in the state (e.g., injecting without a permit, operating without a permit renewal, etc.), that the state has failed in meeting its environmental protection obligations and that the state has failed to implement financial responsibility provisions under other regulations. Commenters also express concern that the WVDEP has inadequately enforced UIC permits in the past (with some citing a Natural Resources Defense Council analysis that identified permit-related compliance concerns at seven wells and implications for drinking water protection); they assert that West Virginia has the lowest inspector-to-well ratio relative to surrounding states. Commenters also expressed general concern that GS is a new technology and limited expertise to oversee Class VI wells exists.

EPA Response: The EPA disagrees that the WVDEP staff lack the necessary expertise to oversee a Class VI program. The UIC team in the WVDEP's Division of Water and Waste Management (DWWM) consists of staff with technical skills and policy expertise that the EPA has identified as relevant to evaluating Class VI permit applications, issuing permits, and overseeing geologic sequestration (GS) projects throughout their life span. The WVDEP has in-house institutional knowledge, expertise, and decades of experience in a variety of technical specialties, including geologic site characterization, modeling, well construction and testing, and finance. The WVDEP's staff competency is demonstrated via annual reviews with the EPA and minimum qualifications for education and professional experience. The eleven WVDEP Groundwater/UIC Program employees who will support the Class VI program include geologists, registered professional geologists, and individuals with well construction knowledge. To augment this expertise, the WVDEP entered into an MOA with the West Virginia Geological and Economic Survey (WVGES) to provide information and expertise on local geologic characteristics in relation to proposed UIC projects. The WVGES will consult on injection well permit applications. Further, the EPA evaluates the WVDEP on a number of performance factors, including the levels of technical knowledge and staffing required to oversee the highly technical UIC program. As

part of its federal program grant oversight, the EPA regularly meets with the WVDEP to review the UIC program's commitments and milestones in various areas of the program's implementation. Such reviews show that the WVDEP soundly operates its existing UIC program and regularly meets or exceeds its annual grant workplan commitments.

The EPA has determined that the WVDEP's proposed Class VI program will have the capacity to perform inspections and enforce the UIC regulations and permits, as appropriate, of all Class VI facilities and activities subject to the WVDEP's oversight to identify persons who have failed to comply with program requirements (40 CFR 145.12(b)). Through past oversight of other injection well classes, WVDEP staff have developed the necessary expertise for evaluating Class VI UIC permit applications, permitting procedures, compliance monitoring, and enforcement. WVDEP staff have received training and have the skills and in-house experience to perform onsite inspections, conduct compliance monitoring, and oversee Class VI UIC projects throughout their life span. WVDEP in-house staff include: policy/regulatory experts to evaluate compliance with Class VI requirements; enforcement/compliance staff who can initiate and pursue appropriate enforcement actions when permit or rule requirements are violated; and staff to inspect wells or witness construction activities, workovers, and/or mechanical integrity testing (Program Description, page 2). The EPA has determined that West Virginia has the capacity to perform periodic inspections of all Class VI facilities. For example, the EPA reviewed inspection data reported by West Virginia from fiscal years 2020 to 2024 on the 7520-3 reporting form and found that WVDEP staff have inspected an average of 343 UIC wells per year, including witnessing an average of 43 mechanical integrity tests per year.

Section 5 of the Program Description outlines the WVDEP's compliance monitoring strategy, which includes: investigating complaints alleging improper construction, completion, operation or maintenance of a GS project; compliance monitoring (e.g., reviewing monitoring, operating and maintenance data) to verify compliance with permit conditions and regulations; and annual inspections and compliance follow-up inspections of GS projects (Program Description, page 11-12).

The WVDEP also describes enforcement procedures for initiating, pursuing and resolving enforcement actions in accordance with 47CSR01. Depending on the severity of a violation, the WVDEP may issue a Notice of Violation (for minor violations), a Compliance Order without a civil penalty, or a Compliance Order with a civil penalty (for non-compliance that is egregious or may endanger the USDW). If a Compliance Order with a civil penalty is required, the state may seek civil penalties to address potential harm to human health and the environment in accordance with 47CSR01. These penalties range from \$1,000 for minor infractions up to \$10,000 for major violations (Program Description, page 13-14). In cases of an ongoing or

continuing violation, each day of violation is one distinct violation for which a calculation must be made. WV CSR 47-1-6.3.

The EPA also disagrees that the WVDEP lacks the capacity to issue Class VI permits. As noted above, the WVDEP Groundwater/UIC Program includes eleven (11) employees who will support the Class VI Program, including two (2) new positions to accommodate Class VI oversight. The staff include geologists, registered professional geologists, and individuals with well construction knowledge. One of the WVDEP Groundwater/UIC Program's new hires is a registered Professional Geologist with 20 years of experience in subsurface modeling and stratigraphy and holds a Bachelors in Geology and a master's degree in physical and applied science. The EPA reviewed the information provided by the WVDEP on its personnel and believes that these staff are adequate to process the 2 to 4 Class VI permit applications that the WVDEP anticipates receiving during the first two years after approval of Class VI Program primacy. Program needs and staffing may change over time. In addition to the in-house staff with expertise in every area that the EPA has identified as necessary to evaluate Class VI permit applications, inspect facilities, and enforce the UIC regulations, the WVDEP also has contractor staff available with expertise to support permit application reviews (Program Description, page 2). Further, as noted above, the WVGES will also support the geologic evaluations that are central to Class VI permit application reviews. Thus, the EPA has determined that the WVDEP can access in-house or contractor expertise in all the technical areas necessary to determine site suitability and evaluate the USDW-protectiveness of proposed Class VI projects.

To the extent commenters raised concerns with the state's implementation of its existing UIC program for Classes I-V in the past, EPA finds that they do not outweigh the evidence in the WV Class VI primacy package, including the Class VI program description, supporting that WVDEP will effectively implement the Class VI program.

A commenter raised concern with WVDEP's administration of the bonding program under the federal Surface Mining Control and Reclamation Act (SMCRA) and cast doubt on WVDEP's ability to administer the financial responsibility provisions for a Class VI program. First, the EPA notes that the bonding program under SMCRA concerns an entirely different regulatory program overseen by another federal entity, not EPA. Second, WV's primacy package provides sufficient evidence that it will adequately implement the financial responsibility provisions of its Class VI UIC program. WV CSR 47-13-14.7.7 requires owners or operators of Class VI wells to demonstrate and maintain financial resources to perform all required corrective action, plug the injection well, conduct post injection site care and site closure, and perform any needed emergency and remedial response. WVDEP staff with financial expertise, including an administrative support assistant with a post graduate diploma in Business Management and a master's degree in accountancy, will review the cost estimates provided by applicants to verify

that they are sufficient to cover these activities and evaluate the financial instruments the applicant proposes to use to verify that they qualify and are appropriate. See Program Description, page 16. Even after the financial instruments have been approved, the WVDEP staff will continue oversight efforts to ensure that the operator maintains financial responsibility. See Program Description, page 16. EPA finds that the examples raised regarding the bonding program under SMCRA do not outweigh the evidence in the record supporting that WVDEP will administer the Class VI financial responsibility in conformance with its detailed regulatory requirements for financial responsibility, which are as stringent as EPA's requirements.

In addition, as with all approved UIC primacy programs, the EPA has provided and will continue to provide support to West Virginia as requested. The EPA stands ready to provide additional support as needed, including technical support, review of financial responsibility documents, site-specific analysis, and access to the experience and knowledge of the many EPA staff in the regions, headquarters, and the Office of Research and Development.

Commenters assert that the WVDEP did not demonstrate interest in involving the public and stakeholders in decisions as it developed the Class VI primacy application. They state that the WVDEP did not receive many comments on their proposed Class VI regulations and allege this is evidence that the "reasonable notice" required by the SDWA Section 1422 was not provided or that the significance of regulations was not communicated to the public.

EPA Response: The EPA disagrees with commenters that the WVDEP did not demonstrate interest in involving the public/stakeholders in its regulatory decisions regarding its UIC Class VI program. As it developed its Class VI regulations and prepared its Class VI primacy application, the WVDEP provided multiple opportunities for input via two comment periods, including a 30-day public comment period from June 23, 2021 to July 23, 2021, a virtual public hearing on July 23, 2021, a 36-day public comment period from June 12, 2023 to July 18, 2023, and a public hearing on June 18, 2023 in Charleston, West Virginia. The WVDEP reviewed and responded to the 60 public comments it received, providing clarifications as needed to respond to stakeholders. The EPA reviewed the comments submitted and the WVDEP's responses to verify that the state adequately responded to public comments as part of the EPA's primacy application review.

Regarding the "reasonable notice" required by the SDWA 1422, the EPA first notes that this concerns states seeking EPA approval of a new UIC primacy program, not a revision to an existing program. EPA regulations at 40 CFR 145.31 specify what type of notice is required for a state seeking EPA approval of a new UIC program, setting forth "reasonable notice" required in SDWA 1422. Here, West Virginia was seeking EPA approval for a revision to its existing UIC program, to add Class VI wells to its UIC program. The SDWA 1422 and EPA regulations do not specifically require any type of public notice by a state seeking a revision to its existing UIC

program, although 40 CFR 145.32(b)(2) requires public notice (without more specific requirements) by the EPA for substantial program revisions, like what is at issue here. Despite the reasonable notice requirement in 1422 not directly applying here, the EPA still finds that the public notice and public comment opportunities offered by the WVDEP were reasonable.

Some commenters assert that West Virginia regulators do not have sufficient funding to administer the Class VI program.

EPA Response: The EPA reviewed the WVDEP's proposed budget and disagrees that the WVDEP has insufficient financial resources to run a Class VI program that meets the UIC requirements. In their Program Description (pg. 6-7), the WVDEP describes multiple funding sources to ensure that resources are available to fund an effective Class VI program. These include permit application fees authorized by WV CSR 47-9 and the EPA UIC Grant Program (of which the federal amount for the WVDEP is \$79,000).

State law allows for collection of fees to be paid by Class VI permit applicants and permittees to cover the state's expenses associated with processing the permit application and subsequent oversight of permitted activities. For instance, under West Virginia Code 22-11B-4, Class VI permit application fees will be based on the WVDEP's anticipated cost of processing application for permits. Class VI well owners or operators will also be charged operation fees (under West Virginia Code 22-11B-16) that are based on the contribution of the storage facility and the source of the CO₂ and the anticipated expenses associated with the long-term monitoring and management of closed storage facilities.

In addition, West Virginia has applied to the EPA's UIC Class VI Grant Program (authorized by the Infrastructure Investment and Jobs Act of 2021) for states and tribes seeking to establish or implement UIC Class VI primacy programs. West Virginia may be awarded up to their \$1,930,000 allotment, which is to be used for approved Class VI Program activities over a period of up to five years after receipt of the grant award. Eligible activities under the UIC Class VI Grant Program include staffing, pre-permitting activities, permit application review, permit preparation, pre-operations activities, operations activities (including inspections), post-injection activities, site closure activities, outreach and communications, reporting to the EPA, data management, and travel.

Comments About Transfer of Long-Term Liability

Commenters supporting primacy approval assert that the WVDEP is capable of administering the long-term liability transfer provisions in a manner consistent with the terms and purposes of the Safe Drinking Water Act and all applicable UIC regulations.

EPA Response: The EPA agrees with commenters that West Virginia’s regulatory and statutory frameworks are consistent with the CFR. The EPA reviewed West Virginia’s regulations against the federal Class VI regulations and determined that the state’s post-injection site care, site closure, and non-endangerment demonstration provisions at WV CSR 47-13-13.9 meet the federal requirements at 40 CFR 146.93. Further, nothing in the provisions of West Virginia Code §22-11B (Underground Carbon Dioxide Sequestration and Storage) related to transfer of liability to the state is inconsistent with the federal UIC regulations. Specifically, nothing in the Act allows site closure (i.e., for post-injection site care to cease) prior to a non-endangerment demonstration, which is a key element of the protectiveness of the Class VI requirements under SDWA authority.

Commenters expressed concern that the transfer of long-term liability poses an environmental and financial risk, and would exempt operators from legal remedies under RCRA, CERCLA, and the CAA. Commenters express concern that there are inadequate resources in the CO2 Trust Fund, and the state has no explicit directive for how the trust fund will be funded. They allege that, without adequate funding, the state would have no resources to address expenses associated with post-closure management. Commenters also expressed concern that West Virginia HB 4491 is inconsistent with the federal Class VI rules and SDWA Section 1422. They assert that the bill allows storage operators to be released from liability as early as ten years after completion of a storage project, and that it is in the interest of the public for liability to stay with the owner or operator to not incentivize shortcuts that put communities and water resources at risk.

EPA Response:

The EPA disagrees with commenters that long-term liability provisions are always incompatible with the SDWA and the EPA’s UIC regulatory requirements. When promulgating its Class VI Rule (75 FR 77272, Dec. 10, 2010), the EPA considered a range of comments regarding liability following site closure. Some commenters during that rulemaking urged that, “after a GS site is closed, liability should be transferred to the state or federal government or to a publicly- or industry-funded entity,” while others disagreed “that a public entity should bear liability following site closure.” In the 2010 rulemaking process the EPA considered a similar comment to one made on the proposed decision here, commenters during the 2010 rulemaking expressing the belief that “if owners or operators face potential liability following site closure, they would use precaution in their operations to avoid risks and potential environmental damage.” 75 FR 77272 (Dec. 10, 2010). Ultimately, the EPA decided not to include regulatory provisions addressing long-term liability after site closure in the Class VI Rule. The EPA explained this decision in part by noting that the SDWA does not grant the EPA the authority “to transfer liability from one entity (i.e., owner or operator) to another.” The EPA clarifies that, in making this statement, the EPA was not interpreting its UIC regulatory requirements as prohibiting

primacy states from allowing liability transfer after site closure, but merely noting that, when the EPA acts as the Class VI permitting authority, it cannot do so. In short, the EPA did not conclude in the 2010 Class VI Rule that states that authorize liability transfer after site closure cannot receive UIC Class VI primacy.

However, such state liability transfer provisions must be appropriately crafted so that the State's Class VI program meets UIC regulatory requirements. Certain provisions could result in stringency issues. For example, such issues may arise if a state law authorizes liability transfer before the permittee has fulfilled all of its UIC regulatory obligations, including all site closure requirements identified at 40 CFR 146.93. Further, as noted in the 2010 Class VI Rule preamble, even after the former permittee has fulfilled all of its UIC regulatory obligations, it may still be held liable for previous regulatory noncompliance. Thus, there may be stringency issues if a state law authorizes the permitting agency to release a former permittee from liability for earlier UIC violations. Additionally, as noted in the 2010 Class VI Rule preamble, a former permittee may always be subject to an order the Administrator deems necessary to protect public health if there is fluid migration that causes or threatens imminent and substantial endangerment to a USDW. The EPA's UIC regulations require that state UIC programs possess similar emergency authority (40 CFR 144.12(e)). Stringency issues will likely arise if state liability transfer provisions prohibit the EPA or the state UIC authority from subjecting a former permittee to such an emergency order. In conclusion, the EPA disagrees with commenters that SDWA and the UIC regulatory requirements prohibit state long term liability transfer provisions; however, when such provisions exist, they must be crafted so that the state Class VI program meets federal UIC regulatory requirements.

The EPA also disagrees with commenters that the long-term liability provisions of WV Code Article 22-11B are inconsistent with the post-injection site care requirements of 40 CFR 146.93. The EPA conducted a line-by-line comparison of the site closure in 40 CFR 146.93 and WV CSR 47-13-13.9 and non-endangerment demonstration provisions at 40 CFR 146.93(b)(3) and WV CSR 47-13-13.9.2 and determined that the federal requirements are met. Further, nothing in West Virginia's UIC regulations or WV Code Article 22-11B allows site closure (i.e., for post-injection site care to cease) prior to a non-endangerment demonstration, which is a key element of the protectiveness of the Class VI requirements under SDWA authority.

The EPA clarifies that the scope of a Class VI UIC program is limited to the construction, operation, and post injection phases of a project, which end when there is a determination that there is no further risk to USDWs, and all other regulatory requirements related to proper site closure are met.

The EPA's role in reviewing a state's application for a Class VI program is to determine that the state's program meets federal regulatory requirements, and the EPA has determined that West

Virginia's long term liability provision does not cause West Virginia's proposed Class VI program to fail to meet any federal regulatory requirement for Class VI primacy, in part because the transfer of liability to West Virginia would occur after a non-endangerment demonstration and all other site closure regulatory requirements were met.

The WVDEP will not issue a completion certificate pursuant to WV Code Section 22-11B-12 until the owner or operator fully complies with all site closure requirements in 40 CFR 146.93 and WV CSR 47-13-13.9, including submitting a non-endangerment demonstration and site closure report (MOA, Part III.C). Before site closure may be approved at the end of the PISC phase, the owner or operator must submit for the WVDEP's approval a demonstration that no additional monitoring is needed to ensure that the GS project does not pose a threat to USDWs. If such a demonstration cannot be made, the operator must continue to perform PISC monitoring (WV CSR 47-13-13.9.2.). A transfer of liability under WV Code Section 22-11B-12 may occur only after the owner or operator shows that the site does not endanger underground sources of drinking water, which is a regulatory requirement at 40 CFR 146.93(b)(3)–(4) and WV CSR 47-13-13.9.2.c.–47-13-13.9.2.d. Only then does the West Virginia provision allow a limited transfer of any remaining liability to a state-administered and industry-funded trust fund.

A Class VI well operator maintains UIC liability and is subject to all UIC requirements during the PISC phase, including the monitoring required at 40 CFR 146.93(b) and WV CSR 47-13-13.9.2. During the PISC phase, the operator will still hold UIC liability for the GS project and must continue to maintain financial responsibility that is sufficient to cover the costs of monitoring, site closure, and emergency and remedial response (WV CSR 47-13-14.7.7.b.).

The EPA also disagrees that the state of West Virginia lacks the enforcement authority required by 40 CFR 145.13(a). The EPA carefully reviewed West Virginia's statutes and regulations related to enforcement of its Class VI program and has determined that it meets federal requirements. Overall, section 145.13(a) requires a state agency to possess the ability to enforce "violations of state program requirements." Once an owner or operator has met all regulatory requirements and all site closure requirements have been met, the owner or operator will generally no longer be subject to enforcement for noncompliance with UIC regulatory requirements. A completion certificate issued pursuant to WV Code Section 22-11B-12 cannot release a former operator from any liabilities that arise from noncompliance with UIC regulatory requirements prior to issuance of the certificate (WV Code Section 22-11B-12(e)(5)). 40 CFR 145.13(a)(1) requires that the state agency possess the ability to restrain any "unauthorized activity which is endangering or causing damage to public health or environment." The WVDEP possesses this ability with respect to Class VI wells notwithstanding WV Code 22-11B-12. First, as explained above, the WVDEP may issue the certificate only after the operator complies with all UIC regulatory requirements, so any subsequent activity that might endanger USDWs would not be

“unauthorized” at that point. Further, the WVDEP continues to possess authority to take emergency action to restrain any person, including a former operator of a Class VI well, from engaging in any activity which is endangering or causing damage to public health or the environment (WV Code Section 22-11B-12(g)). Indeed, WV Code Section 22-11B-12(g) requires that the WVDEP “shall implement [WV Code 22-11B] in a manner consistent with and as he deems necessary to carry out the purposes and requirements of the federal Safe Drinking Water Act ... including but not limited to the state's authority to restrain any person from engaging in any unauthorized activity which is endangering or causing damage to public health or the environment.” In summary, the West Virginia long-term liability provision does not undermine any protections under the Safe Drinking Water Act.

Lastly, a commenter argued that WV Code Sections 22-11B-12(e)(2)–(3) displaces relevant laws that impose liability or relief for underground injection as the result of the incorporation of the provision into federal law, which is in conflict with the citizen suit savings clause at 42 U.S.C. Section 300j-8(e). The EPA, in this final rule, has expressly excluded such provisions from incorporation by reference into the Code of Federal Regulations. In any event, the EPA disagrees that such provision “relieves” any person of a Safe Drinking Water Act requirement because all injection well requirements will have been met by the time a certificate can be issued. The analysis of possible waiver of liability under other laws outside of the SDWA, including other environmental laws or under state common law tort, would not be within the scope of the EPA’s UIC primacy review analysis and outside of the EPA’s approval.

As a practical matter, it is not clear what liability under environmental laws other than SDWA would even remain after site closure, which occur only after a post-injection monitoring period of a default of fifty years or an alternative monitoring period justified by site-specific data and a demonstration by the well operator that the injected CO₂ poses no endangerment to USDWs.

As discussed above, the WV long-term liability provision allows for certificate issuance only after the operator has achieved full compliance with laws and requirements governing the facility, all UIC permit conditions, and demonstrates that the storage reservoir is “reasonably expected to retain the carbon dioxide stored in it”. WV Code Section 22-11B-12(d). All SDWA requirements would have been met by then. The EPA did acknowledge in the preamble to the Class VI rule that even after well closure, “an owner or operator *may, depending on the fact scenario*” have liability under federal statutes such as the Clean Air Act; Comprehensive Environmental Response, Compensation, and Liability Act; or the Resource Conservation and Recovery Act. 75 Fed. Reg. 77272 (Dec. 10, 2010) (emphasis added). It will be many years from now until it can be determined whether there is any actual liability of that sort. The West Virginia provision allows certificate issuance only after closure, which will happen only after the entire carbon dioxide injection project is complete, followed by post-injection monitoring

period of a default of fifty years or an alternative monitoring period justified by site-specific data.

After a Class VI well operator fully complies with all UIC permit requirements including all requirements related to site closure, the operator would generally no longer be subject to enforcement under section 1423 of SDWA for noncompliance with UIC regulatory requirements. Consideration of the extent of all possible non-UIC liabilities covered by W. Va. Code § 22-11B-12(e) is not directly relevant to whether West Virginia meets EPA regulatory requirements for Class VI primacy. However, the EPA notes that if any non-UIC federal environmental liabilities were to arise after certificate issuance, which would likely be over half a century after site injection ended, then the West Virginia provision would not extinguish them. Additionally, the EPA finds that the West Virginia provision, by its own force, could not release any liability under federal environmental law, such as CERCLA, RCRA, CAA, or CWA. Although the West Virginia provision uses broad language to release “all liability other than contractual obligations and criminal liability,” W. Va. Code § 22-11B-12(e), the EPA does not view that language as encompassing liability under federal environmental laws. Such a release under state law would be inconsistent with those federal environmental laws and thus preempted under the U.S. Constitution’s Supremacy Clause. The best reading of the West Virginia provision, which would avoid that constitutional issue, is that it releases only state law liability that arises after certificate issuance. And the provision would at most transfer any remaining liability to the state-administered, industry-funded trust fund. See WV Code 22-11B-12.

With respect to the concerns regarding HB4491, the EPA notes that the concerns regarding the possible liability release after ten years post-injection in HB 4491 were addressed with HB 5054 (clarifying 50 years was the default post-injection site care period), which became effective on May 13, 2024.

Commenters expressed concern regarding the adequacy of the Carbon Dioxide Storage Facility Trust Fund to fund post-site closure liabilities.

EPA Response: The Carbon Dioxide Storage Facility Trust Fund is, according to WV Code Section 22-11B-15(a), made for the anticipated expenses associated with the long-term monitoring and management of closed storage facilities and funded through appropriation from the Legislature. Commenters expressed concern that the fund covers expenses associated for monitoring and maintaining facilities after site closure but not for post-closure liability. The adequacy of the Carbon Dioxide Storage Facility Trust Fund to fund post-site closure liabilities is not within the scope of this approval for primacy. That said, the EPA notes that expenditures using monies from this fund may be inclusive of “liabilities.” For instance, WV Code Section 22-

11B-12(e) contemplates that the Carbon Dioxide Storage Facility Trust Fund be used for payment of liabilities.

Comments About Environmental Justice

Commenters supporting approval of primacy assert that the WVDEP's UIC Program integrates environmental justice and equity considerations into its permitting processes, including a commitment to examine the potential risks of a proposed Class VI well to identify and address any impacts on environmentally overburdened communities.

EPA Response: The EPA agrees with commenters that the inclusion of EJ should be an important component to a Class VI program, even though it is not a UIC regulatory requirement to obtain Class VI primacy. The EPA also agrees with commenters that EJ will be considered in the WVDEP's Class VI program, and the Agency supports the WVDEP's commitments to advancing equity and EJ in its Class VI permitting decisions.

The Class VI requirements (in both the Federal Class VI Rule and West Virginia's equally stringent requirements) are designed to ensure the protection of USDWs through rigorous permitting, siting, construction, operation, injection, and PISC and site closure requirements that are tailored to address the unique nature of GS. These Class VI requirements protect underground drinking water sources for all populations, including on Black, rural, and underserved communities and reduce the potential for adverse health effects based on USDW endangerment.

Some commenters asserted that approving West Virginia for Class VI primacy would dilute EJ protections, and lead to additional permitting/projects that would expose marginalized communities to additional pollution. They allege that West Virginia's primacy application is an attempt to fast track a hydrogen hub project that would result in additional permits that could result in less inclusive public engagement. Commenters express concern that the EPA's enhanced public notice is only a recommendation and not a requirement, and assert there is nothing in the MOA that requires the WVDEP to perform the activities described or compel applicants to perform EJ analysis, nor is this part of the application forms, and that the WVDEP lacks authority to require EJ provisions. Some commenters assert that the EJSCREEN tool lacks the capability to integrate cumulative risks into its evaluations and that other EJ screening tools should be required. They also assert that any permits for projects near communities with EJ concerns should be denied.

EPA Response: The EPA agrees with commenters that community engagement and public participation are important parts of an effective Class VI program. Community engagement and public education can help stakeholders understand the potential risks and benefits of a

proposed Class VI project. These important activities also contribute to EJ and equity goals by giving people a voice in the decision-making process.

The EPA appreciates commenters sharing concerns that already overburdened communities may bear a disproportionate environmental burden associated with GS projects, and the EPA supports the incorporation of EJ considerations, as appropriate, into agency activities. In a letter to state governors and Tribal leaders, former Administrator Regan recommended that states seeking Class VI primacy incorporate EJ and equity considerations into proposed UIC Class VI programs, including in permitting. The letter outlined a variety of approaches, including elements related to implementing an inclusive public participation process, consideration of EJ impacts on communities, enforcing Class VI regulatory requirements, and incorporating additional mitigation measures to protect USDWs. The EPA elaborated on these approaches in its August 2023 “Environmental Justice Guidance for UIC Class VI Permitting and Primacy” by encouraging permitting authorities to identify communities with potential EJ concerns, enhance public involvement, conduct appropriately scoped EJ assessments, enhance transparency throughout the permitting process, and minimize adverse effects to USDWs and the communities they serve. As identified in the MOA and Program Description, the WVDEP has committed to the inclusion of EJ considerations in all Class VI permitting decisions. The EPA notes and appreciates that the WVDEP made these commitments when they are not UIC regulatory requirements to obtain Class VI primacy. The WVDEP’s Program Description addresses the EPA’s request for states to incorporate EJ into their Class VI program by, among other things, adopting an inclusive public participation process.

In its Program Description (pg. 9), the WVDEP describes an approach to EJ that includes activities to be conducted by both Class VI permit applicants and WVDEP staff as part of the permit application review. The WVDEP will require Class VI permit applicants to conduct an EJ review and submit a report as part of the application process. The WVDEP will recommend that this EJ review begin in the pre-permitting process—but require it as part of the formal permitting process. At a minimum, the State will require the report to consider relevant data and identify any portions of the AoR that encompass EJ areas.

During the state’s permit application review, WVDEP EJ experts will use the EPA’s EJScreen tool to evaluate the location of the project. If this initial screening were to identify any communities with EJ concerns or other increased risk factors located within the AoR of a Class VI project, the application will be re-evaluated, and the WVDEP’s Public Information Office (PIO) will use the results to determine if an enhanced public comment period will be required for the application. This enhanced public comment period may involve: extending the public comment period; requiring an inclusive public participation process, including targeted public outreach and creation of better visual tools and approachable language; or supplementing the

public notice process in other ways recommended by the reviewers.

If any communities with potential environmental justice concerns are located within any portion in the AoR, WVDEP staff will consult with the WVDEP Advocate's office to compare maps of the Class VI project AoR to maps of known disadvantaged communities and facilities that may adversely affect those communities. If the EJ analysis indicates that the proposed site may be near disadvantaged communities that are also exposed to environmental risks, WVDEP staff will confirm that appropriate mitigation measures (e.g., additional monitoring) are included in the Class VI Permit. Environmental justice commitments are also articulated in the WVDEP's Class VI MOA. The EPA notes that, if the WVDEP does not comply with the terms of its MOA with the EPA, and fails to take corrective action, the EPA has the ability revoke primacy. 40 CFR 145.33(a)(4).

Comments regarding the capabilities of the EPA's EJSCREEN tool are outside the scope of this Class VI primacy decision. However, the EPA clarifies that the screening tool is one step of an effective characterization. As described above, WVDEP EJ experts would use the EPA's EJScreen to perform an initial screening for the presence of communities with potential EJ concerns or other increased risk factors. If such risk were identified, the application will be re-evaluated, and the WVDEP would determine if an enhanced public comment period will be required, and WVDEP staff will confirm that appropriate mitigation measures (e.g., additional monitoring) are included in the Class VI Permit. The EPA also disagrees that it must require the use of any specific EJ screening tool. Instead, the importance of this screening process lies in reviewing demographic and health risk-related data and using the results to develop and implement appropriate outreach for meaningful involvement, a process to which the WVDEP has committed.

With respect to comments requesting permit denials, the EPA disagrees that the presence of communities with EJ concerns nearby the proposed injection well requires denial of a Class VI permit. UIC permit denials must be based on preventing endangerment to USDWs. *See in re Envotech, L.P.*, 6 E.A.D. 260, 281-82 (EAB 1996) (holding that if a UIC permit applicant meets the requirements of the SDWA and UIC regulations, the agency must issue the permit regardless of the racial or socio-economic composition of the surrounding community and regardless of the economic effect of the facility on the surrounding community, although the EPA should impose permit conditions that ensure the protection of the USDWs upon which the minority or low-income community may rely). The EPA encourages, and the WVDEP plans to implement, enhanced public outreach and careful consideration of mitigation measures for Class VI projects located near communities with EJ concerns. Also, as noted above, the Class VI requirements are designed to ensure the protection of USDWs through rigorous and tailored permitting, siting, construction, operation, injection, and PISC and site closure

requirements to address the unique nature of GS to protect all populations, including Black, rural, and underserved communities.

General Comments

Commenters supporting approval of Class VI primacy assert that carbon capture and storage can allow the continued use of natural resources while protecting the environment. They assert that primacy approval will expedite Class VI permitting and allow the region to meet growing electricity demand and take full advantage of the Appalachian Regional Clean Hydrogen Hub to provide economic benefits and extend the state's leadership in energy innovation. These commenters also assert that West Virginia has suitable geology to allow safe sequestration of CO₂.

EPA Response: The EPA agrees with commenters that the WVDEP's proposed Class VI program has met the requirements at 40 CFR Parts 124, 144, 145, and 146, and that approving West Virginia's Class VI primacy application under SDWA section 1422 is appropriate. The EPA worked closely with the WVDEP as the agency developed its regulations and Class VI primacy application. The final primacy application reflects the EPA's recommendations during the pre-application process. The EPA conducted a comprehensive technical and legal evaluation of West Virginia's final Class VI primacy application to assess and confirm that the state's proposed UIC Class VI program meets Federal regulatory requirements, and that the WVDEP has the capacity, procedures, and expertise to oversee an effective Class VI program. The EPA accepts that Class VI primacy approval, and GS in general, may offer wide ranging benefits, including mitigating climate change and incentivizing CCS projects, but clarifies that these considerations are outside the regulatory requirements to obtain primacy and cannot form part of the basis of the EPA's decision whether or not to approve Class VI primacy.

Commenters opposing primacy approval expressed concerns about the safety of GS, citing: the potential for CO₂ under high subsurface pressure to leak (with some, including those participating in mass mailing campaigns, citing large numbers of abandoned, unplugged, improperly plugged, or undocumented oil and gas wells in West Virginia of unknown condition); that CO₂ storage is not permanent (alleging it leaks within 10-15 years); the effects of past oil and gas extraction and mining activities on geology; whether injection formations have adequate storage capacity; the accuracy of geologic modeling; and seismicity. Commenters also expressed concern about CO₂ leakage at the Archer Daniels Midland (ADM) project in Illinois and at a CO₂ GS project in Norway. Commenters stress the need for monitoring until the CO₂ is no longer mobile in the subsurface, with some asserting that monitoring should be performed "in perpetuity." They also expressed concern about the dangers of CO₂ to human health, (i.e., that CO₂ can accumulate in topographically low areas

and create environmental, health, and safety risks). Commenters assert that primacy approval would unlawfully convey property interests and unconstitutionally allows the taking of private property. Commenters also expressed opposition to the Appalachian Hydrogen Hub (citing a potential negative environmental impact and opposing federal financial backing), clean hydrogen, hydraulic fracturing, fossil fuel usage, methane leakage, pipeline damage and failures due to exposure to carbon dioxide (e.g., at Satartia, MS) or hydrogen. Commenters advocated renewables and conservation to address climate change. They also opposed tax credits for CO₂ GS. Commenters also assert that an environmental impact statement (EIS) should be required for each CO₂ storage project, citing the recommendation of an October 2024 White House Environmental Justice Advisory Committee (WHEJAC) report.

EPA Response: The EPA clarifies that the issues raised by these commenters are outside of the regulatory requirements to obtain Class VI primacy and cannot form the basis of the EPA's decision on whether or not to approve West Virginia for Class VI primacy. However, given the volume of comments submitted on these topics, the EPA notes the following:

- The EPA clarifies that comments about the safety of GS, whether permitted by the EPA or the WVDEP, are beyond the scope of this decision to approve the WVDEP for Class VI primacy. Prior to the promulgation of the federal UIC Class VI Rule, the EPA participated in and supported research on the GS of carbon dioxide to inform the rulemaking. This research is described in the preamble to the final Class VI Rule at 75 Fed. Reg. 77230, 77238 (December 10, 2010). As a result, the EPA concluded that Class VI injection of carbon dioxide for GS is safe when done in accordance with the EPA's Class VI permitting requirements, and enough information existed to write regulations to implement the program.
- The EPA disagrees that the W Va. Code 22-11-18, 22-11-19, and other WV statutory provisions and regulations related to West Virginia property or pore space rights affect the stringency of West Virginia's UIC Class VI regulations, the WVDEP's authority to write USDW-protective Class VI permits, or West Virginia's ability to implement a Class VI UIC program that meets federal regulatory requirements. The EPA has determined that West Virginia's Class VI regulations meet the federal requirements to be granted Class VI primacy.

The EPA clarifies that West Virginia property rights and the State's exercise of eminent domain are out of the scope of this Class VI primacy approval decision. In fact, the pore space rights provision that the commenters take issue with concerns a "collective storage order" of the WV Oil and Gas Conservation Commission and is entirely distinct from the WVDEP UIC permitting program. W. Va. Code § 22-11B-19. Indeed, pore space rights and similar property right issues are outside the scope of

the UIC program. See 40 CFR 144.35(b)&(c) (the issuance of a UIC permit does not convey any property rights of any sort or authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations). The EPA's Environmental Appeals Board has consistently found that issues of property rights are beyond the scope of the UIC permitting process. See *In re Suckla Farms*, 4 E.A.D. 686, 694 (1993) ("the Region was not required to take ownership of land into account in issuing a final [UIC] permit decision.") (quoting Columbia Gas Transmission Co., UIC Appeal No. 87-1 (Adm'r, April 13, 1987)); see also *In re Envotech, L.P.*, 6 E.A.D. 260, 276 ("Because the regulations make clear that issuance of a UIC permit does not implicate private property rights, these arguments [regarding private property rights such as mineral rights] are beyond the scope of the permitting process and Board review."). West Virginia laws and regulations regarding pore space rights are not part of the federally approved UIC program. The EPA adds that the pore space rights of a UIC permit applicant does not impact the UIC permitting authority's analysis of whether the proposed injection may endanger USDWs.

- In response to concerns about subsurface pressures, leaks, carbon dioxide saturation, the long-term effect of carbon dioxide in the subsurface, and storage capacity, the EPA clarifies that the geologic siting requirements at 47 CSR 13.8.1.c. consider the geochemical and geomechanical properties and storage capacity of the injection zone as they relate to the stresses due to increased formation pressures that result from injection of carbon dioxide. Further, WV CSR 47-13.14.9.3.a. requires modeling based on site-specific data, and periodic AoR reevaluations (WV CSR 47-13.14.9.5.a.) to confirm that the plume and pressure front are behaving as predicted. These WVDEP Class VI technical criteria and standards are as stringent as the EPA's corresponding criteria and standards. Generalized concerns about subsurface pressures, leaks, and storage capacity—regardless of whether the EPA or the WVDEP is the permitting authority—are beyond what the EPA considers in a primacy approval action.
- The EPA acknowledges concerns about corrosion (i.e., due to the formation of carbonic acid when carbon dioxide mixes with water) and carbon dioxide leakage at the ADM project. This leakage was due to corrosion of casing in the monitoring wells at the project. Class VI injection wells and monitoring wells that are completed in the injection zone that contact the CO₂ plume must be adequately corrosion resistant to tolerate the acidic conditions that can be generated by mixing of CO₂ streams and formation fluids in order to prevent endangerment of underground sources of drinking water. West Virginia's regulations require attention to corrosion in selection of casing materials and cement. WV CSR 47-13.3.2.a requires that casing and cement

or other materials used in the construction of each Class VI well be compatible with fluids with which the materials may be expected to come into contact, in consideration of the corrosiveness of the carbon dioxide stream and formation fluids (WV CSR 47-13.3.2.a.5). Further, all Class VI well owners or operators must perform quarterly corrosion monitoring (WV CSR 47-13.6.2.c) and continuously monitor the internal mechanical integrity of the injection wells (WV CSR 47-13.6.2.b). These requirements, which are as stringent as the federal requirements, are designed to avoid the use of corrosion-susceptible materials and ensure that owners or operators perform adequate monitoring to detect corrosion. The EPA clarifies that pipeline safety or corrosion due to contact with carbon dioxide or hydrogen is outside the scope of the Class VI primacy decision.

- The EPA agrees with commenters that orphaned wells are a concern. The EPA clarifies that the corrective action requirements at WV CSR 47-13-14.9 require a thorough search for and evaluation of all artificial penetrations within the AoR of a proposed Class VI project and corrective action must be performed on all identified deficient wells. This requirement, which is as stringent as the federal corrective action requirement at 40 CFR 146.84(c)(2) and 146.84(d), provides an opportunity to focus orphaned well searches on wells near GS projects, with permit applicants, not the public, incurring corrective action costs. The EPA also acknowledges the high cost of plugging abandoned wells, and clarifies that the corrective action requirements at WV CSR 47-13-14.9 and the requirement to maintain financial responsibility for plugging all wells that require corrective action (at WV CSR 47-13-14.7.7.b.1) will ensure that any abandoned wells that have the potential to be affected by CO₂ GS activities will be addressed by owners or operators of Class VI wells. To the extent that commenters raised concerns or examples of improperly plugged and abandoned or orphaned production wells in West Virginia, the EPA finds that these examples—which are outside of the context of WVDEP implementation of its existing UIC program—also do not outweigh the evidence in the WV Class VI primacy package, including the Class VI program description, that the WVDEP will effectively implement the Class VI program.
- The EPA also recognizes that past mining in the state may affect subsurface conditions. Per WV CSR 47-13-13.8.1.b, Class VI permit applicants must provide a map of the AoR that contains, among other information, the locations of surface and subsurface mines. WVDEP staff would consider these, including the relationship of mines to the confining zone, in their site-specific evaluation.
- Policy considerations surrounding the promotion and use of certain energy sources (whether renewable energy sources, hydrogen, or fossil fuels), pipeline safety, and

tax credits for CO₂ GS projects are beyond the scope of this decision to approve the WVDEP for Class VI primacy and also not within the purview of EPA's UIC program.

- The EPA finds that the question of whether an EIS should be prepared for CO₂ storage projects is beyond the scope of this action approving West Virginia for UIC Class VI primacy or any EPA regulatory requirements for Class VI primacy approval. Further, as described above, the WVDEP commits to EJ via activities conducted by Class VI permit applicants and WVDEP staff as part of the permit application review. The WVDEP will require Class VI permit applicants to conduct an EJ review and submit a report as part of the application process.