



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

August 17, 2023

MEMORANDUM

SUBJECT: Environmental Justice Guidance for UIC Class VI Permitting and Primacy

FROM: Radhika Fox 
Assistant Administrator

TO: Regional Water Division Directors, Regions I-X

Across the United States, clean energy technologies to capture and remove carbon from the atmosphere and store it beneath the earth's surface are being developed at an unprecedented pace and scale. Class VI wells are used to inject carbon dioxide (CO₂) into deep rock formations for the purpose of long-term underground storage, also known as geologic sequestration (GS). Class VI injection wells – when used as a part of carbon capture and storage (CCS) and carbon dioxide removal (CDR) projects – are a critical tool for cutting carbon emissions and combatting the climate crisis. The U.S. Environmental Protection Agency's (EPA) mission to protect the environment and public health is fundamental to our work in EPA's Underground Injection Control (UIC) Class VI Program.

Class VI injection wells are regulated under an existing, rigorous Safe Drinking Water Act (SDWA) permitting framework that protects underground sources of drinking water (USDWs). EPA also follows guidance from the Council on Environmental Quality to ensure that the advancement of carbon capture, utilization, and sequestration technologies are done in a responsible manner that incorporates the input of communities, entails appropriate mitigation, and reflects the best available science. The number of permit applications for UIC Class VI wells is increasing. Additionally, several states have expressed interest in seeking primary enforcement and permitting responsibility for UIC Class VI wells that the states expect will attract GS projects to their area and provide well-paying jobs that can be implemented in an environmentally responsible way.

People across the country have shared with EPA concerns about the safety of CCS and CDR projects as well as their concern that already environmentally overburdened communities may yet again bear a disproportionate environmental burden associated with geologic sequestration. Executive Order 12898 (59 FR 7629, February 16, 1994) directs federal agencies, to the greatest extent practicable and permitted by law, to identify and address, as appropriate, disproportionate and adverse human health or environmental impacts on people of color and low-income populations. Executive Order 14096 (88 FR 25251, April 21, 2023) recently supplemented this direction and included, among other things, consideration of “effects (including risks) and hazards. . . related to climate change and cumulative impacts of environmental and other burdens on communities with environmental justice concerns.”¹

¹ <https://www.federalregister.gov/d/2023-08955/p-17> (see sections 2 and 3). The Executive Order defines environmental justice in part to mean “the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment . . .”

EPA is committed to consulting with federally recognized tribes when its actions may affect tribal interests and advancing environmental justice (EJ) for overburdened communities in all its programs, including the UIC Class VI program. EPA is also firmly committed to supporting states' and tribes' efforts to obtain primacy under SDWA and incorporate EJ principles and equity into proposed UIC Class VI programs, including in permitting. EPA, states, and tribes must work together to set a strong foundation of practices that will protect our most vulnerable communities while encouraging the development of UIC Class VI state primacy programs. With these objectives in mind, the Office of Water, in collaboration with EPA Regional Water Programs and other partners across the agency, is working to implement the UIC Class VI program in a manner that aligns EJ and climate resiliency goals while achieving the fundamental mandate of SDWA to protect USDWs.

This memorandum and attached Guidance serve as EPA's operating framework for identifying, analyzing, and addressing EJ concerns in the context of implementing and overseeing all UIC permitting and primacy programs, including primacy approvals. The purpose of the Guidance is to:

- Outline EJ considerations and expectations for UIC well owners/operators and EPA staff;
- Communicate EPA's guidance to states, tribes, and territories that have primacy for UIC programs; and
- Expand upon the tools presented in the Class VI EJ Quick Reference Guide.²

EPA Regional UIC staff are expected to immediately apply these practices for Class VI permitting. Additionally, UIC well owners/operators should consider this guidance when developing permit applications. EPA Regions are encouraged to work collaboratively and proactively with state, tribal, and local partners to facilitate their consideration and application of this guidance in their UIC permitting actions. EPA Regions should consider this framework in evaluating applications for primacy to examine the extent to which environmental justice and equity planning and controls are incorporated into the proposed program. Once an application for primacy is received, EPA Regions should develop and implement a plan to engage with community-based organizations in the requesting state, Tribe or territory to understand perspectives and inform the evaluation of the application. While this guidance focuses on implementing the Class VI program, many of the expectations presented here are more broadly applicable, and EPA Regions should apply them to the other five injection well classes wherever possible.

This memorandum and the attached Guidance do not change, add to, or substitute for any requirement under SDWA or its implementing regulations, any EPA-approved UIC permitting program, or Title VI of the Civil Rights Act, nor are they a regulation themselves. Nothing in this memorandum or the attached Guidance is intended to impose or establish legally binding requirements and no part of this memorandum has legally binding effect or represents the consummation of agency decision making. To the extent there is any inconsistency between these documents and any statute or regulation, the latter take precedence. EPA retains discretion to use or deviate from these documents as appropriate. They are, therefore, not final agency actions and not judicially reviewable.

The attached Guidance is organized into five themes that address various aspects of EJ in UIC Class VI permitting. EPA strongly encourages states with Class VI primacy, and states and tribes seeking primacy, to incorporate these themes into their primacy programs. In summary, the guidance is to:

² [Geologic Sequestration of Carbon Dioxide – UIC Quick Reference Guide: Additional Tools for UIC Program Directors Incorporating Environmental Justice Considerations into the Class VI Injection Well Permitting Process \(June 2011\)](#)

- 1. Identify communities with potential EJ concerns:** UIC well owners/operators, permit applicants, and EPA Regions should use EJScreen (and/or other suitable geographic information system and mapping tools and data) to identify communities potentially adversely and disproportionately affected by human health, environmental, climate-related, and/or other cumulative harms or risks – that is, affected communities with potential EJ concerns – to help ensure proactive community engagement and promote the just treatment and meaningful involvement of the affected community in UIC permitting actions. EJScreen and similar tools allow users to couple demographic indicators (*e.g.*, low-income communities, communities of color, and tribal/indigenous communities) with environmental indicators to conduct a screening of a potentially disproportionately impacted community. There are additional environmental and socio-economic indicators in EJScreen that allow users to screen for whether communities are already affected by other pollution sources and may be vulnerable based on social determinants of health, age, or pre-existing medical conditions.
- 2. Enhance public involvement:** Permit applicants and regulators should enhance community engagement and implement an inclusive public participation process. Community outreach should be conducted early in the permit application process for all Class VI projects, and, especially for those permits that may have EJ concerns, before the permit application is submitted. This practice creates the opportunity to identify resources or any additional information that would facilitate understanding the potential effects of a permitting action on the community and promote just treatment and meaningful participation throughout the permitting process. Early engagement may also facilitate the early identification of mitigation measures that the applicant can take to address potential adverse and disproportionate effects of the permitting action. It is important for EPA and primacy agencies to communicate throughout the permitting process and to address concerns affecting the community. Similarly, it is important for the applicant and EPA to meaningfully engage with the community to discuss and consider potential approaches to addressing concerns before, during, and after the UIC Class VI permitting process.
- 3. Conduct appropriately scoped EJ assessments:** When a permitting action may result in disproportionate and adverse human health or environmental effects on an affected community, including one with potential EJ concerns, EPA should conduct further EJ assessment of the community; this will vary according to the specific circumstances of the permit application.

For example, in its review of permit applications, EPA should evaluate whether the siting of a Class VI project at the proposed location will create any new risks or exacerbate any existing impacts on affected communities, including on affected lower-income communities and communities of color. Such evaluations might consider the demographic composition of surrounding communities, the presence of existing environmental hazards, potential exposure pathways, and susceptible sub-populations, as well as the likely distribution of any environmental and public health impacts from the proposed Class VI project in affected communities. These assessments will provide valuable information for facilitating meaningful public engagement, as well as identify concerns (*i.e.*, risks to USDWs) that may need to be addressed in the permitting decision.

- 4. Enhance transparency throughout the permitting process:** It is important that EPA is transparent in decision making throughout the UIC Class VI permitting process. For example, the administrative record for the permit should be readily available in a format and location that is easily accessible to the affected community. EPA should clearly document

the affected community's concerns and address those concerns to the greatest extent practicable and permitted by law. EPA and the owner/operator should consider ways to make compliance monitoring, test results, records, and reports required by the permit publicly available, understandable, and readily accessible to the community.

- 5. Minimize adverse effects to USDWs and the communities they may serve:** EPA should proactively work to prevent any adverse impacts to USDWs from all activities throughout the lifetime of the project. Owner/operators should employ a range of project specific mitigation measures to ensure Class VI projects do not increase environmental impacts, resource issues, and public health risks in already overburdened communities.

EPA Regions should share the attachment titled "Environmental Justice Guidance for UIC Class VI Permitting and Primacy" with states, tribes, and territories that are interested in UIC Class VI primacy. States are in a unique position to proactively support the development of CCS and CDR projects while protecting vulnerable communities. A Class VI well is just one component of a geologic sequestration project. Incorporating safety and environmental equity considerations into the process early on, such as during site selection for the various components of these projects, will lead to sustainable infrastructure.

For further information, or questions relating to this memorandum, please contact Bill Bates at bates.william@epa.gov.

Attachment:

"Environmental Justice Guidance for UIC Class VI Permitting and Primacy"

Environmental Justice Guidance for UIC Class VI Permitting and Primacy

August 2023

On December 9, 2022, the U.S. Environmental Protection Agency (EPA) sent a letter to state governors recognizing the importance of developing and deploying clean energy technologies that capture and remove carbon from the atmosphere while mitigating impacts on vulnerable communities. EPA called for states seeking primacy to incorporate Environmental Justice (EJ) and equity into proposed Underground Injection Control (UIC) Class VI programs, including in permitting. EPA outlined a variety of approaches, such as implementing an inclusive public participation process, consideration of EJ impacts on communities, enforcing Class VI regulatory requirements, and incorporating mitigation measures. Under the Safe Drinking Water Act (SDWA), UIC Class VI programs ensure that when carbon dioxide (CO₂) is stored underground to reduce greenhouse gases and mitigate climate change, underground sources of drinking water (USDWs) are protected.

EPA's Environmental Justice Guidance for UIC Class VI Permitting and Primacy outlines expectations for the agency to incorporate EJ and civil rights considerations into Class VI activities. This guidance also serves to strongly encourage states, tribes, and territories to implement their Class VI programs in a similar fashion. This guidance expands upon EPA's Class VI Quick Reference Guide.¹ As states, tribes, and territories develop and implement Class VI programs, they should consider how to proactively support Class VI injection wells which – when used as a part of carbon capture and storage (CCS) and carbon dioxide removal (CDR) projects – are a critical tool for cutting carbon emissions and combatting the climate crisis. To this end, states should review existing state statutes, laws, regulations, and policies to determine if there are EJ provisions, civil rights provisions, or both that can be incorporated into their Class VI Program.

This guidance does not change, add to, or substitute for any requirement under SDWA or its implementing regulations, any EPA-approved UIC permitting program, or Title VI of the Civil Rights Act, nor are they a regulation themselves. Nothing in this guidance is intended to impose or establish legally binding requirements and no part of this guidance has legally binding effect or represents the consummation of agency decision making. To the extent there is any inconsistency between this document and any statute or regulation, the latter take precedence. EPA retains discretion to use or deviate from this guidance as appropriate. It is, therefore, not final agency actions and not judicially reviewable.

¹ [Geologic Sequestration of Carbon Dioxide – UIC Quick Reference Guide: Additional Tools for UIC Program Directors Incorporating Environmental Justice Considerations into the Class VI Injection Well Permitting Process \(June 2011\)](#)

Theme	Action
1. Identify communities with potential EJ concerns	<p>UIC programs should encourage owner/operators to conduct EJScreen assessments during site selection and before submitting a Class VI permit application.</p>
	<p>UIC programs should conduct and/or verify EJScreen assessments for every Class VI permit application received or sooner if possible. The Area of Review will be used as the boundary to be investigated unless a more relevant EJ boundary is identified. UIC programs should:</p> <ul style="list-style-type: none"> • Work with appropriate EJ organizations to create structured communication between EJ experts and UIC permitters. • Direct UIC permitters to work with EJ experts to conduct EJScreen for all Class VI projects and develop a community engagement plan for affected communities.
2. Enhance public involvement	<p>UIC programs should encourage owner/operators to conduct community outreach early for all Class VI permit applications, regardless of if there are apparent EJ concerns. Activities to consider are:</p> <ul style="list-style-type: none"> • Conduct engagement prior to submittal of the application and throughout the life of the project. • Provide UIC programs a summary of outreach activities in the application. • Conduct outreach while developing plans such as the Emergency and Remedial Response Plans, to better understand community concerns and needs.
	<p>Where EJ concerns have been identified in the area of a proposed project, UIC programs should enhance community engagement by:</p> <ul style="list-style-type: none"> • Enhancing outreach targeting affected communities and implementing an inclusive public participation process, including: <ul style="list-style-type: none"> ○ Providing opportunities to engage with the community early in the permit application evaluation process. ○ Developing materials in a language that is appropriate for interested communities and ensuring meaningful access to persons with disabilities. ○ Directing communities to additional resources that may be of assistance to them. • Continually engaging affected communities throughout the lifetime of the project. • Extending the public comment and participation period, as appropriate.

Theme	Action
3. Conduct appropriately scoped EJ assessments	<p>For projects that have been identified as having EJ concerns, UIC programs should conduct additional assessments evaluating project impacts on overburdened communities. Assessments will vary according to the specific circumstances of the permit application and may include.²</p> <ul style="list-style-type: none"> • Further consideration of how Class VI projects may affect subpopulations identified in the EJScreen analysis. • Further input from stakeholders, including the affected community. • Evaluation of existing environmental data, including water monitoring, identification of wellhead protection areas, ongoing and climate or, as appropriate, other data. • Assessment of compliance record of permit applicant (e.g., may result in additional requirements related to increased monitoring, reporting, etc.). • Evaluation of potential health and environmental effects of the permitting action on the affected community. • Evaluation of the potential health and non-health adverse effects (e.g., noise, odor, and traffic) of the permitting action. • Evaluation of the potential impact of the permit action together with impacts from other regulated and non-regulated sources of pollution and non-pollution stressors in the affected community. • Evaluation of mitigation measures to minimize potential adverse effects of the permitting action on the affected community.
4. Enhance transparency throughout the permitting process	<p>UIC programs should post all Class VI applications on an appropriate public website.</p> <p>UIC programs should release EJ information developed from the review of Class VI application, including EJ screening results and any follow-up EJ and community needs assessments on an appropriate public website.</p> <p>UIC programs should make available reporting data (e.g., injection pressures, monitoring data, mechanical integrity test results) on an appropriate public website, in a manner that is user-friendly and understandable to the general public.</p> <p>UIC programs should provide public notification of all Class VI permit violations on an appropriate public website.</p>

² See [Cumulative Impacts Addendum to EPA Legal Tools to Advance Environmental Justice](#) (2023) for illustrative practices on using cumulative impacts analyses for area permits in the UIC program. Note that area permits are not allowed for Class VI wells. 40 CFR § 144.33(a)(5). However, the cumulative impacts and environmental justice analyses discussed in the tool may help inform similar analyses for Class VI projects.

Theme	Action
5. Minimize adverse effects to USDWs and the communities they may serve	<p>Where practicable, UIC programs should encourage owners/operators to consider additional mitigation measures to address concerns raised by the local community. Such actions could include:</p> <ul style="list-style-type: none"> • Installation of carbon dioxide monitoring and release notification networks. • Installation of enhanced pollution controls. • Adoption of other measures to offset impacts by improving other environmental amenities for the communities near GS projects, and provision of resources for clean-up of previously degraded public areas. • Ensure appropriate community representatives are a part of the development of the Emergency and Remedial Response and Testing and Monitoring plans. • Planning activities could include: <ul style="list-style-type: none"> ○ Training for local responders while training facility staff to respond to emergencies at the facility. ○ Working with community to identify the chain of command for notifying the public of an emergency and incorporate these details into their Emergency and Remedial Response Plans. ○ Developing plans for notification of well related issues and emergencies, including a consideration of local community language needs and the needs of persons with disabilities. ○ Working with community to develop a Testing and Monitoring plan that addresses the risks of the project.
	<p>Where additional infrastructure is needed to support CCS projects, UIC programs should work with the other pertinent entities and agencies to ensure coordination on emergency response plans.</p>
	<p>UIC programs will enforce Class VI regulatory requirements.</p>
	<p>UIC programs will review financial responsibility documentation annually, and update as needed, to ensure it remains adequate for use.</p>
	<p>UIC programs will deny a permit when the permit applicants fail to demonstrate that the proposed project will avoid endangering USDWs.</p>