

July 3, 2024

U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Via *regulations.gov*

Re: Tentative MPRSA Research Permits: EPA-HQ-MPRSA-2024-001 and EPA-HQ-MPRSA-2024-002

To Whom It May Concern.

Columbia Law School’s Sabin Center for Climate Change Law (“Sabin Center”) respectfully submits these comments on the Environmental Protection Agency’s (“EPA”) tentative determination to issue research permits to Woods Hole Oceanographic Institution (“WHOI”) under the Marine Protection, Research, and Sanctuaries Act (“MPRSA”).¹ The permits would, if issued, enable WHOI to conduct a two-phased research study to assess the efficacy and impacts of ocean alkalinity enhancement (“OAE”). As noted by EPA in the Notice of Permit Applications and Tentative Determinations, OAE is one of several marine carbon dioxide removal (“mCDR”) techniques that could help to mitigate climate change by removing and durably storing carbon dioxide from the atmosphere.² The Sabin Center supports efforts to conduct safe, responsible, and scientifically-sound research into OAE and other mCDR approaches, including controlled in-ocean field trials like those proposed by WHOI. Such research is critical to improve understanding of mCDR and determine whether any particular technique might be used to help combat the climate crisis (alongside necessary emissions reductions and other climate response strategies). As explained more fully below, EPA has authority to permit mCDR research under the MPRSA and, contrary to the claims of some other commenters, mCDR research projects do not also require evaluation under the Clean Water Act (“CWA”).

EPA’s Authority to Permit mCDR Research Under the MPRSA

The Sabin Center agrees with other commenters that effectively mitigating climate change requires cutting greenhouse gas emissions, but that fact does not preclude EPA from issuing permits for research into mCDR. On the contrary, advancing safe, responsible, and scientifically sound mCDR research is fully in-line with the United States’ climate mitigation goals. It is now

¹ Env’tl. Prot. Agency, Notice of Permit Applications and Tentative Determinations, Tentative Research Permits: EPA-HQ-MPRSA-2024-001 and EPA-HW-MPRSA-2024-002 [hereinafter “EPA Notice”].

² *Id.* at 1.

widely accepted that CDR will be needed, alongside emissions cuts, to stay within the temperature limits set in the Paris Agreement. In its Sixth Assessment Report, the Intergovernmental Panel on Climate Change (“IPCC”) noted that, to limit warming to 1.5°C or 2°C, emissions must reach net-zero in coming decades.³ Recognizing this, the United States has committed to achieving net-zero emissions by no later than 2050.⁴ In almost all modeled scenarios, CDR is needed to achieve net-zero emissions, leading the IPCC to conclude that large-scale deployment of CDR is “unavoidable.”⁵ Deployment to date has been limited and no CDR approach currently in use can achieve the scale required.⁶ Further research is thus essential to identify and evaluate possible new CDR techniques.

A 2022 report by the U.S. National Academies of Sciences, Engineering, and Medicine (“NASEM”) concluded:

The present state of knowledge on many [m]CDR approaches is inadequate, based in many cases only on laboratory-scale experiments, conceptual theory, and/or numerical models . . . Expanded research including field research is needed to assess the techniques’ potential efficacy . . . [and] to identify and quantify environmental impacts, risks, benefits, and co-benefits.⁷

The NASEM report thus recommended the establishment of a multi-year mCDR research program “to address current knowledge gaps” and “provide an improved and unbiased knowledge base for the public, stakeholders, and policy makers” to assess whether and how different mCDR techniques might be deployed.⁸ As indicated in EPA’s Notice of Permit Applications and Tentative Determinations, the WHOI project is intended to “collect information on the feasibility and potential beneficial and adverse impacts of” OAE, which would help to inform future social decisions regarding its use.⁹ As an independent, non-profit ocean research institution, WHOI is well-placed to conduct the unbiased research called for in the NASEM report.

We agree with EPA’s determination that the proposed OAE research project falls within the scope of activities subject to permitting under the MPRSA. While another comment questioned

³ IPCC, *Summary for Policymakers*, in CLIMATE CHANGE 2022: MITIGATION OF CLIMATE CHANGE. CONTRIBUTION OF WORKING GROUP III TO THE SIXTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 1, 23 (P.R. Shukla et al. eds, 2022), https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SPM.pdf.

⁴ U.S. DEP’T OF STATE AND U.S EXECUTIVE OFFICE OF THE PRESIDENT, THE LONG-TERM STRATEGY OF THE UNITED STATES: PATHWAYS TO NET-ZERO GREENHOUSE GAS EMISSIONS BY 2050 (2021), <https://www.whitehouse.gov/wp-content/uploads/2021/10/us-long-term-strategy.pdf>

⁵ *Id.* at 36.

⁶ See generally, Stephen M. Smith et al., *The State of Carbon Dioxide Removal 2024 – 2nd Edition* (2024), <https://www.stateofcdr.org/s/The-State-of-Carbon-Dioxide-Removal-2Edition.pdf>.

⁷ Scott C. Doney et al., *A Research Strategy for Ocean-based Carbon Dioxide Removal and Sequestration* 239 (National Academy of Sciences, Engineering, and Medicine, 2022), <https://nap.nationalacademies.org/read/26278/chapter/1>

⁸ *Id.* at 240.

⁹ EPA Notice, *supra* note 1, at 2.

EPA’s jurisdiction under the MPRSA,¹⁰ the Act is unambiguous: EPA is expressly authorized “to regulate the dumping of all types of materials into ocean waters.”¹¹ The definition of “dumping” in the MPRSA is broad, referring to any “disposition of material” (subject to limited exceptions that do not apply here).¹² The MPRSA definition of “material” is similarly broad, encompassing “matter of any kind or description” (again with limited exceptions that are not applicable here).¹³ The proposed WHOI project involves a release of substances—i.e., sodium hydroxide and Rhodamine Water Tracer dye—into ocean waters and thus is clearly covered by the MPRSA. Under the MPRSA, EPA is authorized to issue dumping permits “where the Administrator determines that such dumping will not unreasonable degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.”¹⁴

We note that another comment specifically questioned whether EPA can issue research permits under the MPRSA¹⁵ but, in our view, EPA’s authority is clear. The MPRSA expressly states that the EPA “may establish and issue various categories of permits.”¹⁶ Pursuant to that authority, EPA has adopted regulations providing for the issuance of research permits, among others.¹⁷ While EPA has not previously issued research permits for any OAE or other mCDR projects, it has a long history of issuing research permits for other classes of activities. For example, between 1974 and 1982, EPA issued several research permits for projects aimed at testing different ocean incineration techniques and, more recently, it has permitted research to evaluate fish processing methods and related waste disposal techniques.¹⁸ We thus strongly disagree with others who have erroneously claimed that, in proposing to permit the WHOI project, EPA is asserting previously unused power to issue a “novel research permit” under the MPRSA.¹⁹

The Notice of Permit Applications and Tentative Determinations issued by EPA notes the criteria for issuance of research permits: that the scientific merit of research outweighs the potential

¹⁰ See e.g., Letter from Brett Hartl, Government Affairs Director, Center for Biological Diversity to Stacey M. Jensen, Director Oceans, Wetlands, and Communities Division, Env’tl Prot. Agency (June 20, 2024) (available on [regulations.gov](https://www.regulations.gov)).

¹¹ 33 U.S.C. § 1401(b).

¹² *Id.* § 1402(f).

¹³ *Id.* § 1402(c).

¹⁴ *Id.* § 1412(a).

¹⁵ Letter from Brett Hartl, Government Affairs Director, Center for Biological Diversity to Stacey M. Jensen, Director Oceans, Wetlands, and Communities Division, Env’tl Prot. Agency (June 20, 2024) (available on [regulations.gov](https://www.regulations.gov)).

¹⁶ 33 U.S.C. § 1412(b).

¹⁷ 40 C.F.R. § 220.3(e).

¹⁸ ENVTL. PROT. AGENCY, OCEAN INCINERATION: BACKGROUND AND STATUS (1987), <https://perma.cc/EDQ9-9564>; Env’tl. Prot. Agency, Env’tl. Prot. Agency, *StarKist Samoa Company, Pago Pago, AS; Special Ocean Dumping Permits OD 2022-01 and OD 2020-01*, OCEAN DUMPING PERMITS, <https://www.epa.gov/ocean-dumping/starkist-samoa#2020> (last updated May 7, 2024).

¹⁹ Letter from Brett Hartl, Government Affairs Director, Center for Biological Diversity to Stacey M. Jensen, Director Oceans, Wetlands, and Communities Division, Env’tl Prot. Agency (June 20, 2024) (available on [regulations.gov](https://www.regulations.gov)).

adverse impacts.²⁰ EPA indicates that it has “tentatively determine[d]” that this standard is met based on the consideration of “several factors including: the physical, chemical and biological characteristics of the material to be released; the amount of material and rate of release; the location and timing of the activities; the methods of transporting and releasing the materials; assessments of any anticipated environmental impacts resulting from the proposed activities; and the scientific merit and appropriateness of the applicant’s research plans and environmental monitoring plans.”²¹ We agree that the factors EPA considered are important, but encourage the agency to more fully explain its approach and reasoning. In particular, we urge EPA to explain how it determines whether any particular mCDR project involves research (as distinct from non-research activities), how it evaluates the scientific merit of such projects, and how it weighs that against any potential adverse effects from the projects. This last point is especially important to clarify since, unlike other types of activities commonly permitted under the MPRSA, mCDR research projects are intended to deliver global climate mitigation benefits but may present localized risks, potentially making the balancing of benefits and harms more challenging. We have previously recommended that EPA publish guidance on these topics and we repeat that recommendation here.²² We also urge EPA to provide a full explanation for any findings it makes with respect to individual projects. For example, in this project, we urge EPA to provide a full explanation of its analysis about whether the project may affect essential fish habitat under the Magnuson-Stevens Fishery Conservation and Management Act.²³

Inapplicability of the CWA to the WHOI Project

Another comment filed with EPA questioned why the agency is not requiring a CWA permit for the WHOI project. While EPA has not directly addressed this, it appears to have concluded that the CWA does not apply to the WHOI project. We fully agree.

Under section 402 of the CWA, a permit is required to discharge pollutants.²⁴ The statutory definition of “discharge” encompasses two broad classes of activities: (1) the “addition of any pollutant to navigable waters from any point source” and (2) the “addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft.”²⁵ The WHOI project does not fall within either class. With respect to (1), the CWA defines “navigable waters” as “waters of the United States, including the territorial seas,” with the “territorial seas” defined to mean “the belt of seas measured from the line of ordinary low water along the coast which is in direct contact with the open sea and the line marking the seaward limit

²⁰ EPA Notice, *supra* note 1, at 3.

²¹ *Id.*

²² See Romany M. Webb & Korey Silverman-Roati, Executive Actions to Ensure Safe and Responsible Ocean Carbon Dioxide Removal Research in the United States 15-18 (2023, updated 2024), https://scholarship.law.columbia.edu/sabin_climate_change/211/.

²³ See 16 U.S.C. § 1855(b)(2).

²⁴ 33 U.S.C. § 1342.

²⁵ *Id.* 1362(12).

of inland waters, and extending seaward a distance of three miles.”²⁶ The WHOI projects would take place much further offshore; the first project is proposed to occur approximately 9.5 miles from the nearest shoreline and the second approximately 38 miles from the nearest shoreline. Further, the WHOI project would involve releases from vessels and thus falls outside category (2) above, which only applies to the addition of pollutants to the ocean from point sources *other than* vessels or floating craft. As explained above, releases of the type proposed by WHOI are regulated under the MPRSA, which includes a broad preemption clause that expressly precludes the issuance of permits for ocean dumping activities under other laws, including the CWA.²⁷

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Thank you for the opportunity to submit these comments. Please let us know if you have any questions.

Sincerely,

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²⁶ *Id.* § 1362(7) & (8).

²⁷ *Id.* § 1416(a).