

IN RE GENERAL ELECTRIC COMPANY

RCRA Appeal No. 21-01

ORDER DENYING REVIEW

Decided February 8, 2022

Syllabus

Two citizen groups, the Housatonic River Initiative and the Housatonic Environmental Action League (“Citizen Groups”), have jointly petitioned for review of a corrective action permit that imposes remediation requirements for polychlorinated biphenyls (“PCBs”) contaminating the Housatonic River in Massachusetts and Connecticut. The U.S. Environmental Protection Agency’s Region 1 office (“Region”) issued the permit to the General Electric Company under the Resource Conservation and Recovery Act (“RCRA”). Previously, the Environmental Appeals Board (“Board”) remanded an earlier version of this permit to the Region based on the Board’s determination that the Region had failed to exercise considered judgment in requiring that all PCB-contaminated sediment and soil be disposed of at an off-site facility. The Board upheld most of the other remediation requirements in the prior permit.

The Citizen Groups challenge the Region’s decision on remand to adopt a hybrid disposal approach in the permit under which the most highly contaminated waste will be sent to an off-site facility and less-contaminated wastes will be disposed of at a facility to be constructed on-site. Additionally, the Citizen Groups challenge two aspects of the permit that were challenged in the prior appeal and upheld by the Board: the Region’s decision not to require treatment of wastes to reduce PCB concentrations prior to disposal and the permit’s requirement that the least-contaminated stretches of the Housatonic River be remediated through an approach designated as monitored natural recovery.

Held: The Board denies the Citizen Groups’ petition for review in all respects. The Board also grants in part and denies in part the Region’s motion to strike several attachments to the Citizen Groups’ petition from the record on appeal.

(1) *The Permit’s Hybrid Disposal Provision.* The Citizen Groups fail to show that the Region clearly erred in allowing less-contaminated wastes to be disposed of at an on-site facility that will be equipped with environmental protections required for disposal of more highly contaminated wastes, including a double liner, leachate collection, and ground water monitoring. The Citizen Groups primarily argue that the Region reversed factual findings underlying the Region’s prior determination that disposal should occur off-site without conducting any new investigation or citing any change in circumstances. The Board concludes that the Citizen Groups’ argument lacks merit. The hybrid disposal approach is itself a significant change in circumstances from the prior permit. The Region, for the most part, has not changed prior factual determinations, and in those instances where the Region has altered its conclusions, the Region

has justified those conclusions by undertaking the type of analysis the Board found to be lacking in the Region's prior determination on disposal location. The Citizen Groups also do not show that the Region improperly considered the terms of a settlement agreement the Region reached with a broad range of parties in which the Region agreed to propose a draft permit adopting the hybrid disposal approach. Nor do the Citizen Groups show that the Region clearly erred in its consideration of ongoing costs to the community related to on-site disposal. The Citizen Groups fail to satisfy the threshold requirement for review under 40 C.F.R. § 124.19(a)(4) as to their claim that the Region improperly waived application of a Massachusetts regulation to the on-site disposal location because this claim was not specifically raised in public comments on the draft permit.

(2) *The Region's Determination Not to Require Treatment Prior to Disposal.* The Region's determination in issuing the earlier permit not to require treatment of wastes prior to disposal is not in the Board's scope of review for this remanded permit. The same challenge to the lack of a treatment requirement was raised in a challenge to the earlier permit and the Board denied review as to that challenge. On remand, the Region did not modify the permit as to treatment of wastes prior to disposal.

(3) *The Permit Requirement on Monitored Natural Recovery.* The permit requirement on use of monitored natural recovery is not in the Board's scope of review for this remanded permit. The permit's requirements on monitored natural recovery were challenged in the prior proceeding before the Board and the Board denied review as to that challenge. On remand, the Region did not amend the permit's provisions on this remedial measure. The Region did not implicitly reopen the monitored natural recovery provisions applying to specific portions of the Housatonic River by amending other remedial measure requirements in the permit applying to other portions of the River with much higher levels of PCB contamination.

(4) *The Region's Motion to Strike.* The Board strikes all or part of several attachments to the Citizen Groups' petition because these documents are not in the certified administrative record and they do not qualify for any exception to the general prohibition on the Board's consideration of material not included in the Region's certified administrative record. The Board does not strike all or part of two documents that either are, or are alleged to be, responsive to new material included in the Region's response to comments. The Board also does not strike guidance documents issued by the U.S. Environmental Protection Agency.

Before Environmental Appeals Judges Aaron P. Avila and Kathie A. Stein.

Opinion of the Board by Judge Stein:

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I. STATEMENT OF THE CASE

For a second time, we consider a challenge to a corrective action permit addressing the contamination of New England's Housatonic River with polychlorinated biphenyls or PCBs. Pursuant to the Resource Conservation and Recovery Act, the U.S. Environmental Protection Agency, Region 1 has issued a series of corrective action permits to the General Electric Company requiring General Electric to remediate the Housatonic River. We previously reviewed appeals by multiple parties of a 2016 corrective action permit. That case involved challenges to the permit's cleanup requirements for the River, the Region's decision not to require decontamination of wastes prior to disposal, and the permit's specification of the location for waste disposal. Although we rejected the challenges to the Region's determinations on the scope and stringency of the cleanup and treatment of waste prior to disposal, we remanded the 2016 permit to the Region for reconsideration of, among other things, its decision to require disposal of PCB-contaminated waste at an off-site, rather than on-site, facility. *In re Gen. Elec. Co.*, 17 E.A.D. 434, 444 (EAB 2018). On remand, the Region chose a hybrid disposal approach that requires the most highly contaminated wastes to be disposed of off-site and the less-contaminated wastes on-site.

Two citizen groups, the Housatonic River Initiative and the Housatonic Environmental Action League (collectively, "Citizen Groups"), have jointly petitioned for review of the revised permit. They contend that the Region clearly erred in its revisions to the 2016 permit by (1) selecting the hybrid disposal approach that allows General Electric to dispose of some of the PCB-contaminated materials at an on-site facility; (2) not mandating that General Electric use the treatment processes of thermal desorption or bioremediation to reduce the level of PCBs in the waste materials prior to disposal; and (3) allegedly failing to establish performance standards or require further cleanup of certain stretches of the Housatonic River, primarily in Connecticut.

For the reasons explained below, we disagree with the Citizen Groups' contention that the Region clearly erred in choosing to require disposal of the less-contaminated materials at an on-site facility. As to the Citizen Groups' other two contentions, we hold that they are not within our scope of review of this permit following remand.

II. STATUTORY AND REGULATORY FRAMEWORK

A. *The Relevant Statutes, Regulations, and Guidance*

The two key statutes at issue in this case are the Resource Conservation and Recovery Act (“RCRA”), 42 U.S.C. §§ 6901-6992k, and the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), 42 U.S.C §§ 9601-9675). Also relevant are regulations issued under the Toxic Substances Control Act (“TSCA”), 15 U.S.C. § 2601-2697, governing the remediation and disposal of soil and sediment contaminated by the spill, release, or unauthorized disposal of PCBs.

RCRA authorizes EPA to regulate the management of hazardous and non-hazardous solid waste through the permitting of new and existing facilities that treat, store, or dispose of hazardous waste. RCRA § 3005, 42 U.S.C. § 6925. RCRA also directs EPA to require corrective action for releases of hazardous waste at a permitted facility as part of its permit. *Id.* § 3004(u), 42 U.S.C. § 6924(u). Corrective action extends to releases that migrate beyond the facility boundary “where necessary to protect human health and the environment.” *Id.* § 3004(v), 42 U.S.C. § 6924(v).

Regulations governing the RCRA hazardous waste permit program in general are found at 40 C.F.R. part 270, but EPA has not promulgated comprehensive regulations pertaining to corrective action. In 1990, EPA proposed regulations that would have established procedures and technical requirements for implementing corrective action under RCRA, sometimes referred to as the “1990 Subpart S Proposal.” *See* Corrective Action for Solid Waste Management Units (SWMUs) at Hazardous Waste Management Facilities, 55 Fed. Reg. 30,798 (proposed July 27, 1990) (“1990 Subpart S Proposal”). EPA never finalized the 1990 Subpart S Proposal, however, and in 1996, the Agency issued an advance notice of proposed rulemaking to update the Agency’s position on corrective action and “introduce[] EPA’s strategy for promulgation of corrective action regulations and request[] public input on a variety of issues and concepts associated with corrective action.” Corrective Action for Releases From Solid Waste Management Units at Hazardous Waste Management Facilities, 61 Fed. Reg. 19,432, 19,434 (proposed May 1, 1996) (“1996 ANPR”). Although these proposals were never finalized, EPA has stated that they serve as guidance for the corrective action program, noting that the 1990 Subpart S Proposal “continue[s] to provide useful information and guidance for corrective action implementation” and that the 1996 Advanced Notice of Proposed Rulemaking “should be considered the primary corrective action implementation guidance.” Corrective Action for Solid Waste Management Units at Hazardous Waste Management Facilities, 64 Fed. Reg. 54,604, 54,607 (Oct. 7, 1999).

CERCLA, popularly called “Superfund,” provides EPA with broad authority to respond to threats to human health and the environment caused by hazardous substances. CERCLA §§ 101-405, 42 U.S.C. §§ 9601-9675. When a hazardous substance has been released to the environment, section 104 of CERCLA authorizes EPA to provide for remedial action deemed necessary to protect human health and the environment. *Id.* § 104(a)(1), 42 U.S.C. § 9604(a)(1). Section 121

establishes general rules for CERCLA remedial actions, including provisions regarding the degree of cleanup, *id.* § 121(d), 42 U.S.C. § 9621(d), and a mandate that on-site cleanup actions must meet federal standards and more stringent state standards that are applicable or relevant and appropriate requirements, known by the acronym “ARARs,” unless these standards are waived, *id.* § 121(d)(2)(A), (d)(4), 42 U.S.C. § 9621(d)(2)(A), (d)(4). Regulations governing CERCLA remedial actions are set forth in the National Oil and Hazardous Substances Pollution Contingency Plan, more commonly known as the “National Contingency Plan,” codified at 40 C.F.R. part 300.

B. *Criteria for Remedy Selection*

The 1990 Subpart S Proposal identifies nine criteria for evaluating alternatives under consideration for RCRA corrective action, including four threshold “General Standards for Remedies” that all corrective action measures must meet and five “Remedy Selection Decision Factors” that EPA should consider when selecting among corrective action alternatives that meet the threshold standards. 1990 Subpart S Proposal, 55 Fed. Reg. at 30,823-25.

The four threshold “General Standards” specify that all RCRA corrective actions must: “[1] Be protective of human health and the environment; [2] Attain [applicable] media cleanup standards * * *; [3] Control the sources of releases so as to reduce or eliminate, to the extent practicable, further releases that may pose a threat to human health and the environment; and [4] Comply with [applicable] standards for management of wastes * * *.” *Id.* at 30,823; *see also* 1996 ANPR, 61 Fed. Reg. at 19,449. The five “Remedy Selection Decision Factors” that EPA should consider “as appropriate” when selecting amongst alternatives for RCRA corrective action are as follows: “[1] Long-term reliability and effectiveness; [2] Reduction of toxicity, mobility, or volume of wastes; [3] Short-term effectiveness; [4] Implementability; and [5] Cost.” 1990 Subpart S Proposal, 55 Fed. Reg. at 30,824; *see also* 1996 ANPR, 61 Fed. Reg. at 19,449.

With respect to CERCLA, the National Contingency Plan identifies nine criteria for evaluating alternatives for remedial action that are very similar to the RCRA criteria laid out in the 1990 Subpart S Proposal. *See* 40 C.F.R. § 300.430(f)(1)(i) (referencing criteria listed in section 300.430(e)(9)(iii)). EPA has noted that “[w]hile the CERCLA remedy selection criteria are not identical to the RCRA corrective action criteria proposed in 1990, they address the same types of considerations and should generally result in similar remedies when applied to similar site-specific conditions.” 1996 ANPR, 61 Fed. Reg. at 19,449; *see also id.* at 19,441 (“EPA’s position is that any procedural differences between RCRA and CERCLA should not substantively affect the outcome of remediation.”).

Also relevant to remedy selection are EPA’s TSCA regulations addressing the remediation and disposal of PCB-contaminated sediment and soil and the requirements for chemical waste landfills used for disposal of PCBs. For cleanup of PCB-contaminated sediment and soil, the regulations specify the manner of cleanup depending on the level of human occupancy and PCB

contamination. 40 C.F.R. § 761.61(a)(4)(i) (for example, the general cleanup level for high occupancy areas is a PCB concentration of 1 part per million or less; the cleanup level for low occupancy areas is 25 parts per million or less). As to disposal, PCB-contaminated sediment and soil with PCB concentrations of 50 parts per million or greater must be disposed of in a hazardous waste landfill permitted under RCRA or in a PCB disposal facility approved under 40 C.F.R. pt. 761. 40 C.F.R. § 761.61(a)(5)(i)(B)(2)(iii). For PCB-contaminated sediment and soil with PCB concentrations lower than 50 parts per million, the regulations offer two additional disposal options: a facility permitted under RCRA to manage municipal solid waste or a facility permitted under RCRA to manage non-municipal non-hazardous waste. *Id.* § 761.61(a)(5)(i)(B)(2)(ii), (a)(5)(v)(A). Additionally, the regulations authorize EPA to approve alternative disposal options that do “not pose an unreasonable risk of injury to health or the environment.” *Id.* § 761.61(c).

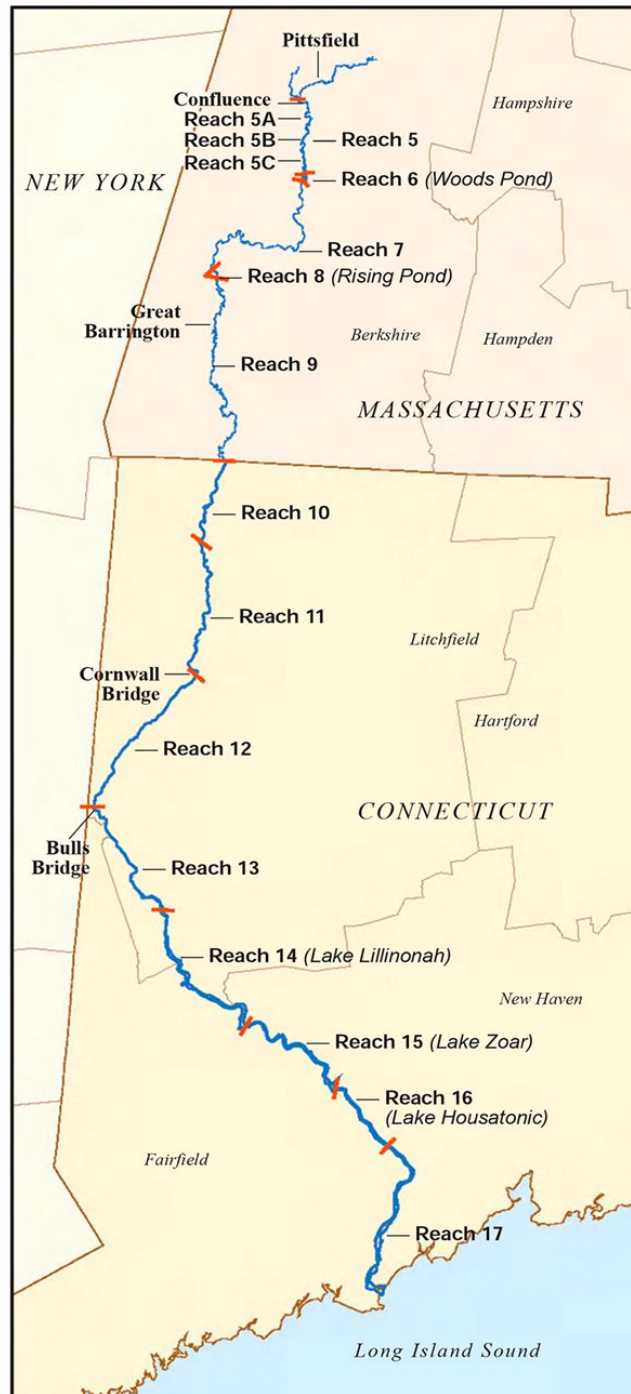
III. *FACTUAL BACKGROUND*

This permit proceeding on the remediation of the Housatonic River has lasted over twenty years and involves a complex corrective action project stretching over two states. Our prior opinion included an extensive factual background of this proceeding and the history of the Housatonic River relevant to its contamination and cleanup. *See In re Gen. Elec. Co.*, 17 E.A.D. 434, 452-482 (EAB 2018) (“*Gen. Elec. I*”). We do not repeat all of that here. Nonetheless, to aid in understanding the analysis that follows, we cover the basics of the permit’s initial development process, focusing on the matters relevant to the current petition for review. We also describe in some detail our decision on the prior petitions for review and the permit proceedings following remand as these matters bear on our resolution of the issues now before us.

A. *PCB Contamination of the Housatonic River*

General Electric operated an electrical transformer manufacturing facility for much of the 20th century on the East Branch of the Housatonic River in Pittsfield, Massachusetts. [Revised] Human Health Risk Assessment GE/Housatonic River Site Rest of River, Vol. I, at 1-3 (Feb. 11, 2005) (“Rev. HHRA”) (A.R. 219190). PCB contamination from the facility has been detected in an approximately 125-mile stretch of the River from Pittsfield south through Massachusetts and Connecticut, extending as far as the Derby Dam near Long Island Sound. *Id.* at 1-4, 1-6, 1-12 to 1-19. This stretch of the River consists of fourteen segments or reaches, designated as Reaches 3 through 16. Figure 1 below depicts Reaches 5 through 16, which are the subject of this proceeding. *See U. S. EPA, Statement of Basis for EPA’s Proposed 2020 Revisions to the Remedial Action for the Housatonic River “Rest of River”* 10 fig.3 (July 2020) (A.R. 647211) (“2020 Stat. of Basis”). Our earlier decision contained more detailed maps of Reaches 3, 4, 5, and 6. *Gen. Elec. I*, 17 E.A.D. at 453-54, figs.1-2.

Figure 1. Housatonic River: Reaches 5-17



The worst PCB contamination occurred in Reach 3 adjoining the General Electric facility as well as in Reach 4 immediately downstream from the facility. *See Gen. Elec. I, 17 E.A.D.*

at 455-56. Those reaches have been remediated and the cleanup focus is now on the reaches downstream from the end of Reach 4, which is the point of confluence of the East and West Branches of the Housatonic River (“Confluence”). *See id.* at 455-56, 510-11.

Downstream from the Confluence, the bulk of the remaining PCBs are present in Reaches 5 and 6, which stretch for roughly ten and a half miles below the Confluence. Rev. HHRA, Vol. I, at 1-4. An estimated 90% of the PCB mass (measured in pounds) is found in these two reaches’ sediment, banks, backwaters, and floodplain. U.S. Army Corps of Engineers & U.S. EPA, *National Remedy Review Board Site Information Package for the Housatonic River, Rest of River* at 2-3 (June 2011) (A.R. 487318) (“NRRB Package”). Tables 1 and 2 below display the Region’s estimates of the PCB mass in Reaches 5 through 16. The wide range in the estimates for each reach or subreach (Reach 5 is broken into Subreaches 5A, 5B, and 5C) reflects uncertainty due to a number of factors, including among other things, “the density and distribution of available data [and] the inherent need to extrapolate the representativeness of available data over large volumes of sediment.” Gen. Elec. Co., *Housatonic River—Rest of River RCRA Facility Investigation Report*, Vol. 1, at 4-35, 5-25 (Sept. 2003) (A.R. 200656) (“ROR RFI Rpt.”); *see also id.* at 5-25 (expressing same uncertainty regarding estimates of PCBs in soil at the site).

Reach or Area	Range of PCB Mass (lbs)	Length of Reach (miles)
Reach 5	13,000 – 51,000	10.1
Backwaters of Reach 5	2,000 – 18,000	---
Reach 6 – Woods Pond	3,000 – 29,000	0.6
Reach 7 ¹	800 – 3,600	18.5
Reach 8 – Rising Pond	3,000 – 11,000	0.8
Reach 9	60 – 110	23.9
Reaches 10-16 – Connecticut	120 – 5,000	71.6
Total	22,000 – 118,000	≈ 125

¹ The value for Reach 7 includes PCBs in the free-flowing channels of the reach as well as the impoundments, where PCB concentration levels are much higher. The Human Health Risk Assessment for the Housatonic River reported that in Reaches 7 and 8 PCB concentrations greater than screening level for identifying areas with risk concerns “were typically present directly upstream of the various impoundments,” but that “[t]here was little or no PCB contamination at areas where the river was relatively free flowing.” Rev. HHRA Vol. IIA app. A at 4-295.

Reach or Subreach	Range of PCB Mass (lbs)
Subreach 5A	54,000 – 255,000
Subreach 5B	12,300 – 76,000
Subreach 5C	14,000 – 105,000
Reach 6 – Woods Pond	350 – 4,800
Reach 7	5,300 – 15,000
Reach 8 – Rising Pond	30 – 90
Reach 9	2,400 – 2,800
Total	89,000 – 460,000

See U.S. EPA, *GE/Housatonic River Site: Site Update 5* (Jan. 2011) (A.R. 477424); see also ROR RFI Rpt., Vol. 1, at 2-3 and tbls.4-10, 5-9; Rev. HRRR, Vol. I, at 1-12 to 1-19.

B. *The 2000 Consent Decree and RCRA Correction Action Permit*

1. *Overview*

Significant cleanup and restoration of the River, its banks, and the adjoining floodplain began in the year 2000. That was the year General Electric entered into a Consent Decree with the United States, Massachusetts, Connecticut, the City of Pittsfield, and the Pittsfield Economic Development Authority to address PCB and other contamination at the General Electric-Pittsfield/Housatonic River Site.² See Consent Decree in *United States v. Gen. Elec. Co.*, Civ. Act. No. 99-0225 through 30227-MAPS (entered Oct. 27, 2000) (A.R. 9420) (“CD”). Under the terms of the Consent Decree, General Electric agreed to conduct or pay for this cleanup, and the federal government and the other signatories agreed to resolve certain of General Electric’s liabilities under CERCLA, RCRA, and other applicable law. CD ¶ 161.

In broad terms, the Consent Decree divides the cleanup plan for the Site into two components. Under the first component, General Electric agreed to implement or pay for the response actions that the Region had already selected to address contamination at the former manufacturing facility itself and at nearby river and floodplain areas in Pittsfield. See *id.* ¶ 4 (definition of “Removal Actions Outside the River”); *id.* ¶¶ 20, 21; U.S. EPA, *Statement of Basis for EPA’s Proposed Remedial Action for the Housatonic River “Rest of River”* 3 (June 2014) (A.R. 558621) (“2014 Stat. of Basis”). Those response actions included two cleanups in Reaches 3 and

² EPA and Massachusetts began investigating PCB contamination in and near the River in the 1970s. Cleanup activities began in the 1980s and 1990s pursuant to state and federal orders issued under Massachusetts law and CERCLA and a RCRA corrective action permit issued by the Region. NRRB Package at 2-3. These actions focused on addressing contamination at a portion of the General Electric facility and adjoining area but little in terms of remediating the River itself.

4 that focused on removing contaminated sediment and soil from the River and its banks and floodplain, capping the bed of the River, rebuilding and stabilizing the banks, and replanting trees and other vegetation in the immediately surrounding floodplain. Rev. HHRA, Vol. I, at 1-6 to 1-9. General Electric completed those removal and restoration actions, and they have been found to be “remarkably successful.” *Gen. Elec. I*, 17 E.A.D. at 511. Post-completion studies showed that in Reaches 3 and 4 “beavers thrive on the hard-armored banks, replanted floodplain woodlands have lost very few trees, and many replanted trees have quickly achieved heights of 25 feet and above.” *Id.* Further, these studies “documented improved benthic invertebrate and fish populations as well as significant reductions in PCB concentrations in the benthic invertebrates.” *Id.*

The second component of the Consent Decree addresses remediation of the Housatonic River’s bed, banks, backwaters, and floodplain in Reaches 5 through 16, a section of the River designated as the “Rest of the River” by the Decree.³ Throughout this Order, we use the same nomenclature and refer to the area addressed by the RCRA corrective action permit at issue in this proceeding as the “Rest of the River” or the “Rest of the River site.”

Because the Region had not yet adopted a plan for cleaning up the Rest of the River, the Consent Decree created a process for choosing a remedy for this area and required General Electric to implement, operate, and maintain the chosen remedy. CD ¶ 22. The Consent Decree and a RCRA corrective action permit (“2000 Permit”) attached to the Decree specify the remedy selection process.⁴ The Consent Decree provisions that concern the choice and implementation of the remedy for the Rest of the River invoke the statutory schemes of both RCRA and CERCLA. The Consent Decree provides that the remedy will be selected under RCRA and included in a modification to the 2000 Permit, but also specifies that the selected remedy “shall be considered to be the final remedy selection decision pursuant to Section 121 of CERCLA.” *Id.* ¶ 22(n), (z).

2. *The Remedy Selection Process*

The Consent Decree and the 2000 Permit establish a phased process for choosing a remedy for the Rest of the River. CD ¶ 22; Region 1, U.S. EPA, *General Electric Co. – Pittsfield, MA RCRA Corrective Action Permit* § II (July 18, 2000) (A.R. 6839) (“2000 Permit”). The initial steps

³ The Consent Decree defines the “Rest of the River” as the stretch of the Housatonic River (including floodplain areas) that begins at the confluence of the East and West Branches (immediately below the 1 ½ Mile Removal, in Reach 4 on the East Branch) and runs as far downriver as PCBs from the General Electric facility have migrated. CD ¶ 4 (definition of “Rest of the River”).

⁴ This corrective action permit replaced a RCRA permit initially issued to General Electric in 1991. Region 1, U.S. EPA, *General Electric Co. – Pittsfield, MA RCRA Corrective Action Permit* 1 (July 18, 2000) (A.R. 6839). The revised permit was issued in July 2000 but was designated to take effect on the effective date of the Consent Decree. *Id.*

in that process are: (1) completing an investigation of the Rest of the River site and preparing a report (“Site Investigation Report”) documenting environmental conditions and characterizing contamination in the area’s surface water, sediment, floodplain soil, biota, and air, CD ¶ 22(a); *see* 2000 Permit § II.A, .B; (2) conducting human health and ecological risk assessments using a scientific peer review process, CD ¶ 22(b), (c), (d); *see* 2000 Permit § II.C; and (3) evaluating potential corrective measure alternatives for remediation of the Rest of the River and preparing a Corrective Measures Study report, CD ¶ 22(j), (k); *see* 2000 Permit §§ II.E, .F, .G. These tasks are divided between General Electric and the Region, with the Region having approval authority over each step.

After these initial steps have been completed, the Region issues a draft modification of the 2000 Permit, together with a Statement of Basis, and notices the draft modification for public comment. CD ¶ 22(n); 2000 Permit § II.J. Following close of the public comment period—and, should General Electric choose to invoke the dispute resolution provisions contained in the Consent Decree, any dispute resolution process—the Region must issue a final permit modification obligating General Electric to perform the specified remedy for the Rest of the River. General Electric’s performance of the remedy is to be “pursuant to CERCLA and [the] Consent Decree.” CD ¶ 22(p); *see* 2000 Permit § II.J.

Between 2000 and 2016, the Region and General Electric completed the steps outlined above, culminating in the Region’s issuance of a revised corrective action permit in 2016 (referred to as the “2016 Permit”). *See* Region 1, U.S. EPA, *Permit under the Resource Conservation and Recovery Act (RCRA) as Amended (42 U.S.C. Section 6901 et seq.)* (Oct. 20, 2016) (A.R. 593291) (“2016 Permit”).

3. *Remedy Selection for the 2016 Permit*

a. *Exposure and Risk Assessments*

The Site Investigation Report documents PCB concentrations in the River’s sediment, banks, and floodplain downstream from the Confluence—i.e., in Reaches 5 through 16. This Report contains two findings that are of particular significance to the remediation of this portion of the River.

First, the Report found that for Reaches 5 through 16, the concentration of PCBs is greatest within the first few miles downriver of the Confluence and decreases rapidly after that. This finding is true for the River’s sediment (including the bed of the river’s channel and backwaters), banks, and floodplain, including vernal pools.⁵ ROR RFI Rpt., Vol. 1, at 4-16 to 4-17, 5-12. For

⁵ Vernal pools are “seasonal depressional wetlands that * * * are covered by shallow water for variable periods from winter to spring but may be completely dry for most of the summer and fall.” U.S.

example, the highest frequency of detection of PCBs (97%) in any of the six-inch layers sampled within the top three feet of sediment was found in Subreach 5A. *Id.* at tbl.4-8. The highest average PCB concentration (29 parts per million) was also found in Subreach 5A.⁶ *Id.* In contrast, the positive detection rate in Reach 9 (the final reach in Massachusetts) was 32% and the highest average PCB concentration was 0.27 parts per million. *Id.* The detection rates and highest average concentration levels were even lower in the reaches further downstream in Connecticut. *See id.* at 4-17 fig.4-8; tbl.4-8. For floodplain soil, the average PCB concentration in Subreach 5A was 16 parts per million and the average PCB concentration in Reach 9 was 0.42 parts per million. *See id.* at tbl.5-6; *see also id.* at 5-12, fig.5-4.

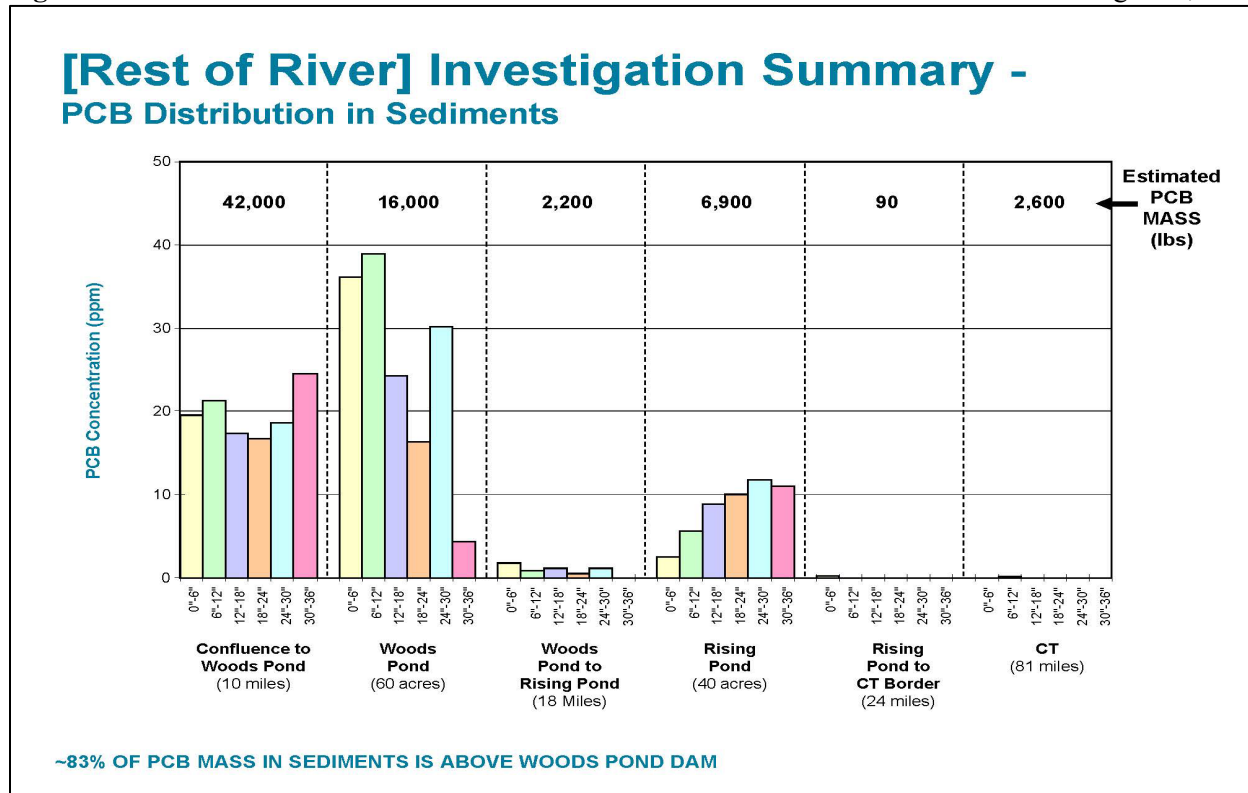
Second, the Report concluded that although there was a general decline in PCB concentration level in sediment as distance from the Confluence increased, “a distinct increase in the average PCB * * * concentration[] is observed immediately upstream of each major impoundment from Woods Pond to Connecticut, followed by a notable decrease in average PCB concentration downstream of the impoundment.” *Id.* at 4-23. However, this increased PCB concentration level in upstream impoundments was not found in Connecticut. Region 1, U.S. EPA, *Response to Comments on Draft Permit Modification and Statement of Basis for EPA’s Proposed Remedial Action for the Housatonic River “Rest of River”—GE-Pittsfield/Housatonic River Site 195* (Oct. 2016) (A.R. 593922) (“2016 Resp. to Cmts.”). In other words, the Massachusetts impoundments served as traps for PCBs, reducing the downstream flow of PCBs. As a consequence, although generally “a substantial decrease in PCB concentrations and the frequency of detection was observed at depths below 3 feet to 4 feet, * * * PCBs were found at greater depths within Woods Pond [Reach 6] and Rising Pond [Reach 8].” ROR RFI Rpt., Vol. 1, at 4-18. In fact, the Woods Pond impoundment (Reach 6), is estimated to contain 25% of the mass of PCBs in River sediment downstream from the Confluence. 2016 Resp. to Cmts. at 162.

EPA, <https://www.epa.gov/wetlands/vernal-pools> (last visited Jan. 31, 2022). These environmentally sensitive areas “provide[] habitat for numerous rare plants and animals that are able to survive and thrive in these harsh conditions.” *Id.*

⁶ In the administrative record, PCB concentration levels are reported either in units of milligrams per kilogram or parts per million. The two units are equivalent. For the sake of consistency, we refer to “parts per million” throughout this Order.

The following figure visually captures the above information on PCB concentration levels in the River and the trapping effect of the dams in Massachusetts.

Figure 2. PCB Concentration Levels in Sediment in Housatonic “Rest of the River.” Region 1, U.S.



EPA, Corrective Measures Study (CMS) Proposal—Citizens Council Meeting—March 7, 2007, at 6 (Mar. 7, 2007) (A.R. 260347) (presentation by Region given at March 7, 2007 meeting of Citizens Coordinating Council).

Following completion of the Site Investigation Report, the Region assessed the human health and ecological risks presented by the measured PCB concentration levels. The major findings on human health risk addressed direct contact risks, risk from consumption of fish and wildlife, and agricultural product consumption risk:

Direct Contact Risk. Cancer risk from direct contact with PCB-contaminated *sediment or soil* was found to be at acceptable levels for all parts of the Rest of the River. Rev. HHRA, Vol. I, at ES-38 to ES-39. Non-cancer risk from direct contact with *soil* was found to exceed the benchmark risk level in several of the ninety exposure areas in the Rest of the River. *Id.* Vol. I, at ES-38, 7-19 to 7-23. As to direct contact with *sediment*, for most of the Rest of the River (Reaches 9 through 16 as well as the free-flowing portions of Reach 7), direct contact with *sediment* was determined to be below the level of concern based on a conservative screening level assessment. *Id.* Vol. I, at 6-15 to 6-18. Direct contact risk from *sediment* was

studied more closely in eight areas and only two of those areas, Woods Pond (Reach 6) and the Glendale dam impoundment in Reach 7, were found to exceed the benchmark risk level. *Id.* Vol. I, at ES-39, 7-23 & fig.7.9; *id.* Vol. IIIA at 5-164, 5-168.

Fish and Wildlife Consumption Risk. Cancer risk from consuming fish or wildlife from the Housatonic River exceeds acceptable cancer risk levels for all portions of the Rest of the River. *Id.* Vol. I, at ES-39. The same is true for non-cancer risks. *Id.* Both cancer and non-cancer risks are greater in Massachusetts than in Connecticut. *Id.* Vol. I, at 8-18, tbls.8-11, 8-12. For example, non-cancer risks exceed the benchmark level for adults and children by factors between 22 and 550 in Massachusetts and by factors between 2 and 43 in Connecticut. *Id.* Vol. I, at ES-39.

Agricultural Product Consumption Risk. The Region generally found no cancer or non-cancer risks of concern from consumption of garden produce and commercial dairy products. Cancer and non-cancer risks exceeded levels of concern for consumption of backyard and commercial beef and poultry and backyard dairy products. *Id.* Vol. I, at ES-40.

As to ecological risks, the Region determined that in Reaches 5 and 6 most of the following wildlife groups faced an intermediate to high level of risk of harm from PCB exposure: benthic invertebrates, amphibians, some insectivorous birds (e.g., Wood duck), piscivorous birds, piscivorous mammals, omnivorous and carnivorous mammals, and endangered and threatened species. *See* NRRB Package at 6-31. Fish and some other species of insectivorous birds (e.g., tree swallow & American robin) faced a low to intermediate level of risk. *See id.*

b. *Corrective Measures Study Report*

The report on potential corrective measures, produced by General Electric with input from the Region, set the initial parameters for the range of corrective measures to be considered by the Region for remediation of the Rest of the River site.⁷ *See generally* Gen. Elec. Co., *Housatonic River – Rest of River Revised Corrective Measures Study Report* (Oct. 2010) (A.R. 472605, A.R. 580275, A.R. 580282) (“Rev. CMSR”). That report identified ten alternatives for cleanup of the riverbed and its banks and backwaters, nine alternatives for cleanup of the River’s floodplain soil, and five alternatives addressing treatment and/or disposal of PCB-contaminated sediment and soil. *Id.* at 6-1 to 6-2, 7-1 to 7-2.

⁷ Before undertaking the report, General Electric was required to submit a proposal identifying potential corrective measures to be included in the report to the Region for its approval. CD ¶ 22(j); *see* 2000 Permit §§ E, F. General Electric was also required to submit the completed report to the Region for approval. CD ¶ 22(j); *see* 2000 Permit §§ E, F.

(i) *Identified Cleanup Measures*

The ten Sediment Alternatives identified in the Corrective Measures Study Report range from no action to extensive excavation and removal of contaminated sediment and riverbank soil. Additional measures incorporated in some of the ten alternatives included various types of capping of sediment,⁸ sediment additions (such as activated carbon) to reduce the bioavailability of PCBs, and monitored natural recovery.

Excavation of contaminated sediment and/or riverbank soil was a major part of eight of the ten Sediment Alternatives. *Id.* at 6-1 to 6-2; *see* 2014 Stat. of Basis at 20 tbl.1. The excavation requirements in all eight focused on sediment in Reaches 5 through 8 and riverbank soil in Reach 5 because the Site Investigation Report and risk assessments had identified these areas as having the highest concentration of PCBs. In fact, an estimated 83% of the PCB mass in sediment in the Rest of the River site is located in Reaches 5 and 6 alone. NRRB Package at 2-3; *see also* Region 1, U.S. EPA, Corrective Measures Study (CMS) Proposal—Citizens Council Meeting—March 7, 2007, at 6 (Mar. 7, 2007) (A.R. 260347). The extent of excavation required by the eight Sediment Alternatives varies widely. For example, the most aggressive Sediment Alternative⁹ would have required excavation of all reaches or subreaches with PCB levels exceeding 1 part per million. 2014 Stat. of Basis at 20, tbl.1 (requiring sediment removal in Reaches 5, Reach 6 (Woods Pond), the Reach 7 impoundments, and Reach 8 (Rising Pond)). Less aggressive alternatives generally would have required less excavation of contaminated sediment from the riverbed in Reaches 5 through 8 and some form of capping to compensate for not reducing PCB concentrations in sediment to 1 part per million or less. *Id.* For the eight alternatives requiring some excavation, excavation amounts ranged from approximately 134,000 cubic yards to a high of approximately 2,252,000 cubic yards. *Id.* at 21, tbl.2.

Other than the no-action Sediment Alternative, each Sediment Alternative called for the use of monitored natural recovery in portions of the River not remediated through excavation and/or capping. For these alternatives, the Region selected monitored natural recovery as the

⁸ Two types of capping that received consideration were engineered capping and thin-layer capping. *See* 2016 Resp. to Cmts. at 173-74, 197-98. Engineered capping is used to “reduce[] risks posed by contaminants by physically isolating the contaminated sediments from human or animal exposure, by chemically isolating the contaminated sediments from being transported up into the water column, and by stabilizing contaminated sediment to protect it from erosion.” *Id.* at 173. Thin-layer capping provides “a thin layer of clean material [to] mix[] with or dilute[] the existing contaminated sediments to help the natural sedimentation processes.” *Id.*

⁹ The ten Sediment Alternatives were labeled SED 1 through SED 10. *See* Rev. CMSR at 6-1 to 6-2. The most aggressive alternative is SED 8. *Id.*

remedial measure for, at a minimum, the free-flowing portions (i.e., channels) of Reach 7 and all of Reaches 9 through 16. See Rev. CMSR at 6-1 to 6-2; 2014 Stat. of Basis at 20 tbl.1; see also Gen. Elec. Co, *Housatonic River—Rest of River Corrective Measures Study Proposal Supplement* § 2 (May 2007) (A.R. 268565) (“CMS Prop. Supp.”) (providing detailed justification for monitored natural recovery in this area). These reaches comprise approximately 90 of the 125 miles of the Rest of the River. Several alternatives require more extensive use of this cleanup technique. See 2014 Stat. of Basis at 20 tbl.1.

Similar to the Sediment Alternatives, the nine Floodplain Alternatives identified by General Electric in the Corrective Measures Report range from no action to increasingly aggressive excavation of floodplain soil. 2014 Stat. of Basis 19-23, tbl.2. The level of excavation for the various alternatives is tied to levels of cancer and non-cancer risk from direct contact. See Rev. CMSR at 7-1 to 7-2; see 2014 Stat. of Basis at 20, tbl.1. Other than the no action alternative, excavation amounts ranged from 26,000 cubic yards to 615,000 cubic yards of contaminated soil. 2014 Stat. of Basis at 21 tbl.2.

(ii) *Treatment and Disposition Alternatives*

General Electric also studied options for what to do with the contaminated sediment and soil once it is removed from the Rest of the River. General Electric’s analysis addressed three alternatives that involve disposal absent any treatment of the contaminated material and two alternatives that involve treating material using one of two processes before disposition of the material through disposal or reuse. Rev. CMSR at 9-1, 9-84 to 9-85.

For disposal without treatment of the contaminated material, General Electric examined disposal at an off-site facility versus disposal at an on-site facility constructed either within a local waterbody or at an upland site. Off-site disposal would involve transporting the excavated material by truck or rail either to a permitted commercial solid waste landfill or to a hazardous waste facility, or some combination of both, depending on the concentration of PCBs in the material. *Id.* at 9-1 to 9-2. The first on-site disposal option involved placement of the contaminated materials in an engineered structure in a local water body that would confine the deposited materials. *Id.* at 9-14. The second on-site disposal option involved construction of an upland disposal facility near the River but outside the 500-year floodplain. General Electric identified three potential sites for this facility: one near Woods Pond on Reach 6; a second near Rising Pond on Reach 8; and a third on Forest Street in the Township of Lee. *Id.* at 9-40 to 9-41.

After considering several treatment methods for removing PCBs from contaminated sediment and soil prior to disposal or reuse,¹⁰ General Electric selected two treatment processes

¹⁰ Other treatment processes considered, but rejected, included *in situ* physical, chemical, and biological processes; *ex situ* biological treatment; and *ex situ* thermal incineration. Gen. Elec. Co.,

for further consideration: use of a chemical extraction process and use of thermal desorption. Chemical extraction involves “mixing an extraction fluid/solvent with removed sediment and soil, so that PCBs in the sediment and soil are preferentially transferred into the extraction fluid.” 2014 Stat. of Basis at 25. The extraction fluid “is then treated or disposed of offsite along with treated sediments.” *Id.* Thermal desorption removes PCBs through heating the contaminated material and transferring the PCBs to a gas stream. *Id.* PCBs captured in the gas stream would be disposed of off-site, and the majority of the treated material would be disposed of in an appropriate landfill. *Id.* Roughly half of the treated floodplain soil potentially could be reused on-site as backfill in the floodplain, depending on the concentration of PCBs remaining in the treated material. Rev. CMSR at 9-109.

(iii) *General Electric’s Recommendation*

The 2000 Permit mandates that General Electric’s report on corrective measures must address “[a]t a minimum” how each potential corrective measure meets three threshold “General Standards for Corrective Measures” and six balancing “Selection Decision Factors.” 2000 Permit §§ II.G(1), .G(2). The three threshold “General Standards” identified in the 2000 Permit are: (1) Overall Protection of Human Health and the Environment; (2) Control of Sources of Releases; and (3) Compliance with Applicable or Relevant and Appropriate Federal and State Requirements. *Id.* § II.G(1) (descriptive text omitted). The six balancing “Selection Decision Factors” identified in the 2000 Permit are: (1) Long-term Reliability and Effectiveness; (2) Attainment of Interim Media Protection Goals; (3) Reduction of Toxicity, Mobility, or Volume of Wastes; (4) Short-term Effectiveness; (5) Implementability; and (6) Cost. *Id.* § II.G(2) (descriptive text omitted). These standards and criteria have been generally referred to in this permit proceeding as the Nine Evaluation Criteria.

After evaluating all identified cleanup alternatives under the Nine Evaluation Criteria, General Electric recommended that the Region adopt a cleanup alternative for the Rest of the River’s sediment, banks, and floodplain with one of the least aggressive approaches among the identified alternatives.¹¹ Rev. CMSR at 8-77. General Electric also recommended that the

Housatonic River—Rest of River Corrective Measures Study Proposal 4-19 to 4-20, 4-53 to 4-54, 4-59 to 4-60 (Feb. 2007) (A.R. 260320).

¹¹ For the purpose of selecting an overall cleanup plan, General Electric combined Sediment Alternatives with Floodplain Alternatives based generally on the level of the alternatives’ aggressiveness or lack thereof. For example, the no-action Sediment and Floodplain alternatives were paired, the most aggressive Sediment and Floodplain alternatives were paired, and so forth. General Electric analyzed seven combined Sediment/Floodplain alternatives and the Region considered these combined alternatives and two additional ones. Rev. CMSR at 8-1; 2014 Stat. of Basis at 19.

excavated material not be treated with chemical extraction or thermal desorption prior to disposal and that the untreated material be disposed of in an on-site upland disposal facility or landfill. *Id.* at 9-155.

c. *The Region's Remedy Selection and the 2016 Permit*

The Region conducted its own comparative analysis of the alternatives developed by General Electric under the Nine Evaluation Criteria. Prior to proposing a remedy in a draft permit, the Region asked EPA's National Remedy Review Board to examine the Region's preferred approach and also consulted with Massachusetts, which had expressed significant concerns that the Region's preferred approach would harm ecological features and endangered species. *See Gen. Elec. I*, 17 E.A.D. at 474-78. Following this review process, the Region adopted the second-most aggressive Sediment Alternative and a less aggressive Floodplain Alternative. 2014 Stat. of Basis at 23-24. The Region did not require treatment of the excavated material prior to disposal and specified that disposal would occur off-site. *Id.* at 10, 35-38.

Briefly summarized, the cleanup approach selected by the Region included: (1) excavation of sediment in portions of Reaches 5 through 8, with the most extensive excavation occurring in Subreach 5A (2.5 feet of riverbed), Subreach 5C (2 feet), and Reach 6 (four to seven feet); (2) installation of a multi-layer engineered cap to isolate PCBs in most areas subject to excavation requirements; (3) use of enhanced monitored natural recovery in Subreach 5B (adding sediment amendments such as activated carbon to accelerate natural processes); (4) removal and stabilization of erodible banks in Reach 5 with PCB concentrations greater than 50 parts per million; (5) use of monitored natural recovery for the Reach 7 channel (excluding impoundments which are to be excavated and capped) as well as the whole of Reaches 9 through 16; and (6) removal of soil to a depth of one to three feet in the floodplain, depending on the frequency the area's use and PCB concentration levels. 2014 Stat. of Basis at 4-9, 20 tbl.1.

The Region estimated that its selected cleanup approach (named "Combination Alternative 9") would require excavation of 990,000 cubic yards of sediment and soil (consisting of 890,000 cubic yards of sediment, 25,000 cubic yards of bank soil, and 75,000 cubic yards of floodplain soil) and capping of 298 acres. This represented a removal of 46,970 pounds of PCBs. *Id.* at 21, tbl.2. The Region estimated that this cleanup alternative would take 13 years to complete at a cost of \$326 million. *Id.* at 21 tbl.2, 36 tbl. 6. The Region chose this remedial alternative because it proved to be "the best balance between addressing human health risks and negative impacts of remedial work on the river's ecosystem, including its array of state-listed species habitats." *Id.* at 28.

The Region rejected General Electric's preferred approach ("Combination Alternative 8") that would have required excavation and removal of a total of only 267,700 cubic yards of sediment and soil and taken five years to complete at a cost of \$94 million. *See Rev. CMSR* at 8-77; 2014 Stat. of Basis at 21 tbl.2, 36 tbl.6. According to the Region, General Electric's approach would

“not begin to achieve human health fish consumption levels” or ecological goals and “would not meet the standard of protection of human health and the environment.” NRRB Package at 9-4.

The Region also rejected the most aggressive cleanup alternative (“Combination Alternative 6”). That alternative would have required excavation and removal of 2,902,000 cubic yards of material and taken 52 years to complete at a cost of \$917 million. 2014 Stat. of Basis at 21, tbl.2 and 36, tbl.6. The Region noted that its selected alternative was “similar” to the most aggressive alternative in risk reduction and “would reduce risk much more quickly, would result in significantly fewer short-term impacts, and could be implemented for approximately a third the cost.” *Gen. Elec. I*, 17 E.A.D. at 544.

As to disposal, the Region selected disposal of the contaminated material at an off-site landfill. 2014 Stat. of Basis at 10. No treatment prior to disposal was required. *Id.* at 10. The Region rejected the treatment alternatives of chemical extraction and thermal desorption based on its conclusion that chemical extraction was ineffective, there was “limited precedent” for use of thermal desorption on sediment as opposed to soil, and there was “uncertain[ty]” as to the adequacy and reliability of thermal desorption for treatment of the large amount of contaminated sediment and soil at the Housatonic site. U.S. EPA, *Comparative Analysis of Remedial Alternatives for the General Electric (GE)-Pittsfield/Housatonic River Project, Rest of River 65* (May 2014) (A.R. 557091) (“Comp. Anal.”). Based on the selected cleanup alternative, the Region estimated the respective costs for treatment by chemical extraction or thermal desorption and subsequent disposal or reuse at \$399 million and between \$515 and \$540 million, respectively. 2014 Stat. of Basis at 39 tbl.7. Costs for treatment and disposal for the most aggressive remedy would have been two to three times higher. *Comp. Anal.* at 78 tbl.27.

The Region chose off-site disposal over on-site disposal based primarily on its conclusion that “on-site disposal facilities may be less effective at containing waste than an off-site disposal facility because the locations identified in the Revised [Corrective Measures Study] do not meet TSCA’s siting requirements for PCB landfills” under 40 C.F.R. § 761.75. 2016 Resp. to Cmts. at 239; *see Gen. Elec. I*, 17 E.A.D. at 564. On-site disposal of the amount of excavated material in the Region’s selected cleanup approach would have cost \$100 million compared to a cost of \$287 million for off-site disposal using rail transport.¹² 2014 Stat. of Basis at 39 tbl.7. These cost

¹² The Region examined two methods of transport for off-site disposal—truck and rail—but given that the 2016 Permit required that transport should be “via rail, to the extent practicable,” we present only the Region’s analysis of the rail option on issues such as cost and greenhouse gas emissions. *See* 2016 Permit § II.B.5.b(1). Off-site disposal by truck would have caused greater greenhouse gas emissions and a greater number of transport-related injuries and have cost more. *See Comp. Anal.* at 69, 73; 2014 Stat. of Basis at 39 tbl.7.

estimates increased for the most aggressive cleanup alternative by a factor of two to three. *Comp. Anal.* at 78 tbl.27.

The Region proposed its selected approach in a draft amendment to the 2000 permit. After holding a public comment period, the Region finalized the draft permit with certain revisions in October 2016.

C. The Board's Review of the 2016 Permit

Five parties challenged various aspects of the 2016 permitting decision and filed petitions for review with the Board: General Electric; the Housatonic Rest of River Municipal Committee, a committee formed under an intergovernmental agreement by five towns located in Berkshire County, Massachusetts near Reaches 5 to 9 of the Housatonic River; Mr. C. Jeffrey Cook, a homeowner whose property abuts Subreach 5A of the Housatonic River; and two local citizen groups, the Housatonic River Initiative and the Berkshire Environmental Action Team. *Gen. Elec. I*, 17 E.A.D. at 443-44. Of the issues raised on appeal, only the Board's resolution of the petitions from General Electric, the Housatonic River Initiative, and the Berkshire Environmental Action Team is pertinent to the current proceeding.

In its petition, General Electric argued both that the cleanup required by the 2016 Permit was too extensive and that the Permit should have allowed General Electric to dispose of the excavated sediment and soil in an on-site landfill, rather than requiring shipment to an off-site facility. We denied all of General Electric's challenges to the extent of the cleanup, although we remanded a provision directing General Electric to perform additional cleanup work in connection with future work projects that third parties might conduct in the Housatonic River in the future. On remand, the Region amended this additional work provision, and the revised provision is not contested in this proceeding. *See* Region 1, U.S. EPA, *Determination on Remand and Supplemental Comparative Analyses of Remedial Alternatives for the General Electric (GE)-Pittsfield/Housatonic River Site Rest of River 5* (July 2020) (A.R. 647210) ("Supp. Comp. Anal.").

As to General Electric's challenge to the Region's determination that excavated sediment and soil should be disposed of off-site, we granted General Electric's petition in part and remanded the off-site disposal provision on the grounds that the Region had clearly erred by failing to exercise considered judgment on this question, in two ways. We first held that the Region had not adequately explained its conclusion that TSCA siting requirements for PCB landfills showed that on-site disposal was more risky than off-site disposal. *Gen. Elec. I*, 17 E.A.D. at 568. We noted that in issuing the 2016 Permit, the Region had stated that the proposed on-site locations did not meet the TSCA requirements in 40 C.F.R. § 761.75 governing PCB chemical waste landfills. *Id.* at 565-66. We further observed that the Region had rejected General Electric's argument that the on-site locations qualified for a waiver of any unmet requirements under that TSCA regulation, and that EPA had routinely issued such waivers in similar situations. *Id.* at 567. The only justification offered by the Region to General Electric's argument was a single, conclusory

sentence deeming a waiver “not appropriate.” *Id.* Additionally, we found that the Region had failed to reconcile seemingly inconsistent statements it made in the record concerning the overall protectiveness of disposal in an on-site landfill. *Id.* at 567-68.

In its petition challenging the 2016 Permit, the Housatonic River Initiative raised several challenges relevant to its current petition. *First*, the Housatonic River Initiative argued that the Region erred in including monitored natural recovery as part of the remedy for the River because, in the Housatonic River Initiative’s view, monitored natural recovery does not work. *Id.* at 536-37. We denied this claim. *Id.* at 537-40. The Region had responded to the Housatonic River Initiative’s comments on the use of monitored natural recovery by explaining, in detail, why the record supported the use of monitored natural recovery in the sections of the River for which the 2016 Permit required it. In its petition, however, the Housatonic River Initiative failed to show how the Region’s explanation was clearly erroneous. To contest the Region’s conclusions the Housatonic River Initiative relied on data from Reaches 5 and 6 of the River, but the Region had found monitored natural recovery inappropriate for those Reaches due to high levels of PCB contamination there. *Id.* at 538-39.

Second, the Housatonic River Initiative asserted that the Region had erred by not selecting the most aggressive cleanup alternative for the River and floodplain identified by General Electric in its report on corrective measures. *Id.* at 541. The Housatonic River Initiative did not dispute the Region’s conclusion that this alternative achieved a similar level of risk reduction to the Region’s selected alternative while taking almost forty years longer to implement and costing three times as much. *Id.* at 544. Rather, the Housatonic River Initiative argued that the Region’s remedy-selection decision was flawed because the driving factor in the Region’s analysis was an unsubstantiated conclusion that the most aggressive cleanup alternative would cause long-term environmental harm. *Id.* We concluded, however, that the administrative record showed that the Region reasonably weighed the uncertainties related to environmental restoration efforts. *Id.* at 545-47.

Third, the Housatonic River Initiative argued that the Region erred by (1) not honoring CERCLA’s preference for permanent solutions and alternative treatment technologies, (2) failing to require thermal desorption prior to disposal, and (3) failing to require use of bioremediation. We denied the first two of these claims because these challenges were not raised in public comments on the draft permit. *Id.* at 577-81; *see* 40 C.F.R. §§ 124.19(a)(4)(ii) (requiring petitioners to demonstrate that issues on which they seek Board review were first raised “during the public comment period”), 124.13 (requiring all persons who object to draft permit to “raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period”). We also rejected the argument that the Region should “expand its consideration” of bioremediation, finding that the Housatonic River

Initiative had failed to address the Region's response to its comments on bioremediation. *Gen. Elec. I*, 17 E.A.D. at 581-82.

Like the Housatonic River Initiative, the Berkshire Environmental Action Team also challenged the Region's determination to use monitored natural recovery in Connecticut, arguing that General Electric should be required to sample sediment in impoundments in this stretch of the River and remove sediment containing PCBs. *Id.* at 548, 550. We denied the Berkshire Environmental Action Team's challenge to the monitored natural recovery requirements because the Berkshire Environmental Action Team failed to explain in its petition why the Region clearly erred in concluding that monitored natural recovery was an appropriate remedial approach for the Connecticut reaches given that "sediment data collected in Connecticut show[] that, in comparison to other portions of [the] Rest of the River, PCB concentrations are relatively very low (or not detected) and more widely dispersed including behind the dams." *Id.* at 550 (quoting 2016 Resp. to Cmts. at 195).

D. *The 2020 Permit*

1. *Mediation and Settlement Following Remand*

Following our remand of the 2016 Permit, the Region entered into mediated discussions with General Electric and a number of other interested parties to examine "if there was one remedy proposal [for the Rest of the River] that all parties could agree to." Supp. Comp. Anal. at 3-4.

All of the petitioners from the 2016 Board proceeding, including the Housatonic River Initiative and the Housatonic Environmental Action League, were invited to participate in the mediation. The Housatonic River Initiative joined the mediation initially but did not continue to participate through its conclusion.¹³ The Housatonic Environmental Action League declined to join, citing its objection to signing "a strict confidentiality agreement that would preclude us from having any discussions or obtaining approvals from our membership." Audrey Cole, President, Housatonic Environmental Action League, Inc., *September 18, 2020 Public Comments* 4-5 (Sept. 18, 2020) (A.R. 649394) ("Cole Comments").

¹³ The parties dispute as to why the Housatonic River Initiative left the mediation. The Citizen Groups assert that the Housatonic River Initiative "was excluded from negotiations when it made clear that it could not support onsite disposal." Pet'rs Br. at 7 n.36. At oral argument, the Region stated that "the petitioners were not excluded from the negotiations. The petitioners were included in the negotiations. We wanted to come to an agreement with [the Housatonic River Initiative.]" Or. Arg. Tr. at 56. Similarly, General Electric stated at oral argument that "[the Housatonic River Initiative] joined the negotiations, saw that there was momentum in the direction of some onsite disposal, and then withdrew." *Id.* at 97.

The mediated discussions produced a Settlement Agreement signed in February 2020. *See* Settlement Agreement—Housatonic River, Rest of River 1-2 (Feb. 2020) (A.R. 643538) (“Settl. Agrmt.”). The signatories are the Region; General Electric; the State of Connecticut; the Massachusetts Towns of Lenox, Lee, Stockbridge, Great Barrington, Sheffield, and Pittsfield; Mr. C. Jeffrey Cook; the Berkshire Environmental Action Team; and the Massachusetts Audubon Society. Settl. Agrmt. (signature pages). The Commonwealth of Massachusetts joined in the mediated discussions but did not sign the agreement. As described by the Region, the Settlement Agreement includes “provisions on speeding up the initiation of Rest of River response actions, enhancements to the cleanup, a hybrid disposal approach, economic development and other community benefits, and coordination and consultation regarding the cleanup.” Supp. Comp. Anal. at 4.

2. *Terms of the Settlement Agreement*

The Settlement Agreement states that its agreements “that relate to the provisions of the 2016 Permit will be set forth in EPA’s proposed revision of the 2016 Permit” and that the proposed revised permit “will be subject to a regulatory public comment process.” Settl. Agrmt. at 2. The signatories to the settlement agreed not to challenge the final permit as revised “unless it is inconsistent with the terms of this Settlement Agreement.” *Id.* at 3. The Settlement Agreement also included several agreements between the parties specifying actions to be taken outside the context of the permit proceeding.

The Settlement Agreement includes terms that address both additional cleanup measures beyond those included in the 2016 Permit, and a revised approach to disposal of excavated PCB-contaminated sediment and soil. The additional cleanup measures include: (1) increased sediment removal in Subreach 5C and the impoundments in Reaches 7 and 8 and a corresponding reduced need for capping in those areas due to a decrease in PCB concentration levels to 1 part per million;¹⁴ (2) increased floodplain soil removal on at least twenty-two properties adjoining Subreach 5A; (3) removal of two dams in Reach 7; (4) potentially expanded bank remediation in Subreaches 5B and 5C; (5) a revised approach to vernal pond remediation based upon a pilot study; and (6) development of a quality of life plan addressing the noise, odor, and light from remediation and remediation’s effects on recreational activities and local road use. *Id.* at 3-8.

As to disposal, the Settlement Agreement specifies, among other things, that: (1) floodplain and bank soils averaging PCB concentrations of less than 50 parts per million and

¹⁴ The need for capping is reduced because sufficient sediment will be removed to achieve an average PCB concentration of 1 part per million in the remaining sediment. Settl. Agrmt. at 4-5; 2020 Permit § II.B.2.c(1), .f.(1), .g.(1).

sediment averaging PCB concentration of 25 parts per million or less will be disposed of in an on-site landfill to be located near Woods Pond (“Woods Pond Landfill” or “Landfill”); (2) excavated materials with higher PCB levels will be disposed of in a licensed off-site facility; (3) at least 100,000 cubic yards of PCB-contaminated sediment and soil will be disposed of in the off-site facility; (4) the on-site landfill will include a cap, double liner, leachate collection system, and groundwater monitoring wells; (5) PCB-contaminated materials from Subreach 5C and Reach 6 will be transferred to the on-site landfill by hydraulic pumping, if feasible; and (6) General Electric will be responsible for the on-site landfill indefinitely. *Id.* at 8-12.

The Settlement Agreement also includes several provisions that do not require amendment to the 2016 Permit, including the following: (1) General Electric will commence investigation and design work for the cleanup upon the date of the signing of the Settlement Agreement, *id.* at 3; (2) the Region will “facilitate opportunities” for testing of innovative technologies for reducing PCB levels in excavated materials and the Region and General Electric will consider the applicability of promising research to the Rest of the River remediation, *id.* at 12; (3) General Electric will pay a total of \$55 million to the Towns of Lenox, Lee, Stockbridge, Great Barrington, and Sheffield, and \$8 million to the City of Pittsfield for economic development, *id.* at 13-14; (4) the Region and General Electric will consult and coordinate with parties affected by the remediation of the Rest of the River and the Region will provide technical assistance to the local municipalities, *id.* at 19-24.

3. *The Draft Permit and the Region’s Explanation for its Revisions*

On July 9, 2020, the Region released a revised draft permit (“2020 Draft Permit”) that incorporated, with only minor changes, the revised permit terms agreed to by the signatories. Region 1, U.S. EPA, *Draft 2020 Modification to the 2016 Reissued RCRA Permit and Selection of CERCLA Remedial Action and Operation & Maintenance for Rest of River for Public Comment – July 2020*, attach. D (July 1, 2020) (A.R. 647214) (“2020 Draft Permit”). In connection with the 2020 Draft Permit, the Region also issued two documents—a statement of basis (“2020 Statement of Basis”) and a supplement to its 2016 comparative analysis (“Supplemental Comparative Analysis”). In these documents, the Region evaluated the draft permit under the Nine Evaluation Criteria in the 2000 Permit and conducted separate comparative analyses for new cleanup measures and the hybrid disposal approach. *See generally* 2020 Stat. of Basis, Supp. Comp. Anal.

a. *Cleanup Measures*

As to the new cleanup measures, the Region examined the differences between the draft permit’s revised cleanup plan and the cleanup requirements in the 2016 Permit. 2020 Stat. of Basis at 20. The Region concluded that the revised cleanup plan’s increased sediment removal in Reaches 5, 7, and 8 and correspondingly decreased reliance on capping will provide better control of sources of releases and enhanced long-term effectiveness. *Id.* at 23-24. The revised cleanup plan will remove an additional 143,000 cubic yards of sediment from the River, providing an

equivalent reduction in the sources of PCB releases. *Id.* at 23-24, 26. Additional source reduction, the Region noted, will be achieved by increased floodplain soil removal and the possibility of expanded bank remediation. *Id.* at 24. Further, the increased sediment removal will reduce the acreage of capping of contaminated sediment by approximately 96 acres (out of approximately 298 acres in the 2016 Permit plan), thus increasing the long-term effectiveness of the remedy due to reduced risks from cap failure. *Id.* The Region also determined that the revised cleanup plan will better achieve Federal and State ARARs by increasing habitat restoration through the reduction in capping and the removal of two dams and their respective impoundments. Both measures will allow a greater portion of the Rest of the River to return to its natural state. *Id.*

The Region noted that the revised cleanup plan will result in increased emissions of greenhouse gases, due to the increased level of activity needed to excavate greater volumes of contaminated sediment and soil, potentially decreasing the short-term effectiveness of the cleanup. Supp. Comp. Anal. at 21. As calculated by the Region, the 14% increase in removed sediment and soil under the revised cleanup plan will result in a 14% increase in greenhouse gas emissions compared to the 2016 Permit.¹⁵ *Id.*; see *id.* at tbl.12 (showing 196,000 metric tonnes associated with cleanup under 2020 Permit compared with 171,000 metric tonnes for 2016 Permit). However, according to the Region, the possibility that the revised cleanup plan might have lower short-term effectiveness due to increased greenhouse gas emissions is offset to a degree by the addition of “the robust Quality of Life Compliance Plan [to the 2020 Permit] that requires [General Electric] to submit plans on how to avoid, minimize or mitigate impacts to the community.” 2020 Stat. of Basis at 27.

Considering these factors, the Region concluded that the revised cleanup plan will “provide the best overall protection of human health and the environment because it achieve[s] the important balance between short- and long-term risks and benefits.” *Id.* at 21. Finding no significant differences between the 2016 and 2020 cleanup plans as to the other evaluation factors, the Region judged that the 2020 plan “is better suited” to meet the Nine Evaluation Criteria in the Consent Decree and 2000 Permit. Supp. Comp. Anal. at 24.

b. *Disposal Location*

In examining the question of disposal location, the Region considered the off-site and on-site disposal options evaluated for the 2016 Permit, alongside a new alternative, a hybrid approach delineated in the Settlement Agreement. Under the hybrid approach, excavated material that is

¹⁵ This calculation of increased greenhouse gas emissions from increased sediment and soil removal does not take into account decreased greenhouse gas emissions from adoption of the hybrid disposal alternative. Supp. Comp. Anal. at 21.

more highly contaminated (greater than or equal to 50 parts per million PCBs) will be sent off-site for disposal while excavated material with lower levels of contamination (less than 50 parts per million PCBs) will be disposed of on-site in a landfill to be constructed in a former industrial area near Woods Pond.¹⁶ *See* 2020 Stat. of Basis at 28, 30. As with the comparative analysis of the cleanup measures, the Region analyzed the three disposal options by applying the 2000 Permit's Nine Evaluation Criteria.

The Region found that all three alternatives would provide “high levels of protection to human health and environment,” considering the criteria of Overall Protection of Human Health and the Environment, Control of Sources and Releases, Long-term Effectiveness and Reliability, and Short-term Effectiveness. *Supp. Comp. Anal.* at 31-32; 2020 Stat. of Basis at 30-31. The Region noted that both alternatives allowing on-site disposal were less strong on protectiveness than off-site disposal because they would require operation and maintenance to maintain that protectiveness and would not isolate all excavated materials from the Rest of the River site. *Supp. Comp. Anal.* at 31-32. However, the Region emphasized that the hybrid disposal alternative was part of a Settlement Agreement process that has led to the Region's adoption of “numerous enhancements to the floodplain and sediment remedies, an expedited start to implementation [of the remedy], and community coordination and benefits” that were not part of the off-site and on-site disposal alternatives considered for the 2016 Permit. *Id.* at 32. These factors, the Region concluded, ensure that hybrid disposal alternative will provide further protection of human health and the environment, better control of sources of releases, and more long-term reliability and effectiveness compared to the other disposal alternatives. *Supp. Comp. Anal.* at 32; *id.* at 15, 17-18 (noting that increased reliance on removal instead of capping and potential supplemental bank removal made the 2020 Alternative “better” on long-term on the control of sources of releases and less risky in terms of long-term reliability and effectiveness). Additionally, the Region emphasized that in terms of short-term effectiveness the hybrid disposal alternative, when compared to off-site disposal, will result in fewer greenhouse gas emissions, less truck traffic, and fewer remediation-related injuries and fatalities, although the Region noted that an on-site landfill will have more impact on the physical environment of the site than the temporary construction of a rail loading facility for off-site disposal. 2020 Stat. of Basis at 31, 33, at 36-37.

As to the criterion addressing compliance with ARARs, the Region determined that the off-site disposal option would attain all ARARs and that the hybrid disposal option would either attain all ARARs or that the requirements can be properly waived. *Supp. Comp. Anal.* at 33. In terms of implementability, the Region noted that the off-site disposal alternative had drawn the least community opposition and the on-site alternative the most. The Region considered

¹⁶ Additionally, the 2020 Draft Permit specified that “[a]t a minimum, 100,000 cubic yards of PCB-contaminated soil and/or sediment will be disposed of off-site.” 2020 Draft Permit ¶ II.B.6.a(2).

community support mixed for the hybrid alternative because, while local governing bodies and some citizen groups signed on to the Settlement Agreement with its endorsement of the hybrid alternative, other citizen groups and citizens had expressed opposition. *Id.* at 38. Finally, as to costs, the Region observed that the cost of off-site disposal alternative was more than double that of the hybrid alternative—\$287 million compared to \$141 million—despite the increased excavation with the latter. *Id.* at 39.

Taking all these considerations into account, the Region concluded that the hybrid alternative best meets the Nine Evaluation Criteria in the 2000 Permit and Consent Decree. *Id.* Additionally, the Region determined that Woods Pond Landfill “will not result in an unreasonable risk of injury to human health or the environment” and thus is entitled to a waiver of the requirements in 40 C.F.R. § 761.61, the governing TSCA regulatory provision as to on-site disposal under the terms of the 2020 Permit. 2020 Draft Permit attach D.

E. *Proceedings for Issuance of the 2020 Permit*

1. *Release of the Draft Permit and Public Notice*

On July 9, 2020, the Region released the 2020 Draft Permit for public review and comment and simultaneously made available the 2020 Statement of Basis and Supplemental Comparative Analysis described above. *See* Region 1, U.S. EPA, *Response to Comments on EPA Draft 2020 Permit Modification to the 2016 Reissued RCRA Permit—GE-Pittsfield/Housatonic River Site 3* (Dec. 2020) (A.R. 650441) (“2020 Resp. to Cmts.”). In addition, the entire administrative record was available on the Region’s website for review by interested persons. The original closing date for public comment was set as August 28, 2020, but that date was extended until September 18, 2020. *Id.*

The Region gave notice of the public comment period by a press release that was available on its website and emailed to all members of the EPA Housatonic River Citizens Coordinating Council. *Id.* at 3. Included in the press release and email were links to the 2020 Draft Permit and the 2020 Statement of Basis. U.S. EPA, News Release, EPA Seeks Public Input on Proposed Permit Modifications to Enhance & Speed Up Cleanup of Housatonic River (July 9, 2020) (A.R. 647218). Additionally, the Region provided notice through the U.S. mail to persons on the Region’s mailing list for the Housatonic River corrective action permit, and by numerous newspaper, radio, and online advertisements as well as EPA Facebook posts. 2020 Resp. to Cmts. at 3-4. Further, the Region held three public hearings, which in total lasted over 10 hours. *Id.* at 3, 6.

2. *Public Comments by Citizen Groups*

The Housatonic River Initiative and the Housatonic Environmental Action League submitted combined written comments. Letter from the Housatonic Envntl. Action League and

Housatonic River Initiative to Mr. Deziel, Region 1, U.S. EPA (Sept. 18, 2020) (A.R. 649388) (“HRI/HEAL Comments”). Judy Herkimer, the Executive Director of the Housatonic Environmental Action League, submitted separate written comments, as did Audrey Cole, President of the Housatonic Environmental Action League. Comments of Judith Herkimer (Sept. 15, 2020) (A.R. 649392) (“Herkimer Comments”); Cole Comments. Extensive written comments were also submitted by Mickey Friedman, a founding Board member of the Housatonic River Initiative. Mickey Friedman, *Comments re EPA’s 2020 Proposed Revised Cleanup Plan* (undated) (A.R. 649355) (“Friedman Comments”). Several speakers presented oral comments at the public hearings on behalf of Housatonic River Initiative and Housatonic Environmental Action League. 2020 Resp. to Cmts. attach. C (listing inventory of comments received at public hearings, including comments by Gray on behalf of Housatonic River Initiative and by Cole & Herkimer on behalf of Housatonic Environmental Action League).

In their combined comments on the 2020 Draft Permit, the Citizen Groups principally addressed three issues: (1) the adequacy of the cleanup measures; (2) the suitability of the Woods Pond disposal site; and (3) the lack of a requirement for treatment of the PCB-contaminated materials prior to disposal. The Citizen Groups asserted that the cleanup plan is inadequate, particularly in Connecticut, because of its reliance on monitored natural recovery, which they described as “a euphemism for doing nothing—no baseline testing, no standards for remediation, no remediation at all.” HRI/HEAL Comments at 1. Instead, the Citizen Groups advocated for the removal of more PCBs, arguing that the cleanup removes only a fraction of the PCBs “dumped” into the community. *Id.* at 1-2. As to the Woods Pond site, the Citizen Groups argued that it is a poor choice because “it lacks the kind of subsurface characteristics that would make it appropriate for a landfill;” would be located close to residences, schools, and a large state forest; and would negatively affect property values. *Id.* at 5-6.

Finally, the Citizen Groups contended that the 2020 Draft Permit was flawed because the Region “failed to comply with CERCLA’s statutory mandate to use alternative treatment technologies ‘to the maximum extent practicable,’ including failing to incorporate thermal desorption into the remedy selected.” *Id.* at 7. The Citizen Groups suggested that the Board had erred in its decision on the 2016 Permit by dismissing a similar claim by the Citizen Groups for their failure to raise the issue during the public comment period. According to the Citizen Groups, their failure to raise the alternative treatment issue during the comment period was irrelevant because they had been advocating for “over 20 years * * * [for] incorporation of alternative technologies into the remedy selected for the Housatonic River.” *Id.* Further, they asserted that prior material submitted to the Region and current comments by other commenters showed that thermal desorption could be successfully used for the Rest of the River cleanup. *Id.* at 9-10. In his comments, Mr. Friedman echoed these arguments on thermal desorption at length.

Ms. Herkimer voiced similar concerns to those expressed by the Citizen Groups in their combined comments and additionally argued that the on-site landfill would not prevent exposure

from volatilized PCBs. Herkimer Comments at 2. Ms. Cole's comments focused on the use of monitored natural recovery in the Connecticut reaches, arguing that there has been an "intentional lack of sampling data available to make any informed decision as to whether Monitored Natural Recovery * * * should be considered as a proposed remedy" in this location. Cole Comments at 3.

3. *The Region's Response to Public Comments*

The bulk of the Region's Response to Comments addressed public comments on the Region's choice of a hybrid disposal approach as a substitute for the 2016 Permit's requirement that excavated PCB-contaminated material be disposed of off-site. In addition, the Response to Comments more briefly responded to comments that the Region described as outside the scope of the modifications proposed in the 2020 Draft Permit.

a. *Hybrid Disposal Approach*

The Response to Comments focused on comments raising concerns as to the safety of the Woods Pond Landfill. As summarized by the Region in its response brief, the Response to Comments provided multiple reasons why the Woods Pond Landfill will be protective of human health and the environment, including:

the fact that the [Woods Pond Landfill] will only accept low-level PCB contamination; the distance of the [Landfill] from the River of more than ¼ mile; the [Landfill]'s low-permeability cap and low-permeability double liner system with leachate collection; studies showing the long-term durability of caps and liners; the Region's experience with capping; the fact that two landfills containing PCBs at the GE Site in Pittsfield are safely isolating and containing PCBs; the Permit's requirement that GE monitor and repair the cap if necessary; the tendency of PCBs to attach to soil and organic matter, which makes them less prone to migration in groundwater than other chemicals; * * * the Permit's requirement for a system of groundwater monitoring wells to detect any elevated levels of contaminants[; and that] * * * the [Landfill]'s double low-permeability bottom liner and leachate collection [will] address th[e] concern [with the permeable soil underlying the Landfill].

Region 1's Response to Petition of Housatonic River Initiative and Housatonic Env'tl. Action League 18-19 (May 5, 2021) (citing 2020 Resp. to Cmts. at 11-13, 18-19, 21-22) ("Region Resp. Br."). The Region also closely examined concerns expressed about the possibility that any leaked PCBs would contaminate drinking water supplies. The Region concluded that given the location of drinking water sources and the area's geography "it is not possible for potentially contaminated groundwater or stormwater surface runoff to migrate from the [Woods Pond Landfill] and contaminate the upgradient drinking water supplies." 2020 Resp. to Cmts. at 21. Further, the

Region responded to concerns about air emissions of PCBs from the Woods Pond Landfill by citing air monitoring data on PCB landfills constructed by General Electric in Pittsfield, Massachusetts, that showed no exceedances of PCB notification or action levels. *Id.* at 15-16; *see Gen. Elec. I*, 17 E.A.D. at 537-38.

The Response to Comments also set forth the Region’s reasoning as to why off-site disposal “creates greater risk to human health and the environment” than hybrid disposal and why the other potential sites for on-site disposal “pose significant environmental risks” compared to the Woods Pond site. 2020 Resp. to Cmts. at 9; *see* Supp. Comp. Anal. attach. B at B-4 to B-7.

The Region listed several reasons why off-site disposal would pose a greater risk to human health and the environment. The Region first contended that hybrid disposal will allow the cleanup to proceed more expeditiously, lowering exposure to PCBs more quickly. 2020 Resp. to Cmts. at 9. Adoption of hybrid disposal will lead to a faster cleanup, the Region asserted, because General Electric agreed to begin the planning process for the cleanup once the Settlement Agreement embodying hybrid disposal was signed and hybrid disposal “now has the support (and commitment not to further appeal) of [General Electric], six municipalities in Berkshire County, and other stakeholders, including virtually all the 2016 Permit appellants.” *Id.*; *see also* Supp. Comp. Anal. attach. B at B-4. As to the latter point, the Region explained that retaining the off-site disposal requirement for all PCB-contaminated materials “increases the chances of delay, and—through greater opportunity for challenges at the [Environmental Appeals Board] and federal court stages—greater risk of the cleanup plan not getting implemented.”¹⁷ Supp. Comp. Anal. attach. B at B-4. And those delays, the Region stated, “translate[] directly into the risk of continued exposure to PCBs for a potentially indefinite number of years.” *Id.*

In addition to speeding up the cleanup, the Region found that when compared to hybrid disposal, “off-site disposal of all material would have greater greenhouse gas and other air emissions, more fugitive dust, and adverse community impacts due to increased truck traffic and risks of injuries and fatalities to transport workers.” 2020 Resp. to Cmts. at 9. Further, the Region determined that adoption of hybrid disposal resulted in General Electric agreeing to undertake multiple enhancements to the cleanup plan in the 2016 Permit that “represent a significant reduction in the long-term risks to human health and the environment.” *Id.* at 10. As noted above,

¹⁷ In addition to delays that could result from challenging a RCRA permitting decision through the standard process under the governing regulations at 40 C.F.R. § 124.19, additional delays could result in this instance due to the dispute resolution clause that is contained in the Consent Decree. The Consent Decree provides for a unique procedure whereby, following the public comment period on a draft revised permit, the Region must notify General Electric of its intended permit modification decision and General Electric may request dispute resolution with the Region on the intended decision before the Region issues a final permit. CD ¶ 141.b.

those enhancements include, among other things, increased excavation of PCB-contaminated sediment and floodplain soil, removal of two dams, and a pilot study-driven approach to the cleanup of the environmentally sensitive vernal pools. *Id.*

In explaining why it selected the Woods Pond disposal location over the other two potential locations (Forest Street and Rising Pond), the Region stressed that, compared to Woods Pond, the other two sites pose more significant risks to the environment. The Region noted that both the Forest Street and Rising Pond sites “are primarily forested, and the habitat value at these locations would be significantly decreased by construction of a disposal site.” *Id.* at 9-10. The Region emphasized that the Woods Pond site is “in an already damaged, contaminated, and altered area, that abuts two existing adjacent landfills.” *Id.* at 10. Additionally, the Region noted that the Woods Pond site is more centrally located to the cleanup activities compared to the other two sites, meaning that its selection for the disposal site will reduce truck traffic, with its corresponding increased emissions and risk of accidents and spills, and potentially allow hydraulic pumping of a significant amount of sediment directly to the Woods Pond Landfill. *Id.*

b. *Comments Outside the Scope of the Permit Changes*

The Region also received many comments that it considered to be “unrelated to the two remanded issues [from the Board] or unrelated to proposed changes to the 2016 Permit.” *Id.* at 7. Falling into that category, the Region concluded, were the Citizen Groups’ comments on thermal desorption treatment technology and monitored natural recovery. *Id.* at 23-24; 55. Although the Region observed that it was not required to respond to such comments, it nonetheless addressed them “as part of EPA’s commitment to facilitating public understanding of the Housatonic River cleanup.” *Id.* at 7. The Region emphasized, however, that by opting to respond to these comments it was not “open[ing] for further consideration or [Environmental Appeals Board] review any matters or issues beyond the scope identified in the Draft Revised 2020 Permit.” *Id.*

As to thermal desorption, the Region explained that for the 2016 Permit it had concluded that use of treatment technologies at large sediment sites was not “practicable” and that a national report by EPA in 2020 confirmed that view. *Id.* at 23. Additionally, the Region pointed out that the commenters had not addressed a number of significant issues regarding use of thermal desorption at the Rest of the River site, including: (1) the need to deal with air emissions and leachate from the thermal desorption process; (2) how use of thermal desorption would affect the schedule of the cleanup, which is already estimated to take thirteen years; and (3) the likelihood that the treated sediment would still have to be landfilled just as non-treated PCB wastes. *Id.* at 28. With respect to the Citizen Groups’ comments criticizing reliance on monitored natural recovery and the amount of PCB removal required by the cleanup plan, the Region noted that these comments did not address any specific change to the 2016 Permit and thus were beyond the scope of the comment period. *Id.* at 80, 82. The Region also referenced its response to similar comments in the Response to Comments document for the 2016 Permit. *Id.* at 80.

c. *Issuance of the 2020 Permit and Filing of the Petition*

In December 2020, the Region issued the 2020 Permit and the Response to Comments. In January 2021, the Citizen Groups filed a notice of appeal as to the 2020 Permit and an unopposed motion for an extension until March 5, 2021, to submit their brief in support of their appeal. The Region and General Electric filed response briefs on May 5, 2021, pursuant to a 30-day extension. Two amicus briefs were filed: one by the Housatonic Rest of the River Municipal Committee—a collection of Massachusetts towns along Reaches 5 through 8 of the River—and a second by a group of local organizations and an Indian tribe—Citizens for PCB Removal, Citizens Against the PCB Dump, Berkshire-Litchfield Environmental Council, and Schaghticoke Indian Tribe of Kent. The Board held oral argument in September 2021.

IV. *PRINCIPLES GOVERNING BOARD REVIEW*

Section 124.19 of title 40 of the Code of Federal Regulations governs Board review of RCRA permitting decisions. In any appeal from a permitting decision issued under part 124, petitioner bears the burden of demonstrating that review is warranted. *See* 40 C.F.R. § 124.19(a)(4). “[A] petition for review must identify the contested permit condition or other specific challenge to the permit decision and clearly set forth, with legal and factual support, petitioner’s contentions for why the permit decision should be reviewed.” *Id.* § 124.19(a)(4)(i).

In considering a petition filed under 40 C.F.R. § 124.19(a), the Board first evaluates whether the petitioner has met threshold procedural requirements such as issue preservation. *In re Indeck-Elwood, L.L.C.*, 13 E.A.D. 126, 143 (EAB 2006). To demonstrate that an issue has been preserved for Board review, a petitioner must show that the issue was raised with “sufficient clarity” during the public comment period or public hearing to enable the permit issuer to provide “a meaningful response.” *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 230 (EAB 2000); *In re Westborough*, 10 E.A.D. 297, 304 (EAB 2002); *see* 40 C.F.R. §§ 124.13, .19(a)(4)(ii). Further, it is not enough for a petitioner to rely on previous statements of its objections, such as comments on a draft permit. Rather, a petitioner must demonstrate why the permit issuer’s response to those objections (i.e., the basis for its decision) is clearly erroneous or otherwise warrants review. 40 C.F.R. § 124.19(a)(4)(ii); *see In re City of Taunton Dep’t of Pub. Works*, 17 E.A.D. 105, 111, 180, 182-83, 189 (EAB 2016) *aff’d*, 895 F.3d 120 (1st Cir. 2018), *cert. denied*, 139 S. Ct. 1240 (2019).

In considering whether to grant or deny a petition for review, the Board is guided by the preamble to the regulations authorizing appeal under part 124, which states that the Board’s power to grant review “should be only sparingly exercised” and that “most permit conditions should be finally determined at the [permit issuer’s] level.” Consolidated Permit Regulations, 45 Fed. Reg. 33,290, 33,412 (May 19, 1980). The Board will ordinarily deny a petition for review, and thus not remand the permit, unless the underlying permit decision is based on a clearly erroneous finding of fact or conclusion of law or an exercise of discretion or important policy consideration that the Board, in its discretion, should review. 40 C.F.R. § 124.19(a)(4)(i).

When evaluating a challenged permit decision for clear error, the Board examines the administrative record that serves as the basis for the permit decision to determine whether the permit issuer exercised “considered judgment.” *E.g.*, *Gen. Elec. I*, 17 E.A.D. at 560-61; *Steel Dynamics*, 9 E.A.D. at 191, 224-25; *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 417-18 (EAB 1997). The permit issuer must articulate with reasonable clarity the reasons supporting its conclusion and the significance of the crucial facts it relied on when reaching its conclusion. *E.g.*, *Ash Grove*, 7 E.A.D. at 417. As a whole, the record must demonstrate that the permit issuer “duly considered the issues raised in the comments” and ultimately adopted an approach that “is rational in light of all information in the record.” *In re Gov’t of D.C. Mun. Sep. Storm Sewer Sys.*, 10 E.A.D. 323, 342 (EAB 2002); *accord In re City of Moscow*, 10 E.A.D. 135, 142 (EAB 2001); *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 568 (EAB 1998), *pet. for review denied sub. nom. Penn Fuel Gas, Inc. v. EPA*, 185 F.3d 862 (3d Cir. 1999).

V. THE REGION’S MOTION TO STRIKE

The Region has moved to strike ten documents attached to the Citizen Groups’ brief as improper extra-record materials. We agree with the Region that many of these documents fail to qualify for an exception that would allow them to be added to the administrative record or otherwise considered by the Board. The attachments can be grouped in the following categories: (1) litigation reports and letters; (2) news and scientific articles; (3) a confidential report by General Electric; and (4) EPA guidance documents.

A. Consideration of Extra-Record Material by the Board

1. General Principle That Review is Based on the Administrative Record

EPA regulations specify that the administrative record for a final permit includes, among other things, the administrative record on the draft permit, all comments received during the public comment period, the Region’s response to comments and material added in the response to comments, and other documents in the permit’s supporting file. 40 C.F.R. § 124.18(b). The record is considered “complete on the date the final permit is issued,” *id.* § 124.18(c), thus “significantly limit[ing] the materials that may be considered part of the administrative record.” *In re Town of Newmarket, N.H.*, 16 E.A.D. 182, 241 (EAB 2013); *see In re Dominion Energy Brayton Point, L.L.C. (“Dominion P”)*, 12 E.A.D. 490, 518-20 (EAB 2006). For permit appeals, the Region is required to file a certified index to the administrative record with the Board, 40 C.F.R. § 124.19(b)(1)-(2), and our review is generally limited to that certified administrative record, not a new record put before us in the first instance. Accordingly, we are reluctant to consider materials that were not actually before the decisionmaker at the time of the decision that is under review. *Newmarket*, 16 E.A.D. at 242. This is consistent with the administrative law principle that the “record for an agency decision includes all documents, materials, and information that the agency relied on directly or indirectly in making its decision.” *Dominion I*, 12 E.A.D. at 519.

Additionally, we have explained that the petitioner bears the burden of overcoming the strong presumption that the Agency did not improperly exclude documents from the administrative record. *Newmarket*, 16 E.A.D. at 242; *see also In re The Port Authority of N.Y. & N.J.*, 10 E.A.D. 61, 98 (EAB 2001) (quoting *Elf Atochem N. Am. v. United States*, 882 F. Supp. 1499, 1502 (E.D. Pa. 1995)) (finding that petitioners failed to adequately demonstrate that “the agency engaged in improper behavior or acted in bad faith,” or “failed to consider all relevant factors”).

2. *Exceptions to Review Based on the Certified Administrative Record*

We have recognized three narrow circumstances in which we may, at our discretion, consider material not included in the Region’s certified administrative record: (1) to allow a petitioner to question the validity of material added to the administrative record in response to public comment, (2) to take official notice of relevant information that is publicly available and incontrovertible, and (3) to supplement the administrative record with material either that (a) is required to be included under the regulations, or (b) the Agency relied on in its permitting decision. *See In re Russell City Energy Ctr., L.L.C.*, 15 E.A.D. 1, 36-39 (EAB 2010) (taking official notice of non-record public document, allowing supplementation of extra-record e-mail communication, and considering extra-record evidence in support of petition because it challenged information Region introduced in its response to comments), *pet. for review denied sub nom. Chabot-Las Positas Cmty. Coll. Dist. v. EPA*, 482 F. App’x 219 (9th Cir. 2012); *see also* 40 C.F.R. § 22.22(f) (codifying official notice).

a. *Response Documents*

The Board may consider extra-record documents submitted in response to new materials introduced by the Region in its Response to Comments. *In re Dominion Energy Brayton Point, L.L.C.* (“*Dominion IP*”), 13 E.A.D. 407, 418 (EAB 2007), *pet. for review voluntarily dismissed*, No. 07-2059 (4th Cir. Jan. 4, 2008). Under 40 C.F.R. § 124.17(b), “[i]f new points are raised or new material supplied during the public comment period, EPA may document its response to those matters by adding new materials to the administrative record.” In this context, the administrative appellate review process serves as a petitioner’s first opportunity to question the rationale for or to challenge the validity of this new material. *Dominion II*, 13 E.A.D. at 418; *accord In re Am. Soda, L.L.P.*, 9 E.A.D. 280, 299 (EAB 2000); *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 431 (EAB 1997). In some circumstances, petitioners may, on appeal to the Board, submit documents responding to the new materials added by the Region for the purpose of showing that “the Region’s conclusions [based on the new materials] are erroneous or that the Region erred in failing to take into account [the documents proffered by petitioners].” *Dominion II*, 13 E.A.D. at 418.

b. *Official Notice*

The Board may take official notice of relevant extra-record material that is “incontrovertible and publicly available, such as statutes, regulations, judicial proceedings, public

records, and Agency documents.” *In re City of Ruidoso Downs*, 17 E.A.D. 697, 716 n.22 (EAB 2019); *see also Russell City*, 15 E.A.D. at 36; 40 C.F.R. § 124.19(n) (the Board may “do all acts and take all measures necessary for the efficient, fair, and impartial adjudication of issues arising in an appeal”). Official notice, also referred to as administrative notice, is the “administrative law counterpart of judicial notice.” *Sykes v. Apfel*, 228 F.3d 259, 272 (3d Cir. 2000); Fed. R. Evid. 201(b) (judicial and official notice can be applied to an adjudicative fact “not subject to reasonable dispute because it: (1) is generally known within the trial court’s territorial jurisdiction; or (2) can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned”); *see* 40 C.F.R. § 22.22(f) (official notice may be taken of any matter that can be judicially noticed in the federal courts).

c. Supplementing the Record

The Board may allow parties to supplement the administrative record if the documents fall into a category of material that must be included in the administrative record, *see* 40 C.F.R. § 124.18(b)(1)-(7), or if the Agency relied on the materials in its final permitting decision but failed to include them in the certified administrative record. *See Russell City*, 15 E.A.D. at 37-38 (allowing supplementation of e-mail communication between Agency and petitioner because Agency referred to the email in its reply brief, the email provided context for comments that went to heart of arguments on appeal, and certified index listed e-mails similar to the e-mail in question); *In re Asarco Inc.*, 6 E.A.D. 410, 441-42 (EAB 1996) (supplementing record with multiple documents because record did not adequately support Agency’s decision, documents existed at time of Agency decision, and Agency admitted relying on them). The opposite is also true. *See In re City of Taunton*, 17 E.A.D. 105, n.50 (EAB 2016), *aff’d*, 895 F.3d 120 (1st Cir. 2018), *cert. denied*, 139 S. Ct. 1240 (Feb. 19, 2019) (denying consideration of a document because Agency did not rely on it in issuing final permit); *Dominion II*, 13 E.A.D. at 417 (denying supplementation because petitioner could not show any of the documents it sought to have added to record fell under any category in part 124 or were “relied on either directly or indirectly” by the agency); *see also Newmarket*, 16 E.A.D. at 242 (on motion to add documents to record, Board considered whether movant had demonstrated that permit issuer relied upon the documents proposed for addition).

Post-decisional material, by its nature, cannot satisfy either criteria for supplementing the record. *First*, it cannot be required administrative record material under the regulations because the regulations specify that the record closes when the permit is issued. 40 C.F.R. § 124.18(c). *Second*, the Agency cannot possibly have relied upon post-decisional material in its permitting decision because such material would have come to the agency’s attention after the permitting decision was already made. Thus, absent consideration as a response document or under the official notice doctrine as described above, we have been very reluctant to consider post-decisional documents. *Newmarket*, 16 E.A.D. at 244 (refusing to consider any of the multiple post-decisional

submitted by petitioners); *Dominion I*, 12 E.A.D. at 519 (declining to supplement the record because “[p]etitioner’s submissions arrived after the decision, and the Region appropriately did not include them in the administrative record for that decision”); *In re Peabody W. Coal Co.*, 12 E.A.D. 22, 40 n.42 (EAB 2005) (declining to supplement record with document submitted by petitioner after permit issuance despite its inclusion in certified index); *In re Gen. Motors Corp.*, 5 E.A.D. 400, 405 (EAB 1994) (stating that supplementation of data provided after permit issuance “would be to invite unlimited attempts by permittees to reopen and supplement the administrative record after the period for submission of comments has expired”); *In re City of Caldwell*, NPDES App. No. 09-11, at 16 (EAB Feb. 1, 2011) (Order Denying Review) (declining to allow supplementation of record with post-decisional documents). Arguments supporting a liberal approach to admission of post-decisional documents “reflect a flawed understanding of the basic principles of administrative record review and the limited instances in which an administrative record may be supplemented on appeal.” *Newmarket*, 16 E.A.D. at 241.

B. Analysis

1. Six Documents Must Be Struck in Whole or in Part

We agree with the Region that six of the ten challenged extra-record litigation reports or letters, press articles, confidential documents, and scientific articles must be struck from the record on appeal either in whole or in part.¹⁸ Five documents are struck in whole: (1) a statement from Christopher W. Young, CTO of Biotech Restorations LLC, (Attachment 9); (2) a letter from James Galligan, Senior Vice President of TerraTherm, Inc., (Attachment 10); (3) a news article from the *Berkshire Eagle* (Attachment 5); (4) a scientific article by David O. Carpenter (Attachment 14), and (5) a General Electric confidential report (Attachment 11). One document is struck in part: a geological report from David DeSimone (Attachment 6). These documents were not submitted to the Region during the comment period or otherwise included in the administrative record and were not considered or relied upon by the Region in its final permit decision, nor do they otherwise qualify for an exception to the general rule that our review should be based on the certified administrative record made before the permit issuer.

The documents all address issues that were under consideration during the permit proceeding and the Citizen Groups offer no reason why they could not have submitted this

¹⁸ These six documents are identified in the Citizen Groups’ petition as follows: Statement of Chris Young, Founder/CTO of Biotech Restorations; Letter from James Galligan, Senior Vice President-Thermal, Terra Therm; D. Scribner, “GE Distributes Dollars to Influence River Debate,” *Berkshire Eagle* (May 4, 2011), available at <https://redcrownews.com/pcb-chronicles/ge-distributes-dollars-to-influence-river-debate/>; David O. Carpenter, “Exposure to and health effects of volatile PCBs,” *Rev. Environ Health* 2015; Confidential Hudson River Strategy Report (Jan. 17, 1991); David J. DeSimone, PhD, Geological Evaluation of UDF Site. Pet’rs Br. at ix-x.

information during the public comment period. In fact, the issues discussed in the documents—soil permeability at the Woods Pond site, property values, PCB volatility, General Electric’s preference for natural restoration over excavation—were raised by the Citizen Groups or others during the 2020 comment period or the 2014 comment period on the 2014 Draft Permit. HRI/HEAL Comments at 5-6; Letter from Jane Winn, Exec. Dir., Berkshire Env’tl. Action Team, to Dean Tagliaferro, EPA Region 1 at 3-7 (Oct. 27, 2014) (A.R. 568097); 2020 Resp. to Cmts. at 13, 34; 2016 Resp. to Cmts. at 32-33, 83-101, 343-44. Several of the documents struck in whole or in part—the DeSimone Report, the Young Statement, and the Galligan Letter (Attachments 6, 9, and 10)—were not even created until after the issuance of the 2020 Permit.¹⁹ Including attachments to a petition is not an avenue for a petitioner to bolster the record made before the permit issuer. Further, as discussed below, the Citizen Groups’ arguments that these documents qualify under an exception to the consideration of extra-record material are, for the most part, unpersuasive.

2. *Documents We Do Not Strike*

We deny the Region’s Motion to Strike the three EPA guidance documents (Attachments 13, 15, and 17). If an EPA guidance document is not relevant to an issue on appeal or concerns an issue not properly before the Board, the objecting party may explain in its brief why the guidance document need not be considered by the Board.

We also do not strike a March 5, 2021 report by Audrey Cole, an attorney and real estate appraiser, and a March 4, 2021 statement by Janice Braim, a licensed realtor, (both included in Attachment 8) because both documents respond to new record material introduced in the Region’s Response to Comments.²⁰ Specifically, the Region addressed a comment on the potential effect of the Woods Pond Landfill on property values by including a November 2020 memo by Skeo Solutions, an EPA contractor, that reviewed property values and sales in a neighborhood in Pittsfield, Massachusetts, to determine how a local landfill impacted residential property values. Skeo Solutions, Contractor for the U.S. EPA, *GE-Housatonic River Superfund Site 2* (Nov. 2020) (A.R. 650436). Ultimately, Skeo Solutions found no significant decrease in Pittsfield property values following construction of the local landfill. *Id.* at 5.

¹⁹ The documents from Young, and Galligan are both dated in March 2021. The DeSimone Report is undated but counsel for the Citizen Groups acknowledged at oral argument that the Report was prepared for litigation after permit issuance. Oral Arg. Tr. at 32.

²⁰ The Citizen Groups’ petition identifies this document as Report of Audrey A. Cole, Certified Real Estate Appraiser and Attorney and Statement of Janice Braim, Licensed Realtor. Brief of Housatonic River Initiative and Housatonic Env’tl. Action League ix (Mar. 5, 2021).

The Cole Report submitted by the Citizen Groups directly responds to the 2020 Skeo Memorandum, alleging that the report is “fundamentally flawed” and questioning the author’s qualifications, the study’s methodologies, the applicability of the study to the Woods Pond Landfill site, and the lack of data to support narrative conclusions. *See* Brief of Housatonic River Initiative and Housatonic Env’tl. Action League attach. 8, at 1-2 (Mar. 5, 2021) (Report of Audrey Cole (Mar. 5, 2021) and Statement of Janice Braim (Mar. 4, 2021)) (“Pet’rs Br.”). The Report includes a statement from real estate broker Janice Braim as an example of the contrary viewpoint that the Woods Pond Landfill will negatively impact property values and tourism in the surrounding communities. *Id.* at 4. Accordingly, the Region’s Motion to Strike is denied as to this document.

We also will not strike the whole of the DeSimone Report and instead will allow a short, discrete discussion in the Report to remain in the record on appeal. Among other reasons, the Citizen Groups have argued that the DeSimone Report on the suitability of the Woods Pond disposal site should be considered by the Board because that Report responds to a December 3, 2020 memorandum from Weston Solutions, Inc., (“Weston Memorandum”), which the Region added to the administrative record in its Response to Comments.²¹ Petitioners’ Opposition to Motion to Strike 7 (Apr. 22, 2021) (“Opp’n to Strike”); *see* 2020 Resp. to Cmts. at 20-22. The Weston Memorandum is a short, one-page document that reviews and concurs with the Region’s findings that groundwater underlying the Woods Pond disposal site generally flows east to west toward the Housatonic River, instead of flowing toward the Lee public water supply surface water intakes. Memorandum from Tom Czelusniak, Weston Sols., Inc., to GE-Pittsfield/Housatonic River Site File (Dec. 3, 2020) (A.R. 650451).

It is unclear whether either the Citizen Groups’ petition or the DeSimone Report actually disputes the Weston Memorandum’s conclusion on the direction of groundwater flow and thus may be considered as a response to new materials introduced by the Region in its Response to Comments.²² Absent a “meaningful” challenge to the Memorandum’s finding by the Citizen

²¹ Amici Citizens Groups also cite the portions of the DeSimone Report that we are striking, as well as the Carpenter PCB Scientific Health Article (discussed below). Br. of Amici Curiae Citizens for PCB Removal, Citizens Against the PCB Dump, Berkshire-Litchfield Env’tl. Council, and Schaghticoke Indian Tribe of Kent 6-7 (Mar. 26, 2021). We do not consider these documents in the context of their amicus brief for the same reasons that we do not consider them in the context of Petitioner Citizen Groups’ brief.

²² The body of the petition endorses the Weston Memorandum’s conclusion, stating that if leachate enters the groundwater underlying the Woods Pond Landfill, it would “move rapidly toward the River.” Pet’rs Br. at 15. The Citizen Groups cite the DeSimone Report for this proposition. *Id.* at 15 n.66. However, in a footnote, the Citizen Groups appear to back away from this conclusion by asserting that “the site geology makes it difficult to predict groundwater flow.” *Id.* at 15 n.69. The Citizen Groups cite the DeSimone Report for this proposition as well. *Id.*

Groups in their petition, there is no reason for us to consider the DeSimone Report. *See Dominion II*, 13 E.A.D. at 420 (holding that Board would not consider a document responding to new material in response to comments because petitioner had not “meaningfully contested” issue in its petition). However, we have determined that, on balance, it is more appropriate than not to address this portion of the DeSimone Report in responding to the substance of the Citizen Groups’ argument on groundwater flow rather than resolve these issues in the context of a motion to strike. *See* Part VI.A.1.c, below. Accordingly, we deny the Region’s motion as to the portions of the DeSimone Report (as described in the footnote below) that discuss the lateral direction of groundwater flow.²³ As discussed below, we are striking the bulk of the DeSimone Report from the record on appeal.

3. *The Exceptions to the Bar on Review of Extra-Record Documents Do Not Apply to the Struck Documents*

a. *The DeSimone Report (Attachment 6)*

In addition to their assertion that the DeSimone Report should be considered by the Board as responsive to the Weston Memorandum, the Citizen Groups argue that the Report should be considered as support for showing that the Region “failed to consider all relevant factors.” Opp’n to Strike at 8-11. According to the Citizen Groups, the Region “failed to consider the geological properties of the Site that render it inappropriate for a disposal facility” and the DeSimone Report “set[s] forth facts that the [A]gency should have, but did not, consider.” *Id.* at 10. The two main conclusions of the DeSimone Report are that (1) leachate from the landfill that is released to the surficial geology at the Woods Pond site “will flow downward through the sand and gravel into the bedrock aquifer below;” and (2) the bedrock aquifer contains rock susceptible to “very rapid ground water flow along discrete pathways through fractures and along bedding planes.” Pet’rs Br. attach. 6 at 4-5.

However, the Board does not recognize a general exception to the bar on consideration of extra-record documents for documents intended to support a claim that a permit issuer has not considered all relevant factors. As we explained in *Newmarket*, assertions of broad exceptions like this fail to take into account the “distinction between administrative appellate practice and the broad discovery practices that are permitted in federal court litigation.”²⁴ 16 E.A.D. at 241. If a

²³ The portions of the DeSimone Report that are not being struck are the first full paragraph on the second page that begins “Holmes’ map identifies * * *,” the paragraph with the bolded heading “Bedrock geology” beginning on the third page and continuing on to the fourth page, and the final full paragraph on the fourth page that begins “The surficial geology consists of * * *.” We strike the remainder of the Report.

²⁴ The federal cases cited by the Citizen Groups on the admissibility of documents bearing on whether an agency considered all relevant factors carry little weight as to the Board’s administrative

petitioner believes a permit issuer has not considered all relevant factors, the petitioner should file those concerns with the permit issuer during the comment period on the draft permit so that the permit issuer may consider and address them in the administrative record as part of the permit issuance process.

Moreover, we do not understand how the DeSimone Report supports an argument that the Region did not consider all relevant factors. The subject of that Report—the permeability of the soil at the Woods Pond site—was explicitly raised by the Citizen Groups in their comments and the Region responded to those comments. *See* Part III.E.2-3, above. In fact, the Citizen Groups’ petition does not even assert that the Region’s inclusion of the hybrid disposal alternative in the 2020 Permit was flawed by a failure to consider soil permeability at the Woods Pond site. Instead, in their petition, the Citizen Groups contend that the Region erred in the manner in which it considered soil permeability, not by failing to take soil permeability into consideration at all. Pet’rs Br. at 16 (arguing that Region’s reliance on Woods Pond Landfill safeguards to address concerns with soil permeability ignores Region’s prior conclusion on this issue). In essence, the submission of the Report is nothing more than an untimely attempt to bolster the Citizen Groups’ substantive comments on the soil permeability topic.

Accordingly, as a document created after issuance of the 2020 Permit, the DeSimone Report is a post-decisional document that cannot be included as a supplement to the record or be considered by the Board except as indicated in Part V.B.2, above.

b. *The News Article (Attachment 5)*

The Citizen Groups argue that we should take official notice of its attached news article. Opp’n to Strike at 11; *see* Pet’rs Br. attach. 5. We decline to do so as this article does not qualify under the official notice doctrine nor is it relevant to this proceeding.

We take official notice of press articles to recognize that the information contained in them was in the public sphere at the time, not to recognize the truth of their contents. *See In re Sierra Pac. Indus.*, 16 E.A.D. 1, 35 (EAB 2013) (stating that “the Board can take official notice of items

appellate review of permitting decisions. In one case, *Ruskai v. Pistole*, the First Circuit allowed such extra-record documents, but only because the challenge was to an informal agency adjudication that lacked an administrative hearing or comment period that would have given the complaining party an opportunity to contribute to the record. 775 F.3d 61, 66 (1st Cir. 2014). Public comment periods are an integral part of the RCRA permitting program. *See* 40 C.F.R. § 124.13. The other cases cited by the Citizen Groups apply the relevant factors exception without discussing whether the challenging party had the opportunity to raise its concern with the agency before that agency made its ultimate decision. *See City of Waltham v. U.S. Postal Ser.*, 786 F. Supp. 105, 117-18 (D. Mass. 1992); *Strahan v. Linnon*, 966 F. Supp. 111, 115-117 (D. Mass. 1997); *Emhart Indus., Inc. v. New Eng. Container Co.*, C.A. No. 06-218 S, at 5 (D.R.I. Feb. 2, 2016).

appearing in the public press to show what information is in the public realm”), *pet. for review denied sub nom. Helping Hand Tools v. EPA*, 848 F.3d 1185 (9th Cir. 2016); *In re Stonehaven Energy Mgmt, L.L.C.*, 15 E.A.D. 817, 832 n.11 (EAB 2013) (quoting *Von Saher v. Norton Simon Museum of Art at Pasadena*, 578 F.3d 1016, 1022 (9th Cir. 2009)) (noting that “the Board could take official notice of [press] articles to show what information is in the public realm” but not to indicate whether contents of those articles are true). We do not consider a press article under the official notice doctrine when the petitioner relies on the contents of the press article to bolster the petitioner’s substantive arguments before the Board. *In re Penneco Envtl. Sols., L.L.C.*, 17 E.A.D. 604, 615 n.7 (EAB 2018).

Here, the Citizen Groups do not submit the news article to establish the fact that the information was in the public realm. Rather, the Citizen Groups argue that the news article should be considered because it “provid[es] relevant background information on [General Electric’s] practice of using monetary payments, as it did in this case, to influence support for its preferred approach to remediation.” Opp’n to Strike at 12. In other words, the Citizen Groups are trying to use the news article to establish a substantive fact. As discussed, this is an improper use of the official notice doctrine as it applies to press articles.²⁵

c. *The Young Statement (Attachment 9)*

The Citizen Groups contend that the Young Statement should be considered as support for its claim that the Region “failed to consider all relevant factors.” *Id.* at 8-9. In his statement, Mr. Young claims that the Region ignored Biotech’s proposed remedy to clean up PCBs through biotechnology. Young Statement at 1- 2.

As explained above and discussed as to the DeSimone Report, we will not consider post-decisional documents submitted for the purpose of attempting to show that the permit issuer did not consider all relevant factors. The Young Statement, which was created in March 2021, is clearly post-decisional.²⁶ If the Citizen Groups thought the Region had ignored bioremediation, they should have requested that Mr. Young prepare this document for submission during the

²⁵ For the same reasons, we also decline to take official notice of the several additional extra-record news articles that the Citizens Groups cite in their brief. *See, e.g.*, Pet’rs Br. at 33 n.124, 46 n.181, 48 n.191.

²⁶ Included with the Young Statement are six additional attachments. Some of the documents may already be in the administrative record. For example, Attachment 5 to the Young Statement is a 2014 letter from the Region to Mr. Young responding to an email communication concerning use of Biotech Restoration’s remedial technology for cleanup of the Housatonic River. However, the Citizen Groups have not included citations to the record for any of the documents, and we have not been able to locate them in the record. If any of them are in the administrative record, our grant of the Region’s motion to strike the Young Statement does not affect the status of any such attachments.

comment period on the Draft 2020 Permit or, more appropriately, during the comment period on the 2014 Draft Permit which reflected that the Region was not proposing to use bioremediation. The Citizen Groups offer no good reason for delaying the submission of the document.

d. *The Galligan Letter (Attachment 10)*

The Citizen Groups argue that the Galligan Letter should be considered as showing that the Region failed to consider all relevant factors. Opp'n to Strike at 8-9. The Letter describes a thermal remediation treatment technique and its applicability to Housatonic River sediment. Pet'rs Br. attach. 10. Like the DeSimone Report and the Young Statement, this Letter was prepared in March 2021. Accordingly, we reject the Citizen Groups' argument for consideration of the Galligan Letter on the same basis as we did for the DeSimone Report and the Young Statement. If the Citizen Groups thought the Region did not adequately consider this option, they could have submitted a document like this during the comment period on the Draft 2020 Permit or, more appropriately, during the comment period on the 2014 Draft Permit, which reflected that the Region was not proposing to use thermal desorption.

e. *The General Electric Strategy Report (Attachment 11)*

The Citizen Groups assert that the Board may take official notice of the General Electric Strategy Report because the Report "was made public through a Freedom of Information Act Request." Opp'n to Strike at 12. The Report is an internal document describing General Electric's approach to PCBs in the Hudson River that the Citizen Groups argue demonstrates General Electric's strategy regarding PCBs writ large. *Id.*

We disagree that the Citizen Groups have demonstrated that the Board should consider the General Electric Strategy Report under the official notice doctrine. The Citizen Groups' argument suggests that every document that could be obtained from a government office under a Freedom of Information Act request qualifies under the official notice doctrine as an "incontrovertible and publicly available [document], such as statutes, regulations, judicial proceedings, public records, and Agency documents." *Ruidoso Downs*, 17 E.A.D. at 716 n.22. We have never taken such a sweeping approach to the range of documents that may qualify under the official notice doctrine and the Citizen Groups offer no reason why we should do so here. *See, e.g., Russell City*, 15 E.A.D. at 36 (denying official notice of e-mail between Agency and petitioner because it did not fall within general category of public documents). Hence, the Citizen Groups have not carried their burden of supporting their claim that we may take official notice of the extra-record General Electric Report. *See id.* at 35-36 n.37 (noting that burden to support an official notice claim is on petitioner); *see also id.* at 96 n.118 (denying petitioners' request that Board take official notice of document because petitioners "failed to provide the requisite explanation"). Finally, even if the Report could be shown to be publicly available and an incontrovertible source whose "accuracy cannot reasonably be questioned," *see Fed. R. Evid. 201(b)*, we fail to see how the contents of the

Report are relevant to this proceeding because General Electric's strategy regarding PCBs writ large does not address whether the Region clearly erred in issuing the 2020 Permit.

f. *The Carpenter PCB Scientific Health Article (Attachment 14)*

The Citizen Groups contend that the Region may take official notice of a scientific article on the health effects of volatile PCBs and may also consider the article to support their argument that the Region has failed to consider all relevant factors. Pet'rs Br. attach. 14. The article was published in 2015 and Petitioners offer no reason why they did not submit it during the comment period. A petitioner generally cannot use the official notice doctrine to circumvent the requirement that it present materials during the public comment period. In addition, scientific articles do not meet the incontrovertibility requirement for official notice, and we have consistently denied record supplementation with scientific articles. *See Gen. Elec. I*, 17 E.A.D at 582 n.62; *In re W. Bay Explor. Co.*, UIC Appeal 14-66, at 11-13 (EAB Sept. 22, 2014) (Order Denying Review) (noting that petitioner failed to preserve his issues for review by failing to "cite or provide some of these articles to the Region during the public comment period"). Scientific arguments and questions should first be presented to the Region, which has the technical expertise to address them. The Board's role is not to evaluate scientific arguments in the first instance. Instead, the Board's role is to review whether the Region's permitting decision is based on clearly erroneous conclusions of fact or law. *W. Bay*, UIC Appeal No. 14-66, at 12. Further, as explained above, we will not consider extra-record documents submitted for the purpose of attempting to show that the permit issuer did not consider all relevant factors.²⁷ *See* Parts V.B.3.a, .c, .d, above.

4. *Other Arguments Raised by the Citizen Groups*

a. *Expectations*

We find the Citizen Groups' remaining overarching arguments regarding the addition of documents to the record on appeal to be unpersuasive. The Citizen Groups state that they "reasonably understood" they would be able to submit expert testimony during this appeal process because the Region and General Electric attached allegedly extra-record documents to their briefs during the 2016 appeal. Opp'n to Strike at 5. We disagree. Such expectations were not reasonable. Our *General Electric I* decision did not evaluate whether the allegedly extra-record documents submitted in the 2016 appeal—which are a conglomeration of various EPA and judicial documents²⁸—were in the administrative record and, if they were not, whether the documents

²⁷ For the same reasons, we decline to consider another scientific article not in the administrative record that the Citizens Groups cite in their brief. Pet'rs Br. at 15 n.67.

²⁸ These documents included a fact sheet released by the Region to inform the public about the recently issued 2016 Permit, EPA documents on certain landfill approvals, and documents from the judicial

could nonetheless be considered under the official notice doctrine or for some other reason. However, that decision did address whether scientific studies not in the administrative record could be relied upon by the Housatonic River Initiative in support of its challenge to the Region's decision on bioremediation. And we expressly held that we would "not consider studies presented for the first time on appeal." *Gen. Elec. I*, 17 E.A.D. at 582 n.62.

b. *Substance Over Form*

The Citizen Groups also contend that the Board should consider the extra-record documents because the "substance of the challenged Attachments was clearly raised in Petitioners' public comments." Opp'n to Strike at 13. We reject the contention that a petitioner may rely on appeal on extra-record documents because they address the substance of issues raised before the permit issuer. Our review of a permit decision is based on the certified administrative record of the permitting decision. *See Dominion I*, 12 E.A.D. at 508 (stating that a permit appeal to the Board "is based on a 'record review' of the permit decision"). And "well-established principles of administrative law and the EPA regulations governing permit proceedings significantly limit the materials that may be considered part of the administrative record." *Newmarket*, 16 E.A.D. at 241. If we were to adopt the Citizen Groups' argument, our review of permit decisions would be a review based on the administrative record in name only.

VI. ANALYSIS OF ISSUES RAISED IN PETITION

The Citizen Groups' first challenge to the 2020 Permit is to the revised disposal provision, which mandates a hybrid approach to disposal that directs the most highly contaminated wastes to an off-site landfill and less-contaminated waste to a newly constructed on-site landfill. In their second and third challenges, the Citizen Groups renew two claims that are identical or similar to claims in the Housatonic River Initiative's earlier petition: (1) that the Region should have required General Electric to reduce the level of PCBs in the contaminated waste from the Rest of the River site using either thermal desorption or bioremediation prior to disposal; and (2) that the Region clearly erred in adopting monitored natural recovery as the remedy for several sections of the River.

A. *The Permit's Hybrid Disposal Provision*

The Citizen Groups' primary argument in opposition to the Region's decision to adopt the hybrid disposal option is that the Region's decision was "based upon a complete reversal of its prior factual findings without any new investigation or change of circumstances." Pet'rs Br. at 12;

proceedings that resulted in the Consent Decree. *See* Region 1's Response to General Electric Co.'s Petition for Review, RCRA Appeal No. 16- 01, attachs. 12, 14-16 (Feb. 14, 2017); Petition of General Electric Co. for Review, RCRA Appeal No. 16-01, attach. 13 (Nov. 23, 2016).

see also id. at 25. As an adjunct to this argument, they make two separate but related contentions. *First*, the Citizen Groups assert that the Region’s adoption of the hybrid disposal option was based on “closed-door settlement negotiations” with General Electric and other parties, not on the governing remedy-selection standards. *Id.* at 17-19. *Second*, the Citizen Groups argue that the Region’s choice of the hybrid option disregards long-term costs to the community. *Id.* at 23-24. The Citizen Groups’ contentions fail to demonstrate clear error by the Region.

1. *Reversal of Position*

The Citizen Groups identify five factual determinations by the Region that the Groups argue both underlay the Region’s decision to require off-site disposal in the 2016 Permit and that were “complete[ly] revers[ed]” by the Region when it selected the hybrid on-site/off-site disposal approach in the 2020 Permit. *Id.* at 12. According to the Citizen Groups, the Region made these reversals without conducting “any new investigations” or citing any “change in circumstances.” *Id.*; *see id.* at 25. The five factual determinations that the Citizen Groups assert the Region reversed are:

- that TSCA requirements would not be met by on-site disposal at the Woods Pond site;
- that the Woods Pond site was not suitable for a disposal facility because of soil permeability and its location near a drinking water source and above a medium yield aquifer;
- that on-site disposal at the Woods Pond site posed a risk of release to the Housatonic River;
- that the Woods Pond site’s presence in an Area of Critical Environmental Concern posed a high concern for its use as an on-site landfill; and
- that there is strong community opposition to any on-site disposal.

Id. at 12. After briefly summarizing the law on agency reversals of position, we address each of the named factual determinations.

a. *May an Agency Reverse or Change Its Position*

By regulation, we review permitting decisions under a “clearly erroneous” standard. That is the case regardless whether the decision is the permit issuer’s original determination on a permit or represents a change from its original determination. *See* 40 C.F.R. § 124.19(a)(4)(i). In applying the clearly erroneous standard to a permit issuer’s change in position, we are guided by Supreme Court precedent on review of an administrative agency’s reversal or change in a prior policy or interpretation as reflected in such decisions as *Encino Motorcars, L.L.C. v. Navarro*, 579 U.S. 211, 221-22 (2016), and *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009). *See In re Springfield Water & Sewer Comm’n*, 18 E.A.D. 430, 494-95 (EAB 2021) (upholding Region’s changed determination under *Encino* and *Fox*, where Region admitted it had revised its

position and stated it had more information that allowed a better understanding of the issue); *In re Arizona Pub. Serv. Co.*, 18 E.A.D. 245, 273 n.20 (EAB 2020) (upholding under *Fox* the Region’s change in legal theory underlying its regulatory position because the Region had adequately explained its basis for relying on different legal theory).

The Supreme Court made clear in *Fox* and *Encino* that there is “no basis in the Administrative Procedure Act or in our opinions for a requirement that all agency change be subjected to more searching review.” *Fox*, 556 U.S. at 514. To the contrary, the Court emphasized that “agencies are free to change their existing policies as long as they provide a reasoned explanation.” *Encino*, 579 U.S. at 221; *see Fox*, 556 U.S. at 515; *Motor Vehicle Mfrs. Assn. of U.S., Inc. v. State Farm Mut. Automobile Ins. Co.*, 463 U.S. 29, 43 (1983). The Court specified in both *Fox* and *Encino* that where an agency has changed position, the reasoned explanation standard requires that the agency “display awareness that it *is* changing its position” and “show that there are good reasons for the new policy.” *Fox*, 556 U.S. at 515; *Encino*, 579 U.S. at 221. Additionally, in these cases, the Court explained that if an agency’s “new policy rests upon factual findings that contradict those which underlay its prior policy,” then the reasoned explanation standard requires that the agency must “provide a more detailed justification than what would suffice for a new policy created on a blank slate.”²⁹ *Fox*, 556 U.S. at 515; *see Encino*, 579 U.S. at 221-22. Concurring in *Fox*, Justice Kennedy stated this latter point more concisely: “an agency’s decision to change course may be arbitrary and capricious if the agency ignores or countermands its earlier factual findings without reasoned explanation for doing so.” *Fox*, 556 U.S. at 537.

In discussing the *Fox* case in a prior decision, we explained that our clear error standard also requires a reasoned explanation:

In applying the clear error standard of review, the Board evaluates the administrative record to determine whether the permit issuer exercised considered judgment in rendering its decision, and the Board considers the parties’ arguments with respect to the administrative record *as a whole*, including factual findings, to determine whether the permit issuer provided a cogent explanation for its permitting decision.

In re Veolia ES Tech. Sols., L.L.C., 18 E.A.D. 194, 208 (EAB 2020). Consistent with Supreme Court precedent on changes in an agency’s position, we examine the Region’s decision on the

²⁹ The Court also noted that a more detailed justification would be necessary when an agency’s “prior policy has engendered serious reliance interests that must be taken into account.” *Fox Television*, 556 U.S. at 515. Here, no party has contended any reliance interests arose from the 2016 Permit’s off-site disposal choice, which never took effect due to a timely filing of a petition for review and a remand to the Region by the Board.

2020 Permit by evaluating whether the Region provided a cogent explanation for that decision and any underlying factual determinations, including any factual determinations that contradict earlier findings.

As to the specific considerations mentioned in *Fox* and *Encino* bearing on a change in position, there can be no dispute that the Region displayed awareness that the 2020 Permit adopted a changed requirement from the 2016 Permit as to disposal of PCB-contaminated sediment and soil from the Rest of the River site. In considering the case on remand, the Region expressly noted that “cognizant of the specific observations and concerns in the Board’s remand, the Region is proposing a revised disposal approach as part of the Draft Revised 2020 Permit.” Supp. Comp. Anal. at 6. Thus, in addressing the Citizen Groups’ argument that the Region’s reversal in position was unlawful, we apply our clear error standard, taking into account Supreme Court precedent, by examining whether the Region has provided a cogent explanation for the changed disposal provision and, where appropriate, a cogent explanation for any changed factual findings in light of its prior findings.

As to changed factual findings, it is important to observe that the above Supreme Court cases, as well as the cases on agency reversals cited by the Citizen Groups, involved an agency’s self-initiated change in course. *See, e.g., State Farm*, 556 U.S. at 37-38 (changes in rule repeatedly with changes in presidential administrations); *Friends of Alaska Nat’l Wildlife Refuges v. Bernhardt*, 381 F. Supp. 3d 1127, 1132-33 (D. Alaska 2019) (with change of presidential administration, agency changes position on land exchange). Here, the Region’s reevaluation of its decision on the location for the disposal of contaminated materials from the Housatonic site was triggered not by the Region, but by our determination that the Region had clearly erred in choosing off-site over on-site disposal in the 2016 Permit by failing to exercise considered judgment. We held that the Region’s choice of off-site disposal was (1) based on conclusory findings under a TSCA regulation on PCB landfills and (2) not supported by the administrative record due to the Region’s inconsistent statements regarding the risks, or lack thereof, posed by on-site disposal. *Gen. Elec. I*, 17 E.A.D. at 568.

These two determinations by the Board are highly relevant to our evaluation of whether the Region’s justifications for its selection of hybrid disposal “contradict” its factual findings supporting the off-site disposal requirement in the 2016 Permit. *See Fox*, 556 U.S. at 515. Put another way, although we will look closely to determine if the Region has provided a cogent explanation for any “factual findings that contradict those which underlay its” 2016 Permit decision, *see id.*, the Region’s obligation to give a cogent explanation for differences in factual findings underlying the 2016 and 2020 Permits must be viewed in the context that some of the 2016 factual findings that the Citizen Groups claim have been reversed were found by this Board to constitute clear error. To a large degree, the Board’s holding on this point made the Region’s

task on remand more similar to an initial determination on a “blank slate” than to a revised determination that must be squared with prior factual findings. *See id.*

b. *TSCA Requirements for On-site Disposal*

In 2016, a key factor in the Region’s selection of off-site disposal for all PCB wastes was the Region’s determination that the proposed on-site disposal locations did not meet TSCA’s siting requirements for PCB chemical waste landfills in 40 C.F.R. § 761.75. 2016 Resp. to Cmts. at 238-39; *see Gen. Elec. I*, 17 E.A.D at 569. Under those regulations, bulk PCB remediation wastes containing a PCB concentration greater than or equal to 50 parts per million must be disposed of in either a permitted RCRA hazardous waste facility or a TSCA PCB chemical waste landfill approved under section 761.75. *See* 40 C.F.R. § 761.61(a)(5)(i)(B)(2)(iii). The Region took the position that section 761.75 applied to the on-site locations under consideration for the 2016 Permit and it concluded that these locations neither met the criteria for approval under that section nor qualified for a waiver of those criteria. 2016 Resp. to Cmts. at 238-239. Hence, the Region concluded that disposal must occur off-site. On review, we held that the Region’s decision under section 761.75 was “conclusory” and, accordingly, remanded the disposal provision in the 2016 Permit to the Region for further consideration. *Gen. Elec. I*, 17 E.A.D. at 567, 569. In their petition, the Citizen Groups contend that in the 2020 Permit the Region reversed its finding that “TSCA requirements would not be met by on-site disposal.” Pet’rs Br. at 12.

The Citizen Groups are incorrect. The Region did not reverse its specific 2016 TSCA determination under section 761.75 in adopting the hybrid disposal alternative in the 2020 Permit. The 2016 TSCA determination no longer applied in 2020 because the on-site landfill under the hybrid disposal option, unlike the on-site landfill considered for the 2016 Permit, was barred from accepting sediment and soil with PCB concentrations of 50 parts per million or greater. On-site disposal at the Woods Pond site under the 2020 Permit is limited to soil with a PCB concentration of less than 50 parts per million and sediment with a PCB concentration of 25 parts per million or less.³⁰ 2020 Permit § II.5.a(1), app. E. Under TSCA, materials with this lower level of PCB contamination need not be sent to a section 761.75 TSCA PCB chemical waste landfill but may be disposed of in a facility licensed to manage municipal solid waste or non-municipal non-hazardous waste. *See* 40 C.F.R. § 761.61(a)(5)(i)(B)(2)(ii)-(iii), .61(a)(5)(v)(A).

Recognizing this fact, the Region expressly declined in 2020 to revisit its 2016 determination on the acceptability of an on-site PCB landfill containing wastes with PCB

³⁰ In addition, the 2020 Permit bars any excavated sediment from Reach 5B, regardless of the PCB concentration, from disposal at the Woods Pond Landfill. 2020 Permit § II.B.6.a(1), attach. E ¶¶ 3-4. Further, the 2020 Permit requires that a minimum of 100,000 cubic yards of excavated sediment or soil be disposed of at an off-site facility. *Id.* § II.B.6.a(2).

concentrations equal to or greater than 50 parts per million under section 761.75. Supp. Comp. Anal. at 4. Instead, it focused only on whether the Woods Pond Landfill will comply with the TSCA requirements in section 761.61 and concluded that a waiver of those requirements was appropriate under section 761.61(c). *See* 2020 Permit att. D. In any event, and as explained above, because our review of the 2016 Permit found that the Region’s 2016 TSCA determination was unsupported in the administrative record, if the Region had revisited the acceptability of the disposal of all Housatonic River wastes at an on-site facility under TSCA section 761.75, that would have been more akin to an initial determination on a “blank slate” than a changed determination that must be squared with prior factual findings.

Accordingly, because the Citizen Groups have not shown that, in issuing the 2020 Permit, the Region reversed its 2016 finding that on-site disposal under the terms of the 2016 Permit would violate section 761.75, we conclude that the Citizen Groups’ argument alleging such a reversal does not demonstrate that the Region clearly erred in approving the 2020 Permit’s on-site disposal provision.³¹

c. Soil Permeability and Drinking Water

In its 2016 determination that on-site disposal would not comply with TSCA section 761.75, the Region emphasized the permeability of the soil at each of the three proposed locations and noted that the Woods Pond site “is located near a drinking water source and is located above a medium yield aquifer.” 2016 Resp. to Cmts. at 239. In particular, the Region found that the locations did not meet the soil permeability criterion in section 761.75(b)(1)(ii). *Id.* General

³¹ The Citizen Groups offer no substantive argument challenging the Region’s approval of the Woods Pond Landfill under the waiver provision in section 761.61(c). The only substantive argument they lodge concerning the Region’s section 761.61 determination is the assertion, in a footnote, that “[a] decision to waive TSCA requirements [under section 761.61(c)] should not be determinative of whether onsite disposal is best, especially here where the disposal [site] is geologically unsuitable, environmentally problematic, and adjacent to the River” and that the Region did not address the “geologic and environmental characteristics” of the Woods Pond site in making its TSCA determination. Pet’rs Br. at 13 n.58. This issue has not been preserved for our review because the Citizen Groups have not shown that it was submitted to the Region in a public comment during the public comment period on the 2020 Draft Permit. *See* 40 C.F.R. § 124.19(a)(4)(ii). Even if we were to consider the argument, the Citizen Groups do not show that the Region relied on its section 761.61(c) finding as “determinative of whether on-site disposal is best.” Further, the Citizen Groups’ apparent suggestion that the Region did not consider the Woods Pond site’s geologic and environmental characteristics in selecting the hybrid disposal approach is belied by the extended discussion in the 2020 Response to Comments addressing, among other things, soil permeability at the Woods Pond site, groundwater and surface water flow at the site, and the location of drinking water sources near the site. 2020 Resp. to Cmts. at 9-22.

Electric had contended that section 761.75(b)(2) allows the use of synthetic liners to address soil that otherwise does not satisfy the permeability criterion and that, in any event, waivers for section 761.75 requirements had been granted by EPA pursuant to section 761.75(c) for sites similar to the Woods Pond disposal site. *See Gen. Elec. I*, 17 E.A.D. at 566. The Region rejected General Electric's arguments by stating that a waiver would not be "appropriate" but did not provide any legal or factual justification for its conclusion. 2016 Resp. to Cmts. at 239. As noted above, we remanded the Region's decision to require off-site disposal due to the Region's "failure to adequately explain its TSCA waiver determination." *Gen. Elec. I*, 17 E.A.D. at 568. Further, we concluded that the Region had been "inconsistent" in its analysis of the risk posed by on-site disposal. *Id.*

The Citizen Groups argue that the Region in selecting the hybrid disposal approach failed to take into account its prior findings on soil permeability and the location of drinking water sources. Pet'rs Br. at 14. Moreover, they contend that the Region "did not conduct further study" to justify such an action. *Id.* The Citizen Groups are mistaken.

On remand, the Region did not ignore or alter its factual findings that the soil at the Woods Pond site is permeable and that this site is close to a drinking water source and over an aquifer. However, the Region did, for the first time, closely analyze the risks posed by exposure to PCBs based on these conditions at the Woods Pond site. 2020 Resp. to Cmts. at 11-22. And it did so under the changed circumstances for on-site disposal specified in the 2020 Permit. In 2016, the on-site disposal alternative under consideration would have allowed all contaminated sediment and soil—no matter what PCB concentration they contained—to be disposed of on-site. However, the 2020 Permit limited on-site disposal to contaminated materials with PCBs below the level that would have mandated that these materials be sent to a TSCA PCB chemical waste landfill.

The Region's new and more detailed analysis led it to conclude that PCBs were unlikely to reach the permeable soil below the landfill and that even in the "unlikely event" that PCBs did escape from the landfill, they would not reach drinking water supplies. *Id.* at 21. The Region cited several factors supporting this conclusion.

First, the Region observed that the Woods Pond Landfill will provide a higher level of protection from PCB exposure than required under TSCA regulations governing PCB disposal and remediation. As to TSCA disposal requirements, the Region explained, the Woods Pond Landfill will be built to "the same or similar design standards prescribed for" TSCA PCB chemical waste landfills—that is, landfills that may accept wastes with PCB concentrations of 50 parts per million or greater. *Id.* at 13; *see* 40 C.F.R. § 761.61(a)(5)(i)(B)(2)(ii)-(iii), .61(a)(5)(v)(A) (differentiating disposal requirements based on whether wastes had PCB concentrations of less than 50 parts per million or 50 parts per million and greater). Yet, only PCB wastes averaging less than 50 parts per million can be sent to Woods Pond Landfill under the 2020 Permit, and the overall concentration of PCB wastes in the Landfill is expected to be 20 to 25 parts per million.

2020 Permit attach. E; 2020 Resp. to Cmts. at 60-61. The Region stressed that the design standards for the Woods Pond Landfill must, like those for TSCA PCB chemical waste landfills, specify that the PCB-contaminated sediment and soil “will be sequestered in a proven, engineered containment cell with a low-permeability cap and a low-permeability double bottom liner with leachate collection.” 2020 Resp. to Cmts. at 11-13. According to the Region, both the cap and the composite double-liner have a service life of 400-800 years. *Id.* at 12, 18. The surface cap, the Region noted, prevents direct contact with the contaminated material, limits release of airborne contaminants, and reduces leachate volumes by eliminating influx of water to the landfill. *Id.* at 12, 18-19. The leachate collection system must be installed both above and below the first liner. *Id.* at 18. As such, the Region explained, the leachate system will protect the liners by removing leachate that collects above the first liner while also monitoring the integrity of the first liner because a leak “will be detected due to leachate flowing into the leachate collection system located below the first liner.” *Id.* at 18. The Region noted that 2020 Permit also requires General Electric “to establish a system of groundwater monitoring wells immediately adjacent to and surrounding” the Woods Pond Landfill, thereby providing additional monitoring for potential leaks.³² *Id.* at 21.

The Region emphasized that these protective measures exceed the requirements for facilities that accept only wastes with PCB concentrations of less than 50 parts per million. Under TSCA regulations, wastes contaminated with PCBs at that level “can be disposed of in a facility permitted, licensed, or registered by a State to manage municipal solid waste or non-municipal, non-hazardous waste.” *Id.* at 12. According to the Region, “EPA has issued approvals (covering over 2,200 electric power generators including hundreds of municipalities) for the disposal in municipal solid waste landfills of PCB remediation waste at PCB concentrations less than 50 [parts per million].” *Id.* The Region explained that “[m]unicipal landfills typically have lower levels of protection than the [Woods Pond Landfill], such as not including a single or double bottom liner.” *Id.* Thus, under the 2020 Permit, the contaminated sediment and soil that may be disposed of at the Woods Pond Landfill will be sent to a facility with greater protections against leakage than facilities where those materials could otherwise be disposed.

The Region also pointed to the TSCA regulations for remediation of PCB-contaminated sites as another indicator of the protective nature of the Woods Pond Landfill. *See id.* at 13. Those regulations specify that no cleanup of PCB-contaminated soil is required in low occupancy areas where PCB concentrations are 25 parts per million or less. 40 C.F.R. § 761.61(a)(4)(i)(B)(1). As noted above, the expected average concentration of PCBs disposed of at the Woods Pond Landfill is expected to be at or below 25 parts per million. Even when PCB contamination of low

³² The Region also pointed out that the 2020 Permit required that the buffer depth between the bottom of the landfill and the water table be significantly greater than mandated by Massachusetts solid waste landfill requirements. 2020 Resp. to Cmts. at 13.

occupancy areas reaches significantly higher levels, the TSCA regulations do not require contaminated soil to be excavated if basic remedial measures are taken. For example, soil containing between 25 and 50 parts per million of PCBs may remain in place if the area is fenced and identified with warning signs. *Id.* § 761.61(a)(4)(i)(B)(2). Where soil contains between 25 and 100 parts per million of PCBs, the PCB-contaminated soil may remain in place if the area is covered by a cap. *Id.* § 761.61(a)(i)(B)(3). These regulations illustrate that the Woods Pond Landfill will offer a higher level of protection compared to the protective measures required at remediation sites with comparable or greater levels of PCB contamination.

Second, the Region noted that General Electric is required to “maintain the effectiveness of the Corrective Measures” for the Woods Pond Landfill by “conduct[ing] inspection, maintenance, repair, or other response actions necessary to achieve and maintain compliance with the Performance Standards” for the Landfill. 2020 Permit § II.C.; *see id.* § II.B.5.a-b. (establishing Performance Standards and Corrective Measures that specify design elements for the Landfill and require operating and maintaining the Landfill to achieve these Standards). Thus, if the Landfill does leak, the Region explained, General Electric is responsible for repairing the Landfill or otherwise responding to that leak. 2020 Resp. to Cmts. at 19.

Third, the Region stated that even in the unlikely event that the Landfill does leak, PCBs are unlikely to reach drinking water supplies in the Town of Lee where the Landfill is located. According to the Region, the groundwater immediately below the Landfill is not a source of drinking water due to pre-existing contamination of that groundwater from two existing landfills already located at the Woods Pond site. *Id.* at 65. Further, the Region pointed out that the groundwater at the Woods Pond site “is 150 feet lower in elevation and flows from the [Woods Pond site] away from the direction of the town water supplies,” that is, flowing generally from east to west toward the Housatonic River.³³ *Id.* at 20-21. As the Region explained, “groundwater

³³ In a footnote, the Citizen Groups dispute the Region’s conclusion that the groundwater flows west toward the River, arguing that “the site geology makes it difficult to predict groundwater flow.” Pet’rs Br. at 15-16 n.69. There are several problems with this contention. *First*, both the expert report that the Citizen Groups cite for this proposition and the text of the petition itself explicitly endorse the Region’s view that any leaks from the Woods Pond Landfill reaching groundwater would “flow toward the Housatonic River to the west.” Pet’rs Br. attach. 6 at 3; *accord* Pet’rs Br. at 15 (stating that the site geology “would enable any leachate to enter the bedrock and move rapidly toward the River”). *Second*, the language in the expert report that the Citizen Groups cite in support of their unpredictability claim appears to speak not to the lateral direction of groundwater flow but rather to the rate of flow of leachate through surficial layers to bedrock. The Citizen Groups rely upon a statement in the report that “modeled ground water flow must be viewed cautiously, at best.” Pet’rs Br. attach 6, at 2. But this statement follows a discussion of the abrupt textural changes—a mix of boulder gravel, cobble gravel, cobble sand and pebble sand—in the site’s surficial geology. The Report points out that because these characteristics of the surficial layer “allow easy migration of contaminants in[to] the subsurface,” it is difficult to incorporate the “hydraulic properties in

would not be expected to flow to the southeast towards the public water supply intakes because it could not cross over the water table divides, which act as hydraulic boundaries.” *Id.* at 20. Further, the Region noted that “the chemical nature of PCBs makes them less prone to migration in groundwater.” *Id.* at 21. In fact, the Region explained that “the tendency of PCBs to sorb onto soil/organic matter versus groundwater is so overwhelming that the movement of PCBs takes place at a rate which is up to 3,000 times slower than that of groundwater.” *Id.* There is also no danger that surface water reaching the Landfill site would convey PCBs to the Town of Lee’s water supplies, the Region stated, because “the surface waters that are part of the Lee water supply system are at a much higher elevation than” the Woods Pond Landfill site. *Id.* As the Region explained, for stormwater runoff from the Landfill site to reach Lee water supplies it “would have to run * * * uphill from the base of the [Landfill] down into one basin, back uphill, down into another basin, and then steeply uphill again to the surface water intake of the Leahey Reservoir [in the Town of Lee].” *Id.*

Finally, the Region cited its experience with two PCB landfills created over ten years ago as part of the cleanup of the Housatonic River in the Town of Pittsfield where the General Electric facility was located—the Hill 78 and Building 71 landfills. These landfills lack the protective design of the Woods Pond Landfill and only one of these older landfills was limited, like the Woods Pond Landfill, to materials with an average PCB concentration of less than 50 parts per million. The Region has emphasized that despite the less-protective nature of the Hill 78 and Building 71 landfills, “there is no evidence that either of these landfills is failing or otherwise unsafe.” *Id.* at 15.

The Hill 78 landfill was created by expanding an existing landfill at the General Electric facility. Between 1999 and 2009, approximately 134,500 cubic yards of materials from the cleanup and demolition of the General Electric facility and the remediation of the Housatonic River in Pittsfield were added to that landfill. *Id.* at 15. Disposal at the Hill 78 landfill was restricted to materials with an average PCB concentration of less than 50 parts per million. *Id.* As part of its

these sediments * * * into ground water flow models * * * [that] often assume ‘layer cake’ stratigraphy with homogeneous sediment textures.” *Id.* In other words, the report simply concludes that typical models of the rate of flow through surficial layers to ground water are inapplicable to this site. *Third*, the Region’s conclusion on the lateral direction of groundwater flow is based on data from the site—data on water table levels and on monitoring well elevations—and the Citizen Groups do not refute the Region’s data-based findings. *See* 2020 Resp. to Cmts. at 20-21. Given all these weaknesses in the Citizen Groups’ position, as well as our deference to the Region on technical matters, we find no clear error in the Region’s findings. *In re Footprint Power Salem Harbor Dev., L.P.*, 16 E.A.D. 546, 552 (EAB 2014) (explaining that “the Board generally defers to a permit issuer’s technical expertise on matters that are fundamentally technical or scientific in nature”).

closure in 2009, the landfill received a surface cap. *Id.* It has no bottom liner. CD app. D, at 33 (A.R. 38254) (specifying that a liner and leachate collection system are required “for all on-site consolidation areas except for the Hill 78 Consolidation Area”); Oral Arg. Tr. at 72. In the same timeframe and nearby to Hill 78, a new landfill was created at General Electric’s Building 71. Unlike the Hill 78 landfill, there were no restrictions on the PCB concentration of materials that could be added to the Building 71 landfill. *See* 2020 Resp. to Cmts. at 15. Approximately 110,500 cubic yards of cleanup materials were disposed of at the Building 71 landfill by the time of its closure in 2006. *Id.* The Building 71 landfill has a surface cap, a single bottom liner, and a leachate collection system. *Id.* Despite the lower level of protection provided by these landfills compared to the Woods Pond Landfill and the lack of a restriction on the PCB concentration of materials added to the Building 71 landfill, groundwater monitoring for these older landfills has shown that “there is no readily observable increase in long-term contaminant trends since 1999, including PCB groundwater contamination trends.” *Id.* 17.

Accordingly, we conclude that the Region did not reverse or abandon *factual findings* about soil permeability and the presence of drinking water sources at the Woods Pond site. Instead, the Region has changed its position on the *implications* of those factual findings on the risks posed by a landfill at the Woods Pond site. And the Region’s shift on the implications of those factual findings came only after we rejected as conclusory the Region’s earlier determination that the Woods Pond site’s permeable soil and proximity to drinking water sources barred construction of a landfill at that site under TSCA section 761.75. On remand, unlike in the context of the 2016 Permit, the Region has now closely examined the effect of these factors on the related question of the risk posed by the Woods Pond Landfill. As described above, the Region concluded that these factors did not indicate the Landfill would pose a significant risk considering the design of the Landfill, General Electric’s obligations under the 2020 Permit, the characteristics of the Woods Pond site, the chemical properties of PCBs, and the Region’s experience with existing PCB landfills at the Housatonic River site, among other things. Further, the Region provided a detailed explanation of its position on the risk posed by the Woods Pond Landfill in the Supplemental Comparative Analysis, the 2020 Statement of Basis, and the 2020 Response to Comments.³⁴

³⁴ In critiquing the Woods Pond Landfill, the Citizen Groups rely heavily on an expert report written by David DeSimone in preparation for this appeal and attached to the Citizen Groups’ petition. *See* Pet’rs Br. at 14-16 (citing Pet’rs Br. attach. 6); Oral Arg. at 32. As explained in Part V, above, we have struck the bulk of the DeSimone Report because it is not in the administrative record. *See* Part V.B.1, 3(a), above. However, even if we were to consider the Report it would not alter our conclusions. The Report focuses on a geological examination of the soils at the Woods Pond site and concludes that the soil is permeable and hence not a good location for a landfill. *See* Pet’rs Br. attach. 6, at 3-4. But the Region does not dispute that the soil at the Woods Pond site is permeable. *See* 2020 Resp. to Cmts. at 13. Rather, the Region concluded that the Woods Pond site is an acceptable location for a landfill because of the numerous protective measures required for construction and monitoring of the landfill. *Id.* at 11-22. The DeSimone Report does not address these protective measures other than to say that “[d]ouble composite liners and

Given the Region’s reasons underlying its risk determination and its detailed justification for its factual conclusions on risk, we find no clear error by the Region in its revised conclusions on the risks posed by soil permeability or proximity to drinking water sources at the Woods Pond site.³⁵

The Citizen Groups object to the Region’s revised analysis of the risks of exposure to PCBs from the Woods Pond Landfill by asserting that the characteristics of the site (soil permeability and proximity to drinking water sources) and the protective features intended for an on-site landfill “have not changed” since the issuance of the 2016 Permit nor has the Region undertaken a new “geologic assessment.” Pet’rs Br. at 15-16; *see also id.* at 22. But this objection misses the point.

leachate collection systems should be expected to fail.” Pet’rs Br. attach. 6, at 1, 3. However, this general statement is not a meaningful criticism of the 2020 Permit’s requirements for the Woods Pond Landfill in that the TSCA regulation—section 761.75—on PCB chemical waste landfills (for PCB wastes with concentrations of 50 parts per million and greater) explicitly allows the use of synthetic liners when “the hydrologic or geologic conditions at the landfill require such a liner in order to provide at least a permeability equivalent to the soils [requirements] in paragraph (b)(1) of this section.” 40 C.F.R. § 761.75(b)(2). As noted, the report undertakes no analysis of the adequacy of the 2020 Permit’s specifications for the Woods Pond Landfill.

³⁵ The cases on an agency’s change in position that the Citizen Groups rely upon involve markedly different factual circumstances. For example, in *Indigenous Envtl. Network v. United States*, 347 F. Supp. 3d 561, 584 (D. Mont. 2018), *appeal dismissed and remanded*, 2019 WL 2542756 (9th Cir. June 6, 2019) (directing district court to dismiss actions as moot), a case involving the Department of the Interior’s reversal of its earlier denial of the Keystone Pipeline permit, the Department’s initial position was supported by well-documented findings on the Pipeline’s potential impacts on climate change. The Department’s subsequent decision to grant the permit, however, relied on a “conclusory analysis that climate-related impacts from Keystone subsequently would prove inconsequential [and] * * * simply discarded prior factual findings related to climate change.” *Id.* In these circumstances, the court held that the Department had failed to provide the “reasoned explanation” required by *Fox* for a reversal of position. *Id.*; *accord Am. Wild Horse Pres. Campaign v. Perdue*, 873 F.3d 914, 927 (D.C. Cir. 2017) (disallowing federal agency change to boundaries of National Forest where agency attempted to “whistle past [the] factual graveyard” of a formal, published policy and two decades of management reports on policy without acknowledging “its past practice and formal policies * * * let alone * * * explain[ing] its reversal of course”); *Friends of Alaska*, 381 F. Supp. 3d at 1140-41 (disallowing land exchange approved by agency where agency failed to acknowledge its prior disapproval of exchange and failed to provide reasoned explanation for abandoning prior factual findings). The circumstances surrounding the Region’s off-site/on-site determination are the opposite of those in *Indigenous Environmental Network*. The Region’s initial decision on disposal location was based on conclusory and inconsistent reasoning and, in contrast, its revised decision on remand did not rely on conclusory findings but on a careful examination of the relevant factual circumstances, including both the permeability of the soils and, among other things, the required protective features for the Woods Pond Landfill.

As discussed above, in issuing the 2020 Permit the Region jettisoned the conclusory and inconsistent reasoning underlying the 2016 Permit's selection of off-site disposal in favor of a careful analysis of the degree of protection provided by the design requirements of the Landfill (including the reduced PCB levels it will contain) in light of the Woods Pond site characteristics. Significantly, the Citizen Groups have advanced no substantive critique of the Region's revised analysis of the risks posed by the Woods Pond Landfill short of vague allegations in their petition that eventually landfills will leak and groundwater monitoring will fail. *See* Pet'rs Br. at 16 ("no on-site facility can be guaranteed forever against leakage, especially considering the effects of climate change[.] * * * [m]onitoring wells can also eventually fail").

d. *Risk to the River*

In issuing the 2016 Permit, the Region expressed concern that an on-site landfill would have a "non-zero potential" for releases to the Housatonic River over the long term. 2016 Resp. to Cmts. at 244-45. However, the Region did little to characterize what was meant by a non-zero potential or how the risks to the environment from on-site disposal compared to off-site disposal. To the contrary, as documented in *General Electric I*, the Region made several inconsistent findings regarding the relative risks from on-site and off-site disposal. *See Gen. Elec. I*, 17 E.A.D. at 561-65. For example, in the administrative record for the 2016 Permit the Region initially described on-site and off-site disposal as both "provid[ing] high levels of protection to human health and the environment" only to later assert that there are "clear distinctions" between these disposal options on protectiveness grounds. *Id.* at 563-64; *see* 2014 Stat. of Basis at 35; 2016 Resp. to Cmts. at 269. Citing these statements, we specifically held that "[a]t no point in the Response to Comments did the Region explain how its seemingly disparate statements about the protectiveness of on-site disposal are consistent with the Region's decision to select off-site disposal." *Gen. Elec. I*, 17 E.A.D. at 568. Moreover, as noted above, a primary reason the Region cited for its concern with on-site disposal was its finding that an on-site landfill would not comply with TSCA's requirements for a PCB chemical waste landfill, a determination we found "conclusory" due to the Region's failure to address General Electric's detailed legal and factual arguments in opposition. *Id.* at 566-68.

As documented in the preceding section, the Region on remand did, for the first time, closely evaluate the degree of risk posed by on-site disposal, taking into account the changed circumstances as to the wastes that would be disposed of there. The Region considered the design specifications for the Woods Pond Landfill, the safeguards required for detecting leaks from the Landfill, General Electric's post-closure responsibilities to maintain the protectiveness of the Landfill, the chemical characteristics of PCBs that limit their potential to disperse, and the effectiveness of prior-established PCB landfills for disposing of cleanup wastes from the Housatonic River. The Region also considered the degree of risk that PCBs might volatilize and escape the capped Woods Pond Landfill. 2020 Resp. to Cmts. at 15-16, 32-33. Based on the data in the administrative record and with these factors in mind, the Region concluded that the risks

were minimal. *Id.* at 13 (“Because the Revised Final Permit calls for the remediation of PCBs at levels less than 50 [parts per million] to be disposed into a multi-layered landfill comparable to a hazardous waste landfill, EPA’s selected approach is protective of human health and the environment.”), 15-16 (air monitoring of prior PCB landfills at General Electric’s Pittsfield facility built to less-demanding standards have shown no exceedances of notification or action levels), 18 (the double liner and leachate system required by the 2020 Permit has been shown to have an efficiency of “99.9% or better[,] * * * * is recognized as a best available liner technology * * * and has been shown to have a service life of 400-800 years”), 18 (“[i]n the unlikely event that the first liner leaks, such a leak will be detected due to leachate flowing into the leachate collection system”), 19 (a leak of the liner system “is extremely unlikely”), 21-22 (“In the unlikely event of a release to groundwater, * * * [General Electric’s monitoring] wells will detect any elevated contaminant levels * * * [and] GE will be required to propose and perform corrective action.”).

Accordingly, the Citizen Groups are mistaken in contending that the Region has reversed its prior determination that a landfill at the Woods Pond site would pose a risk to the Housatonic River. *See* Pet’rs Br. at 12-13. Rather, following remand, the Region has taken a close look at what risks will be posed by the Woods Pond Landfill and has more thoroughly characterized the potential risks based on a detailed explanation of its factual findings. In these circumstances, we find no clear error by the Region in relying on a more specific characterization of the level of risk posed by the Woods Pond Landfill to the River.

We find additional support for the Region’s assessment of the risk of on-site disposal in record evidence pertaining to the broader context of risks from the landfilling of PCBs under the current regulatory framework. In our 2018 decision in *General Electric I*, we observed that in evaluating overall risks to human health and the environment from disposal of PCB materials “it may be necessary” to look beyond risks associated with a release from an on-site PCB landfill to “the environmental or human impacts associated with likely off-site disposal locations so that a reasonable comparison [can] be made.” *Gen. Elec. I*, 17 E.A.D. at 572. Although the Region did not explicitly undertake such an analysis on remand, the administrative record contains information bearing on these relative risks that further supports the Region’s decisionmaking.

Off-site disposal under the terms of the 2016 Permit would have required General Electric to dispose of contaminated sediment and soil from the Housatonic River cleanup “at existing licensed facilities that are approved to receive such waste material and are in compliance with EPA’s off-site rule.”³⁶ 2016 Permit § II.B.5.a. As discussed above, EPA’s TSCA regulations

³⁶ EPA’s off-site rule is part the CERCLA National Contingency Plan and it is intended to implement CERCLA requirements that “CERCLA waste may only be placed in a facility that is in compliance with the Resource Conservation and Recovery Act (RCRA) (or other applicable Federal law) and applicable State requirements.” Amendment to the National Oil and Hazardous Substances Pollution

establish that the type of disposal facility required for PCB remediation waste depends on the PCB concentration level in the waste material: bulk PCB remediation wastes containing a PCB concentration of greater than or equal to 50 parts per million must be disposed of in either a permitted RCRA hazardous waste facility or a PCB disposal facility approved under 40 C.F.R. § 761.75, and wastes with lower PCB concentrations may be disposed of at a permitted municipal solid (or non-municipal, non-hazardous) waste facility. *See* 40 C.F.R. §§ 761.61(a)(5)(i)(B)(2)(ii)-(iii), .61(a)(5)(v)(A). Accordingly, under the 2016 Permit, General Electric would have been required to dispose of materials with PCB concentrations of 50 parts per million or greater in a TSCA PCB chemical waste landfill or RCRA hazardous waste landfill but would have been allowed to ship materials with lower levels of PCBs to an approved municipal solid waste landfill. *See* 2020 Resp. to Cmts. at 12 (noting that EPA has issued approvals for over 2,200 electric power generators to dispose of PCB remediation waste with PCB concentrations less than 50 parts per million at municipal solid waste landfills).

The administrative record shows that this understanding of the 2016 Permit language was shared by the Region and General Electric. As early as 2007, General Electric made clear—in a report submitted for approval by the Region—that off-site disposal for the Rest of the River wastes would involve a bifurcated approach in which wastes with PCB concentrations of 50 parts per million or greater would be sent to a TSCA PCB chemical waste landfill and less-contaminated wastes would be shipped to a solid waste landfill licensed to accept such wastes. *See* Gen. Elec. Co., *Housatonic River—Rest of the River Corrective Measures Study Proposal* at 4-64 (Feb. 2007) (A.R. 260320) (“CMS Proposal”) (explaining that wastes would be sent to either a TSCA PCB chemical waste landfill or solid waste landfill depending on PCB concentration level). General Electric spelled this out in detail in the Revised Corrective Measures Study Report:

For disposal purposes, it is anticipated that the removed sediments and soils would be segregated into one of two principal classifications based on PCB concentrations – material with PCB concentrations \geq 50 mg/kg and material with PCB concentrations $<$ 50 mg/kg. *The material with PCB concentrations \geq 50 mg/kg would be transported to and disposed of at a TSCA-permitted landfill, while the remaining material would be transported to and disposed of at a permitted solid waste landfill.*

Rev. CMSR at 9-3 (emphasis added). The assumption that the wastes would be segregated for the off-site disposal option (based upon a roughly four to one ratio of the amount of wastes with a PCB concentration below 50 parts per million and those with a PCB concentration of 50 parts per million or greater) was taken into account by General Electric in calculating greenhouse gas

Contingency Plan; Procedures for Planning and Implementing Off-Site Response Actions, 58 Fed. Reg. 49,200, 49,201 (Sept. 22, 1993); *see* 40 C.F.R. § 300.440.

emissions, estimating the number of transportation-related injuries and fatalities, and pricing off-site disposal costs and fees. *See id.* app. M, at tbl.M-48 (greenhouse gases); *id.* app. N at 10 (transportation injuries/fatalities); *id.* at 9-12, app. Q at tbl.27, n.1 (disposal costs).³⁷

Similarly, the record shows that the Region assumed that for off-site disposal, wastes would be divided for disposal purposes between those wastes with PCB concentrations of 50 parts per million or greater (referred to as “TSCA wastes”) and wastes with lower PCB concentrations (referred to as “non-TSCA wastes”). The segregation of TSCA and non-TSCA wastes for offsite disposal was explicitly acknowledged by the Region in the information package it prepared for the National Remedy Review Board for their examination of the proposed remedial action for the Rest of the River. There, the Region stated: “For purposes of costing [off-site disposal using the rail option], it has been assumed that the material would be transported to Michigan for TSCA wastes and to Niagara Falls, NY, for non-TSCA materials.” NRRB Package at 11-5. This assumption was followed by the Region’s contractor, Weston Solutions, Inc., in estimating the costs of off-site disposal.³⁸ *See* Comp. Anal. attach. 8, at 25, 26 tbl.18 & n.2, 27 tbl.19 & n.2, 35 tbl.28, 37 tbl.30 n.4 (Memorandum from Tony Delano, Weston Solutions, Inc., to Dean Tagliaferro, U.S. EPA, *GE-Pittsfield/Housatonic River Site – Rest of River* (May 15, 2014)).

The administrative record also documents that municipal solid waste landfills as a class are less protective than the landfill to be constructed at the Woods Pond site, which, under the terms of the 2020 Permit will be “generally equivalent” to a TSCA PCB chemical waste landfill. *Supp. Comp. Anal.* at 34; *see* 2020 Resp. to Cmts. at 13 (commercial landfills for disposal of hazardous wastes are built to “the same or similar standards prescribed for” the Woods Pond Landfill). In

³⁷ For the purpose of conducting these analyses, General Electric considered several potential disposal facilities. For example, General Electric considered Waste Management LLC’s Model City Landfill located in Youngstown, New York as a possible location for materials with PCB concentrations greater than 50 parts per million. *Rev. CMSR* at 9-3. Possible locations for disposal of materials identified as non-TSCA wastes considered by General Electric included Waste Management LLC’s High Acres Landfill in Fairport, New York and the Fitchburg-Westminster, Southbridge, and Bourne Landfills in Massachusetts. *Id.* General Electric noted that if off-site disposal was selected a detailed sourcing effort would need to be performed during design to identify appropriate off-site disposal facilities for both TSCA and non-TSCA materials. *Id.* General Electric’s estimate of the tonnage of TSCA and non-TSCA materials for off-site shipping is presented in the Revised Corrective Measures Study. *See Id.* at 3-29, app. N at tbl.N-10.

³⁸ Like General Electric, the Region considered several options as potential sites for the TSCA and non-TSCA wastes in performing its analysis of costs and other impacts from off-site disposal, although the Region estimated a slightly higher percentage of waste would need to be shipped to a TSCA facility. *See* *Comp. Anal.* attach. 8, at 35 tbl.28, 37 tbl.30 n.4.

the 2020 Response to Comments, the Region explained that “the [Woods Pond Landfill] provides a higher level of protection than is required for the lower levels of PCBs destined for the [landfill],” given that wastes destined for Woods Pond (i.e., wastes with PCB concentrations less than 50 parts per million) may be sent to facilities permitted for disposal of municipal solid waste or non-municipal non-hazardous waste. 2020 Resp. to Cmts. at 12. Importantly, the Region noted that “[m]unicipal landfills typically have lower levels of protection than the [Woods Pond Landfill], such as not including a single or double bottom liner.” *Id.*

Accordingly, the administrative record makes clear that the disposal facilities for non-TSCA wastes under the off-site option would be less protective than the Woods Pond Landfill for those same wastes under the 2020 Permit’s hybrid disposal approach. *See* Oral Arg. Tr. at 66 (noting that the Woods Pond Landfill would be more protective than a municipal solid waste landfill). This greater level of protection provided by the Woods Pond Landfill under the hybrid disposal approach compared to off-site disposal reinforces the Region’s determination that the risks posed by the Woods Pond landfill will be low.³⁹

e. *Waiver under CERCLA of Massachusetts Regulation Regarding Solid Waste Disposal in an Area of Critical Environmental Concern*

(i) *Background on the Region’s 2016 and 2020 Determinations*

CERCLA requires that remedial actions comply with any state standard that is more stringent than the relevant federal standard and “is legally applicable to the hazardous substance * * * concerned or is relevant and appropriate under the circumstances of the release * * * of such hazardous substance.” CERCLA § 121(d)(2)(A), 42 U.S.C. § 9621(d)(2)(A). As noted above in Part II.A, such “legally applicable” or “relevant and appropriate” state standards are commonly referred to as ARARs. In this case, a Massachusetts regulation on the suitability of sites for solid waste disposal (“Site Suitability Regulation”)—310 Mass. Code Regs. 16.40(4)(d)—specifies that “[n]o site shall be determined to be suitable * * * as a solid waste management facility where such siting * * * would be located within [a designated] Area of Critical Environmental Concern (ACEC).” 310 Mass. Code Regs. 16.40(4)(d). The Woods Pond site is within an area designated as an ACEC and the Region stated in the 2016 Response to Comments that in light of the Site Suitability Regulation the “ACEC designation * * * call[s] into question the protectiveness and suitability of” the Woods Pond site. 2016 Resp. to Cmts. at 239.

³⁹ In the rebuttal portion of their oral argument, the Citizen Groups contended that whether the off-site disposal alternative would result in less-contaminated wastes being sent to a municipal solid waste landfill had not been “part of the [Region’s] analysis” in the administrative record. Oral Arg. Tr. at 124-15. The discussion in the text above demonstrates, however, that the issue is well-documented in the record.

On remand, the Region re-examined its earlier conclusion on the Massachusetts Site Suitability Regulation in the context of the newly-developed hybrid disposal approach. The Region concluded that even if the Site Suitability Regulation is a CERCLA ARAR, the Region is authorized to waive compliance with the Regulation under CERCLA section 121(d)(4)(B), which allows waiver of ARARs if “compliance with such requirement * * * will result in greater risk to human health and the environment than alternative options.” See Supp. Comp. Anal. attach. B, at B-4 to B-6; CERCLA § 121(d)(4)(B), 42 U.S.C. § 9621(d)(4)(B).

(ii) *Issue Preservation*

The Citizen Groups contend that the Region has, despite no change in circumstances since the 2016 Permit’s issuance and “without explanation,” reversed its position on the importance of the Site Suitability Regulation to its decision on whether disposal should be off-site or on-site. Pet’rs Br. at 12-13. The Citizen Groups argue that the Region, in issuing the 2016 Permit, was “highly concerned about placing a disposal facility in an ACEC,” but that in 2020 this concern “vanished” as the Region relied upon its authority under CERCLA to waive the applicability of the state regulation to the Woods Pond site. *Id.* at 20-21. The Citizen Groups specifically challenge the Region’s decision to waive the Site Suitability Regulation under the CERCLA provision allowing such waivers where compliance would result in greater risk. They contend that the Region’s greater risk waiver is “nonsensical on its face” because off-site disposal will always pose less risk to the Housatonic River than on-site disposal. *Id.* at 21. However, this claimed defect in the Region’s waiver determination is not properly before us because the issue was not preserved for review.

The regulations governing Board review of permit appeals require that the party seeking review establish “that each issue being raised in the petition was raised during the public comment period (including any public hearing),” or demonstrate that the issue was not “reasonably ascertainable” at that time. 40 C.F.R. § 124.13, 19(a)(4)(ii); see, e.g., *In re Seneca Res. Corp.*, 16 E.A.D. 411, 415 (EAB 2014). In turn, EPA’s permit regulations mandate that persons “who believe any condition of a draft permit is inappropriate * * * must raise all reasonably ascertainable issues and *submit all reasonably available arguments supporting their position by the close of the public comment period.*” 40 C.F.R. § 124.13 (emphasis added). As the Board has previously explained, the requirement to raise issues during the public comment period is not an “arbitrary hurdle” but serves important purposes such as “ensur[ing] that the permit issuer has the first opportunity to correct any potential problems in the draft permit * * * [and] that the permit process itself will have finality.” *Gen. Elec. I*, 17 E.A.D. at 583.

Permit issuers have an opportunity to address a potential issue only if it is raised and described with “a reasonable degree of specificity and clarity” during the public comment period. *In re Westborough*, 10 E.A.D. 297, 304 (EAB 2002); see also *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 230 (EAB 2000) (holding issue was not preserved when it was not presented in comments

“with sufficient clarity to enable a meaningful response”). Permit issuers “are not expected to be prescient in their understanding of vague or imprecise comments;” rather, comments ““must present issues with sufficient specificity to apprise the permit issuing authority of the issues being raised.”” *In re Sutter Power Plant*, 8 E.A.D. 680, 694 (EAB 1999) (quoting *In re Rockgen Energy Ctr.*, 8 E.A.D. 536, 547-48 (EAB 1999)); accord *In re Pio Pico Energy Ctr.*, 16 E.A.D. 56, 85 (EAB 2013), *pet. for review voluntarily dismissed sub nom. Helping Hand Tools v. EPA*, No. 14-71267 (9th Cir. June 17, 2014). Further, “permit issuers need not ‘guess the meaning behind imprecise comments’ and are ‘under no obligation to speculate about possible concerns that were not articulated in the comments.’” *In re Scituate Wastewater Treatment Plant*, 12 E.A.D. 708, 723 (EAB 2006) (quoting *Westborough*, 10 E.A.D. at 304 & *In re N.E. Plating Co.*, 9 E.A.D. 726, 735 (EAB 2001)).

The Region’s Draft 2020 Permit and accompanying documents extensively discussed and explained the Region’s determination that the Site Suitability Regulation’s bar on siting a solid waste landfill in an ACEC was appropriately waived under section 121 of CERCLA. In the 2020 Draft Permit’s Attachment C addressing “applicable or relevant and appropriate requirements” (ARARs) under CERCLA, the Region stated that it was proposing to waive the requirements of section 16.40 of the Massachusetts regulatory code that “prohibit or restrict such disposal locations during implementation of the remedy.” 2020 Draft Permit attach. C, at C-6. Citing to CERCLA section 121(d)(4)(B), the Region stated that this waiver was authorized “because compliance [with such requirements at the facility] will create greater risk to human health and the environment than implementation of the remedy set forth in the Draft Revised 2020 Permit” and explained its reasoning for this conclusion. *Id.*

The Region expanded on its reasons for this ARAR waiver in its Supplemental Comparative Analysis of the 2020 Permit’s revised terms. With respect to the Region’s ARAR waiver determination, the Supplemental Comparative Analysis explained that:

compliance with the ACEC-related prohibition will eliminate the substantial gains to human health and the environment that can be obtained through the 2020 Settlement Agreement, which includes not only the expediting of response actions, but also a large number of cleanup enhancements to benefit human health and the environment, the disposal off-site at a licensed facility of the most highly contaminated material, and the protective disposal on-site of less contaminated material.

Supp. Comp. Anal. attach. B at B-5. The Region also made a specific request for comment on its waiver of the Massachusetts Site Suitability Regulation in the 2020 Statement of Basis. In the concluding section of that document, the Region included a text box titled “EPA is Asking for Public Comment on the Following Proposed Regulatory Determinations.” 2020 Stat. of Basis at 38-39. One of the regulatory determinations on which it expressly requested comment was its

proposed CERCLA section 121(d)(4)(B) “greater risk” waiver of the Site Suitability Regulation. After describing the waiver, the Region stated that “EPA is seeking comments from the public regarding any such potential waiver.” *Id.* at 39.

Despite the Region’s explicit request for comment on its decision to waive the Site Suitability Regulation pursuant to CERCLA, the Citizen Groups have not identified any comment that specifically—or even generally—opposed the Region’s waiver decision, nor have they identified any public comments that argue, as they do in their petition, that the prerequisites for CERCLA section 121(d)(4)(B)’s greater risk waiver have not been met. Thus, the Citizen Groups have failed to preserve this issue for Board review and we therefore deny review on those grounds. *See, e.g., In re City of Lowell*, 18 E.A.D. 115, 136-37, 159 n.24, 167-68, 171, 183 (EAB 2020) (denying review of multiple issues for failure of petitioner to identify comments submitted during comment period that raised the issue); *In re Tucson Elec. Power*, 17 E.A.D. 675, 691 (EAB 2018) (holding that an issue was not preserved for review due to petitioner’s failure to “present[] [the issue] to the permit issuer in the first instance”).

Notwithstanding the clear dictates of the Board’s regulations and decisions, the Citizen Groups contend that the Region, by arguing that the Citizen Groups have not preserved this issue for review, are placing an “unfair” burden on them, given that they filed their public comments without the advice of legal counsel (i.e., pro se). Reply Brief of Housatonic River Initiative and Housatonic Env’tl. Action League 9 n.28 (May 5, 2021) (“Reply Br.”). They further object to the Region’s argument on issue preservation by contending that “the Region’s apparent position” is that public comments must contain a “verbatim recitation” of any “formal legal arguments” later included in a petition for review. *Id.* The Citizen Groups argue that to preserve an issue for review, a commenter need only “inform[]” the Region of the “substance” of the commenter’s argument, and they maintain that such substance was provided by their comment’s expression of “concern that the [Woods Pond Landfill] will have a detrimental impact on the ecological resources in the immediate area.” *Id.*

The Citizen Groups, however, misdescribe the Region’s argument and overstate the substance communicated by their comment on ecological impacts. The Region did not suggest that issue preservation requires that petitions not stray beyond verbal recitation of public comments or that comments must include formal legal arguments. Rather, the Region simply stated that the Citizen Groups’ challenge to the Region’s waiver of the Site Suitability Regulation had not been raised in public comments with “specificity.” Region Resp. Br. at 26. We agree with the Region’s statement of the law. We do not expect pro se petitions, much less pro se comments, “to contain sophisticated legal arguments or to employ precise technical or legal terms.” *Sutter Power*, 8 E.A.D. at 687. However, comments—regardless of who submits them—must apprise the permitting authority of why the commenter is objecting to the permit, including the specific issues of concern and the information or arguments that support the commenter’s objections. Otherwise,

the permitting authority has no meaningful opportunity to respond to a comment by either modifying or denying the permit or by explaining why no modification or denial is appropriate in its Response to Comments. *See Pio Pico*, 16 E.A.D. at 85; *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 250 (EAB 1999). And absent a specific public comment and permit issuer response, we, the *reviewing* body, have no underlying decision or relevant record to *review*. *See Pio Pico*, 16 E.A.D. at 85 (holding that “the permitting authority’s adjustments and explanations to comments form the basis for parties to appeal the permit decision”). It is for this reason that we have insisted that the requirement that issues be first raised in public comments “is no less important in the context of petitioners not represented by counsel.” *Sutter Power*, 8 E.A.D. at 694 (determining issue not preserved by pro se petitioner where petitioner’s comment only raised general concern with harm of emissions but petition made a pollutant-specific emission challenge); *see Encogen*, 8 E.A.D. at 249-51 (denying review of eight issues raised by pro se petitioners for failing to demonstrate the issues had been raised during the comment period).

Petitioners are also incorrect in their assertion that by raising an ecological concern about the Woods Pond Landfill they communicated the substance of their objection to the Region’s waiver of the Site Suitability Regulation pursuant to CERCLA’s “greater risk” waiver provision. *See Reply Br.* at 9 n.28. The “ecological resources” comment the Citizen Groups appear to be relying on is their mention of an impact on nearby October State Forest and its visitors. The impact, according to the Citizen Groups, is that the Landfill “places this natural resource at risk of contamination should the [Landfill] fail in any manner, [and will] irreparably mar[] the experience for all those visitors who seek out October Mountain as a clean, natural escape.” HRI/HEAL Comments at 6. The Citizen Groups argue that this comment contains the “substance” of the argument they make in their petition even though it does “not use the acronym ‘ACEC’ or frame their argument in the context of Massachusetts regulations.” *Reply Br.* at 9 n.28.

But the issue and argument the Citizen Groups raise in their petition is not whether the State Forest or the Woods Pond site is within an Area of Critical Environmental Concern or the Site Suitability Regulation bars landfills in such areas. Rather, the issue that the Citizen Groups contest in their petition is whether the Region was justified under CERCLA section 121(d)(4)(B) in waiving the Site Suitability Regulation on the ground that compliance with the Regulation would pose a greater risk than alternative options. *See Pet’rs Br.* at 21. And the Citizen Groups advance no argument explaining how their comment’s mention of a potential detrimental ecological impact from the Woods Pond Landfill, by itself, provides the “substance” of the argument in their petition that the Region erred in waiving the Site Suitability Regulation under CERCLA. The comment does not reference, even in a general way, the Region’s determination to waive the Regulation or the Region’s basis for invoking the waiver. Nor does the comment discuss the comparative environmental risks from the other disposal alternatives. Yet, a comparative analysis of risks is at the heart of CERCLA’s “greater risk” waiver for ARARs. CERCLA specifies that a greater risk waiver for an ARAR is appropriate if “compliance with such

requirement * * * will result in greater risk to human health and the environment *than alternative options.*” CERCLA § 121(d)(4)(B), 42 U.S.C. § 9621(d)(4)(B) (emphasis added).

In its Response to Comments, the Region was not required to guess what possible infirmities in the 2020 Permit could be linked to a generalized environmental concern with the Woods Pond site, develop potential arguments for challenging these infirmities, and then respond to these potential arguments that might have been, but were not, contained in the comment. *See Lowell*, 18 E.A.D. at 159 n. 24 (holding that brief conclusory remark in a comment did not preserve an issue where comment included no explanation and Region would have had to speculate as to what claim was being made). A comment—even when filed by a citizen without legal assistance—must contain a much closer linkage to the issue raised in a petition than is present here. *See In re W. Bay Explor. Co.*, UIC Appeal No. 14-67, at 3-7 (EAB July 3, 2014) (Order Denying Review) (holding pro se petitioner had not preserved for review issue of whether Region had adequately considered “frac sand” in calculating maximum injection pressure by raising other issues involving frac sand in comments).

Nor is it “unfair” to require that the Citizen Groups specifically explain in their comments that they were objecting to the Region’s waiver of the Site Suitability Regulation under CERCLA’s “greater risk” waiver. Such an explanation would not have required a “formal legal argument.” At bottom, the issue underlying CERCLA’s “greater risk” waiver provision is straightforward: Would barring disposal at the Woods Pond site result in a greater risk to human health or the environment than the other disposal alternatives under consideration? And the 2020 Statement of Basis and Supplemental Comparative Analysis explained in readily understandable language both CERCLA’s greater risk waiver provision and the Region’s grounds for concluding why complying with the Site Suitability Regulation, and thereby requiring disposal to be off-site, would pose a greater risk. *See* 2020 Stat. of Basis at 39 (explaining that Region waived compliance with Site Suitability Regulation under CERCLA section 121(d)(4)(B) because compliance “will result in greater risk to human health and the environment than the proposed cleanup plan in the Draft Revised 2020 Permit”); Supp. Comp. Anal. attach. B at B-2 to B-5 (setting out the factual reasons behind the Region’s determination of greater risk).

The Citizen Groups’ ecological impact argument does not raise with the requisite specificity and clarity a challenge to the Region’s decision to waive the requirement under CERCLA that the Rest of the River remedial action comply with the Site Suitability Regulation. And the Citizen Groups’ claim that such failing should be excused is inconsistent with the structure

of the RCRA permitting process that makes the permit issuer, not the Board, the primary decisionmaker. The issue has not been preserved for Board review.⁴⁰

(iii) *The Region's Waiver Determination*

Even if we were to consider the Citizen Groups' challenge to the Region's waiver of the Site Suitability Regulation, we would conclude there was no clear error by the Region. The Citizen Groups are incorrect in asserting that "the Region has failed to demonstrate any change in circumstances that would support reaching [a] wholly opposite conclusion[] regarding the propriety of on-site disposal at a location designated as an ACEC" or to provide an adequate explanation for its waiver of the Site Suitability Regulation. Pet'rs Br. at 25; *see also id.* at 21-22.

(a) *Change in Circumstances*

The Citizen Groups are mistaken in contending that there has been no change in circumstances. *First*, there is one demonstrably significant change in the factual circumstances between the on-site disposal facility considered in 2016 and the hybrid disposal approach adopted in 2020: under the on-site disposal option considered for the 2016 Permit, all PCB remediation wastes from the Rest of the River site would have been disposed of at the on-site landfill, no matter what PCB concentration level was present in the wastes; however, under the 2020 Permit, the only PCB remediation wastes that will be sent to the Woods Pond Landfill are wastes with average PCB concentrations less than 50 parts per million. *See* 2020 Stat. of Basis at 13-14; 2020 Permit attach. E, at ¶¶ 1-4. The 2020 Permit requires wastes with average PCB concentrations of 50 parts per million or greater to be disposed of off-site in a properly licensed TSCA PCB landfill or RCRA hazardous waste landfill. 2020 Permit § II.B.6.a (specifying that contaminated sediment and soil that do not meet the acceptance criteria for the on-site disposal facility must be disposed of in a licensed off-site facility). The meaningfulness of this distinction between wastes with PCB concentrations less than 50 parts per million and wastes with higher PCB concentration levels is codified in EPA's PCB regulations as the dividing point between PCB wastes that must be disposed of in a TSCA chemical waste landfill and those that may be disposed of in a less protective solid waste landfill. *See* 40 C.F.R. § 761.61(a)(5)(i)(B)(2)(ii)-(iii), .61(a)(5)(v)(A).

The Citizen Groups' only response to this significant difference between the on-site disposal facilities considered in 2016 and 2020 is to seize on an assertion by General Electric that

⁴⁰ The Citizen Groups also contest in their petition the waiver of the Site Suitability Regulation based on the argument that the pipeline for pumping contaminated sediments to the Woods Pond Landfill will destroy part of the woodlands at the disposal site. Pet'rs Br. at 20. Yet, the Citizen Groups do not identify where this issue with the pipeline was raised in public comments and thus preserved for Board review. *See* 40 C.F.R. § 124.19(a)(4)(ii). Nor do they explain how damage to woodlands at the Landfill site affects the waiver of the Site Suitability Regulation.

some of the PCB remediation wastes disposed of at the Woods Pond Landfill under the 2020 Permit will qualify as hazardous wastes under Massachusetts law. Reply Br. at 7. Even if true, this technical determination under state law does not affect the fact that the 2020 Permit specifically requires that only PCB-contaminated materials with an average concentration of less than 50 parts per million may be disposed of at the Woods Pond Landfill. 2020 Permit attach. E, at ¶¶ 1-4. In fact, the Region estimates that the average PCB concentration of materials disposed of in the Woods Pond Landfill will be even lower, at 20 to 25 parts per million.⁴¹ 2020 Resp. to Cmts. at 61.

Second, the Region's change in position regarding its concern that the Woods Pond site is located within an ACEC is based on a legal provision it did not consider in 2016, and in the 2020 Permit the Region provided a detailed explanation as to why that legal provision made waiver of the Site Suitability Regulation appropriate. CERCLA section 121(d)(4) lists several criteria that would justify the waiver of an otherwise legally applicable or relevant and appropriate standard. CERCLA § 121(d)(4), 42 U.S.C. § 9621(d)(4). In 2016, at the urging of General Electric, the Region considered, but rejected, waiver of the Site Suitability Regulation under section 121(d)(4)(E), which authorizes waiver of state requirements where "the State has not consistently applied * * * the standard." *See id.* § 121(d)(4)(E), 42 U.S.C. § 9621(d)(4)(E); *see also* 2016 Resp. to Cmts. at 246-47. In 2020, however, the Region considered and relied upon a "greater risk" waiver under section 121(d)(4)(B), a waiver criterion not evaluated in 2016. 2020 Permit attach. C at C-10 to C-11.

(b) *The Region's Explanation for its Greater Risk Waiver Determination*

The Region determined that a greater risk waiver was appropriate for the hybrid disposal option in the 2020 Permit because adopting the hybrid disposal option: (1) would lead to a speedier resolution of the Housatonic River cleanup; (2) would result in lower risks than off-site disposal

⁴¹ The 20 to 25 parts per million estimate appears to be a result of the fact that as to excavated Housatonic sediments—which are estimated to comprise the overwhelming bulk of the excavated Housatonic wastes—the 2020 Permit requires that disposal on-site is allowed only for sediments bearing an average PCB concentration of 25 parts per million or less, if it is allowed at all. *See* 2020 Permit att. E, at ¶ 4 (specifying that all excavated sediment except that from Reach 5B (which all must be disposed off-site) must be segregated based on PCB concentration level and sediments with high concentrations disposed of off-site "so that the remaining sediment to be disposed of in the [Woods Pond Landfill] averages 25 [parts per million] PCBs or less on a reach or subreach basis"). The Region has estimated that the 2020 Permit will require an overall total of 1,133,000 cubic yards of materials excavated from the Housatonic riverbed, banks, and floodplain. Of that figure, 1,029,500 cubic yards are estimated to be riverbed sediments, with the only other significant amounts of excavated materials consisting of riverbank soil (25,500 cubic yards) and floodplain soil (78,000 cubic yards). *See* 2020 Stat. of Basis at 26 tbl.2.

in terms of fewer truck trips, reduced greenhouse gas emissions, and reduced fatalities and injuries; and (3) was part of a settlement that included enhanced cleanup measures for the Rest of the River site. *See* Supp. Comp. Anal. attach. B, at B-4 to B-5; 2020 Resp. to Cmts. at 9-10. The Region's explanation for why these factors supported a greater risk waiver is detailed below.

Speedier Resolution of Cleanup. In examining how compliance with the Site Suitability Regulation would affect the comparative risks to human health and the environment among alternative disposal options, the Region first noted that waiving the Site Suitability Regulation and selecting the Woods Pond site for the on-site landfill under the hybrid approach will likely reduce such risks, by lessening the potential for "indefinite delay" due to legal challenges to the off-site disposal alternative. Supp. Comp. Anal. attach. B, at B-4. According to the Region, "[t]he sooner the cleanup in the Draft Revised 2020 Permit gets implemented, the sooner the risks of exposure to the PCBs in the river system are addressed." *Id.* The Region asserted that waiving the Site Suitability Regulation and selecting the hybrid disposal option would make a faster implementation more likely because selection of the hybrid disposal option had been endorsed by a broad range of parties and the Settlement Agreement included a commitment by those parties not to contest the final permit so long as the final permit was not inconsistent with the terms of the Settlement Agreement.⁴² *Id.* While the Region recognized that this approach did not guarantee that the 2020 Permit would not be contested before the Board or in federal court, the Region concluded that "by crafting a settlement with a wide cross-section of stakeholders, including virtually all the 2016 Permit appellants, the Region has cleared a path toward fewer, if any, appeals and faster implementation." *Id.*

This was not an unreasonable determination by the Region under the circumstances. Parties endorsing the hybrid approach through the Settlement Agreement included the permittee, General Electric; a citizens group, the Berkshire Environmental Action Team, that had previously contested the adequacy of the cleanup; a landowner, Mr. C. Jeffrey Cook, a home-owner living on the Housatonic River, who had previously challenged the selected cleanup plan as too stringent; the five Massachusetts towns on the Housatonic River most affected by the cleanup and disposal of the PCBs in the Rest of the River, who had also challenged the 2016 Permit as too lenient; the Massachusetts Audubon Society, which had filed an amicus brief in the prior litigation arguing that the cleanup in the 2016 Permit was inadequate; and the State of Connecticut. Massachusetts

⁴² The Settlement Agreement also potentially speeds the implementation of the cleanup of the Housatonic River because it obligates General Electric to begin investigation and design work for the cleanup immediately upon the date by which all the parties have signed the Settlement Agreement. *Settl. Agrmt.* at 3. The Region explained at oral argument that investigation and design work for the Rest of the River cleanup is a "long process," and because General Electric had to initiate that work under the terms of the Settlement Agreement, despite the 2020 Permit being stayed by the ongoing legal challenge, the length of the project may be reduced by several years. *Oral Arg. Tr.* at 69-70.

did not sign the Settlement Agreement but has indicated that it does not object to the cleanup and disposal requirements outlined in the Agreement. Letter from Martin Suuberg, Comm'r, Mass. Dept. of Env'tl. Prot., & Ronald S. Amidon, Comm'r, Mass. Dept. of Fish & Game, to GE-Housatonic River Site Public Comments 1 (Sept. 18, 2020) (A.R. 649382) ("Mass. Comments").

As noted, one challenger to the 2016 Permit, Petitioner Housatonic River Initiative, did not sign the Settlement Agreement and indicated its opposition to any on-site disposal of PCBs. Nonetheless, it was fair for the Region to conclude that selection of the hybrid disposal option and the enhanced cleanup measures in the Settlement Agreement has, at the very least, reduced the complexity and number of future challenges to the 2020 Permit. For example, if the Region had again selected off-site disposal of all PCB waste, as it did in the 2016 Permit, General Electric would have likely challenged that decision again. General Electric Co.'s Response to Petitioners' Brief 17 n.13 (May 5, 2021) (stating that General Electric does not concede that the hybrid disposal option better meets the Nine Evaluation Criteria than the option of requiring all disposal on-site). According to General Electric's brief, it would also have likely appealed the Board's prior decision upholding the scope of the cleanup as set forth in the 2016 Permit and appealed to the Board any 2020 Permit enhancements to the 2016 Permit's cleanup requirements. *Id.* 9 n.7. Furthermore, the Region's selection of a disposal option other than off-site disposal or the hybrid disposal approach would likely have engendered challenges from a wide constellation of parties representing varying points of view. Thus, eliminating a broad range of potential challengers increased the likelihood of a speedier implementation of the cleanup.

The Citizen Groups' principal response to the Region's assessment that selection of the hybrid disposal option would lead to faster implementation of the cleanup is to question the authenticity of the Region's professed desire to increase the speed of remediation of the River. According to the Citizen Groups, "the Region long ago forfeited any legitimate claim of urgency" in completing the Housatonic River cleanup because "[i]f the Region truly believed that immediate action was necessary * * * it would have ensured that a remedy for the Rest of the River was in place twenty years ago." Reply Br. at 6.

This argument is unpersuasive for two reasons. *First*, the Citizen Groups admit that faster implementation of the cleanup is a positive goal, and they do not offer any substantive rebuttal to the Region's conclusion that selection of the hybrid disposal option could potentially increase the speed of the cleanup. *See id.* Questioning the sincerity of the Region's motives does not address the Region's factual conclusion that the 2020 Permit has the potential for faster implementation than a permit containing alternate disposal options.

Second, the Citizen Groups' claim that the Region could have issued a permit with a remedy for the Rest of the River "twenty years ago"—essentially simultaneous with the entry of the Consent Decree—ignores the complexity of the remedial decision necessary for the Rest of the River and the requirements spelled out in the Decree. *See id.* The Rest of the River includes

approximately 125 miles of riverbed and banks with varying levels of contamination and 1,145 acres of floodplain that possibly needed to be addressed as part of the PCB cleanup. *See* NRRB Package at 1-1. A cleanup plan for the Rest of the River could not have been put into place before the extent of contamination was documented, the toxicity of PCBs was investigated, the amount of human and wildlife exposure and associated risks of that exposure along the course of the River was examined, an appropriate suite of corrective measures was developed, and a final cleanup plan was selected considering the relevant governing requirements. *See* Part III.B.2, above. Moreover, the Consent Decree required that these steps be completed sequentially, for the most part, and imposed numerous procedural requirements beyond the ordinary regulatory requirements, including independent peer review of scientific determinations on human health risks, ecological risks, and modeling of PCB transport and bioaccumulation, and notice-and-comment procedures on the peer reviews. *See, e.g.*, Consent Decree ¶ 22.c.-d., .h.

Greater Risks Associated with Alternative Disposal Options. In the Supplemental Comparative Analysis prepared for the 2020 Permit, the Region calculated that the 2016 Permit's requirement that all wastes be disposed of at an off-site landfill would result in a greater number of truck trips than required under the 2020 Permit's hybrid disposal approach. This greater number of truck trips, the Region explained, "would have increased greenhouse gas and other air emissions, fugitive dust, adverse community impacts due to increased truck traffic and risks of injuries and fatalities to transport workers" compared to the 2020 Permit and thus further justified the waiver of the Site Suitability Regulation.⁴³ Supp. Comp. Anal. attach. B at B-4.

The Citizen Groups' only response to the Region's estimates of increased risk for off-site disposal compared to the hybrid disposal option is to switch the focus from risks associated with disposal activities to the risks from the full scope of the remedial actions (both cleanup and disposal activities). Using this approach, the Citizen Groups argue that "the total greenhouse gas emissions" for the two permits "is almost exactly the same." Reply Br. at 1 n.1. This narrowing in the amount of greenhouse gas emissions between the 2016 and 2020 Permits is due to the increased emissions of greenhouse gas attributable to the increased excavation of sediment and soil in the 2020 Permit. *See* Supp. Comp. Anal. at 21.

⁴³ To support this conclusion, the Region quantified the number of truck trips (which serves as an indicator for the level of fugitive dust and adverse community impacts), as well as the associated amount of greenhouse gas emissions and number of fatalities/injuries, associated with both the 2016 and 2020 Permits. That comparison for disposal activities under the two permits shows that the 2016 Permit would have required 81,700 truck trips, caused emission of 70,000 metric tonnes of greenhouse gases, and resulted in 6.75 fatalities and 39 non-fatal injuries due to transport. The 2020 Permit is estimated to require 47,000 truck trips, cause 31,000 tonnes of greenhouse gases, and result in 0.35 fatalities and 7.5 non-fatal injuries due to transport. Supp. Comp. Anal. at tbls.12, 13a, 14.

We agree with the Citizen Groups that due to the close linkage between the enhanced cleanup measures and the hybrid disposal option, it makes sense to consider a comparison of total risks from both cleanup *and* disposal under the 2016 and 2020 Permits. But that comparison should not be limited solely to greenhouse gas emissions. When looking at the truck trips, greenhouse gas emissions, and fatalities and injuries associated with the two permits, the differences between the permits is diminished (compared to the differences due to disposal activities only), particularly for greenhouse gas emissions. Nonetheless, on each of these three measures, the risks from the 2020 Permit are lower than risks from the 2016 Permit.⁴⁴

Enhanced Cleanup Measures. Finally, the Region contends that rejecting the hybrid disposal option in favor of off-site disposal would “eliminate the substantial gains to human health and the environment” from “a large number of cleanup enhancements” in the 2020 Permit. Supp. Comp. Anal. attach. B at B-5 (noting that “compliance with the ACEC-related prohibition will eliminate the substantial gains to human health and the environment that can be obtained through the 2020 Settlement Agreement”). As the Municipal Committee representing the five Massachusetts towns in the vicinity of the most-contaminated portion of the Rest of the River has explained, the enhanced cleanup measures are part of a “package deal” with the hybrid disposal option. Housatonic Rest of the River Municipal Committee’s Amicus Brief in Support of Selected Remedy 2 (Apr. 19, 2020) (“Mun. Comm. Br.”). It noted that “these enhancements to the remedy * * * would not have occurred *but for* the settlement,” which included the hybrid disposal approach. *Id.* at 9 (emphasis added).

The Region points to several of the enhanced cleanup measures as providing significant risk reduction. *First*, the 2020 Permit includes expanded requirements for removal of PCB-contaminated sediment and floodplain soil in or surrounding those reaches of the River that have the highest levels of PCBs—Reaches 5 through 8. *See* Supp. Comp. Anal. 8-11, attach. B, at B-5. Overall, the 2020 Permit remedy will require 14% more cubic yards of sediment and soil removal than the 2016 Permit. Stat. of Basis at 26 & tbl.2. Excavation of this additional sediment will result in the “reduction by nearly 100 acres of in-river capping[, which] will serve to reduce the need for long term monitoring, maintenance and repair associated with capping.” Supp. Comp. Anal. attach. B at B-5. Although the Region’s modeling of increased sediment removal does not show significant decreases to average PCB concentrations in fish, the Region concluded that the

⁴⁴ Considering risks from both cleanup and disposal combined, the 2016 Permit would have resulted in 151,700 truck trips, 241,000 metric tonnes of greenhouse gases, and 6.9 fatalities and 51 non-fatal injuries. The 2020 Permit is expected to result in 102,900 truck trips, 227,000 metric tonnes of greenhouse gases, and 0.49 fatalities and 22 non-fatal injuries. Supp. Comp. Anal. at tbls.12, 13c, 14.

effect of a decreased reliance on capping will increase both the permanence and long-term effectiveness of the cleanup. *Id.* at 15-17.

Second, the 2020 Permit requires more rigorous floodplain remediation on over twenty properties. The Region found that excavation of greater amounts of PCB-contaminated soil will eliminate the need for the use restrictions mandated by the 2016 Permit on those properties. *Id.* attach. B, at B-5.

Third, the 2020 Permit now requires the removal of two dams in Reach 7 downstream of Woods Pond. The removal of these dams, according to the Region, will result in “reduced risk to the environment by improving the health of river habitat and aquatic species,” as there will now be “unimpeded fish passage across these areas that are currently impounded.” *Id.*

Fourth, the 2020 Permit includes a revised approach to the remediation of vernal pools, which are a sensitive environmental feature in the Housatonic River floodplain. The 2020 Permit requires testing of different methods for restoration of the pools, including innovative non-invasive methods, and the Region concluded that this approach “ensures that the most appropriate and ecologically sound method is used for the majority of the vernal pools.” *Id.*

Finally, the 2020 Permit imposes new restrictions on the transport of waste material on small residential streets. The Region noted that these restrictions will reduce risks to residents in those communities. *Id.*

Given the close tie between the hybrid disposal option and the enhanced cleanup measures, the Region did not clearly err in concluding that adoption of hybrid disposal and its attendant enhanced cleanup measures would “represent significant reduction in the long-term risks to human health and the environment.” *Id.*

Other than pointing to increased greenhouse emissions associated with expanded sediment and soil excavation, the Citizen Groups do not suggest that the enhanced cleanup measures would decrease overall risk. In fact, it would be inconsistent with the position they take in their petition for review for them to do so. The Citizen Groups insist that the 2020 Permit does not protect human health and the environment because it allows too many PCBs to remain in the Housatonic River. Pet’rs Br. at 34 (contending that the 2020 Permit “leaves large volumes of PCBs in the River”). In line with that concern, the enhanced cleanup measures will increase the amount of contaminated sediment and soil removed from the Rest of the River by 14% compared to the 2016 Permit. Supp. Comp. Anal. at 21.

Rather than argue that the enhanced cleanup measures are not significant, the Citizen Groups respond to the Region’s emphasis on the benefit of the enhanced cleanup measures’ reductions in risk by claiming that it was “improper” for the Region to consider those measures in determining whether compliance with the Site Suitability Regulation poses a greater risk. Reply

Br. at 7 n.20. According to the Citizen Groups, the Region should have focused solely on the risks of off-site versus on-site disposal in making its determination on whether to waive the Site Suitability Regulation under the “greater risk” provisions. *Id.* In fact, the Citizen Groups would narrow the scope of the greater risk inquiry even further by arguing that off-site disposal cannot pose “a greater risk to the River environment.” Pet’rs Br. at 21 (emphasis added).

We do not find the Citizen Groups’ position on what should be considered in the “greater risk” calculus to be persuasive. At times, they have contended that risks associated with cleanup measures as well as disposal activities should be considered in making the greater risk determination. Reply Br. at 1 n.1 (arguing that significant differential in greenhouse gas emissions between off-site and hybrid disposal is irrelevant given that “the total greenhouse gas emissions from the proposed 2020 remedy is almost exactly the same as the total greenhouse gas emissions from the proposed 2016 remedy”). And their attempt to narrow the focus of the greater risk analysis to the risk to the Housatonic River ignores the plain language of the statute. CERCLA section 121(d)(4)(B) does not confine the greater risk comparison exclusively to risks in the immediate area of the cleanup but rather requires a broad comparison of the “risk to human health and the environment.”⁴⁵ CERCLA § 121(d)(4)(B), 42 U.S.C. § 9621(d)(4)(B).

In sum, even if we were to consider this issue, given the Citizen Groups’ unconvincing rebuttal of the Region’s demonstration of the reduced risks of the hybrid disposal option with its attendant enhanced cleanup measures as compared to other disposal options, we would conclude that the Citizen Groups have not shown that the Region clearly erred in deciding to waive the Site Suitability Regulation under CERCLA section 121(d)(4)(B) in the 2020 Permit on grounds not considered in its 2016 Permit determination.

(c) *Administrative Record Support for Greater Risk Waiver*

As recounted earlier, the administrative record in this proceeding provides information documenting that disposal at the Woods Pond Landfill, under the terms of the 2020 Permit, is likely to be more protective of human health and the environment than off-site disposal under the terms of the 2016 Permit, even without considering any factors other than the protectiveness of these disposal options. *See* Part VI.A.1.d, above. The risk differential flows from the fact that

⁴⁵ In their comments, the Citizen Groups have acknowledged that off-site disposal poses risks. They explained that they became interested in use of technologies to destroy PCBs because “we didn’t like the idea of sending our PCB problem to another community.” HRI/HEAL Comments at 7. Mickey Friedman, a founding Board member of the Housatonic River Initiative, explained his interest in treatment technologies by noting that “placement of contaminated materials either at on-site or off-site landfills would simply transfer the risk of release from one location Berkshire County to another or from Berkshire County to another community in the United States.” Friedman Comments at 24.

similar wastes—sediment and soil with PCB concentrations less than 50 parts per million—will be treated differently under the 2016 Permit and the 2020 Permit. Under the 2016 Permit, it is likely that these wastes would have been sent to a facility from a class of landfills that is significantly less protective of human health and the environment than the facility required by the 2020 Permit at the Woods Pond site. Thus, the record in this proceeding demonstrates that, even if this issue had been preserved, we would conclude that the Region did not clearly err in determining that waiver of the Site Suitability Regulation is appropriate under the CERCLA provision authorizing such a waiver where compliance with an ARAR would cause a greater risk to human health and the environment than alternative actions.

f. *Community Support*

In evaluating the implementability of disposal options for the 2016 Permit, the Region took into account the views of state and local officials, as well as the public, on both off-site and on-site disposal. The Region noted that because on-site disposal “would require extensive coordination with local government and the public” and it “could encounter substantial local and state opposition,” this option likely would be “difficult, and potentially not feasible, to implement.” Comp. Anal. at 75; 2014 Stat. of Basis at 38. Specifically, the Region concluded there was “widespread sentiment” against an on-site landfill among local citizens. 2016 Resp. to Cmts. at 264. The Region also reported that “Massachusetts has expressed a strong preference for treatment/disposition alternatives that will permanently relocate contaminated materials in licensed out-of-state facilities,” Comp. Anal. at 75, and that such comments had come from “seven offices” within the Massachusetts government. *Id.* at 265. Finally, the Region acknowledged that “every Berkshire County city or town government along the Housatonic (Pittsfield, Lee, Lenox, Stockbridge, Great Barrington, and Sheffield) submitted at least one comment against any additional landfills.” *Id.*

After the remand of the 2016 Permit and following the signing of the Settlement Agreement and issuance of the 2020 Draft Permit, the landscape on community support changed. The Berkshire city and town governments noted above signed the Settlement Agreement, agreeing to the hybrid disposal plan. *See* Settl. Agrmt. (signature pages). In fact, the towns of Lee, Lenox, Stockbridge, Great Barrington, and Sheffield, operating as the Housatonic Rest of the River Municipal Committee, filed comments stating their strong support for the hybrid disposal option and have defended that option in these proceedings before the Board. Letter from Housatonic Rest of River Mun. Comm. to Dean Tagliaferro, EPA Region 1, at 3 (Sept. 18, 2020) (A.R. 649386) (stating the Committee’s “strong[] support[]” for the 2020 Permit as “the best option for cleaning up the River * * * given the unique circumstances of this site and constraints of the Consent Decree”); Mun. Comm. Br. at 2. The affected state governments have also changed their prior positions. Connecticut signed the Settlement Agreement. Massachusetts did not, but in its comments on the 2020 Draft Permit stated that, in light of the support of the six affected municipalities, it “does not object to the cleanup plan” as set forth in the draft revised permit and

“intends to work with EPA and these municipalities to see that the cleanup plan is implemented.” Mass. Comments at 1. Two environmental organizations that had participated in the prior litigation on this permit, the Massachusetts Audubon Society and Berkshire Environmental Action Team, also signed on to the Settlement Agreement. *See* Settl. Agrmt. (signature pages).

Some local organizations not involved in the prior litigation, such as the Housatonic Valley Association and Housatonic River Commission, submitted comments supportive of the draft revised permit, including the hybrid disposal alternative. The Housatonic Valley Association supported the terms of Settlement Agreement, noting that “[w]e believe that this compromise [adopting the hybrid disposal option] was necessary in order to move forward with a more robust clean up” and will speed up the Housatonic River cleanup. Letter from Michael Jastremski & Alison Dixon, Housatonic Valley Ass’n, to Dean Tagliaferro, EPA Region 1, at 2 (Sept. 18, 2020) (A.R. 649383); *see also* Letter from William Tingley, Housatonic River Comm’n, to Dean Tagliaferro, EPA Region 1, at 1 (Sept. 18, 2020) (A.R. 649387) (noting full support for comments of Housatonic Valley Association). The Berkshire Natural Resources Council submitted more nuanced comments on the hybrid disposal option, expressing “support for the increased cleanup,” but noting “deep concerns about the landfill.” Letter from Jenny Hansell, Pres., Berkshire Nat. Res. Council, to EPA Housatonic Revised Cleanup Plan Review 1 (Aug. 7, 2020) (A.R. 648114). In light of these concerns, the Council requested that the 2020 Permit’s surety bond be strengthened “to insure the long-term reliability and structural soundness of the landfill” and that the permit’s reopener clause be amended to expressly provide that the permit can be reopened if “new and improved techniques and technologies for decontamination of dredge and PCB in situ” are developed. *Id.* at 1-2.

The Housatonic River Initiative and Housatonic Environmental Action League filed joint comments strongly opposing the Woods Pond Landfill. They described the on-site landfill as “entirely unsuitable” and asserted that “EPA has elected to sacrifice the health, safety, and financial and emotional well-being of the local residents for generations to come.” HRI/HEAL Comments at 5, 7. Instead of on-site disposal, they advocated that EPA “remove all PCB-contaminated material to an out-of-state disposal site.” *Id.* at 7; *see also* Memorandum from Eleanor Tillinghast, Green Berkshires, Inc., to U.S. EPA, *Comments on Proposed Rest of River Draft Revised Permit 1* (Sept. 18, 2020) (A.R. 649502) (suggesting an alternative approach to remediation of the Rest of the River that “rel[ied] upon the river’s natural self-cleansing mechanisms” with periodic dredging of hotspots—financed by General Electric—and off-site disposal of dredged material). A number of other local organizations—Citizens for PCB Removal, Citizens Against the PCB Dump, Berkshire-Litchfield Environmental Council, and Schaghticoke Indian Tribe of Kent—filed a joint amicus brief in this proceeding opposing the hybrid disposal alternative, arguing, among other things, that the on-site landfill was in a geologically unsuitable location and pumping wastes to the on-site landfill would result in volatilization of PCBs. Brief of Amici Curiae Citizens for PCB Removal, Citizens Against the PCB Dump, Berkshire-Litchfield Environmental Council, and

Schaghticoke Indian Tribe of Kent 5-6 (Mar. 26, 2021). The index of commenters in the Region's Response to Comments indicates that of these organizations, only Citizens for PCB Removal filed comments during the comment period on the 2020 Draft Permit. 2020 Resp. to Cmts. attachs. B at B-2, C at C-1; *see* Letter from Charles P. Cianfarini, Interim Exec. Dir., Citizens for PCB Removal, to Tim Conway, U.S. EPA Region 1 (Sept. 12, 2020) (A.R. 649163). Many local residents filed written or oral comments vigorously opposing the hybrid disposal option. 2020 Resp. to Cmts. at 11, 34.

After reviewing the comments by the local towns, citizen groups, and individuals on the 2020 Draft Permit, the Region recognized that “there is some community opposition to the remedy outlined in the Draft Revised 2020 Permit” and “there is also some community support.” *Id.* at 43. Compared to its conclusion on the implementability of the 2016 option of disposing all excavated materials on-site, the Region found that implementability concerns with the hybrid disposal option were “reduced” given the support the 2020 Draft Permit had garnered. 2020 Stat. of Basis at 34. In particular, the Region noted that “[c]oordination with state and local agencies will be important for the [Woods Pond Landfill]” and that “[t]he agreement by the local governments in the Settlement Agreement is evidence of this coordination and their anticipated continued cooperation including concerning local zoning laws.” Supp. Comp. Anal. at 30.

The Citizen Groups assert that community opposition to the Woods Pond Landfill remains strong and claim that “[t]o the extent that the Region is now taking the position that it may disregard community sentiment * * * such a position flies in the face of the Region's prior finding on this issue.” Pet'rs Br. at 25.

The Citizen Groups have not shown that the Region clearly erred in its 2020 re-assessment of state and local views on the desirability of on-site disposal. The Region has documented a demonstrable shift in views by state and local officials as well as some state and community organizations. At the same time, the Region has recognized that many in the public remain strongly opposed to construction of the Woods Pond Landfill. The Region's conclusions that views on the hybrid disposal option are mixed and that the support of state and local officials for the hybrid disposal option will reduce implementation concerns are documented in the administrative record. Accordingly, given the Region's explanation for its revised determination on the extent of public opposition to an on-site landfill and the record's support of that determination, the Region's decision to revise its position is not clearly erroneous.

g. Conclusion on the Citizen Groups' Argument on Reversal of Prior Findings

The Citizen Groups have not shown that the Region, in adopting the 2020 Permit's hybrid disposal approach, reversed its prior factual findings without further investigation or a change in circumstances. In fact, for the most part, there were no reversals by the Region at all. The Region did not reconsider—much less reverse—its determination that the 2016 on-site disposal option failed to meet 40 C.F.R. § 761.75, it did not ignore or change its prior findings concerning soil

permeability and drinking water sources at or near the Woods Pond site, it did not reject its determination that on-site disposal posed a non-zero risk to the Housatonic River, and it did not amend its finding that there was unified opposition from affected state and local governments and the local community to the 2016 on-site disposal option.

What the Region did do was re-examine or re-characterize its prior conclusions in light of the changed circumstances presented by the hybrid disposal approach and by undertaking the type of rigorous analysis the Board found to be lacking in the Region's prior determination on disposal location. This re-examination led the Region to conclude that: (1) its prior TSCA finding on the 2016 on-site disposal option is irrelevant to the hybrid disposal approach, which does not implicate section 761.75; (2) the Woods Pond Landfill's protective features—which are regulatorily required only for landfills receiving wastes with higher PCB concentrations—will make it very unlikely that any PCBs will reach the site's permeable soil and, even if they do, the site's geography shows that these PCBs will not flow into drinking water sources; (3) the non-zero risk posed by the Woods Pond Landfill is, in fact, a very low risk; and (4) current support for the hybrid disposal approach from local and state governments, as well as from some local and state organizations, demonstrates that the extent of opposition to on-site disposal shifted between 2016 and 2020. The Region cited record evidence and provided a cogent explanation for each of these conclusions.

Finally, the Citizen Groups' allegation that the Region reversed its prior concern with placing a landfill in a Massachusetts-designated area of critical environmental concern was not preserved for Board review under 40 C.F.R. § 124.19(a)(4)(ii). The Citizen Groups have not shown that the Region's determination to waive the Massachusetts regulation bearing on the siting of landfills in such areas was specifically raised in public comments on the 2020 Draft Permit.

Accordingly, the Citizen Groups have not carried their burden of demonstrating that the Region clearly erred in the manner in which it took its prior findings into account in making a decision on the hybrid disposal approach in the 2020 Permit.

2. Substantive Challenges to the Hybrid Disposal Provision

In addition to their arguments that the Region unjustifiably reversed its earlier decision regarding on-site disposal, the Citizen Groups also contend that (1) the Settlement Agreement improperly influenced the 2020 Draft Permit; and (2) the hybrid disposal option is not cost-effective due to long-term maintenance costs for the Woods Pond Landfill and the Landfill's effect on property values. Neither claim has merit.

a. Settlement Agreement

The Citizen Groups argue that the Region did not base its decision on the 2020 Permit on the governing remedy-selection standards but rather on the Settlement Agreement it reached with several of the prior litigants. They further contend that the closed negotiations on the Settlement

Agreement “effectively shut out” the Citizen Groups and other members of the public from the regulatory public participation procedures and rendered the public comment period on the 2020 Draft Revised Permit as mere “lip service to RCRA’s requirement of notice and comment.” Pet’rs Br. at 17, 19.

(i) *Background on the Settlement Discussions and Agreement*

The Region has explained that it pursued mediation of disputes concerning the Rest of the River remedial action following remand because it hoped to reach an agreement with the parties to the 2016 Permit proceeding that “would speed up the cleanup, enhance the environmental cleanup, safely dispose of the soil and sediment and be acceptable to the affected communities.” Region 1, U.S. EPA, *Frequently Asked Questions on EPA’s Proposed Revisions to the Remedial Action for the Housatonic River “Rest of the River”* 1 (July 2020) (A.R. 647217) (“FAQs on Proposed Revision”). The Region invited a broad range of interested parties to the mediation, including General Electric, the affected states and local municipalities, and all parties to the prior litigation. As explained above, both the Housatonic River Initiative and the Housatonic Environmental Action League were invited to participate, but, irrespective of the reason, they either declined to join the negotiations or attended only briefly.

The mediation began in 2018 and was concluded in early 2020. Region Resp. Br. at 10. Eventually, nine parties reached a settlement setting forth their agreement to the hybrid disposal option and a list of enhanced cleanup measures above and beyond the requirements in the 2016 Permit. Under the Settlement Agreement, the parties agreed not to challenge the final permit for the Rest of the River unless it deviated from the Agreement; however, the Agreement explicitly recognized that “[t]he Revised Permit will be subject to a regulatory public comment process.” Settl. Agrmt. at 2; Oral Arg. Tr. at 25 (Citizen Groups admit that Settlement Agreement did not legally constrain Region in how it modified 2016 Permit).

(ii) *The Settlement Agreement and the 2020 Final Permit*

There is no basis for the Citizen Groups’ claim that the Region used the settlement negotiations and Settlement Agreement as a substitute for evaluating the 2020 Permit under the governing remedy-selection standards and conducting the required public notice and comment process. As described below, what the administrative record shows is that following the conclusion of the mediation, the Region conducted a detailed analysis of proposed permit changes based on the Settlement Agreement, provided its analysis to the public and held an extended public comment period on 2020 Draft Permit, and then addressed all significant comments prior to finalizing the 2020 Permit. The Citizen Groups’ speculations about how the Settlement Agreement might have affected the Region’s decisions on the 2020 Permit cannot overcome this record. *See Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 415 (1971) (“the Secretary [of Transportation’s] decision is entitled to a presumption of regularity”), *overruled on other grounds*

by *Califano v. Sanders*, 430 U.S. 99 (1977); *Cowherd v. U.S. Dept. of Housing & Urban Dev.*, 827 F.2d 40, 42 (7th Cir. 1987) (“agency action is given a ‘presumption of regularity’”).

The Settlement Agreement was signed in February 2020. Because the Agreement did not require the Region to adopt the Agreement’s proposed changes to the 2016 Permit, the Region then initiated a process similar to the one followed in 2016 to evaluate what changes should be made to the 2016 Permit. To that end, the Region first conducted a comparative analysis of remedial alternatives pertaining to the remanded issues, including the alternatives contained in the terms of the Settlement Agreement. *See* Supp. Comp. Anal. at 7. This comparative analysis supplemented the analysis that the Region undertook in 2014 to examine various remedial alternatives under the Nine Evaluation Criteria for the 2016 Permit. *Id.* As part of the supplemental comparative analysis, the Region considered not only the hybrid disposal option in the Settlement Agreement, but also the off-site and on-site disposal options evaluated prior to issuance of the 2016 Permit. *Id.* at 7, 14, 31. Further, the Region analyzed the enhanced cleanup measures set out in the Settlement Agreement compared to the existing cleanup measures in the 2016 Permit. *Id.* at 7, 14. Ultimately, the Region concluded that both the hybrid disposal option and enhanced cleanup measures best met the Nine Evaluation Criteria. *Id.* at 24, 39.

Next, the Region prepared a draft permit and provided an opportunity for public comment on that draft. On July 9, 2020, the Region publicly released the draft permit, its supplemental comparative analysis, and a Statement of Basis for the draft permit. 2020 Resp. to Cmts. at 3. The comment period officially commenced on July 14, 2020. *Id.* The comment period was originally scheduled to close on August 28, 2020, but the Region later extended the closing date until September 18, 2020. *Id.* Individual notice was provided by postcard to approximately 3,575 persons on a mailing list for the Rest of the River site. As noted earlier, notice was also provided on the Region’s website and in several newspaper and radio advertisements as well as EPA Facebook posts. In addition to accepting written comments, the Region also held three virtual public meetings, totaling over ten hours, at which it accepted public comments, and it also accepted oral comments via a dedicated voice-mail mailbox. *Id.* at 3-7. Access to the administrative record for the permit proceeding was available on the Region’s website. *Id.* at 6.

Following close of the public comment period, the Region prepared a lengthy Response to Comments document. That document included a list of several dozen changes made to the 2020 Permit in response to public comments. *Id.* attach. A. The Region also provided responses to many comments that raised issues outside the scope of the remand or the modifications to the permit. *Id.* at 7; *see, e.g.*, 23-31.

Importantly, the Response to Comments addressed in detail the comments on the hybrid disposal alternative—and, in particular, comments raising concerns with the safety and effectiveness of the proposed Woods Pond Landfill. *Id.* at 11-22. As summarized above, the Region explained why the Landfill would be safe considering its design, General Electric’s

ongoing obligations under the 2020 Permit, the characteristics of the Woods Pond site and the area's geography, the chemical properties of PCBs, and the Region's experience with PCB landfills in Pittsfield, Massachusetts. *See* Parts III.E.3.a, VI.A.1.c-d, above; *see also* 2020 Resp. to Cmts. at 11-22. The Citizen Groups have advanced no argument demonstrating why these reasons are inappropriate grounds for the Region's selection of the hybrid disposal alternative in the 2020 Permit, let alone how the Region clearly erred. And the Citizen Groups have offered little to rebut any of these findings.

The Citizen Groups provide scant support for their claim that the Region's use of mediation improperly affected the remedy-selection process for the 2020 Permit.⁴⁶ As to their assertion that the Region ignored the governing remedy-selection standards in choosing the hybrid option, the Citizen Groups argue that a statement by the Region on why it decided to pursue mediation shows that the Region did not follow "a valid decision-making criterion for selecting a remedy." Pet'rs Br. at 19. In the cited statement, the Region noted that it decided to try mediation because it was concerned that again requiring off-site disposal in the General Electric permit after just having that disposal choice remanded would raise the possibility "that the [Environmental Appeals Board] or a federal court would again remand our decision." *See* FAQs on Proposed Revision at 1. The Citizen Groups do not explain why the Region's concern about this litigation risk and corresponding desire to pursue mediation shows an intent to ignore the governing remedy-selection standards. The amount of litigation risk associated with a particular remedy-selection decision is directly related to the decisionmaker's adherence to the governing remedy-selection standards. The Region's expression of concern with the litigation risk posed by a particular

⁴⁶ The tenor of the Citizen Groups' argument seems to suggest that there is something improper in the Region's use of mediation in developing a RCRA corrective action permit. But EPA policy "strongly supports the use of alternative dispute resolution (ADR) to deal with disputes and potential conflicts," even as to such public processes as "rulemaking" and "permit issuance." U.S. EPA, *Policy on Alternative Dispute Resolution*, 65 Fed. Reg. 81,858, 81,858-59 (Dec. 27, 2000). The policy notes several benefits of ADR, including "[f]aster resolution of issues; [m]ore creative, satisfying and enduring solutions; * * * [b]roader stakeholder support for agency programs; and [b]etter environmental outcomes." *Id.* The Board has its own ADR program and has used this program to successfully resolve several permit cases. *See In re Town of Marion*, NPDES Appeal Nos. 17-01 & 17-02 (EAB Oct. 26, 2017) (Order Dismissing Petitions for Review); *In re Wind River Oil & Gas Permits*, NPDES Appeal Nos. 15-02, 15-03, 15-04, and 15-05 (EAB Aug. 3, 2016) (Order Dismissing Petitions for Review); *In re Deseret Power Elec. Coop.*, CAA Appeal Nos. 15-01 & 15-02 (EAB Mar. 28, 2016) (Order Dismissing Petitions for Review). In the context of rulemaking, federal courts have upheld negotiated rulemakings so long as the settlement does not bind the federal government to a particular substantive outcome. *See Citizens for a Better Env't v. Gorsuch*, 718 F.2d 1117, 1128-29 (D.C. Cir. 1983); *Ocean Conservancy v. Evans*, 260 F. Supp. 2d 1162, 1184 (M.D. Fla. 2003). There is no argument that the Settlement Agreement in this proceeding bound the Region to any particular permit terms.

disposal option may just as convincingly show that the Region was mindful of the remedy-selection standards. Pursuing mediation out of a concern for litigation risk suggests that the Region hoped mediation might produce agreement on a disposal approach that posed lower litigation risk. Thus, the Citizen Groups' argument here is not persuasive and hence they have not shown that the Region clearly erred in its evaluation of the draft and final permits under the Nine Evaluation Criteria.

Similarly, the Citizen Groups point to nothing in the record suggesting that the Region, having reached a Settlement Agreement with most of the prior permit challengers, failed to hold a meaningful public comment period. The Citizen Groups' Petition provides nothing in support of this claim other than to label the public comment period a "façade" and an "after-the-fact checking of boxes." Pet'rs Br. at 8, 19. As we have recounted above, the Region went to great lengths to provide notice of the 2020 Draft Permit, held a lengthy comment period providing multiple ways for interested parties to submit their views, and carefully analyzed all comments that were submitted—making changes to the draft in response to persuasive comments. If these well-documented efforts to obtain and respond to public comments were, as the Citizen Groups allege, a façade, it is their burden to demonstrate as much. That they have not done. Accordingly, the Citizen Groups have not shown that the Region clearly erred in the manner in which it sought and then reviewed public comment.

(iii) *New Arguments in the Citizen Groups' Reply Brief*

In their reply brief, the Citizen Groups raise several new arguments concerning the Settlement Agreement and the Region's decision to select the hybrid disposal option. *First*, the Citizen Groups assert that the Region's Supplemental Comparative Analysis was directed not at "assessing how 'hybrid' disposal would impact the environment," but "on how [the Region's] remedy selection decision would affect the continued viability of the Settlement." Reply Br. at 4. *Second*, the Citizen Groups contend that the Region erred by not conducting its Supplemental Comparative Analysis of the hybrid disposal option and taking comment on this option prior to entering into mediation with the parties. According to the Citizen Groups, if the Region "lock[s] itself into a remedy" through a negotiated settlement, then the notice and comment process becomes an exercise in "pretending to comply with prescribed decision-making procedures." *Id.* at 4-5. *Finally*, the Citizen Groups argue that the Supplemental Comparative Analysis' conclusion that the hybrid disposal option was the best-suited alternative under the Nine Evaluation Criteria was inconsistent with the Region's analysis of the individual criteria. *Id.* at 7. The Citizen Groups assert this inconsistency arises because "the Region reached the same ultimate conclusions under all the decision-making criteria in 2020 as it had in 2014," but nonetheless selected different disposal alternatives for the 2016 and 2020 Permits. *Id.*

These arguments are not properly before us. The Citizen Groups have not demonstrated that the arguments were preserved for review by being raised to the Region during the public

comment period. *See* 40 C.F.R. § 124.13, .19(a)(4)(ii). Additionally, even if these issues had been preserved for review, the Board does not consider arguments raised for the first time in a reply brief. *See* 40 C.F.R. § 124.19(c)(2) (barring inclusion of new issues or arguments in reply briefs); *see, e.g., In re City of Taunton Dep't of Pub. Works*, 17 E.A.D 105, 183 (EAB 2016), *aff'd*, 895 F.3d 120 (1st Cir. 2018), *cert. denied*, 139 S. Ct. 1240 (Feb. 19, 2019); *In re Dominion Energy Brayton Point, L.L.C.*, 12 E.A.D. 490, 595 (EAB 2006) (holding that new arguments raised in reply brief are equivalent to late-filed appeals). The three arguments above do not appear in the Citizen Groups' petition. In fact, as the Region points out in its response brief, the Citizen Groups in their petition "advance their argument regarding the [Woods Pond Landfill] without addressing or even mentioning the [Supplemental Comparative Analysis] or the [2020 Statement of Basis], where EPA analyzed the suitability of the remedy against the Nine Evaluation Criteria." Region Resp. Br. at 20; *see also id.* at 22 (noting that Citizen Groups, in their petition, "incorrectly state that EPA conducted no new evaluations in 2020"). Unless arguments are included in the petition for review, the Region and other respondents are not given an opportunity to provide their perspective on the arguments to the Board.

Even if these arguments had been preserved for review, we would not find them persuasive. As to the Citizen Groups' contention that the Region wrongly focused on the viability of the settlement in assessing the 2020 Draft Permit under the Nine Evaluation Criteria, it was not inappropriate for the Region to take into account the benefits arising from the Settlement Agreement in evaluating the proposed revisions to the 2016 Permit. As discussed above, by reaching agreement with all but one of the prior permit challengers, the Region through the Settlement Agreement created the potential for a more expeditious resolution of the dispute over the Rest of the River. *See* Part VI.A.1.e(iii)(b), above. More importantly, the Settlement Agreement reduced the remedy's overall use of truck transport, amount of greenhouse gas emissions, and potential for transport-related fatalities/injuries; and included several measures that increased the amount of PCBs removed from the River and its environs, making the cleanup more reliable and permanent and improving wildlife habitat. *See* Part VI.A.1.e(iii). The Region's consideration of factors bearing on the speed, protectiveness, and permanence of the remedy in making a remedial decision was not clear error.

Regarding their assertion that the Region was required to analyze and seek public comment on the hybrid disposal option before considering that option as part of a mediated settlement, the Citizen Groups fail to cite any supporting authority for this novel theory.⁴⁷ EPA's permit

⁴⁷ In a footnote, the Citizen Groups appear to contend that a provision in the Consent Decree requires public comment on potential changes to the 2016 Permit prior to the Region seeking a mediated solution on the issues we remanded. Pet'rs Br. at 19 n.81. The cited provision requires the Region to provide General Electric with the Region's "intended final decision" on the Rest of the River permit after the close of the public comment period on the draft permit and gives General Electric the right to invoke the Decree's dispute resolution procedures on this intended final decision prior to the Region issuing a final

regulations require that permit issuers provide notice and an opportunity for comment on draft permits but do not impose such requirements on the development of the terms of a draft permit. *See* 40 C.F.R. § 124.10.

Moreover, as a practical matter, the Citizen Groups do not explain how a *negotiated* settlement of a complex permit dispute—which the Citizen Groups acknowledge “may be beneficial to stakeholders”—could ever be possible under their approach. *See* Reply Br. at 4. As envisioned by the Citizen Groups, the Region can only negotiate on terms for a draft permit if those terms have already been publicly vetted. Yet, if the Region actually negotiates over the publicly vetted terms, then the Region, following the Citizen Groups’ logic, would be “locking” itself into the newly negotiated terms, making the subsequent notice-and-comment process on the draft permit an exercise in “pretending to comply with prescribed decision-making procedures.” *See id.* 4-5. Under the Citizen Groups’ approach, the whole concept of a negotiation—a give-and-take between parties in an attempt to come to terms on a disputed matter—becomes necessarily illegitimate to the extent any actual give-and-take occurs. In essence, the Citizen Groups’ approach reduces a negotiation over permit terms to the negotiating parties being given a chance to accept or reject the Region’s publicly vetted solution.

Finally, the Citizen Groups are incorrect in their claim that the Region’s analysis of disposal options in 2020 “reached the same ultimate conclusions under all the decision-making criteria” as the Region did for the 2016 Permit and thus the Region acted inconsistently in selecting a different disposal alternative. *Id.* at 7. The premise of this “inconsistency” argument—that the Region has selected a different disposal alternative in 2020 despite no change in circumstances since issuance of the 2016 Permit—is essentially the same premise that underlies the Citizen Groups’ lead contention in its Petition—that the Region’s selection of the hybrid disposal alternative “is based upon a complete reversal of its prior factual findings without any new investigation or change of circumstances.” *See* Pet’rs Br. at 12. And its “inconsistency” argument fails for the same reason its unlawful reversal argument fails: there are several significant differences between the options considered and the analyses undertaken for the two permits. *See* Part V.A.1, above. Those differences are apparent when, rather than focusing on only certain documents, the whole of the administrative records for the 2016 and 2020 permit decisions are considered.

To recap briefly, the significant differences include: (1) in 2020 the Region considered a new option—hybrid disposal—that limited the PCB concentration levels of wastes for on-site

permit. CD ¶ 22(o). This unique provision is inapposite to the present situation. The provision gives no party other than General Electric the right to dispute the Region’s intended final decision and states nothing regarding the Region’s authority to meet with stakeholders in developing the draft permit.

disposal to less than 50 parts per million on average and was thus not governed by the TSCA regulation so critical to the Region's 2016 rejection of on-site disposal, *see* Part VI.A.1.b, above; (2) in 2020 the Region undertook its first detailed analysis of the risk posed by an on-site PCB landfill, which demonstrated that the risk of PCB leakage from the Woods Pond Landfill was low, *see* Part VI.A.1.c-d, above; (3) in 2020 the Region took into account that the hybrid disposal alternative was part of a Settlement Agreement that would reduce risks from implementation of the remedy, provide enhanced cleanup measures making the remedy more effective and permanent, and potentially accelerate the remedial action, *see* Part VI.A.1.e(iii), above; (4) in 2020 the Region concluded that it was appropriate to waive the application of the Massachusetts Site Suitability Regulation to the Woods Pond site under CERCLA section 121(d)(4)(B) based on the circumstances surrounding the hybrid disposal alternative, *see* Part VI.A.1.e, above; and (5) in 2020 the Region concluded that the Settlement Agreement had significantly reduced implementability concerns as to on-site disposal because the hybrid disposal alternative "has been endorsed by local municipalities," *see* Part VI.A.1.f, above; Supp. Comp. Anal at 38.

These key differences between the circumstances in 2016 and 2020 led to a different calculus under almost all of the Nine Evaluation Criteria, including the criteria for Overall Protection of Human Health and the Environment, Control of Sources of Releases, Compliance with Federal and State ARARs, Long-term Reliability and Effectiveness, Short-term Effectiveness, and Implementability.⁴⁸ For example, as we observed in *General Electric I*, the Region's evaluation of the on-site landfills' compliance with TSCA PCB chemical waste landfill regulation in 2016 played a "central role * * * in the Region's decisions—influencing how the Region viewed four of the Nine Evaluation Criteria." *Gen. Elec. I*, 17 E.A.D. at 564, 569 (noting that this TSCA issue affected the Region's conclusions on the criteria of Overall Protection of Human Health and the Environment, Control of Sources of Releases, Long-term Reliability and Effectiveness, and Implementability). In 2020, the hybrid disposal alternative made the TSCA PCB Chemical Waste Landfill regulation irrelevant to the permit decision, changing the calculus on each of these criteria.

However, the calculus under one criterion, the criterion of cost, did not change substantially.⁴⁹ The cost criterion continued to weigh heavily against off-site disposal as off-site

⁴⁸ Two of the remaining Nine Evaluation Criteria—Attainment of Interim Media Protection Goals and Reduction of Toxicity, Mobility, or Volume—are either not directly applicable to the disposal alternatives or the disposal alternatives compare equally under them. *See* 2020 Stat. of Basis at 31. The ninth criterion—cost—is discussed below.

⁴⁹ The hybrid disposal alternative is more costly than on-site disposal and thus the cost differential between off-site disposal and the other disposal options did change between the 2016 and 2020 Permits. However, the cost differential between off-site disposal and other disposal alternatives remains large whether off-site disposal is contrasted with the hybrid disposal alternative or the alternative requiring all

disposal under the terms of the 2016 Permit would cost \$287 million and under the hybrid disposal approach would cost less than half as much, \$141 million, despite the greater excavation amounts called for by the 2020 Permit. 2020 Stat. of Basis at 35, 36 tbl.3. CERCLA cases that focus on the cost-effectiveness of remedies state that more expensive remedies can be cost-effective “when the added expense [brings] additional environmental benefit.”⁵⁰ *Pentair Thermal Mgmt. v. Rowe Indus., Inc.*, Nos. 06-cv-07164(NC), 10-cv-01606(NC), 2013 WL 1320422, at *15 (N.D. Cal. Mar. 31, 2013) (quoting *AmeriPride Servs., Inc. v. Valley Indus. Serv., Inc.*, No. CIV. S-00-113(LKK/JFM), 2011 WL 1833179, at *16 (E.D. Cal. May 12, 2011)); see *Franklin Cnty. Convention Facilities Auth. v. Am. Premier Underwriters, Inc.*, 240 F.3d 534, 546 (6th Cir. 2001) (upholding more costly CERCLA remedy because it provided greater “permanence and reduction of mobility and volume” than alternative); *United States v. Sterling Centrecorp Inc.*, 208 F. Supp. 3d 1126, 1136-37 (E.D. Cal. 2016) (upholding more costly CERCLA cleanup measures that provided “superior” protectiveness or long-term effectiveness). For example, courts have upheld the more expensive remedy of landfilling waste off-site rather than capping the wastes in place on-site given the greater permanence of landfills compared to capping wastes in place. *Franklin Cnty.*, 240 F.3d at 546; *Pentair*, 2011 WL 1833179, at *15. However, as EPA has noted in RCRA guidance, “cost may be determinative when more than one alternative remedy can reach the established cleanup target.” 55 Fed. Reg. at 30,824; see *Town of Oyster Bay v. Northrop Grumman Sys. Corp.*, No. 05-CV-1945(TCP), 2009 WL 10691086, at *21–22 (E.D.N.Y. May 14, 2009) (declining to allow recovery in CERCLA action where selected remedy was more expensive than another remedy that was protective of human health and the environment). Here, the Region was not choosing between two qualitatively different types of disposal such as capping in place versus landfilling; rather, the Region was considering landfilling in one place versus landfilling somewhere else.

As this brief discussion of the Region’s evaluation of the Nine Evaluation Criteria shows, the Citizen Groups are incorrect in stating that “the Region reached the same ultimate conclusions under all the decision-making criteria in 2020 as it had in 2014.” Reply Br. at 7. In fact, the

disposal on-site. See 2020 Stat. of Basis at 36 tbl.3 (pricing off-site disposal by rail at \$287 million for the 2016 Permit’s cleanup, hybrid disposal at \$141 million taking into account the 2020 Permit’s increased excavation, and all disposal on-site at \$63 million).

⁵⁰ RCRA guidance in the 1990 Subpart S Proposal also notes that cost is an important factor when deciding between alternatives that offer similar levels of protection. “EPA’s experience in Superfund has shown that in many cases several different technical alternatives to remediation will offer equivalent protection of human health and the environment, but may vary widely in cost. The Agency believes that it is appropriate in these situations to allow cost to be one of the several factors influencing the decision for selecting among such alternatives.” 55 Fed. Reg. at 30,825.

Region's analysis demonstrated that the 2020 Permit resulted in the new hybrid disposal option comparing more favorably to off-site disposal than the total on-site disposal option had on most of the Nine Evaluation Criteria. At the same time, the cost criterion continued to weigh heavily against off-site disposal. In sum, the Citizen Groups' assertion that "[t]he Region's selection of 'hybrid' disposal in 2020 is inconsistent with its selection of off-site disposal in 2016 and inconsistent with its decision-making analysis" is not supported by the administrative record and does not show clear error. *See id.* at 12.

Moreover, the imbalance between off-site disposal and the hybrid disposal option under the Nine Evaluation Criteria is only heightened by the administrative record evidence bearing on where off-site wastes are likely to be disposed. As discussed above, off-site wastes with a concentration of less than 50 parts per million may be disposed at municipal solid waste landfills. Such landfills commonly have fewer protective features than the Woods Pond Landfill, which will be the repository for PCB wastes with a concentration of less than 50 parts per million under the hybrid disposal option. *See Part V.A.1.c-d, above.* Viewed in this light, off-site disposal provides less protection for human health and the environment than the hybrid disposal option at a far higher cost. Hence, the Citizen Groups' appeal to the Nine Evaluation Criteria as supporting off-site disposal is irreconcilable with the administrative record evidence on the disposal options and thus does not support their claim of clear error.

b. *Costs to Community*

The Citizen Groups argue that the Region clearly erred in concluding that the hybrid disposal option is cost-effective. They contend that any reduction in upfront costs compared to off-site disposal are more than offset by (1) "the long-term costs of permanent monitoring and repairing the [Woods Pond Landfill], which will continue in perpetuity and increase as the [Landfill] ages;" and (2) a negative impact on tangible and intangible costs, including property values, tourism, and "the experience of immersing oneself in the natural beauty" of the adjacent October Mountain State Forest. Pet'rs Br. at 23-24. These contentions lack merit.

The Citizen Groups' argument on operation, monitoring, and maintenance costs is not properly before the Board because this argument repeats, at times word-for-word, the Citizen Groups' comments on the 2020 Draft Permit, without addressing the Region's explanation in the 2020 Response to Comments that these costs had been taken into account. *Compare* Pet'rs Br. at 23-24 *with* HRI/HEAL Comments at 6. Under EPA regulations, when a petition raises an issue that the Region addressed in its response to comments document, a petitioner must "explain why the Regional Administrator's response to the comment was clearly erroneous or otherwise warrants review." 40 C.F.R. § 124.19(a)(4)(ii). "The Board has consistently denied review of issues where the petitioner simply reiterates prior comments submitted to the permitting authority without addressing the permit issuer's response to those comments." *In re City of Lowell*, 18 E.A.D. 115, 139 (EAB 2020) (citing cases). A petitioner's failure to respond to the Region's

explanation in its response to comments “leaves us with a record that supports the Region’s approach.” *In re Westborough*, 10 E.A.D. 297, 311 (EAB 2002).

In any event, the Citizen Groups provide no support for their claim that long-term operation, monitoring, and maintenance costs will exceed the \$146 million differential in the Region’s estimate between off-site disposal and the hybrid disposal alternative. In fact, the Citizen Groups’ argument does not seem to recognize that the Region included operation, monitoring, and maintenance expenses in its cost estimates for the on-site disposal alternatives much less explain how the Region’s calculations were in error.⁵¹ See Supp. Comp. Anal. at tbl.3 & n.6. Unsupported, conclusory allegations cannot demonstrate clear error. See *Lowell*, 18 E.A.D. at 193 (holding that the “burden [of] demonstrating clear error—especially as it relates to a technical matter—cannot be met by conclusory assertions in a legal brief”); *In re Russell City Energy Ctr., L.L.C.*, 15 E.A.D. 1, 69 n.83, 74-75 (EAB 2010) (holding that “conclusory” assertions without explanation for their basis are “unpersuasive” and “conclusory assertions of error” without supporting information do not “cast[] doubt” on permitting agency’s determination), *pet. for review denied sub nom. Chabot-Las Positas Cmty. Coll. Dist. v. EPA*, 482 F. App’x 219 (9th Cir. 2012).

As to the Citizen Groups’ argument about the “costs” that the hybrid disposal option would impose on property values, tourism, and the enjoyment of visiting October Mountain State Forest, the Region disputes that these costs are relevant to the remedy selection decision. In responding to comments on this issue in the 2020 Response to Comments, the Region explained that “[b]oth RCRA’s and CERCLA’s remedy selection processes consider the cost of proposed remedies, but not the impact on nearby property values or tourism.” 2020 Resp. to Cmts. at 34 (citing relevant CERCLA and RCRA statutory provisions, regulations, and policy statements). For example, the 1990 Subpart S Proposal on RCRA corrective actions specifies that the costs that may be considered in selection of a remedy are: “(i) Capital costs; (ii) Operation and maintenance costs; (iii) Net present value of capital and operation and maintenance costs; (iv) Potential future remedial action costs.” 1990 Subpart S Proposal, 55 Fed. Reg. at 30,877. For their part, the Citizen Groups offer no justification as to why property values and tourism should be factors in remedy selection and thus fail to rebut the Region’s conclusion in the 2020 Response to Comments. Thus, here again, the Citizen Groups fail to explain (as the regulations require) why the Region’s conclusion

⁵¹ One commenter did question the Region’s use of 100 years to estimate operation, monitoring, and maintenance costs. In response, the Region explained that “100 years is merely an accounting method used to calculate costs with a very long-term duration.” 2020 Resp. to Cmts. at 19. As the Region pointed out, “discounted values of even large costs incurred far in the future tend to be negligible.” *Id.* The Region also noted that “[n]otwithstanding any of the cost estimates generated to date, it is critical to note that, under the Permit, [General Electric’s] obligations regarding the [Woods Pond Landfill] are not time limited.” *Id.*

on this question in the Response to Comments was clearly erroneous. *See* 40 C.F.R. § 124.19(a)(4)(ii). Accordingly, the Citizen Groups' failure to address the 2020 Response to Comments on this point "is fatal to [their] request for review." *See In re Indeck-Elwood, L.L.C.*, 13 E.A.D. 126, 143, 170 (EAB 2006).

Additionally, in the 2020 Response to Comments, the Region gave several reasons why the Woods Pond Landfill would be unlikely to have a significant negative effect on property values and tourism. Most prominently, the Region called attention to the already degraded nature of the Woods Pond site. The Region noted that the Woods Pond landfill would be "located in an industrial area that contains an asphalt plant, a sand and gravel pit, an electrical substation, and several commercial/industrial facilities and is near two closed landfills." 2020 Resp. to Cmts. at 38. The Region also referenced two studies by its contractor, Skeo Solutions, on the potential effects the Woods Pond Landfill will have on property values and tourism. *Id.* at 35-39. In a 2012 report, Skeo Solutions concluded that an on-site landfill could cause a 3.5% decline in the value of nearby residential properties but that overall property values would increase as a result of the cleanup. Skeo Solutions, *Cleanup of the Housatonic "Rest of River": Socioeconomic Impact Study* 53, 56 (Sept. 2012) (A.R. 519880) ("2012 Skeo Rpt."); *see* 2020 Resp. to Cmts. at 39. Skeo Solutions also stated that it was difficult to conclude what effect the Housatonic cleanup would have on tourism. 2020 Resp. to Cmts. at 39; 2012 Skeo Rpt. at 27. In a 2020 report, Skeo Solutions examined the effect of two PCB landfills in Pittsfield on property values in nearby residential areas and concluded that there was an "absence of a significant decrease in Pittsfield property values" following construction of the landfills. Skeo Solutions, *GE-Housatonic River Superfund Site: Memo on Property Data Analysis Related to Citing a New Landfill* 8 (Nov. 2020) (A.R. 650436); *see* 2020 Resp. to Cmts. at 35-38.

The Citizen Groups question Skeo Solutions' qualifications and reasoning as to the 2020 report but rely on Skeo Solutions' conclusion in the 2012 report about the projected decline in property values. Pet'rs Br. at 23-24. The Citizen Groups also submitted a one-page statement by a licensed real estate broker presenting thinly documented anecdotal evidence that the Woods Pond Landfill would negatively affect property values in the Town of Lee. Statement of Janice Braim 1 (Mar. 4, 2021). On this record, we cannot conclude that the Citizen Groups have carried their burden to show the Region clearly erred in its assessment of the impact of the Woods Pond Landfill on property values and tourism, or in how it considered these factors in its remedy selection decision.

B. *Thermal Desorption and Bioremediation*

The Citizen Groups argue that the 2020 Permit violates CERCLA's preference for use of treatment technology in remedial actions that "permanently and significantly reduces the toxicity, mobility, or volume" of hazardous substances, pollutants, and contaminants. Pet'rs Br. at 26 (citing 42 U.S.C. § 9621(b)(1)). Additionally, they assert that the Region clearly erred by failing

to require that General Electric use either thermal desorption or bioremediation to reduce the PCB concentration in the excavated sediment and soil prior to disposal of these materials. *Id.* at 27. However, each of these claims was raised and denied in *General Electric I* and, for the reasons explained below, are not properly before us now. *See Gen. Elec. I*, 17 E.A.D. at 577-583.

1. *Issues Appealable Following Remand*

The scope of our review of a revised permit following remand is limited to issues the Board remanded and any other changes to the permit made during the remand period. *In re Shell Gulf of Mexico, Inc.*, 15 E.A.D. 470, 476-77 (EPA 2012), *pet. for review denied sub nom. Resisting Env'tl. Destruction on Indigenous Lands v. EPA*, 716 F.3d 1155 (9th Cir. 2013); *In re Upper Blackstone Water Pollution Abatement Dist.*, 15 E.A.D. 297, 302 (EAB 2011), *pet. for review denied*, 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 569 U.S. 972 (2013); *In re Knauf Fiber Glass GMBH*, 9 E.A.D. 1, 5 (EAB 2000); *In re Spokane Regional Waste-to-Energy Project*, 3 E.A.D. 68, 70 (Adm'r 1990). As we explained in *Upper Blackstone*, “[t]his limitation is consistent with the Board’s cases denying consideration of issues not raised in the initial petition for review, but instead raised in later briefs.” *Upper Blackstone*, 15 E.A.D. at 302. In addition, this limitation on the scope of review furthers the important principle of bringing repose and finality to contested issues.

2. *Issues Remanded and Permit Changes Made*

In our review of the 2016 Permit, we remanded two types of permit provisions to the Region. *First*, we remanded a series of related provisions addressing General Electric’s obligations to undertake additional cleanup measures if specified third parties carry out certain projects or work in the future at the Rest of the River site. *Gen. Elec. I*, 17 E.A.D. at 523. The Citizen Groups have not suggested that these provisions have any connection to the treatment of PCB-contaminated materials and therefore are not further discussed. *Second*, we remanded the permit provision directing that all contaminated sediment and soil be disposed of at an off-site facility rather than on-site. *Id.* at 569.

On remand, the Region reconsidered and revised the permit provisions on additional work and the location for disposal of contaminated materials in light of the Board’s 2018 decision. 2020 Resp. to Cmts. at 1. The Region also amended the 2016 Permit to include enhanced cleanup measures arising out of the Settlement Agreement. *Id.* There were no changes to the 2016 Permit regarding the treatment of contaminated materials prior to disposal.⁵²

⁵² In the Settlement Agreement, the Region did agree to continue to study treatment methods and potentially conduct trials of potentially promising technologies. *Settl. Agrmt.* at 12-13. However, the

3. *Analysis*

The issue of treatment prior to disposal was not remanded to the Region in the Board's 2018 decision; rather, the only remanded issue relating to disposal concerned "whether off-site or on-site disposal is appropriate." *Gen. Elec. I*, 17 E.A.D. at 569. Specifically, the Board's decision stated that we were granting General Electric's petition for review as to its challenge to the additional work provisions and "its challenge to the choice of off-site over on-site disposal for contaminated sediment and soil excavated from the Rest of the River," and we directed the Region to give further consideration to "[t]he provisions of the Final Permit pertaining to these issues." *Id.* at 584-85. Additionally, the Region made no changes to the 2016 Permit on remand addressing treatment of contaminated materials prior to disposal. In fact, the Region did not consider making such a change. In analyzing alternative approaches for disposal under the Nine Evaluation Criteria on remand, the Region examined only three options: should disposal occur entirely off-site, entirely on-site, or at a mixture of off-site and on-site locations (i.e., the hybrid alternative). *See* Supp. Comp. Anal. at 31, 39. Accordingly, the question of whether the Region erred in not requiring treatment is not within the scope of our review of the 2020 Permit.

Moreover, the Citizen Groups had an opportunity to appeal the Region's conclusions on the three treatment issues identified above following issuance of the 2016 Permit. The Housatonic River Initiative did just that, and we denied review on each issue. As to compliance with CERCLA's preference for treatment and the Region's decision not to require treatment using thermal desorption, we denied review because these issues were not raised during the public comment period. *Gen. Elec. I*, 17 E.A.D. at 581, 583. As discussed above, EPA regulations make raising an issue during the public comment period a prerequisite to obtaining Board review.⁵³ 40 C.F.R. § 124.19(a)(4)(ii); *see id.* § 124.13. We also rejected the Housatonic River Initiative's argument that it was not necessary to raise CERCLA's preference for treatment and thermal desorption *during* the public comment period because the Region was aware of the Housatonic River Initiatives' concerns from comments filed in prior years. *Gen. Elec. I*, 17 E.A.D. at 583. Both the governing EPA permitting regulation and Board case law require submission of issues "during" the comment period to preserve a matter for Board review. 40 C.F.R. § 124.19(a)(4)(ii); *see In re City of Phoenix, Ariz.*, 9 E.A.D. 515, 525-31 (EAB 2000) (concluding after exhaustive review of permitting regulations and policy considerations that for issue to be preserved for review

Settlement Agreement recognized that the agreement on continued study of treatment technologies was not intended to be reflected in the draft revised permit. *Id.*

⁵³ The Housatonic River Initiative admitted that it had not raised the thermal desorption issue in its comments on the 2014 Draft Permit and Mickey Friedman, a founding member of the organization, confirmed that failure in his comments on the 2020 Draft Permit. *Gen. Elec. I*, 17 E.A.D. at 579; Friedman Comments at 27.

it must be raised during, not prior to, comment period on draft permit); *In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 119 (EAB 1997) (rejecting argument that issues raised not during, but before or after, comment period were preserved for review); *In re Avon Custom Mixing Servs., Inc.*, 10 E.A.D. 700, 707 (EAB 2002) (holding that comments made “during the data gathering stage of the permit” and prior to public comment period on draft permit were not “comments on the draft permit”). Additionally, we explained that:

To require the Region to respond to all comments it “knew” about – whenever they were filed – would be especially harsh in the present case given the Region’s extensive efforts at outreach to the public over the fourteen years between entry of the Consent Decree and release of the Draft Permit. Moreover, it would discourage permit issuers from in the future providing extra public participation opportunities in the permitting process.⁵⁴

⁵⁴ For example, the Region held public comment periods on the following preliminary steps to preparation of the 2014 Draft Permit: the human health risk assessment, Region 1, U.S. EPA, Press Release: November 18-20, 2003, Peer Review Meeting on the Human Health Risk Assessment for the Housatonic River—Opportunity for Public Comment (Oct. 22, 2003) (A.R. 517499); the revised Human Health Risk Assessment, Region 1, U.S. EPA, *EPA Plans Public Comment Period on New Information in Final Human Health Risk Assessment for GE Pittsfield/Housatonic River Site* (Feb. 16, 2005) (A.R. 220703); the ecological risk assessment, Region 1, U.S. EPA, *Ecological Risk Assessment Fact Sheet: Housatonic River “Rest of River”* (July 2003) (A.R. 44909); the report on modeling of the fate, transport, and bioaccumulation of PCBs, Region 1, U.S. EPA, Press Release: April 25-26, 2001 Peer Review Workshop on the Modeling Framework Design Report for the Housatonic River; and Opportunity for Public Comment (Apr. 2, 2001) (A.R. 512102); a Calibration Report “to better understand the nature and impacts of PCB contamination in the Rest of the River,” Region 1, U.S. EPA, Press Release: Environmental News (Dec. 22, 2004) (A.R. 218070); a Model Validation Report for the Rest of the River site, Region 1, U.S. EPA, News Release: Housatonic River ‘Model Validation’ Report Released for Public Review and Comment (Mar. 7, 2006) (A.R. 248116); the Corrective Measures Report Proposal, Region 1, U.S. EPA, News Releases from Region 1: EPA to Hold Informal Public Input Period on Corrective Measures Study Proposal for GE/Housatonic River Project (Feb. 7, 2007) (A.R. 591293); the Corrective Measures Study, Region 1, U.S. EPA, *Corrective Measures Study Fact Sheet: Housatonic River “Rest of River”* (March 2008) (A.R. 285796); General Electric’s Response to EPA’s comments on Corrective Measures Study, Region 1, U.S. EPA, *GE/Housatonic River Site in New England: Current Public Comment Periods* (Apr. 1, 2009) (A.R. 449147); the revised Corrective Measures Study, E-mail from Jim Murphy, U.S. EPA, Region 1, to multiple recipients, Public Input Period—GE’s Revised Corrective Measures Study (CMS) Report for the Housatonic River (Oct. 14, 2010) (A.R. 533777). Further, in 1998, the Region established a Citizens Coordinating Council which the Region has met with regularly ever since to present updates on the Housatonic River cleanup and to receive feedback from the community. 2020 Resp. to Cmts. at 3; *see, e.g., EPA Housatonic River Citizens Coordinating Council—February 24, 2021 Meeting—Final Meeting Summary* (Sept. 8, 2021) (A.R. 659918).

Gen. Elec. I, 17 E.A.D at 583; *see Phoenix*, 9 E.A.D. at 527 (stating that the practical effect of construing pre-comment period comments as having been submitted during the comment period “would be to require a permit issuer * * * to search through the administrative record for comments submitted by anyone at any time, * * * starting on the date the permit application was initially filed”) (footnote omitted).

We also rejected the Housatonic River Initiative’s argument that the Region clearly erred in not requiring bioremediation of excavated wastes prior to disposal. *Gen. Elec. I*, 17 E.A.D at 582. We noted that the Housatonic River Initiative had not explained how the Region clearly erred in concluding that (1) “there has not been to date sufficient demonstration that bioremediation would be effective and meet the project goals;” and (2) the bioremediation project at New England Log Homes, upon which the Housatonic River Initiative relied, had been unsuccessful. *Id.* at 581 (quoting 2016 Resp. to Cmts. at 272). The New England Log Homes bioremediation project, conducted by Biotech Restorations, LLC, was terminated by the Massachusetts Department of the Environment “based on its conclusion that the bioremediation showed no reduction of contaminants but only served to dilute and redistribute contaminants across the site.” *Id.*

To the extent that the Citizen Groups continue to dispute our determinations in *General Electric I* on the issues the Housatonic River Initiative raised as to CERCLA’s preference for treatment, thermal desorption, and bioremediation, the Citizen Groups may seek judicial review of those determinations once the Region issues a final permit on the Rest of the River remedial action. *See* 40 C.F.R. § 124.19(l)(2). They may not, however, relitigate those prior determinations in this proceeding.

In their Petition, the Citizen Groups offer two arguments as to why it is appropriate to again raise these issues in their petition for review on the 2020 Permit. *First*, the Citizen Groups assert that in remanding the off-site/on-site issue to the Region, the Board “returned to the Region the question of where and how the PCB-contaminated sediments that will be removed from the River should be handled, and therefore also the question of whether some of those sediments should be treated through thermal desorption or bioremediation techniques.” Pet’rs Br. at 29. But the Citizen Groups misstate the issue we remanded. Our prior decision clearly states that we were remanding only the question of where excavated sediment and soil should be disposed of, not whether those materials should be treated before disposal. For example, in summarizing our holdings in the case, we sequentially stated that we were “uphold[ing] the Region’s decision not to require treatment of the excavated sediment and soil prior to disposal * * * [and] remand[ing] for further consideration the Permit provision requiring [General Electric] to dispose of the excavated material off-site rather than on-site.” *Gen. Elec. I*, 17 E.A.D. at 444.

Second, the Citizen Groups contend that because the Region had the “prerogative on remand to devise a new plan for removal and disposal of PCBs,” the Region was required to

consider CERCLA's preference for use of treatment technologies. Pet'rs Br. at 29. However, the fact that the Region may have had the "prerogative"—that is, the right or authority—to devise a new plan for removal and disposal of contaminated sediment and soil that included use of treatment technology is beside the point. *See Webster's Third New Int'l Dictionary* 1791 (1993) (defining prerogative as "a right attached to an office or rank to exercise a special privilege or function"). The critical question is whether the Region on remand *did* reopen its earlier determination concerning use of treatment technologies prior to disposal. And, as the Citizen Groups admit, the Region did not. Pet'rs Br. at 29 ("on remand, the Region again did not consider whether to include thermal desorption or bioremediation" techniques); *see also* 2020 Resp. to Cmts. at 23 (Region concludes that use of treatment prior to disposal is "not within the scope of the current comment period" because in 2016 Permit Region decided not to require treatment prior to disposal, Board upheld that decision, and Region "has not changed that decision" in the 2020 Permit). Moreover, as noted above, we explicitly decided against remanding the issue of whether the Region had appropriately addressed the use of treatment technology in issuing the 2016 Permit. *Gen. Elec. I*, 17 E.A.D at 581-83.

In their reply brief, the Citizen Groups raise a new argument as to why the Region should have reopened the treatment issue. They assert that the treatment question was necessarily reopened by the Board's remand of the issue of disposal location because the Region had grouped treatment and disposal options together as "treatment/disposition" alternatives in conducting the comparative analysis. Reply Br. at 13. However, under EPA regulations discussed above, the Board will not consider new arguments raised for the first time in a reply brief. 40 C.F.R. § 124.19(c)(2). Even if we were to consider this argument, we would not find that the Region's grouping of disposal and treatment alternatives together is determinative on this question. Options for treatment and disposal are not mutually exclusive alternatives. Rather, they are potential technologies or processes for addressing different possible components of the waste-handling portion of the remedial action, such as: (1) ways to reduce the level of contaminants in the excavated waste; (2) methods and locations for disposal of wastes, whether treated or not; and (3) types of beneficial reuse of wastes, if possible. *See CMS Proposal* at 4-43 to 4-66 (examining technologies or process options for treatment, disposal, and re-use of excavated sediment and soil). Perhaps nothing illustrates the separate nature of these aspects of the remedial action better than the fact that the two most promising treatment technologies considered for the Rest of the River site—chemical extraction and thermal desorption—would have each required that almost all the treated wastes be landfilled after treatment. *NRRB Package* at 8-27; *Rev. CMSR* at 9-84 to 9-85, 9-110. Due to their separate nature, we explicitly examined and ruled on treatment and disposal issues "separately" in our decision on the 2016 Permit. *Gen. Elec. I*, 17 E.A.D. at 559.

C. *Monitored Natural Recovery*

1. *The Citizen Groups' Claim*

The Citizen Groups' final challenge to the 2020 Permit concerns the monitored natural recovery measures in both the 2016 and 2020 Permits that apply to two lower reaches of the Housatonic River in Massachusetts and all the reaches in Connecticut (the Reach 7 channel and Reaches 9 through 16). According to the Citizen Groups, the Region's adoption of enhanced cleanup measures for *other* reaches of the River in the 2020 Permit "was an implicit decision to leave massive volumes of contaminated sediment in the River subject only to a vague notion of [monitored natural recovery]." Reply Br. at 24; *see* Pet'rs Br. at 34 (arguing that the 2020 Permit "leaves large volumes of PCBs in the River and emphasizes * * * 'monitored natural recovery'"); Reply Br. at 23 (asserting that the "level of cleanup" under the 2020 Permit "leav[es] hundreds of thousands of pounds of PCBs in the River"). Describing monitored natural recovery as "ineffectual" and doing "exactly nothing," the Citizen Groups challenge the monitored natural recovery provisions in the 2016 and 2020 Permits, arguing that the Region clearly erred in drafting these provisions by not including performance standards setting objectives for the monitored natural recovery process, reasonable timeframes for achievement of those objectives, and contingent solutions if the objectives are not met. Pet'rs Br. at 10, 34, 48. The Citizen Groups ask that the Region be required to establish "binding performance standards that are protective of human health and the environment" as to reaches subject to monitored natural recovery and mandate that General Electric "remove more PCBs from the River" if these performance standards cannot be achieved. *Id.* at 35, 39.

2. *Background on Monitored Natural Recovery and the Housatonic River*

As previously noted, monitored natural recovery uses naturally occurring processes to contain, destroy, or reduce contaminants in sediment. Office of Solid Waste & Emergency Response, U.S. EPA, *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites* at 4-1 (Dec. 2005) (A.R. 174471) ("2005 Sediment Guide"). The natural processes may include "physical, biological, and chemical mechanisms." *Id.* Physical processes are used in monitored natural recovery to "bury, mix, dilute, or transfer contaminants to another medium" through "sedimentation, erosion, diffusion, dilution," or other similar processes. *Id.* at 4-6. EPA guidance explains that sediment remedies frequently combine more than one remedial technique ranging from monitored natural recovery to more aggressive techniques such as excavation or *in-situ* capping or treatment. *Id.* at 1-6 & Highlight 1-5.

For the contaminated sediment in the Rest of the River, the Region chose to use monitored natural recovery in combination with excavation and *in-situ* capping.⁵⁵ See 2020 Permit § II.B. As explained above, in the 2016 Permit, the Region selected monitored natural recovery for use in the Reach 7 channel (i.e., not the impoundments) and Reaches 9 through 16. 2016 Permit ¶ II.B.h(1); see Figure 1, above. The Region noted that for these portions of the River, monitored natural recovery “is generally occurring by the physical processes of sedimentation and dilution of upstream sources.” 2014 Stat. of Basis at 7. The Region explained that it selected monitored natural recovery for the Reach 7 channel and Reaches 9 through 16 because their “PCB concentrations were relatively low or not detected, contamination was more widely dispersed throughout the reach, there was evidence of decreasing risks over time, and/or other alternatives did not result in appreciably different outcomes.”⁵⁶ 2016 Resp. to Cmts. at 193; see also *Gen. Elec. I*, 17 E.A.D. at 538-39. In particular, the Region emphasized the low levels of PCBs in these portions of the River, observing that the data from 1998 or later for the Connecticut reaches show that the average PCB concentration level in surface sediment is 0.09 parts per million and the average PCB concentration level for sediment at all sampled depths is 0.18 parts per million. 2016 Resp. to Cmts. at 195. EPA guidance on remedying contaminated sediment identifies these types of factors as supporting the choice of monitored natural recovery. See 2005 Sediment Guidance at 4-3 & Highlight 4-2.

In challenging the monitored natural recovery requirements, the Citizen Groups call attention to the differential between the estimated PCB removal amounts for the entirety of the 2020 Permit’s cleanup measures and the estimated total amount of PCBs at the Rest of the River

⁵⁵ In addition, the Region has required General Electric to perform a pilot study in Subreach 5B using “sediment amendments such as activated carbon to reduce the bioavailability of PCBs.” 2014 Stat. of Basis at 5; 2020 Permit § II.B.2.b(1)(b). That pilot study is in addition to excavation requirements as to Subreach 5B’s banks and sediment. 2020 Permit § II.B.2.b(1).

⁵⁶ A supplement to the Corrective Measures Study Proposal addressed the justification for use of monitored natural recovery for Reaches 9 through 16 by pointing out that the monitoring data show “sediment PCB concentrations are a factor of 10 lower in Reach 9 and a factor of 100 lower in Connecticut (Reaches 10-16) than in” Reaches 5 and 6 (Woods Pond). CMS Prop. Supp. at 2-8; see also Letter from Susan C. Svirsky, Project Manager, Region 1, U.S. EPA, to Andrew T. Silber, Gen. Elec. Co. 2 (July 11, 2007) (A.R. 274224) (noting that “EPA agrees with the conclusions presented in the discussion and evaluation of the alternatives considered for Reaches 9 – 16” in the supplement to the Corrective Measures Study Proposal). Additionally, the supplement reported that “[b]etween the late 1970s and late 1990s, surface sediment PCB concentrations declined by approximately a factor of 4 in Reach 9 * * * and generally by about an order of magnitude in most of the Connecticut reaches * * * except in Reach 12 (which showed no decline) and Reach 14 (Lake Lillinonah) (which showed a two-fold decline over the same period).” CMS Prop. Supp. at 2-9.

site. Comparing estimated PCB removal to both ends of the estimated range of PCBs at the site, they note that based on the low-end estimate, the 2020 Permit will require removal of “only about half of the PCB mass in the River,”⁵⁷ while using the high-end estimate shows that the percentage removal declines to 8%. Pet’rs Br. at 10. However, the Citizen Groups have not challenged the overall rigor of the 2020 Permit’s cleanup requirements; they challenge only the use of monitored natural recovery. It is therefore more useful to focus on the amount of PCBs present in the monitored natural recovery reaches (the Reach 7 channel and Reaches 9 through 16) rather than the overall percentage of PCBs that is estimated to be removed by the full scope of the cleanup requirements. As Tables 1 and 2 above show, the low-end estimate of PCB mass in sediment in the approximately 90-mile stretch of the Reach 7 channel and Reaches 9 through 16 is 980 pounds out of a total of a little more than 100,000 pounds at the Rest of the River site (considering sediment and soil) and the high-end estimate is 8,710 pounds out of a total of just under 600,000 pounds.

Additional perspective on the significance of the level of PCB contamination in the Reach 7 channel and Reaches 9 through 16 is provided by a Sediment Alternative—designated Sediment Alternative 8—the Region considered, but rejected, for the 2016 Permit. Sediment Alternative 8, which was the most aggressive one considered by the Region, required the removal of almost two-and-one-half times more sediment than the Sediment Alternative incorporated into the 2016 Permit (2.25 million cubic yards compared to 890,000 cubic yards). *See* 2014 Stat. of Basis at 21 tbl.2 (compare Combination Alternative 6 (SED 8/FP 7) with Combination Alternative 9 (SED 9/FP 4 MOD)). Despite the significantly higher levels of excavation required by Sediment Alternative 8, that alternative did not require a single cubic yard of sediment be removed from the Reach 7 channel or Reaches 9 through 16. Rather, the increased removal was required in Reaches 5 through 8 except for the Reach 7 channel. Notably, the Region rejected the Sediment Alternative 8 because, among other reasons, the Region found that this alternative only marginally decreased risk from PCBs even with its much greater removal amounts from the most contaminated portions of the River.⁵⁸ *See Gen. Elec. I*, 17 E.A.D. at 544.

3. *Issue Not Properly Before Board*

Like the Citizen Groups’ challenge to the 2020 Permit’s lack of a requirement for treating excavated materials, their challenge to the Permit’s monitored natural recovery provisions is not

⁵⁷ The Citizen Groups here are referring to the PCB mass in the River as well as in the riverbanks and floodplain as estimated by the Region. *See* Pet’rs Br. at 10, 48 (relying on “the Region’s lowest estimate of 100,000 pounds” and “its high-end estimate of 600,000 pounds”); *see also* tbls. 1 and 2, Part III.A, above.

⁵⁸ In the litigation challenging the 2016 Permit, the Housatonic River Initiative unsuccessfully argued that the Region erred by not selecting Sediment Alternative 8. *Gen. Elec. I*, 17 E.A.D. at 547.

properly before the Board. We did not remand the 2016 Permit's provisions on monitored natural recovery to the Region. To the contrary, we denied each of the five petitions challenging the 2016 Permit "in their entirety" aside from the two aspects of General Electric's petition already mentioned—the challenge to the additional work provisions and the provision requiring off-site instead of on-site disposal. *Id.* at 584.

That denial expressly included the Housatonic River Initiative's challenge to the Region's selection of monitored natural recovery as part of the cleanup plan. *Id.* at 539. The Housatonic River Initiative had argued that the data did not support the Region's conclusion that the Reach 7 channel and Reaches 9 through 16 were appropriate candidates for monitored natural recovery. Instead, it claimed that the record showed that use of monitored natural recovery would result in "incontrovertible and unnecessary risks to human health and the environment incurred by leaving significant levels of PCB contamination in this ever-changing river system." *Id.* at 538 (quoting Petition of Housatonic River Initiative, Inc. for Review of Permit Under RCRA, Appeal No. 16-02, at 20, 23 (Nov. 7, 2016)). However, as mentioned above, we rejected this argument because the Housatonic River Initiative supported its contention by relying on data from heavily contaminated Reaches 5 and 6, not from the Reach 7 channel and Reaches 9 through 16.⁵⁹ *Id.* at 539. We also denied a similar challenge to the use of monitored natural recovery from the Berkshire Environmental Action Team, reasoning that it had not rebutted the Region's conclusion that monitored natural recovery was appropriate in the Connecticut reaches due to their low level of contamination. *Id.* at 550.

The changes made to the 2016 Permit on remand did not reopen the issue of whether monitored natural recovery was an appropriate remedy for the Reach 7 channel and Reaches 9

⁵⁹ In their current petition, the Citizen Groups continue to misconstrue the administrative record regarding the Region's decision to use monitored natural recovery in the Reach 7 channel and Reaches 9 through 16. They argue that the following general statement from a short 2009 community update circular on the Region's human health and ecological risk assessments shows that these "studies * * * do *not* support a monitored natural recovery approach:" "Natural recovery from [PCB] contamination in the absence of cleanup in the river and floodplain is a very slow process that will take decades if not hundreds of years before PCB concentrations in fish decrease to a level that will permit unlimited consumption." Pet'rs Br. at 42 (citing U.S. EPA, *GE/Housatonic River Site—Community Update 4* (Aug. 2009) (A.R. 456069)). However, the human health and ecological risk assessments evaluated the risk to human health and the environment posed by the site but did not discuss cleanup measures. In fact, specific cleanup measures were not evaluated and proposed until years later. See 2014 Stat. of Basis at 1 (announcing in 2014 proposed cleanup measures). Moreover, there is nothing inconsistent between the rigorous mix of cleanup measures required by the 2020 Permit and a general statement that reliance on natural recovery alone, without an aggressive cleanup of the most-contaminated portions of the River and its floodplain, will not address the Rest of the River's PCB contamination in a timely fashion.

through 16. The Region made no changes to the monitored natural recovery provisions. *Compare* 2016 Permit § II.B.2.h(1) *with* 2020 § II.B.2.h(1). Rather, the only changes the Region made pertaining to the cleanup of River sediment involved several more significantly contaminated portions of the River, namely, Subreach 5C and five impoundments in Reaches 7 and 8. *See* 2020 Stat. of Basis at 9. Moreover, the enhanced cleanup measures added for Subreach 5C and the specified impoundments are not, in any way, inconsistent with maintaining the monitored natural recovery provisions. The enhanced cleanup measures require the Region to remove more sediment from Subreach 5C and the impoundments than was required by the 2016 Permit. *Id.* This additional removal obviates the need for capping the riverbed in those areas as required by the 2016 Permit. *Id.* Notably, the monitored natural recovery provisions apply only to portions of the River that the Region determined had sufficiently low levels of PCBs such that neither capping nor removal was needed. 2016 Resp. to Cmts. at 192, 195.

The Citizen Groups' argument that its challenge to the monitored natural recovery provisions may be heard by the Board is unconvincing. They do not argue that the Board remanded the monitored natural recovery requirements to the Region. Nor do they contend that the Region actually reopened these provisions in issuing the 2020 Permit; rather, they advance a theory of "implicit" reopening. According to the Citizen Groups, the Region's decision to require expanded sediment removal in certain areas of the Rest of the River site in the 2020 Permit was an "implicit decision" to re-approve the scope of the cleanup as set forth in the unchanged portions of the 2016 Permit and thus a reopening of these portions. *See* Reply Br. at 24; Pet'rs Br. at 47-48.

The Citizen Groups cite no precedent to support this expansive theory of the review of remanded permits. In prior decisions, the Board has limited review following remand to the issues explicitly remanded or portions of the permit that were actually modified on remand. *See In re Spokane Reg'l Waste-to-Energy Project*, 3 E.A.D. 68, 70-71 (Adm'r 1990) (refusing to reopen a previously litigated-and-decided issue on review following remand "in the interest of repose" because the earlier order evidenced no intent to reopen the issue); *In re Knauf Fiber Glass, GMBH*, 9 E.A.D. 1, 7 (EAB 2000) (refusing to review permit issues following remand both as to issues that had been previously decided and issues raised for the first time following remand, but allowing review of challenge to changed emission standard in permit); *In re Shell Gulf of Mexico, Inc.*, 15 E.A.D. 470, 503 (EAB) (refusing to review permit issues following remand where issues could have been raised but were not in first permit appeal), *pet. for review denied sub nom, Resisting Envtl. Destruction on Indigenous Lands v. EPA*, 716 F.3d 1155 (9th Cir. 2013). Here, the monitored natural recovery permit provisions were not remanded and these provisions were not amended on remand.

In any event, Citizen Groups' argument in support of such an implied reopening here lacks merit. The Citizen Groups contend that the Region impliedly reopened the question of "the amount of PCBs to be removed" from the Rest of the River by agreeing to more sediment removal in certain portions of the River and describing the 2020 Permit's enhanced cleanup measures as "a

more complete cleanup.” *See* Pet’rs Br. at 47-48; Reply Br. at 23. Essentially, they are arguing that any change to the 2016 Permit’s cleanup measures reopens all the Permit’s cleanup measures so long as the Region describes the change as an improvement on the existing permit.

At its core, this argument relies on a fundamental misunderstanding of the Region’s decision on the 2020 Permit. During the remand process, the Region did not reinitiate a review of the entirety of the 2016 Permit’s cleanup provisions. Rather, the Region undertook a much narrower task. As a result of the Settlement Agreement, the Region was presented with General Electric’s offer to undertake additional cleanup measures not included in the 2016 Permit’s cleanup requirements. To determine whether such changes would comply with the Nine Evaluation Criteria in the 2000 Permit, the Region focused on whether the proposed changes were “better suited” to the Nine Evaluation Criteria than the existing cleanup measures in the 2016 Permit. *Supp. Comp. Anal.* at 14, 24; *see* 2020 Stat. of Basis at 20. The Region did not, either explicitly or implicitly, take a fresh look at the earlier determinations underlying the 2016 Permit’s cleanup measures or otherwise return to ground zero on what remedy was needed for the Rest of the River. To accept the Citizen Groups’ view would severely compromise the finality of the permitting process, as with each substantive permit amendment the administrative and judicial review as to the whole permit would begin anew. That would be particularly problematic for a permit, such as the 2020 Permit, that establishes a complex remediation scheme to be implemented over an estimated 13-year period at a cost of hundreds of millions of dollars.

The Citizen Groups had an opportunity in 2016 to challenge the Region’s decision on use of monitored natural recovery. The Housatonic River Initiative and Berkshire Environmental Action Team took advantage of that opportunity, but they were ultimately unsuccessful in convincing the Board that the Region had clearly erred in adopting monitored natural recovery as the cleanup measure for the River reaches with the lowest PCB concentration levels and a relatively low percentage of the PCB mass at the Rest of the River site. If they desire, the Citizen Groups can pursue judicial review of the Board’s 2018 decision on the monitored natural recovery issue once the 2020 Permit is finalized. *See* 40 C.F.R. § 124.19(l)(2). However, they may not use this proceeding for a do-over so that they may raise now what they consider to be better arguments.

4. *The 2020 Permit’s Performance Standards*

Even if we were to consider the merits of the Citizen Groups’ challenge to the monitored natural recovery provisions, we would still deny review. The Citizen Groups are simply incorrect in asserting that the monitored natural recovery provisions in the 2020 Permit lack performance standards, a timeframe for meeting the performance standards’ objectives, and a contingency plan for addressing a failure by monitored natural recovery to meet performance standards.

The 2020 Permit contains several performance standards applicable to its monitored natural recovery provisions. Most pertinent is the short-term biota performance standard. This

performance standard establishes an average PCB concentration in “fish fillet” to be achieved in every reach of the River including if “the reach is subject to Monitored Natural Recovery.” 2020 Permit § II.B.1.b(1)(a). As the Region explains, the short-term biota performance standard “measures the effectiveness of active PCB source control removal and [monitored natural recovery] by evaluating changes in fish tissue concentrations in all reaches, including [monitored natural recovery] reaches, against a specified numeric fish tissue Performance Standard.” Region Resp. Br. at 41. The 2020 Permit establishes a timeframe for meeting the short-term biota performance standard—within fifteen years of completion of construction-related activities in the closest upstream reach for monitored natural recovery reaches—and requires that if the standard is exceeded in any two consecutive monitoring periods, General Electric must “evaluate and identify the potential cause(s) of the exceedance and propose, to EPA for review and approval, additional actions necessary to achieve and maintain the Performance Standard.” 2020 Permit § II.B.1.b(1)(a). In other words, contrary to the Citizen Groups’ allegations, the 2020 Permit’s biota performance standard (1) establishes a performance standard that applies to the monitored natural recovery reaches, (2) sets timeframes for compliance with that performance standard, and (3) requires a contingent response from General Electric if the performance standard is not met.

In addition, the 2020 Permit contains a performance standard tied to PCB concentrations in water flow crossing the Woods Pond and Rising Pond dams. *Id.* § II.B.1.a(1)(a) (Downstream Transport Performance Standard). This performance standard is structured similarly to the short-term biota performance standard with numeric compliance values, compliance time periods, and contingent requirements that General Electric must meet if compliance is not attained or maintained. *Id.* Because the monitored natural recovery provisions apply to the Reach 7 channel, which is upstream from the Rising Pond dam, this standard applies to this portion of the River as well as the other reaches upstream from these dams. Finally, the 2020 Permit contains performance standards applicable to long-term PCB levels in surface water, sediment, and biota in monitored natural recovery reaches that impose monitoring obligations on General Electric to determine if recovery is occurring at the expected rate. *Id.* §§ II.B.1.b(1)(b), II.B.2.h.

Despite these performance standards, the Citizen Groups argue that the 2020 Permit is deficient because it does not “contain a standard for levels of PCB contamination in surface water or in sediment to be achieved through [monitored natural recovery].” Reply Br. at 16. However, they cite no authority for why there must be a direct measure of the contaminated material—here, sediment—and instead criticize the biota performance standard based on nothing more than their unsubstantiated assertion that standards linked to biota “are tangential to the issue of whether natural processes are effectively cleaning the River.” *Id.* This argument is unpersuasive. Relevant EPA guidance recommends several different “lines of evidence” that may be used in performance standards, including biota such as fish. 2005 Sediment Guidance at 4-9 & Highlight 4-4. Moreover, it makes sense for performance standards applicable to the portions of the River subject to monitored natural recovery to focus on PCB concentrations in fish. The Region has determined that the sediment in those areas does not pose a direct contact risk, whereas the consumption of

fish poses both cancer and non-cancer risks of concern throughout the length of the Housatonic River. *See* Part III.B.3.a, above.

Finally, in their reply brief, the Citizen Groups raise a new argument in opposition to the Region's choice of monitored natural recovery: that the Region lacks adequate monitoring data from the Connecticut reaches of the Housatonic River to "support [a] scientifically sound remedy selection." Reply Br. at 21. As explained above, we do not consider arguments raised for the first time in reply briefs and, in any event, the Citizen Groups present no record evidence to support such an allegation.

The Citizen Groups claim that the Region has conceded that it lacks adequate data on PCB levels in the reaches designated for monitored natural recovery. Reply Br. at 21. They dispute the Region's assertion that the 2016 Response to Comments shows that there is "a detailed understanding of the extent of contamination in the [monitored natural recovery] river reaches due to modeling and robust biota and sediment sampling." *Id.* at 21 (quoting Region Resp. Br. at 44). According to the Citizen Groups, what "[t]he 2016 Response to Comments actually says" is that "[w]e are unaware of any recent or adequate sampling of sediment in front of the dams in Connecticut for PCB contamination." *Id.* (quoting 2016 Resp. to Cmts. at 194).

The Citizen Groups are incorrect in stating that the Region acknowledged in the 2016 Response to Comments that there had been inadequate sampling of sediment in the Connecticut reaches. In fact, the Region took the opposite position. The above-quoted language alleging inadequate sampling, while it appears in the 2016 Response to Comments, is excerpted from a public comment by the Housatonic Environmental Action League—a petitioner in this proceeding—not a comment response by the Region.⁶⁰ *Compare* 2016 Resp. to Cmts. at 194 (Comment 502) *with* Letter from Audrey Cole, Pres., Housatonic Envntl. Action League, Inc., to Dean Tagliaferro, U.S. EPA, Region 1, at 2 (Oct. 25, 2014) (A.R. 568094) (comments on 2014 Draft Permit containing language reprinted in the 2016 Resp. to Cmts. as Comment 502). The

⁶⁰ In the 2016 Response to Comments, the Region reprinted each significant comment before explaining its response to that comment. Each comment is labeled as a "**Comment**" with an identifying number. The Region's response is presented following the reprinted comment and is titled as "**EPA Response**," again with a reference to the identifying number of the comment being responded to. The above quote beginning "We are unaware * * *" is labeled **Comment 502**, and an attachment to the Response to Comments identifies comment 502 as having been submitted by the Housatonic Environmental Action League. 2016 Resp. to Cmts. at 194; *Id.* att. D at D-19. Immediately below the reprint of Comment 502 in the 2016 Response to Comments is the Region's response to that comment, which states that "EPA disagrees that there are insufficient data to support the selection of [monitored natural recovery] in reaches in Connecticut." *Id.* at 195. Following this opening, the Region then detailed the data and reasons supporting this conclusion. *Id.*

Region, in that same document, expressly rejected the League's comment and explained why. 2016 Resp. to Cmts. at 195.

Other than this inaccurate attribution of the Housatonic Environmental Action League's comment to the Region, the only support the Citizen Groups offer as to their claim of inadequate data is to baldly assert in their Reply Brief⁶¹ that the number of sediment samples from Connecticut is "extraordinarily low." Reply Br. at 21. However, our decisions are based on the administrative record before the Region, not unsubstantiated scientific opinions in legal briefs to the Board. *See In re City of Lowell*, 18 E.A.D. 115, 193 (EAB 2020) (holding that petitioner cannot meet its burden of demonstrating clear error, especially on a technical matter, through reliance on "conclusory assertions in a legal brief").

VII. CONCLUSION

For the reasons stated above, we reject the Citizen Groups' contention that the Region clearly erred in choosing to allow disposal of the less-contaminated PCB wastes from the Rest of the River site at the Woods Pond Landfill. As to the Citizen Groups' other two claims concerning treatment technologies (thermal desorption and bioremediation) and monitored natural recovery, we hold that those claims are not within our scope of review of this permit following remand. The petition for review is denied. The Region's motion to strike various attachments to the Citizen Groups' petition is granted in part and denied in part as specified in Part V, above.

So ordered.

⁶¹ The only support that the Citizen Groups provide for their scientific opinion on data adequacy is an unexplained cite to a Region 1 update document summarizing the same monitoring data from Connecticut that the Region concluded were sufficient for assessing PCB levels in the portion of the Housatonic River in Connecticut. *See* Reply Br. at 21, n.72 (citing U.S. EPA, *Sediment PCB Data Summary Report for Connecticut: GE-Pittsfield/Housatonic River Site* (Apr. 15, 2015)) (A.R. 574850); 2016 Resp. to Cmts. at 195.