Attachment 10

Excerpts from EPA's Response to Comments on Draft Permit Modification and Statement of Basis (October 2016) ("RTC")

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

SDMS: 593922

U.S. Environmental Protection Agency
Region 1 (EPA New England)

5 Post Office Square, Suite 100
Boston, MA 02109-3912

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and floodplains to at least pre-remediation condition pursuant to the applicable Work Plans. (As discussed below, some of this restoration work was undertaken in compliance with ARARs). For example, pursuant to the Work Plan for Phase 4 Floodplain Properties, GE conducted inventories of pre-existing conditions, including trees, shrubs, and other features to ensure that restoration of conditions to pre-remediation conditions would be achieved. Accordingly, this work to restore the Brook, Silver Lake, and portions of the floodplain to pre-remediation condition is independent of GE's obligations to also create additional habitat improvements in other separate areas of the Brook and Lake to resolve its natural resource damages liability to the natural resource trustees.

Under CERCLA, cleanups must also comply with all ARARs (unless specifically waived). Here, Section 404 of the Clean Water Act and the Massachusetts Endangered Species Act constitute ARARs and, under certain circumstances, these ARARs require the restoration of areas disturbed by remediation. GE argues, however, that EPA does not have authority to require restoration of disturbed areas even as part of CERCLA's mandate to comply with ARARs, because ARARs may allegedly only apply to hazardous substances that remain "onsite." EPA is unaware of any court ever adopting GE's interpretation and it is refuted by the Decree. Appendix E, Attachment B, of the Decree incorporates ARARs that are not limited to hazardous substances remaining "onsite." Likewise, EPA's guidance makes clear that federal and state statutes and regulations that are directed at protecting locations (e.g., resource areas, including habitats) can also be ARARs. For example EPA's guidance - CERCLA Compliance with Other Laws Manual, Part II (1989) - on such location-specific ARARs states that substantive compliance with the federal Endangered Species Act (ESA) means:

> ...that the lead agency must identify whether a threatened or endangered species, or its critical habitat, will be affected by a proposed response action. If so, the agency must avoid the action or take appropriate mitigation measures so that the action does not affect the species or its critical habitat.

Indeed, the ESA is an ARAR that GE does not dispute, including the obligation to "take mitigation measures so that action does not affect species/habitat."

Thus, contrary to GE's claims, it is well settled that the natural resources disturbed by remediation must be restored and mitigated as part of the remedial process in accordance with the substantive requirements of ARARs, such as the ESA, the Massachusetts Endangered Species Act, the Massachusetts Wetlands Protection Act, and the Clean Water Act. Indeed, in other areas of the Site outside the Rest of River, the Clean Water Act Section 404 and the Massachusetts Wetlands Protection Act constitute ARARs for the Removal Actions Outside the Rest of River and respectively require that river banks will be restored, habitat will be improved, and "disturbed vegetation will be restored" as specified in Appendix E, Attachment B, Table 3 of the Decree. Similarly, GE has not disputed that the National Historic Preservation Act and the Massachusetts Historical Commission Act serve as ARARs, including for the Rest of River, which are also included in Appendix E, Attachment B, Table 3 of the Decree.

In addition, GE claims that any restoration to return disturbed areas to pre-remediation condition or to comply with ARARs would conflict with the Decree's covenants regarding natural resource damages ("NRD"). As noted above, for response actions outside the Rest of River, GE has

already undertaken substantial restoration work to return areas disturbed by remediation to pre-remediation condition and/or to comply with ARARs. Likewise, GE evaluated the cost of undertaking restoration work for the Rest of River as part of its CMS related to the Rest of the River. See CMS, Appendix Q. In sum, the parties have assumed that GE would comply with ARARs in undertaking response actions pursuant to the Decree, including ARARs requiring restoration work. After all, such work constitutes a fundamental component of the response action.

Indeed, CERCLA prohibits the Natural Resource Trustees from providing a covenant for NRD until the responsible party "agrees to undertake appropriate actions necessary to protect and restore the natural resources damaged by" releases of hazardous substances. 42 U.S.C. § 9622(j)(2). Here the Decree requires that GE's implementation of response actions comply with ARARs, which include those requiring that natural resources disturbed by the remedy be restored or mitigated. Specifically, as required in the Decree, GE is required to comply with any ARAR set forth in the documents selecting the Rest of River Remedial Action and/or in the Rest of River SOW, unless waived by EPA pursuant to CERCLA and the NCP. Therefore, the NRD covenant for the Rest of River is contingent upon GE's compliance with the Decree and its obligations, including the obligation to implement the Rest of River response action, and ARARs.

GE uses language in the Decree Paragraph 114.b, a payment provision to the Natural Resources Trustees, to argue that it precludes EPA from requiring compliance with ARARs or restoration of areas disturbed by remediation activities. But this provision merely provides that GE pay the Trustees: "$600,000 as mitigation for wetlands impacts associated with PCB contamination and with response actions at the Site." A more relevant provision is ignored. Decree Paragraph 112 states that "[S]atisfaction of the Plaintiffs' claims for Natural Resource Damages shall consist of: Performance of the response actions required under the Decree…" (emphasis added), and other components, including the $600,000 payment. In short, until GE performs the Rest of River response actions in accordance with the requirements of the Decree, which include compliance with ARARs, GE has not satisfied the Governments' claims for natural resource damages. Accordingly, the payment provision in Paragraph 114.b is not a covenant not to sue from the United States. That covenant is set out in Paragraphs 112(a) and 161, and is contingent upon compliance with the response actions required under the Decree, including all of the Work required in the Rest of River SOW. The Trustees and EPA have overlapping interests and jurisdiction and worked together here to draft a settlement in the public interest. For all the foregoing reasons, the covenant not to sue for NRD does not apply until all the work is completed in the Rest of River, including restoration of resources disturbed by remediation and/or in compliance with ARARs.

GE also includes a few summary arguments regarding the level of detail and likelihood of success of restoration. To the extent that there is an objection that the specifics of restoration are not sufficiently developed, those details will be set forth in the Rest of River SOW or the Work Plans for the Rest of River SOW as is contemplated by the Decree. To the extent that GE further questions the likelihood of success of restoration efforts, information in the record does not support its position, and as noted in Responses 17 *et al.*, 455, 492, 533 *et al.*, 593, 594, 595, 596, and additional detail or certainty is not required at the remedy selection phase of remedy

respect to whether the Director should allow a take – which would be required for a regulation to constitute an ARAR under the CERCLA definition (CERCLA § 121(d)(2)A)).

Comment 686: GE asserts the following: Application of the MESA Net Benefit requirement, requiring GE to conduct unspecified conservation and management measures in return for a take, would constitute an attempt to recover compensation for a take, which is a form of NRD. As noted in [Comments 677, 678, 680, 681, and 682], GE has already provided compensation for NRD at this Site, and has a covenant from the federal and state governments not to seek additional NRD (except in the case of dam failure, which is not relevant here). Thus, any attempt to require additional conservation and management measures would undermine those covenants and conflict with the Decree.

EPA Response 684, 685, 686: It is premature to determine if the specific actions that will occur during remediation will result in a "take" of any state-listed species. During the design of the remedy, if EPA determines that a "take" that would impact a significant portion of the local population of a species occurs, EPA will identify that to GE, and GE would have the right, as with any design/implementation dispute, to pursue Dispute Resolution under the Decree, including review by U.S. District Court.

With respect to the Net Benefit provision, EPA's Final Permit Modification's Summary of ARARs table has the following Synopsis for this provision of the MESA:

> A proposed activity in mapped Priority Habitat for a state-listed rare, threatened, endangered species or species of special concern, or other area where such a species has occurred may not result in a "take" of such species, unless it has been authorized for conservation and management purposes that provide a long-term net benefit to the conservation of the affected state-listed species. A conservation and management permit may be issued provided an adequate assessment of alternatives to both temporary and permanent impacts to state-listed species has taken place, an insignificant portion of the local population would be impacted by the project or activity, and an approved conservation and management plan is carried out that provides a long-term Net Benefit to the conservation of the state-listed species. Projects that will alter a designated Significant Habitat must be reviewed to ensure that they will not reduce the viability of the habitat to sustain an endangered or threatened species.

Similarly, based in part on GE's comments, the Summary of ARARs table now includes the following as part of the Actions to be Taken to Achieve this requirement:

> To the extent that unavoidable impacts result in a take of state-listed species, EPA would follow the regulatory requirements with respect to implementing a conservation and management plan providing for a long-term net benefit to the affected state-listed species.

GE argues that if there is a "take" of a species which results in a "significant" portion of the local population being impacted by the project or activity, the requirement to submit a Conservation and Management Plan providing for a Net Benefit to the species would not apply, because the "take" is prohibited outright.

Massachusetts Division of Fisheries and Wildlife (MassDFW) has affirmed for EPA that under the MESA regulations, if a determination of a take is made, the project or activity must either be modified to eliminate the take or the proponent must obtain a conservation and management permit ("CMP") pursuant to 321 CMR 10.23. More specifically, in addition to showing that the impacts from the remedial action have been avoided, minimized and mitigated, the MESA regulations at 321 CMR 10.23(2)(a)-(c) set forth three separate, distinct and substantive Performance Standards that must be met in order to obtain a CMP authorizing a take under MESA:

a) there has been an adequate assessment of alternatives to both temporary and permanent impacts;

b) only an insignificant portion of the local population of the affected state-listed species will be impacted, and

c) an approved conservation and management plan provides for the long-term Net Benefit for the conservation of the state-listed species. The term "Net Benefit" is defined in the MESA regulations at 321 CMR 10.01 to mean (1) an action(s) that contribute significantly to the long-term conservation of a state-listed species, and (2) that conservation contribution exceeds the harm caused by the proposed project or activity.

As noted above, MassDFW has affirmed for EPA that the insignificant impact on local population and the Net Benefit Performance Standards in 321 CMR 10.23(2)(b) and (c) are separate and distinct substantive requirements applicable to the permitting of a take. More specifically, in order to authorize a take, 321 CMR 10.23(2)(b) requires that there be an "insignificant impact" to the *local* population of the affected state-listed species. In comparison, 321 CMR 10.23(2)(c) requires that a Net Benefit be provided to the affected state-listed species *as a whole* (i.e., beyond the geographic location of the local population of that species).

If a take will have a significant impact on the local population of the affected species, in order to move forward, such an activity would need to be redesigned or coupled with a form of mitigation that would result in an insignificant impact on the local population. In that regard, there are certain forms of mitigation designed to enhance the local population, thereby lessening the overall impact of a project. For this reason, MassDFW typically requires an applicant to evaluate whether a Net Benefit can be provided, even in cases where there is a preliminary assessment that the activity will impact a significant portion of the local population. This approach is appropriate because after-the-fact habitat management and habitat restoration could off-set remediation impacts in certain cases, which should be considered in evaluating the level of impact on the local population resulting from a particular remedial alternative in site-specific locations.

During design and implementation of the proposed remedy, if, despite that evaluation and potential mitigation, a significant impact on the local population remains, EPA, in consultation with MassDFW, will evaluate whether it is appropriate to waive the requirement of an insignificant impact on local population pursuant to CERCLA Section 121(d)(4), such as if it is technically impracticable to comply with that requirement. GE remains obligated under the MESA regulations to comply with the separate, distinct and substantive Net Benefit Performance

Standard in 321 CMR 10.23(2)(b) to compensate for the resulting take through the implementation of a conservation and management plan.

EPA disagrees with GE's position that MESA provides too much discretion to the decision maker on determining whether to permit a "take," and that amount of discretion does not satisfy CERCLA 121(d)'s requirement that an ARAR be "standard, requirement, criteria or limitation." The MassDFW Director's authority to permit a take of a State-listed species is subject to and limited by several specific standards established in the MESA regulations. First, as outlined above, the DFW's Director's authority to authorize a take is subject to the Performance Standards at 321 CMR 10.23(2), which place limits on such authority. Furthermore, the MESA regulations at 321 CMR 10.23(7) ("General Mitigation Standards Applicable to Individual and General Conservation and Management Permits Issued by the Director") specifically address the general mitigation standards to be applied by the DFW Director in issuing CMPs. This regulation directs the Director to apply the areal habitat mitigation ratios specified therein that correspond to the affected category of state-listed species: 3:1 for endangered species; 2:1 for threatened species; and 1.5:1 for species of special concern.

While the MESA regulations reserve the right to deviate from the applicable mitigation ratio or allow an alternative mitigation approach, discretion to do so is subject to the process and criteria specified therein. Specifically, the decision-maker is required to determine in writing that the alternative mitigation ratio or mitigation approach is either sufficient or required to meet the Net Benefit standard. In making such determination, the decision-maker must also consider, at a minimum, the five factors identified in the regulation, which involve specific conservation management considerations such as the threats to and population density of the affected state-listed species, the size and configuration of both the habitat impact and quality of the habitat proposed to be protected.

With respect to GE's argument on the MESA-required activities being precluded by the Natural Resource Damage covenants in the Decree, EPA disagrees with this characterization. See above Response 677 *et al.*

III.C River Sediment and Banks

III.C.1 Reaches 5A, 5B, and 5C

Comments 55, 57, 79, 95, 116, 140, 207, 209, 212, 227, 320, 325, 358, 421, 422, 513: EPA should clarify and provide a rationale for the sediment cleanup criteria in Reaches 5A, 5B and 5C and for why there is no numeric target for cleanup of sediment in Reaches 5A and 5C. In addition, some commenters believed that the cleanup level of 50 mg/kg in Reach 5B was not stringent enough to protect wildlife and human health and limit downstream transport of PCBs. Another commenter believed that the cleanup level of 50 mg/kg should be applied in Reach 5A, thus minimizing impacts to the neighborhoods in this area. One commenter suggested there should be uniform target cleanup concentrations throughout the areas to be remediated and that there are no differences between the various reaches that would justify such large differences in cleanup targets.

In addition, EPA does not disagree with GE's assertion that sediment removal sufficient to place a properly designed, constructed, operated and maintained Engineered Cap in perpetuity might achieve the same reductions as the selected Woods Pond remedy for certain risks. However, this conclusion assumes that such a cap will be properly maintained and operated in perpetuity to resist floods and ice-scour and that there is no breach or failure of Woods Pond Dam. In making these arguments, GE discounts the benefits of more effective source control through the permanent reduction in the bioavailability of PCBs to human and ecological receptors through removal. Here the more extensive source control – removal – leads to the twin benefits of risk reduction, including reduction of the risk of downstream transport, and increased long-term effectiveness. In Woods Pond, there is a significant benefit to removal of the large amount of PCBs in the event of breach or failure of Woods Pond Dam. After all, even with the best intentions and significant resources, it is impossible to guarantee that there will never be a dam breach or failure in perpetuity, even if GE remains the dam owner in perpetuity, including unknowns or uncertainties associated with potential climate change. One relevant example is the release of PCBs caused by the 1992 partial breach of the Rising Pond Dam, described further in Section III.C.5 of this Response to Comments, which occurred even after GE worked in cooperation with Rising Paper Company to develop sufficient data on sediment quality to evaluate management options for the dam. In contrast, removing sediment from behind the dam and disposing of it in a secure landfill guarantees that such sediment cannot be reintroduced into the Housatonic environment and transported downstream in the event of cap or dam breach or failure. GE simply fails to account for the benefits provided by the finality in risk reductions and source control related to actually removing 285,000-340,000 CY of PCB-contaminated material from the River.

At issue here is the opportunity to permanently remove the risks posed by approximately 285,000-340,000 cubic yards (depending upon EPA's or GE's respective calculations as described above in this response) of PCB-contaminated sediment. Woods Pond sediment contains approximately 25% of the mass of PCBs present in the Housatonic River (GE's RCRA Facility Investigation Report for the Rest of River, 2003, Table 4-11), and does not provide priority habitat for state-listed species. (Commonwealth of Massachusetts' 2014 Comments on the Draft Permit Modification). Accordingly, EPA's remedy for Woods Pond represents the opportunity to remove a significant mass of PCBs from the river system, thereby reducing the potential for downstream transport of PCBs, and significantly reducing the bioavailability and exposure of PCBs to human and ecological receptors (including but not limited to the consumption of contaminated fish) with minimal short- or long-term impacts to the environment from the remediation itself. EPA's remedy selection for Woods Pond is supported by the Administrative Record, and falls within EPA's expertise in evaluating all the relevant factors in selecting a remedy for the Rest of River.

Additionally, EPA disagrees with GE's discounting of the benefits provided by a deeply dredged Woods Pond in its capacity to serve as a PCB trapping mechanism to prevent PCB transport downstream. GE acknowledges that the proposed deepening increases the PCB trapping efficiency compared to remedies that do not deepen the Pond. Accordingly, at issue is the significance of the increased trapping. GE's own modeling shows that as a result of the increase in trapping efficiency, the incremental reduction in downstream transport, or flux, over Woods Pond is 0.1 kg/year and over Rising Pond is 0.2 kg/yr. These are far more than "modest" benefits; these reductions in flux are significant relative to the Downstream Transport

Performance Standards. If these trapping-related reductions were not achieved it would decrease the likelihood of GE achieving the Downstream Transport Performance Standard. Furthermore, Woods Pond has historically been an effective trap as demonstrated by the significant amount of PCB mass that has been retained in the pond. Increased trapping combined with future periodic removal of PCB-contaminated sediment from the pond, as required by the Final Permit Modification, will logically reduce downstream flux of PCBs in two ways. Removing future sediment accumulation will eliminate the opportunity for those PCBs to dissolve off the solids and into the water column, and will prevent the PCBs attached to the solids from migrating downstream due to erosional forces and/or dam breaches or failure. Accordingly, the benefits of additional trapping efficiencies favor the selected remedy.

EPA disagrees with GE's unsupported contention that the actual purpose of the remedy for Woods Pond is to improve Woods Pond as a recreational fishery. Pursuant to the process set forth in the Decree, EPA considered all public comment on the proposal, including those from GE, Massachusetts, and Connecticut. As stated in its October 27, 2014 letter expressing support for the Proposed Cleanup Plan, the Commonwealth strongly favors the proposed remediation approach to Woods Pond for the reasons identified by EPA. Following that, while the Commonwealth noted, after summarizing the remediation objectives and benefits of the proposal, that it will also have the *secondary* benefit of enhancing the public's safe, recreational use of the Pond, the latter was not the basis for the Commonwealth's support or a factor in EPA's decision. As discussed in the comments above and in EPA's Comparative Analysis, not only will the selected remedy significantly reduce human health risks from fish (and other biota), but also it will remove a significant mass of PCBs, reducing the potential for release in the case of dam breach or dam failure, and increase the PCB trapping efficiency of Woods Pond, thus assisting in reducing downstream transport of PCBs. (See Comparative Analysis at pages 3 and 4.)

In addition, GE exaggerates the downsides of the EPA proposal for Woods Pond, by arguing that other remedies would be almost as good and cost far less. EPA believes that GE's cost discrepancies are inflated. While GE infers a cost difference of approximately $130 million, EPA believes a more accurate cost difference is likely to be approximately $80 million. Regardless of the exact figures, EPA considered the magnitude of any additional cost when evaluating all the relevant factors for remedy selection.[12] Similarly, GE cites additional truck traffic and greater greenhouse gas (GHG) emissions for deeper removal of PCB contamination from Woods Pond as a negative issue due, in part, to its impact on the community. In determining the best suited remedy for Rest of River, EPA evaluated nine Permit criteria; cost and short-term impacts were among, but were not the only criteria considered. EPA also evaluated the differences in criteria such as the general standard of Control of Sources of Releases, and the decision factor of long-term effectiveness, both of which favored a remedy with significant increase in trapping efficiency and source removal.

[12] Even if GE's cost figures and assumptions are accurate, EPA's proposal for Woods Pond would remain the preferred alternative based upon a full evaluation of all the relevant factors, including the objective of eliminating risks related to source control and downstream transport.

material to be transported, the method of transportation to the facility could include trucks, slurries pumped through piping, and/or a combination of these and other methods.

Comment 237: In the discussion of T/D Alternative 2 on p. 25 of the Statement of Basis, it is noted that "material that exceeds the capacity of the CDFs (in the river or backwater, two proposed sites) would be disposed of in existing off-site licensed landfills." What is the potential for exceeding CDF capacity?

EPA Response 237: In its Revised CMS, GE assumed that all sediment dredging from Reaches 5C and 6 and could be placed in CDFs located in Woods Pond and in the Backwaters. Based on the largest sediment removal remedy for these reaches, GE estimated that the CDFs could be constructed to hold up to 800,000 cubic yards of material. Any material generated outside of Reaches 5C and 6 would need to be dealt with separately. For reference, EPA estimated that the remedy selected in the Final Permit Modification would generate approximately 990,000 cubic yards of material that would require treatment and/or disposal. Finally, note that EPA has not selected CDFs as part of the Final Permit Modification.

Comment 238: Is there any calculation of the total capacity for the three potential upland (on-site) disposal facilities?

EPA Response 238: The capacities of the three upland disposal facilities evaluated by GE in its Revised CMS range from 191,000 to 2,000,000 cubic yards for the Woods Pond facility, 191,000 to 1,000,000 for the Forest Street facility and 191,000 to 2,900,000 for the Rising Pond facility. For reference, EPA estimated that remedy for the Final Permit Modification would generate approximately 990,000 cubic yards of material that would require treatment and/or disposal.

Comments 238, 307, 373: Several commenters support EPA's requirement that disposal of hazardous waste take place at a licensed landfill, and note that there are no such facilities currently licensed in Massachusetts. However, the wording of the Permit could be interpreted to allow the establishment of such a facility in state, or even within Berkshire County, at a future date. We oppose any plan from EPA or GE that would result in disposal of contaminated material at any site in Massachusetts. The Permit should be worded to explicitly prohibit such disposal.

EPA Response 238, 307, 373: The Final Permit Modification requires disposal of all contaminated sediment and soil, as well as other waste material, off-site at existing licensed facilities that are approved to receive such waste material and are in compliance with EPA's off-site rule. The Final Permit Modification does not specify that this facility be out-of-state. If an off-site facility was proposed to accept such waste, a facility would have to go through the proper State and federal siting requirements and regulations and be in compliance with EPA's off-site rule prior to being an acceptable disposal facility pursuant to this Final Permit Modification. This process would take place outside of the Final Permit Modification.

Comment 266: The comparative analysis of treatment/disposal alternatives should give more consideration to the potential re-use of soil after treatment.

EPA Response 266: The Comparative Analysis discusses potential reuse after treatment by both TD 4 (chemical extraction) and TD 5 (thermal desorption). Specifically, it states:

on-site disposal facilities may be less effective at containing waste than an off-site disposal facility because the locations identified in the Revised CMS do not meet TSCA's siting requirements for PCB landfills. See 40 C.F.R. § 761.75(b)(1). (Although it is possible for TSCA siting requirements to be waived, doing so would have to be based upon a determination by EPA that it is appropriate to do so, and EPA believes that it is not appropriate to do so here). GE's Revised CMS acknowledges that none of the three proposed landfill sites meet TSCA's requirements for soil characteristics including permeability. In addition, Woods Pond is located near a drinking water source and is located above a medium yield aquifer. The Revised CMS also notes that none of the three sites meet all of TSCA's requirements for a landfill site's hydrological characteristics and all three sites are located within close proximity to the Housatonic River. By contrast TSCA requires that the bottom of the landfill liner be more than 50 feet above the historical high water table, that groundwater recharge areas be avoided, and that there is no hydraulic connection between the site and a surface waterbody. See 40 C.F.R. § 761.75(b)(3). Similarly, as stated in the Revised CMS, the Forest Street Site would not meet the TSCA requirement that a landfill be located in a relatively flat area to minimize erosion or landslides.

These TSCA criteria are meant to be protective of human health and the environment in the event of leaks or failure in the landfill technology. As explained in EPA's Statement of Basis, "there is the potential for PCB releases to the Housatonic watershed if the landfills are not properly operated, monitored and maintained." Statement of Basis at 36. Moreover, the potential extended duration of the operation of the proposed on-site landfills, given the range of sediment and soil volumes at issue here and the length of remedy implementation, likely necessitates that the proposed on-site facilities operate for an extended period of time. Comparative Analysis at page 64. These factors increase the risks of potential future releases to the Housatonic watershed, compounded by the poor suitability of the proposed locations given such factors as soil permeability, proximity to the Housatonic watershed, and/or drinking water sources. Accordingly, use of on-site landfills would "rel[y] heavily on proper long-term operation, maintenance, and monitoring activities." Comparative Analysis at page 65.

In addition, GE's proposed on-site disposal sites are located within areas zoned for residential and/or conservation purposes and/or are within a designated Area of Critical Environmental Concern. By contrast, suitability and protectiveness of off-site facilities are not affected by such contrary zoning regulations or the ACEC designation, both of which call into question the protectiveness and suitability of on-site disposal locations. Indeed, an off-site disposal facility would pose no risk of release to the Housatonic watershed, and would be fully licensed and regulated under TSCA and/or other applicable federal and state requirements. Such facilities are generally constructed in the area best suited to that use considering the hydrology and soil characteristics. Here, no on-site locations have been identified that would meet the TSCA PCB landfill siting requirements. In addition, an off-site disposal landfill will already contain hazardous substances whereas none of the proposed locations identified in the Revised CMS are known to be contaminated, making them a less suitable alternative. These types of considerations are important when considering siting of a new land disposal facility (as opposed to the decision to consolidate or cap wastes in an already contaminated area).

sediment and building debris at these facilities, far less than the volume anticipated for Rest of River. GE and EPA have to date transported approximately 100,000 cubic yards of material from non-Rest of River areas off-site for disposal. Any additional material generated by GE in completing the non-Rest of River cleanups will also be transported off-site for disposal.

Comment 67: A citizen commented that there is a precedent [for] EPA allowing a landfill next to Allendale School [as part of the Consent Decree] (Hill 78 and Building 71). I think GE could go to before a judge and use this precedent to say on-site landfills were used before, so you should allow us to do it again. Furthermore, there are rumors that GE is purchasing land in the County and that indicates that GE does in fact plan to create landfills in Berkshire County for materials excavated from the river and floodplain.

EPA Response 67: See Response 546 above.

i. Potential Habitat Impacts

Comment 547, 562, 564, GE Attachment A: GE asserts the following: The Region notes that TD 3 (on-site disposal) would cause a long-term or permanent habitat change in the footprint of the upland disposal facility, although it recognizes that the capped disposal area would be replanted with grass and that the support areas would be restored (Comp. Analysis, p. 61). In addition, EPA claims that TD 3 would cause a permanent alteration of the existing habitat in the Woods Pond disposal facility, which is located within an ACEC. Contrary to the EPA's claims, any habitat impacts of TD-3 do not undermine the protectiveness because two of the potential on-site disposal facility locations are primarily forested and there would be no permanent impacts on wetlands, rare species, habitat, or other valuable or protected types of habitat and the third is currently a sand and gravel operation (the Woods Pond Site). Although the Woods Pond Site identified for a disposal facility is located within the boundaries of the ACEC, the facility would be located predominantly (over 90%) within disturbed land used for quarry operations and would not affect any outstanding resources of the ACEC. The landfills, if constructed, could be planted with native grasses to create grassland/open field habitats. This would be a habitat improvement for the Woods Pond Site. In addition, in its evaluation, EPA did not consider the habitat impacts of the rail loading facility necessary under Alternative TD 1.

EPA Response 547, 562, 564, GE Attachment A: EPA concurs that the footprint for two of the areas considered for on-site disposal (the Forest Street Site and the Rising Pond Site) are primarily forested. EPA also concurs that if these sites were to be used for disposal facilities, the habitat would change from forested to native grasslands. Note that these two facilities currently contain prime forest land as designated by the State. After tree removal and prior to final capping, which may take 15 years, the habitat value at these two locations, which are otherwise unimpacted by the site contamination, would be significantly decreased. EPA concurs that if the Woods Pond Site was selected for a disposal facility the habitat would be improved for a majority of the area after final capping was completed if the area is restored with a grassland community. However, note there is a small portion of the footprint located in prime forest habitat.

Furthermore, there are other potential adverse effects to habitat at these potential landfill locations. The Forest Street Site requires an access road that would have to be constructed over Goose Pond Brook. As stated in the Revised CMS, the access road would also be located within the 100-foot buffer zone of the brook and in addition, portions of the operational footprint would be within the 200-foot riverfront area of Goose Pond Brook (a jurisdictional resource area under the Massachusetts Wetland Protection Act). For the location referred to as the Rising Pond site, the proposed landfill operational area directly abuts 25 acres of Priority Habitat for the state-listed Wood Turtle. As a result, further confirmation would be needed to conclude if there are any effects on priority habitat of rare species in the operational area of the landfill, and depending on the significance of such effects, compliance with, or a waiver of, the Massachusetts Endangered Species Act would be required. In addition, the Woods Pond site would require a waiver of the ARAR related to permanent disposal locations within an ACEC. (See Section IV of this Response to Comments for additional responses on compliance with ARARs.)

The location of a potential rail transfer facility not been proposed or selected, so a delineation of specific habitat impacts necessarily has not been done. The Final Permit Modification requires that GE propose criteria and evaluate potential rail transfer locations using that criteria and submit this evaluation to EPA for review and approval. Final Permit Modification at II.H.1.d. (Work Plan for Siting of Temporary Centralized Contaminated Materials Processing/Transfer Locations). This process will be used to evaluate any potential effects on habitat. Based, in part, on this comment, EPA clarified Section II.H.1.d. to note that this plan covers a rail transfer facility as well.

Comment 269: One commenter asserts that each of the on-site T/D alternatives will result in a loss of habitat.

EPA Response 269: EPA concurs that some of the alternatives impact the habitat more than others. The response above, the Statement of Basis (page 37) and the Comparative Analysis (page 68) discuss the effects on habitat for various alternatives. In addition, see Response 547 *et al.* above.

ii. Risk of Leaks, GHGs

Comment 548: GE asserts as follows: EPA claims that Alternative TD 3 will have greater short-term impacts than Alternatives TD 1 and TD 1 RR due to the potential leaks during transport of leachate over public roads to GE's water treatment facility in Pittsfield. Yet EPA made no effort to quantify such risks. EPA states that, alternatively, GE would have to construct and operate a treatment facility at the upland disposal facility, and that if that facility was not operated properly, there could be releases of PCBs into the environment. EPA acknowledges that leaks during transport would occur only in the case of "malfunctioning equipment or an accident" (*id.*, p. 69) and that leaks from an on-site treatment plant would occur only if the plant "were not operated properly." Any trucks used to transport leachate would be water-tight and the total mass of PCBs transported over the life of the project would only be approximately 2 lbs. TD 1 RR would involve similar, if not greater, potential for the release of PCB-contaminated materials.

EPA Response 548: EPA's statement that there is the potential for spills of leachate (which is a liquid) during transport is accurate, even if one concludes the likelihood and environmental impact is low. Also, spills of liquid-contaminated material spread more quickly and may cause more environmental harm than spills of PCB solids that would be transported off-site via truck or rail. Similarly, if GE were to construct a water treatment facility at the location of the landfill, there is the possibility, despite best efforts to properly operate the treatment facility, to have releases of PCBs to the river.

Comments 549, 565: GE asserts as follows: TD 1 and TD 1 RR would each result in considerably more greenhouse gas (GHG) emissions than TD 3 and would have a larger carbon footprint. EPA compares the range of GHG emissions resulting from TD 1 to those resulting from TD 3, correctly noting that TD 3 would result in much lower emissions. EPA does not estimate the GHG emissions resulting from TD 1 RR, although it notes that those emissions would be "significantly lower" than under TD 1 due to the use of rail instead of truck transport. GE has estimated the total GHG emissions from each of these three TD alternatives for the removal volume represented by the proposed sediment/floodplain remedy. TD 1 would result in the greatest amount of emissions (approximately 165,000 tonnes), but TD 1 RR would result in a considerably greater amount of emissions (approximately 70,000 tonnes) than TD 3 (6,600 to 36,000 tonnes, depending on the disposal facility site used). Thus, TD 3 is much more compliant than either TD 1 or TD 1 RR with EPA's general and EPA's specific "green remediation" policies to minimize GHG generation.

EPA Response 549, 565: In the Comparative Analysis, the total GHG emissions estimated for the treatment/disposition alternatives were provided as ranges based on the potential volumes of sediment and soil that would require disposal or treatment. For TD 1 (off-site disposal to a licensed facility by truck) the GHG emission estimates ranged from 19,000 to 290,000 tonnes. GHG estimates for TD 1 RR (off-site disposal to a licensed facility by rail) were not presented in the Comparative Analysis.

GE's estimate of GHGs for TD 1 is within the ranges estimated by EPA in its Comparative Analysis. These GHG calculations are largely based on estimated roundtrip miles from the site to the off-site disposal facilities multiplied by vehicle and fuel emission factors, fuel economy values and other factors. Estimates of GHG emissions can vary extensively based on the assumptions (e.g., the assumed disposal facilities and associated roundtrip distance) used in the calculations.

EPA assumed different disposal facilities in its Comparative Analysis for off-site disposal via truck and via rail. In response to this and other comments (See Response 7, Section IX.E of this Response to Comments), EPA used GE's methods with EPA's assumed disposal facilities and conducted an additional analysis to refine the estimate of GHGs, including an estimate for GHGs for off-site disposal using rail. Based on EPA's assumptions and the estimated volume of the remedy, EPA calculates the GHGs for off-site disposal via trucks to be approximately 100,000 tonnes and for off-site disposal via rail to be 50,000 tonnes, both of which are below GE's estimates. For additional details, see Response 7. Although these estimates are greater than those for on-site disposal, they are less than estimated by GE, and are within the range of GHGs used in EPA's Comparative Analysis. Since both EPA's and GE's estimates are within the range

Project, neither of which is the case here); and regulations under the Massachusetts Wetlands Protection Act prohibit alteration of Bordering Vegetated Wetland in an ACEC. EPA has not cited any of these ACEC-based prohibitions as ARARs for the proposed remedy, let alone addressed whether they are properly waived. This selective memory about the Commonwealth's ACEC-based prohibitions is further evidence that EPA's reliance on such prohibitions to reject on-site disposal is arbitrary and capricious.

5. To the extent that the solid waste assignment regulations, including the ACEC prohibition, are applicable, they would likewise apply under TD 1 to the sediment/soil staging areas and under TD 1 RR to those staging areas and the rail loading facility. EPA does not mention these prohibitions, which further demonstrates its selective and arbitrary consideration of these regulations.

EPA Response 551, 552, 553, 554:

1. The Massachusetts solid waste facility regulations and the Massachusetts hazardous waste facility regulations are properly potential ARARs for the Site. See the Summary of ARARs table, which is Attachment C of the Final Permit Modification. The PCB-contaminated sediment and soil to be excavated as part of the remedy may be regulated under 40 C.F.R. Part 761, under the Massachusetts Hazardous Waste regulations at 310 CMR 30, or, if the remedy involves sediments and soils with PCB concentrations below 50 mg/kg, and such sediments and soils are not commingled with sediments and soils with PCB concentrations at or above 50 mg/kg or other hazardous wastes, the standards at 310 CMR 16 are potentially applicable (based on the conditions listed in the Summary of ARARs table). Conversely, if the sediments and soils have PCB concentrations at or above 50 mg/kg, or include commingling of sediments and soils with PCB concentrations below 50 mg/kg, and are not otherwise regulated under 40 C.F.R. 761, the Massachusetts Hazardous Waste regulations at 310 CMR 30 are potentially applicable (based on the conditions listed in the Summary of ARARs table).

2. The state solid waste landfill regulations are potentially applicable to the remedy, as described immediately above and in the Summary of ARARs table. Moreover, one provision of those regulations is the prohibition of permanent solid waste disposal within an ACEC. With respect to identification of the solid waste regulations as ARAR at other sites, EPA is unaware of other sites in which the permanent disposal will take place within an ACEC. Thus, EPA is unaware of any inconsistencies.

3. EPA agrees with GE that two of the three sites identified for an on-site upland disposal facility are not within or adjacent to the ACEC and thus they would not be affected by the 310 CMR 16 prohibition on permanent disposal facilities. However, the Woods Pond Site is located within the boundaries of the ACEC. The provision at 310 CMR 16.40(4) provides that no site is suitable where it would be located in an ACEC, or would fail to protect the outstanding resources of the ACEC if the solid waste management facility is to be located outside, but adjacent to the ACEC. Based on that provisions, the Woods Pond site is prohibited for permanent disposal under 310 CMR 16.

4. In response to this and other comments, EPA has revised its Summary of ARARs table to reflect the ACEC limitations on the selected remedy. See, for example, Response 721

provision was calculated to bolster its opposition to an on-site disposal facility at this site and to provide additional ammunition to assist EPA in rejecting that option. As such, waiver of this provision is warranted on the ground that the State has not "demonstrated the intention to consistently apply" this prohibition at other sites – which is a basis for waiver of a state ARAR under CERCLA and the NCP. Furthermore, EPA disregards and does not even mention the fact that this prohibition would also apply under TD 1 or TD 1 RR.

EPA Response 555, 556, 557:

1. The federal RCRA regulations and the Massachusetts hazardous waste facility regulations are properly potential ARARs for the Site. See the Summary of ARARs table at pages C-6, C-12 to C-13, C-20 to C-22. The PCB-contaminated sediment and soil to be excavated as part of the remedy, if the sediments and soils have PCB concentrations at or above 50 mg/kg, or include commingling of sediments and soils with PCB concentrations below 50 mg/kg, and are not otherwise regulated under 40 C.F.R. 761, the RCRA regulations and the Massachusetts Hazardous Waste regulations at 310 CMR 30 are potential ARARs (based on the conditions listed in the Summary of ARARs table). See also Section IV of the Response to Comments.

2. EPA agrees with GE that two of the three sites identified for an on-site upland disposal facility are not within or adjacent to the ACEC and thus they would not be affected by the 310 CMR 30 prohibition on permanent disposal facilities. However, the Woods Pond Site is located within the boundaries of the ACEC. The provision at 310 CMR 30.708 clearly prohibits permanent disposal within the boundary of an ACEC. 30.708: Areas of Critical Environmental Concern. Notwithstanding any other provision of 310 CMR 30.000, no facility shall be located where such location or any portion thereof:

    a. Would be within an Area of Critical Environmental Concern (ACEC), as designated by the Secretary of the Executive Office of Energy and Environmental Affairs; or
    b. Would fail to protect the outstanding resources of an ACEC as identified in the Secretary's designation if the facility is to be located outside, but adjacent to or in close proximity to, an ACEC.

3. EPA is unaware of any situation with a potential permanent facility for Massachusetts hazardous waste that is also in an ACEC where, subsequent to the promulgation of 30.708, Massachusetts has not identified the provision as an ARAR. That being the case, EPA sees no basis for determining that the State has not consistently applied the regulation.

iii. Massachusetts Hazardous Waste Facility Site Safety Council Regulations

Comment 558: GE asserts the following: These regulations set forth criteria for the Hazardous Waste Facility Site Safety Council to consider in determining whether a proposed project is feasible and eligible for certain state assistance and special permitting procedures for hazardous waste siting and licensing (990 CMR 5.04). These regulations do not establish substantive requirements or restrictions on disposal facilities, and GE would not seek the Commonwealth's assistance and special permitting procedures under these regulations. As such, these regulations are totally irrelevant to this project and thus to the ARARs evaluation here.

EPA Response 558: Based on this comment, EPA has deleted reference to 990 CMR 5.04 as a basis for an ARAR. Also, see EPA Response 727 *et al.*, Section IV of this Response to Comments.

iv. "Possible" Wetlands ARARs

Comment 559: GE asserts the following: EPA asserts that TD 3 has ARARs "possibly" associated with wetland impacts, but provides no further details as to what such ARARs might be. The operational footprints of the upland disposal facilities at the Woods Pond and Rising Pond Sites would not impact any wetlands, and thus would not be subject to ARARs associated with wetlands impacts.

At the Forest Street Site, shown on Figure 3, the operational footprint of the disposal facility would require construction of an access road that would involve the crossing of a small stream in the southern portion of the site; and the facility would be located, in part, within the 100-foot buffer zone and the 200-foot Riverfront Area of that stream, which are subject to the Massachusetts Wetlands Protection Act regulations. However, given the limited nature of this work, the Region could readily find, as it did in the discussion of these regulations in the ARARs tables relating to the proposed sediment/floodplain remedy (Draft Permit, Attachment C), that the work would be conducted in accordance with the substantive requirements of these regulations.

EPA Response 559: EPA concurs there are no currently identified wetland ARAR issues for the Woods Pond Site. For the Rising Pond Site, see Response 547 *et al.* above in this Section. For the Forest Street Site, the proposed landfill location is within a regulated wetland area and a waiver may also be required of regulations or requirements designed to protect such areas including: EPA's and the Corps of Engineers' regulations under Section 404 of the Clean Water Act (40 C.F.R. Part 230, 33 C.F.R. Parts 320-323); the federal Executive Order for Wetlands Protection (E.O. 11990); the Massachusetts water quality certification regulations for discharges of dredged or fill material into waters of the U.S. (314 CMR 9.06); and the Massachusetts Wetlands Protection Act regulations (310 CMR 10.53(3)(q)). EPA can only waive ARARs under specific circumstances, including where compliance is technically impracticable. Since there is a technically practicable alternative to constructing a landfill at the Forest Street Site, namely off-site disposal, there is no justification to granting a waiver to these ARARs. For the Rising Pond Site, and for further information on the Forest Street Site, see Response 547 *et al.* above in this Section.

III.F.2.d Long-Term Reliability and Effectiveness

Comments 560, 561: GE asserts the following: EPA states that both an off-site disposal facility and an on-site disposal facility would isolate the PCB-containing materials from direct contact with human and ecological receptors but claims, without providing any support or basis, that TD 3 would have "a greater potential" for exposure to such material and thus pose a greater "residual risk" than TD 1 and TD 1 RR. TD 3 involves no greater potential for exposure to the PCB-containing material than TD 1 and TD 1 RR.

The Region also claims that off-site disposal is more reliable than on-site disposal because "it does not rely on operation, monitoring, and maintenance requirements (except at the receiving

facility)" (Stmt. Basis, p. 36). This claim is disingenuous. Both an on-site disposal facility and an off-site disposal facility require long-term operation, maintenance, and monitoring. EPA has long recognized the reliability of on-site disposal facilities by including such facilities as the component of the remedies at numerous sites, as discussed above and shown in Table 1.

EPA Response 560, 561: In evaluating long-term reliability and effectiveness, it is entirely reasonable for EPA to draw a distinction between on-site landfilling along the Housatonic River, under the potential landfill facility conditions present, as opposed to disposal in an off-site disposal facility designed and sited for disposal of PCBs. For more detail, see Response 546. Similarly, in evaluating long-term reliability and effectiveness, EPA appropriately can draw a distinction with respect to operation, monitoring and maintenance. While the objective with any on-site facility would be to minimize any issues arising with long-term operation, monitoring and maintenance, if such issues arise with off-site disposal, the Housatonic watershed is unaffected. Conversely, if during long-term operation, monitoring and maintenance at a riverfront permanent disposal facility abutting the Housatonic River, the watershed will bear any negative impacts of any adverse circumstances in long-term operation, monitoring and maintenance. For more details, see EPA Responses 546 and 550 above.

III.F.2.e Reduction of Toxicity, Mobility, or Volume of Waste

Comment 563: GE asserts the following: EPA does not draw a distinction between the off-site and on-site disposal alternatives in terms of reduction of toxicity, mobility, or volume of waste; however, EPA does state in the Statement of Basis that off-site disposal "would reduce the volume of material that remains at the Site." That statement is disingenuous and not pertinent to this criterion. Neither off-site nor on-site disposal would reduce the volume of waste material, but would just affect where it is placed.

EPA Response 563: The language in the Statement of Basis is correct. However, even if the term "reduction of ... volume" in the Permit criterion were not meant to include the reduction of volume of waste on-site due to disposal offsite, it would not be significant enough to alter the conclusions EPA reached in it Comparative Analysis evaluation of T/D alternatives.

III.F.2.f Short-Term Effectiveness

Comment 268: In its comparative evaluation of the Short-Term Effectiveness, of the T/D alternative, EPA acknowledges that each of the alternatives has the potential for short-term impacts to the community. Given that be the case, long-term effectiveness should be the primary consideration.

EPA Response 268: EPA disagrees. The Permit states that Short-term Effectiveness and Long-term Reliability are both Selection Decision Factors. The Permit does not establish weighting factors to distinguish between these factors. See Section II.A of this Response to Comments for a further description the remedy selection process.

i. Habitat Impacts

Comment 564: GE asserts the following: EPA states that TD 1 would have the fewest habitat impacts, requiring only access roads and staging areas; that TD 1 RR would also require construction of a rail loading facility; and that TD 3 would cause a short-term loss of habitat and

ordinances should also be considered, as appropriate, in the development of remedial action alternatives." EPA, Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, OSWER Directive 9355.3-01, 1988.

The multiple TSCA requirements that would not be met, and that would require waiver for the onsite disposal locations, are discussed above at Response 546. In addition, it is very hard to interpret the ACEC prohibition in any way other than to eliminate permanent landfilling in areas of critical environmental concern. Moreover, the Massachusetts Executive Office of Energy and Environmental Affairs' designation of the ACEC, which triggers the prohibition on permanent disposal of hazardous or solid waste in the ACEC, makes that alternative infeasible to implement.

Similarly, the current zoning for the three on-site disposal locations reinforces the difficulty in implementing on-site disposal, which results in greater favorability of off-site disposal for implementability purposes. For example, the Forest Street Area of Lee is zoned primarily as Conservation – Residential, with a small part of the footprint zoned as industrial. Permitted zoning uses for Conservation – Residential are limited to one or two family houses, agriculture, horticulture, or floriculture and uses associated with these. Special permits from the Board of Selectman or Board of Appeals are required to use property in this area as a resort, private club, hospital, farm, livery. The town zoning requirements provide no indication that property in a Conservation – Residential zone can be used for permanent disposal of any waste material. Similarly, according to the May 2015 Zoning By-Laws of the Town of Great Barrington, the area between Van Deusenville Road and Rising Pond, where GE has proposed the Rising Pond landfill location, is zoned by Great Barrington as R-2 meaning residential property with land size of at least 1 acre. That zoning prohibits explicitly a number of less intrusive and likely less permanent uses than a permanent landfill, such as the following: Fuel storage and sales, Public Garage, Large Scale Commercial Development, Lumberyard, Motor Vehicle fuel station, Commercial parking lots, Freight terminals, truck or rail, Contractor's and Landscaper's yards, Light Manufacturing. For the Woods Pond location, a significant portion of the proposed operational area is currently zoned by the Town of Lenox as Conservation-Residential.

3. Availability of suitable on-site and off-site treatment, storage and disposal facilities and specialists. The "suitability" of a disposal facility includes consideration of a number of factors. For example, whether a disposal facility is "suitable" includes consideration of zoning and regulatory restrictions. After all, zoning and regulatory restrictions are often developed to protect public health and/or the environment. Therefore, in evaluating whether to locate a landfill within an area designated as an ACEC, for residential use, or for conservation purposes, EPA necessarily undertook an evaluation as to whether other locations off-site were more appropriate or suitable for disposal. These issues do arise at off-site disposal facilities and on-site locations where material was consolidated with existing waste. Similarly, Woods Pond may be unsuitable due to its location in a medium yield aquifer and proximity to a non-community groundwater source. All three proposed facilities may be considered unsuitable because they would be located in areas with no known contamination (unlike off-site disposal and the Decree's prior use of limited on-site disposal in the OPCAs). Moreover, as discussed in Response 547 above, there are engineering and topography issues at the Forest Street location. Furthermore, the Rising Pond and Woods

Pond facilities are located directly adjacent to the Housatonic River, thus any inadvertent releases would directly affect the remediate river. All of these factors make the proposed upland disposal facilities unsuitable compared to off-site disposal facilities. See also Response 546 for a discussion of TSCA site suitability criteria. Finally, as discussed further immediately below, the suitability of a disposal facility also depends to an extent on the likelihood of the facility eventually being constructed and operated, and that likelihood is greatly compromised by State, municipality and community members' resistance.

These three sub-criteria discussed above fit into the overall Implementability criterion and support consideration of factors that could affect the ability to carry out the remedy. GE argues that EPA is using implementability as a surrogate for state and community acceptance. But to implement means to "put into effect," or "to carry out." The public and legal opposition to on-site disposal is squarely within the plain meaning of the term "implementability" because it will jeopardize EPA and GE's ability to carry out the entire remedy.

For example, those who oppose on-site disposal have several mechanisms to severely delay or block implementation of the remedy. As discussed in more detail below in this Response, the opposition to on-site disposal at Rest of River has been persistent and vigorous. The Decree itself recognizes the Commonwealth's right to appeal the remedy pursuant to 40 C.F.R. § 124.19 before the EAB and Section 7006(b) of RCRA before the 1st Circuit. But the Commonwealth is not the only party with this right. In fact, any party that commented on the draft permit or participated in a public hearing on the draft permit may petition for review of the permit before the EAB. 40 C.F.R. § 124.19. Similarly, under Section 7006(b) of RCRA, "any interested person" may seek review of a permit modification under the Administrative Procedures Act in the relevant Circuit Court of Appeals.

With respect to GE's assertions on the CERCLA and Decree permit exemption, EPA has considered the exemption in the analysis, but the exemption does not negate the need to perform those Permit sub-criteria analyses. The parties to the Decree agreed to the Permit exemption provision (Decree, Paragraph 9.a.) at the same time as the parties agreed to the Permit provision that requires the analysis of those three sub-criteria within the Implementability criterion, including an analysis of regulatory and zoning restrictions.

Furthermore, the permit exemption outlined in the Decree and the NCP, 40 C.F.R. Part 300, while exempting the project from administrative approvals, does not eliminate the need to comply with substantive requirements. Implementation of an on-site disposal alternative clearly would require compliance with substantive requirements.

The off-site disposal alternatives (TD 1 and TD 1 RR) do not have these implementability issues, so on that basis alone, TD 1 and TD 1 RR are more readily implementable than TD 3.

Finally, with respect to GE's assertions as to the weight placed on state or community concerns, EPA had no cause to use anything as a surrogate for those concerns. EPA did a fair and reasonable analysis of the nine criteria, and within the analysis of the Permit criteria, the Implementability criterion included multiple specific sub-criteria that dictated EPA's consideration of State and community concerns. To do so was very appropriate on EPA's part and required by the Decree comment procedures.

EPA's interpretation of the nine permit criteria takes into account its CERCLA and RCRA guidance documents. These guidance documents call for EPA to consider state and local acceptance in remedy selection. The National Contingency Plan, which is the set of regulations governing Superfund cleanups, includes "state and community acceptance" as "modifying criteria that shall be considered in remedy selection." In accordance with this regulation, EPA's Superfund Community Involvement Handbook notes "The agency may alter the preferred alternative or shift from the preferred alternative to another if public comments or additional data indicate that these modifications are warranted."

As in CERCLA, EPA's regulations for issuing RCRA permits (along with other types of permits) require public comment and public hearing opportunities on draft permits, allowing EPA to alter the Final Permit Modification in response to public views. EPA's March 30, 2012 RCRA Public Participation Manual states, "Public participation plays an integral role in the RCRA permitting process." As this Response to Comments evidences, 40 C.F.R. Part 124 requires the solicitation of public comment on proposed decision and the Agency's response to those comments.

B. GE Overstates Potential Limit on Consideration of Community and State Concerns

As shown above, the Implementability criterion and its sub-criteria explicitly support the consideration of public and State views. EPA very reasonably included those within EPA's overall evaluation, and reached reasonable conclusions based on that evaluation. Therefore, one does not need to look further to conclude that EPA's evaluation is supportable and reasonable.

However, even if the Permit criteria did not do so, the Permit does not limit EPA to these criteria in selecting its remedy. When EPA is selecting the Corrective Measures and Performance Standards for the Rest of River, the Permit directs EPA to consider the submissions from GE, such as the nine criteria analysis in the Corrective Measures Study report, along with "any other relevant information in the Administrative Record for the modification of this Permit." Permit, Section II.J.

Public and governmental comments, minutes of the Citizens Coordinating Council, and other information relating to the many public engagement sessions sponsored by EPA are within the Administrative Record for the modification of the Permit. The Administrative Record also includes EPA regulations and guidance documents, including guidance documents for selection of CERCLA remedies and RCRA corrective actions. As explained below, these guidance documents call for consideration of community and state acceptance in remedy selection.

The Decree envisions active public and state participation in the remedy selection process. This public participation would be empty if, as GE asserts, EPA cannot consider the wishes of the community in remedy selection. For instance, Decree Paragraph 22.n calls for EPA to propose the Draft Permit Modification pursuant to EPA's RCRA regulations, "including the provisions requiring public notice and an opportunity for public comment . . ." Similarly, Paragraphs 22.j and 22.k require GE to submit a CMS Proposal and CMS Report to Massachusetts and Connecticut. Comment periods and opportunities for coordination with the states would be meaningless if public and state opinions were irrelevant to remedy selection. EPA's consideration of public or governmental comment is required by the Decree and Permit and the

procedures outlined within those documents encompass consideration of community, local government and state views.

Additional support for the need for state and community concerns to be considered comes from EPA's 1996 RCRA Advanced Notice of Preliminary Rulemaking ("Notice"). At that time, EPA's national RCRA corrective action program championed strong public participation at the same time as proposing use nationally of Corrective Action Permit criteria similar to those being used in the Rest of River permit. The 1996 Notice stated that "EPA is committed to providing meaningful public participation in all aspects of the RCRA program, including RCRA corrective action" and that among EPA's key goals and implementation strategies for corrective action was to "Continue to involve the public in all stages of the corrective action process." In that same Notice, EPA proposed to implement RCRA corrective action remedy selection through use of ten remedy selection criteria, none of which were Community Acceptance or State Acceptance.

Admittedly, the Permit does not explicitly list public and state acceptance as individual stand-alone remedy selection criteria. Nonetheless, the Permit's detailed description of the Implementability criterion, such as its specific subsections on coordination with other agencies, regulatory and zoning restrictions, and availability of suitable on-site or off-site treatment, storage, and disposal facilities and specialists, clearly is meant to accommodate public and State views. Moreover, to interpret the nine criteria otherwise leads to a result totally inconsistent with EPA guidance, the clear direction of the Decree, and RCRA and CERCLA desire for public participation. Moreover, it cannot be considered arbitrary for EPA to follow its own RCRA and CERCLA guidance in interpreting the permit criteria, and to follow the Permit direction to factor in any relevant information in the Administrative Record, in selecting the remedy. If GE intended for EPA to depart from this longstanding EPA practice codified in EPA's RCRA and CERCLA regulations, GE should have negotiated for an explicit prohibition in the Decree or Permit, but there is no prohibition in these documents. In short, far from being "arbitrary," EPA's decision to consider public and state views on the disposal alternatives was authorized by the text of the Decree, CERCLA's regulations, RCRA guidance, and overall EPA policy.

C. Persistent and Vigorous Opposition to a New Local PCB Landfill Affects Potential Implementability

GE stands alone in its advocacy of on-site disposal. Local communities and governments strongly oppose on-site disposal of PCB-contaminated material in Berkshire County. EPA has encountered this opposition from numerous Berkshire County residents, community groups, municipalities along the Housatonic, and from Massachusetts government agencies. Many residents worry about the risks posed by a PCB landfill in Berkshire County, and public opposition only intensified after GE's disposal of PCBs at the "Hill 78" landfill near a Pittsfield elementary school. Community groups have historically taken legal action to contest EPA's choices related to the cleanup. Citizens nominated, and the Commonwealth designated, the Upper Housatonic as a protected area, which activated a state prohibition on permanent landfills. Berkshire County residents have expressed their objections to siting a new PCB landfill in their community in hundreds of public comments, protests at public meetings, and letters to newspaper editors over the last decade. For example, residents submitted comments to EPA identifying this widespread sentiment, saying that creating a landfill in Berkshire County "is unacceptable to the people of this county," and "will not be tolerated by its populace."

A common theme among commenters has been a concern about the ongoing negative environmental effect of a dump or landfill in Berkshire County, which has already endured decades of impacts from GE's contamination.

Massachusetts has also declared vigorous disapproval of a new local landfill in public comments and meetings with EPA officials. From 2007 through 2014, EPA received comments from seven offices within the Commonwealth of Massachusetts, including the Departments of Fish and Game, Environmental Protection, Conservation and Recreation, and Public Health, advocating against disposal within Massachusetts. For example, the Commissioners of three Commonwealth offices wrote that "[t]he Commonwealth vigorously opposes two disposal options outlined in the Revised CMS that call for disposal of removed material to be sited within Berkshire County" because:

> Installation of a disposal facility in Berkshire County would also have extremely negative impacts to the communities surrounding the facility including economic aesthetic, recreational, and potential health impacts should the facility fail. Further, construction of yet another such facility just expands the number of locations that would be affected by PCB-contamination, requiring additional long-term monitoring, operation and management beyond what is already a long-term burden on the community, and which runs counter to the concept of the anti-degradation provisions incorporated into the Massachusetts site cleanup regulations.

MA EEA letter to EPA, January 31, 2011.

In addition, 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. For instance, the chair of the Lenox Board of Selectmen wrote: "We find it unacceptable that there could be a new, permanent hazardous waste landfill constructed in our community. We wish to state in very clear terms that such a facility will be vigorously opposed." In 2008, Pittsfield's city council unanimously passed a resolution stating its opposition to any upland disposal facility for dredged sediments in the city of Pittsfield or Berkshire County.

In addition to voicing disapproval, the Commonwealth and public have taken action to protect the unique ecosystem of the Upper Housatonic. For example, 43 community members, including several members of the Massachusetts legislature, nominated the Upper Housatonic for designation as an ACEC, in 2008. Nearly 1000 area residents signed petitions supporting this nomination. In response, the Secretary of the Executive Office of Energy and Environmental Affairs designated the Upper Housatonic River as an ACEC in March 2009. This designation automatically activated State-wide environmental protections provided for ACECs to the 13-mile corridor of riverbed, riverbank, floodplain and riverfront land running from Pittsfield to Lee, including the prohibition of siting permanent Solid Waste facilities within or adjacent to ACECs. The Commonwealth later amended its statewide Hazardous Waste Facility Location Standards to prohibit permanent hazardous waste facilities in or adjacent to any ACEC in the Commonwealth.

Several advocacy groups have sought to shape the Housatonic River remedy, and have opposed on-site disposal. A Citizens Coordinating Council has been meeting since 1998, with

participation from groups including Mass Audubon, and the Berkshire Natural Resources Council. A community group called the Housatonic River Initiative has sponsored "No More Dumps" conferences and meetings for more than five years. Several of the groups have used legal action to oppose EPA's work at the Site. When EPA moved to enter the Decree in 2000, Housatonic River Initiative and Housatonic Environmental Action League, among other entities, moved to intervene to overturn the Decree, in part because they opposed the Hill 78 landfill.

EPA's experience at other sites lends credence to its fear that opposition to on-site disposal at the Housatonic will bar completion or timely completion of the remedy. In Bloomington, Indiana, a 1985 consent decree called for the construction of an incinerator to treat the PCB wastes from six area Superfund sites, all contaminated by Westinghouse industrial activities. The public opposed the consent decree but it was entered despite this opposition in 1985. At that point, the public successfully lobbied the Indiana legislature to pass laws that delayed construction of the incinerator, in part by forbidding local disposal of the incinerator ash. In 1994 the parties to the decree began to explore alternative remedies. Consent Decree amendments memorializing agreements for alternative remedies were entered in 1997, 1998, 1999, and 2008. In the end, cleanup was delayed for over a decade.

Similarly, in New Bedford, Massachusetts, a 1990 Record of Decision selected dredging, on-site incineration, and on-site disposal of incinerator ash for the PCB hotspot in New Bedford Harbor. In response to strong local opposition including a letter-writing campaign and other community activism, in 1993 New Bedford passed a city ordinance banning transportation of the incinerator within city limits in an attempt to prevent the cleanup. Congressional involvement from Representative Barney Frank, Senator John Kerry, and Senator Ted Kennedy, as well as the Massachusetts Department of Environmental Protection convinced EPA Region 1 to plan a new remedy with community support. The new remedy, selected in a 1999 ROD amendment, included dredging and off-site disposal of hot spot sediments without incineration. In the end, cleanup of this most contaminated area of New Bedford Harbor was delayed for nine years.

Having learned from these experiences, EPA takes community opposition seriously in its remedy selection process. In part due to strong public opposition, EPA has chosen off-site disposal at some of the nation's largest PCB-contaminated sediment sites, such as the Hudson River site. There, more than 2.7 million cubic yards of contaminated sediment have already been disposed off-site. EPA has proposed off-site disposal for the anticipated 4.3 million cubic yards of contaminated soil and sediment at the Passaic River Diamond Alkali Site after the public and state of New Jersey expressed opposition to on-site confined aquatic disposal. And at the Lower Fox River site, more than 3.6 million cubic yards of dredged sediments were disposed at off-site licensed and regulated landfills. Taken together, the volume of sediments disposed off-site at these three sites alone exceed the volume of sediments disposed on-site at other sites around the country.

Comment 574: GE asserts that EPA suggests that if additional remediation beyond the currently proposed remedy should be required later, the capacity of the on-site disposal facility would represent a constraint. This hypothetical constraint does not affect the implementability of TD 3. Off-site landfill capacity is also an issue for TD 1 and TD 1 RR. In any case, under TD 3, if additional removal were required later, that additional material could be transported to an off-site disposal facility at that time (assuming there is sufficient capacity). This possibility provides no

basis for not selecting an on-site disposal facility for the volume of the currently proposed remedy.

EPA Response 574: The language in the Comparative Analysis is correct in that the capacity of the on-site disposal facility would represent a constraint on the future placement of additional waste, beyond site capacity, if it is required later. While EPA understands GE's point that in both situations the future disposal location could be off-site disposal, it still is accurate that on-site landfilling would be subject to the capacity of that facility alone, where a choice of off-site disposal without specification of a particular individual facility could conceivably be limited only by the capacity of all appropriate locations.

Comment 494: The Commonwealth concurs with EPA's assessment in the Statement of Basis that the likely significant local and state opposition to the on-site disposal alternatives would render these alternative more difficult, and potentially not feasible to implement.

EPA Response 494: EPA acknowledges this comment.

III.F.2.h Cost

Comment 575: GE asserts that they developed cost estimates for TD 1, TD 1 RR, and TD 3 (for each site) for the volume of materials that would require disposal under EPA's proposed sediment/floodplain remedy – approximately 1 million cubic yards – using cost estimating methodologies that were previously discussed with EPA without its objection. These estimates confirm that on-site upland disposal (TD 3) would be far less costly than off-site disposal – by up to approximately $305 million compared to TD 1 and up to approximately $250 million compared to TD 1 RR.

GE's estimated costs are: $368 million for off-site disposal with trucking; $314 million for off-site disposal via rail; and $63 million to $127 million for on-site disposal (depending on the selected disposal site).

EPA Response 575: In the Comparative Analysis, EPA included one cost for on-site landfilling of $100 million, regardless of the landfill location. This estimate is within the range provided by GE. For disposal by rail, the primary difference between EPA's estimate of $287 million and GE's $314 million estimate appears to be the construction of the rail transfer facility, which GE estimates at between $20 and $30 million. EPA's estimate for a rail facility is approximately $300,000. All other costs appear to be in the same range. For off-site disposal via truck, EPA's estimate of $308 million was based on unit pricing provided in the 2008 CMS and 2010 Revised CMS developed by GE. GE apparently did not use that pricing to prepare its comments. However, disposal pricing via trucking is highly dependent on current fuel prices, and the availability and pricing from disposal facilities. As has been demonstrated in the last three years, the price of fuel has extremely large fluctuations. Thus, if one were to obtain overall disposal pricing today, they would likely be less than GE estimated. Also, it is not practical to continually revise cost estimates after a corrective measures study is conducted, and then continually conduct analysis comparisons. Therefore, EPA believes its cost estimates of $287 million for rail and $308 million for disposal via trucking is appropriate for comparison purposes. Thus, EPA estimates the difference in cost for off-site and on-site disposal ranges from $160 to $245 million, whereas GE's range is $250 to $305 million.

here satisfies the threshold criteria, is as effective as off-site disposal, and would cost much less, off-site disposal would not be cost-effective.

For the reasons given above, the Region's selection of out-of-state disposal over secure on-site upland disposal would be arbitrary and capricious and inconsistent with the Permit criteria.

EPA Response 576: EPA disagrees. EPA was well within its discretion to choose off-site disposal from the range of alternatives. EPA disagrees with GE's contention that the alternatives were comparable but for the cost criterion. EPA's Comparative Analysis and Statement of Basis, as further informed by the comments and responses herein, demonstrate clear distinctions between GE's favored approach and the selected remedy with respect to each of the Permit's threshold General Standards – Overall Protection of Human Health and the Environment, Control of Sources of Releases, and Compliance with ARARs. Moreover, as required by the Permit, EPA also evaluated all six of the Permit's Selection Decision Factors, including balancing of those factors against each other. Based on that evaluation, EPA has selected the alternative best suited to meet the Permit's General Standards, in consideration of the decision factors, including a balancing of those factors against each other. EPA's decision-making process under the Permit also includes consideration of "any other relevant information in the administrative record." In doing so, EPA follows the Decree, including the Permit criteria, and fulfills its duty to protect the public, and furthers the objectives of CERCLA and RCRA.

Comment 736: GE asserts that EPA's proposal includes, as Attachment D to the Draft Permit, a proposed determination by EPA under § 761.61(c) of the Agency's TSCA regulations that the sampling, storage, cleanup, and disposal of PCB-containing materials in accordance with the proposed requirements would meet the requirements for risk-based approval under TSCA – i.e., that they will not result in an unreasonable risk of injury to human health or the environment. That determination, however, would be based on the condition that "[a]ll contaminated sediment and floodplain soil that is removed will be disposed of off-site" at an existing approved disposal facility."

The TSCA risk-based determination should not be dependent on off-site disposal. As demonstrated in Section II of these comments [see comments above in this section], even with on-site upland disposal, the PCB handling and disposal activities would not result in an unreasonable risk of injury to human health or the environment. For the reasons given in Section II [see comments above in this section], GE submits that the Region is required to change its proposed disposal method to disposition in an on-site upland disposal facility; and it should issue a TSCA risk-based approval determination for that approach. Indeed, at both this Site and numerous other sites, EPA has issued risk-based determinations under the TSCA regulations that on-site disposal facilities will not result in an unreasonable risk of injury to human health or the environment or has otherwise waived specific TSCA requirements as not necessary to protect against an unreasonable risk of injury to human health or the environment.[35] The same should be done here.

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[35] [footnote from GE comment] See, e.g., the TSCA risk-based determinations for the OPCAs at this Site (Decree Appendix D, pp. 41-43) and for the Confined Aquatic Disposal cell at the New Bedford Harbor Site (EPA, 2011) and the TSCA risk-based determinations or waivers issued by EPA for the on-site disposal facilities at the Norwood PCBs Site (EPA, 1996), the Sullivan's Ledge Site (EPA, 1989, 1991a), the Silresim Chemical Corporation Site (EPA, 1991b), the Allied Paper/Portage Creek/Kalamazoo River Site (EPA 1998, 2001b), and the Fields Brook Site (EPA, 1997c, 1997d).

example EPA guidance on such location-specific ARARs states that substantive compliance with the federal Endangered Species Act ("ESA") means:

> that the lead agency must identify whether a threatened or endangered species, or its critical habitat, will be affected by a proposed response action. If so, the agency must avoid the action or take appropriate mitigation measures so that the action does not affect the species or its critical habitat. (EPA's *CERCLA Compliance with Other Laws Manual: Part II, Clean Air Act and Other Environmental Statutes and State Requirements* (August, 1989), p. 4-12.

Indeed, the ESA is an ARAR that has not been disputed by GE, including the obligation to "take mitigation measures so that action does not affect species/habitat." Final Permit Modification, Attachment C - Summary of ARARs table. Thus, it is well settled that the natural resources disturbed by remediation must be restored and mitigated as part of the remedial process in accordance with the substantive requirements of ARARs, such as the ESA, the Massachusetts Endangered Species Act, the Massachusetts Wetlands Protection Act, and the Clean Water Act. Moreover, in other areas of the Site outside the Rest of River, the Clean Water Act and the Massachusetts Wetlands Protection Act constitute ARARs for the Removal Actions Outside the Rest of River and respectively require that River banks will be restored, habitat will be improved, and "disturbed vegetation will be restored." Decree, Appendix E, Table 3 at 2, 4, 5. Similarly, it has not been disputed that the National Historic Preservation Act and the Massachusetts Historical Commission Act are ARARs, including for the Rest of River. *Id.* at 7; Final Permit Modification, Summary of ARARs table.

IV.A.2 Comments on Process for Implementing ARARs

Comment 156: EPA should include the directly affected municipalities, along with the States, in reasonable opportunities for review and comment concerning ARARs and TBCs. Local officials often will have more specific knowledge of the particular area and will be able to add considerable value to EPA's decision-making process.

EPA Response 156: Municipalities and the public were afforded the opportunity to comment on ARARs and TBCs during the 2014 Public Comment period. CERCLA and the Decree each call for EPA to provide a reasonable opportunity for review and comment by the States, but have no analogous provision for the municipalities. That being said, in recognition of the specific interest and knowledge of the municipalities, EPA intends to coordinate significantly with the directly affected municipalities during the design and implementation of the remedy.

Comments 123, 281: Use of any temporary disposal areas or treatment facilities required for the Housatonic site should be strictly and solely limited to contaminated sediment and soils resulting from GE's Rest of River cleanup, barring storage or treatment of hazardous waste from any other sources. Temporary disposal and treatment areas should be subject to the provisions of M.G.L. 21D, which should be added to the list of ARARs and deemed applicable.

EPA Response 123, 281: The Final Permit Modification does not include any disposal facilities at or near the river. The Final Permit Modification does envision that areas will be identified during remedial design for temporary storage of excavated sediments and soils. The Final Permit Modification does not call for storage or treatment of other sources of waste. The Final

Permit Modification does require that the temporary storage facilities used by GE are restored in accordance with Performance Standards and Corrective Measures governing Restoration of Areas Disturbed by Remediation.

The State did not propose MGL c. 21D as an ARAR. EPA concurs that it is not an ARAR; the provisions of 21D do not include substantive standards of control. The State proposed, and EPA included, in the Final Permit Modification as an ARAR, the Massachusetts regulations governing hazardous waste management, including the location standards for hazardous waste management facilities.

Comment 297: To ensure that the ARARs listed in the Permit are protective of human health, commenters request that the EPA consult with the Massachusetts and Connecticut Departments of Health to ensure that all relevant statutes and regulations have been included in the final Permit.

EPA Response 297: EPA consulted with the Commonwealth of Massachusetts and the State of Connecticut, and Massachusetts and Connecticut each responded with their proposed State ARARs. Massachusetts Department of Public Health provided comments on the Draft Permit Modification and did not identify any ARAR issues. EPA did not seek separately to obtain proposed ARARs from the State Departments of Health, as each state's environmental agency has been designated as the lead agency for identification of ARARs through the Superfund program.

IV.B Comments on Specific ARARs

IV.B.1 Clean Water Act, National Recommended Water Quality Criteria for PCBs, Numeric Massachusetts Water Quality Criteria for PCBs, Numeric Connecticut Water Quality Criteria for PCBs

Comment 710: GE asserts the following: EPA proposed to waive the human health criterion of 0.000064 ug/L based on consumption of water and organisms. EPA says the remedy will instead be required to meet the biota Performance Standard and the Downstream Sediment Transport Performance Standard. GE requested EPA to clarify that the Biota and Downstream Transport Performance Standards would not constitute ARARs, because they are not promulgated standards of general applicability.

EPA Response 710: Based on this comment, EPA has revised its description of this ARAR waiver. The Final Permit Modification, Summary of ARARs table makes specifically clear that these alternative criteria are not ARARs.

Comments 711, 712: In the draft Permit, EPA proposed that the remedy is intended to meet the human health criterion of 0.000064 ug/L based on consumption of water and organisms. EPA pointed out that current modeling shows that the remedy will achieve attainment in at least 3 of the 4 Connecticut impoundments. Recognizing that the results from the Connecticut model are very uncertain, EPA stated that it is not possible to predict with certainty attainment or lack of attainment. In addition, EPA acknowledged that the concentration cannot be reliably measured using available analytical techniques. In its Statement of Basis, EPA stated that the criterion is not being waived in Connecticut because it can potentially be met in the future, but that such a waiver may be considered in the future should it become apparent that this criterion cannot be met based on technical impracticability.