

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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alternatives with respect to Reduction of Toxicity, Mobility or Volume of Wastes, analyzing the key tradeoffs among different alternatives. EPA’s analysis is demonstrated in Section 2.7 of EPA’s Comparative Analysis, pages 44-46. In addition, EPA’s analysis of Reduction of Toxicity, Mobility or Volume of Wastes is only part of EPA’s overall evaluation of the Permit criteria, on which EPA based its determination of the selected remedy as best suited to meet the Permit’s General Standards in consideration of the Permit’s Selection Decision Factors, including a balancing of those factors against one another. The remedy modifications made by EPA from the Draft Permit Modification to the Final Permit Modification are not significant enough to alter the conclusions EPA reached in its Comparative Analysis evaluation of Reduction of Toxicity, Mobility or Volume of Wastes.

To make its assertions on Reduction of Toxicity, Mobility or Volume of Wastes, GE references a specific topic that it has raised substantively elsewhere (trapping efficiency of Woods Pond). EPA responds substantively to that comment where GE has raised the substantive comment. See responses in Section III.C.3 for issues related to the trapping efficiency for Woods Pond.

Additionally, GE is accurate in that the alternative, and its use of a sediment amendment like activated carbon, was added after EPA’s series of technical discussions with Massachusetts and Connecticut. The use of a sediment amendment like activated carbon is part of the overall balanced approach of EPA, Massachusetts and Connecticut to address the unacceptable threats posed by the PCB contamination, while also taking steps to avoid, minimize and mitigate effects on the ecosystem. Notwithstanding the timing, the overall Comparative Analysis point is still valid that this treatment approach is not part of the other alternatives considered and in fact surpasses all other alternatives in reducing PCB toxicity and mobility. Contrary to GE’s assertion, application of a sediment amendment may not be appropriate for all reaches of the River. The effectiveness of the amendment depends on a variety of factors including contaminant concentrations and distribution, substrate composition, and flow velocity.

Comment 753: GE states as follows. Short-term effectiveness includes consideration of the adverse impacts from remedial construction activities on the environment, the local community, and remediation workers. With respect to environmental impacts, EPA first addresses the potential that sediment removal activities would cause some resuspension of PCB-containing sediments into the water column and consequent increases in PCB levels in downstream surface water and aquatic biota. As EPA recognizes, the alternatives with the greater amounts of sediment removal, including SED 9/FP 4 MOD, would result in the most PCB resuspension.

EPA also addresses the adverse short-term impacts of the remediation activities on the various aquatic and terrestrial habitats. In virtually every case, EPA downplays these impacts by claiming that many of the impacts “can be mitigated by appropriate restoration activities.” This conclusion cannot be supported. Due to its extensive remediation requirements and substantial habitat impacts, SED 9/FP 4 MOD would have more severe, long-lasting, and irreparable negative impacts on aquatic, riverbank, and floodplain habitats and the biota that inhabit them than alternatives with less extensive remediation.

In discussing the GHG emissions that would result from the various alternatives, EPA uses GE’s estimates from the RCMS for the alternatives evaluated therein and has developed its own GHG estimates for SED 9/FP 4 MOD. EPA’s estimate for the latter alternative (a total of 171,000

tonnes) is consistent with GE’s estimate (a total of 170,000 tonnes). As shown by these estimates, SED 9/FP 4 MOD would result in greater GHG emissions than all but two of the other alternatives evaluated.

EPA also notes that all alternatives would involve an increase in truck traffic, with its attendant impacts. To address this factor, EPA compares the total number of truck trips for removal of excavated material and delivery of capping/backfill material, using GE’s estimates from the RCMS for the alternatives evaluated therein and EPA’s own estimates for SED 9/FP 4 MOD. EPA’s estimates for SED 9/FP 4 MOD – a total of 150,500 truck trips or about 11,200 per year – are roughly comparable to GE’s estimates for that alternative using the same assumptions, although GE’s estimates are slightly higher – a total of approximately 155,000 truck trips (about 11,900 per year). This large number of truck trips exceeds those for most other alternatives and would cause considerable disruption to the affected communities, including increases in the likelihood of accidents, noise levels, vehicle emissions, and nuisance dust.

EPA compares the risk of accident-related injuries due to the increased off-site truck traffic, again using GE’s estimates from the RCMS and EPA’s own estimates for SED 9/FP 4 MOD. Those estimates indicate that the proposed alternative would result in 5.36 non-fatal injuries and 0.25 fatality over the life of the project. This is more than would result from most other alternatives.

EPA compares the risk of accident-related injuries to remediation workers, again using GE’s estimates from the RCMS and EPA’s own estimates for SED 9/FP 4 MOD. Those estimates indicate that the proposed alternative would result in 9.2 non-fatal worker injuries and 0.1 fatality over the life of the project. This is higher than the estimates for alternatives with many fewer labor-hours, lower than those with many more labor-hours, and comparable to other alternatives.

Overall, SED 9/FP4 MOD would have greater adverse short-term impacts than most of the other alternatives, including all of those with less extensive remediation.

EPA Response 753: EPA disagrees with GE’s characterization of EPA’s Comparative Analysis. EPA did take into account the estimates of adverse effects in the Short-Term Effectiveness criterion as part of EPA’s remedy selection. GE recites the metrics of adverse effects of cleanup activities, but does not place those metrics in context. Of the seven alternatives with active remediation, the selected remedy, for most metrics, has more adverse effects than four alternatives, fewer effects than two alternatives, and in absolute terms, has roughly one-third the adverse effects of the alternative with the most PCB excavation.

Based in part on GE’s evaluation in the Revised CMS, EPA performed a thorough comparative analysis of the alternatives with respect to Short-Term Effectiveness, analyzing the key tradeoffs among different alternatives. EPA’s analysis is demonstrated in Section 2.8 of EPA’s Comparative Analysis, pages 47-55. Also, importantly, GE did not point out that EPA’s analysis of each sub-criterion within the Short-Term Effectiveness criterion is only part of EPA’s overall evaluation of the Permit criteria, on which EPA based its determination of the selected remedy as best suited to meet the Permit’s General Standards in consideration of the Permit’s Selection Decision Factors, including a balancing of those factors against one another.

than warranted by the scientific evidence (due to the use overly conservative uncertainty factors), and thus should be increased by 10 times to 200 ng/kg-day (id., Attachment N). However, the EPA Region did not consider this alternative information, but simply relied on the IRIS toxicity values, including the RfD, in its HHRA. That conflicts with the above- referenced Settlement Agreement and guidance.

More recent evidence further supports GE's position that the PCB RfD should be changed. A recent paper by Carlson et al. (2012) [a copy of which GE provided with its comments] shows that new in vitro data indicate that the rhesus monkeys used in the study on which the current IRIS RfD is based are substantially more sensitive to PCBs than humans and that the current RfD should actually be adjusted to 18,000 ng/kg-day (900 times higher than the current RfD). The Region should consider this information as well.

EPA Response 545, 757: The comment refers to an EPA document, Use of IRIS Values in Superfund Risk Assessment (1993). This document does indicate that "toxicological information other than that in IRIS may be brought to the Agency by outside parties. Such information should be considered along with the data in IRIS in selecting toxicological values; ultimately, the Agency should evaluate risk based upon its best scientific judgment and consider all credible and relevant information available to it." Moreover, the complete language of the EPA guidance document advises that "while all credible and relevant information must be considered, departing from the IRIS value is generally discouraged where the information submitted consists of data previously evaluated in developing that value."

In Appendix N of its July 2003 comments on the draft Human Health Risk Assessment (HHRA) and in its presentation to the peer-review panel, GE raised this same comment and summarized its analysis regarding the stringency of the Aroclor 1254 Reference Dose. Virtually all of the peer-review panelists concurred that EPA applied toxicity values appropriately. Upon reviewing GE's comments and the peer reviewers' findings, EPA continued to use the IRIS RfD for Aroclor 1254 in the HHRA. In the final HHRA, EPA explains why it chose to use the IRIS RfD for Aroclor 1254 based on the type of PCBs present at the Rest of River Site and also in light of toxicological and epidemiological evidence from the scientific literature published since the RfD was established. In addition, see Response 42 *et al.* and Response 85 *et al.* above in this section on EPA's position on the toxicity of PCBs.

Finally, EPA followed the process outlined in the Decree, which was agreed to by GE and EPA, for developing the HHRA.

Comment 62: What is the chemical half-life of the most heavily chlorinated PCB congeners?

EPA Response 62: EPA assumes that this question concerns the rate at which PCBs in the environment are broken down by the processes of photolysis and biochemical degradation into comparatively less-toxic chemicals, as opposed to the rate at which PCB concentrations in environmental media may change as PCB molecules are transferred to, and potentially transported by, other media. For example, in the Housatonic River PCBs adsorbed onto sediment may desorb into the water column and be transported downstream or be transported as part of the bedload and/or suspended solids, and PCBs in the water column may volatilize at varying rates into the overlying atmosphere. These processes do not result in any change in the

toxicity of the individual PCB molecules or the total PCB mass in the environment (although they can potentially change local PCB concentrations), and therefore they do not apply to the issue of half-life of particular congeners.

Strictly speaking, the concept of half-life applies to processes that follow first-order (or exponential) decay, as is the case with radioactive isotopes where the rate of decay is independent of the concentration of the isotope and other environmental factors. In the case of PCBs in the environment, and particularly PCBs that are found in natural soils and sediments, the rate of decay is dependent in part on factors such as initial concentration, matrix (e.g., soil or sediment) characteristics, climate, micro-organisms present, presence or lack of oxygen (i.e., aerobic/anaerobic conditions) and numerous others (Carberry, J.G. 1994. *Enhancement of bioremediation by partial preoxidation*. pp. 543-597. In: Remediation of Hazardous Waste Contaminated Soils. D.L. Wise and D.J. Trantolo (Eds.) CRC Press.). As a result, the biochemical degradation of PCBs may not be represented properly by the concept of half-life (e.g., Hopf, N.B., A.M. Ruder and P. Succop. 2009. *Background levels of polychlorinated biphenyls in the U.S. population*. Sci. Total Environ. 407: 6109-19.). Nonetheless, there is some indication that PCB degradation at least approximates first-order decay in some situations and the rate of PCB degradation has been quantified in terms of half-life in a variety of technical publications (e.g., Doick, K.J., E. Klingelmann, P. Burauel, K.C. Jones and K.T. Semple. 2001. *Long-term fate of polychlorinated biphenyls and polycyclic aromatic hydrocarbons in an agricultural soil*. Environ. Sci. Technol. 39: 3663-70).

PCB degradation processes in the environment typically progress more slowly for the more highly chlorine-substituted PCB congeners and therefore these congeners are generally considered to have longer half-lives. However, even within the more heavily chlorinated PCB congeners, often considered to be those congeners with seven or more chlorine substitutions, the rate of decay varies considerably depending upon the actual number of chlorines and their position on the biphenyl ring structure. All of these considerations, as well as the large number of individual congeners that could be considered "heavily chlorinated" make it impossible to provide a definitive response to the question of half-life, but in general half-lives on the order of a few to several decades have been reported for the more heavily chlorinated congeners (Erickson, M.D. 2001. *PCB properties, uses, occurrence, and regulatory history*. pp. xi – xxx. In: PCBs: Recent Advances in Environmental Toxicology and Health Effects. L.W. Robertson and L.G. Hansen (Eds.). University Press of Kentucky, Lexington; Sinkkonen, S. and J. Paasirvirta. 2000. *Degradation half-times of PCDDs, PCDFs and PCBs for environmental fate modeling*. Chemosphere 40: 943-9.). In addition, it is important to understand that the extremely elevated PCB concentrations identified in some areas of the Rest of River would require multiple such half-life periods before concentrations reach levels that would permit unrestricted use of the river and floodplain.

Comment 64: Although the State of Massachusetts claims that populations on fish and ducks in the system are stable, they are nonetheless highly contaminated, and therefore unacceptable.

EPA Response 64: EPA agrees that fish and wood ducks and mallard ducks in the Rest of River have highly elevated and unacceptable concentrations of PCBs in their tissues.

management, there is a substantial body of knowledge concerning dredging of sediments to deepen water bodies and/or remove pollutants. Also, undesirable plant species can be more easily removed with aquatic harvesters compared to emergent, shrub, or forested sites (see National Research Council 1992 for a review of methods).

Comment C16: GE asserts that sediment removal and capping in the backwaters would cause changes in surface substrate type from silts or mucky organic material to sand, which would last until enough silt and organic material have been deposited through flood events to approximate current conditions - which could take a decade or longer. There would be changes in vegetative characteristics corresponding to the change in substrate type and elevation. With these changes in substrate and hydrology, there would be a proliferation of invasive exotic plant species.

There would be a change in the wildlife communities using the backwaters until such time as the substrate, hydrologic, and vegetative conditions of the backwaters return to conditions comparable to pre-remediation conditions - which is uncertain. There is high potential for the loss of certain sensitive (e.g., state-listed) species, such as the American bittern and common moorhen.

The potential for restoration of backwaters is better than for most other aquatic habitat types. Backwaters, having direct connections to the river, will readily receive propagules of plant species and mobile animals can move into these areas rapidly. The techniques for their restoration are most like those used for lakes and reservoirs, and thus there is abundant information available on how to proceed. Although comparable habitats can probably be constructed, there remains a major question about whether the desired plant and animal species can be attracted to and flourish within the restored backwaters. The specter of overwhelming colonization by invasive exotic plants remains present.

EPA Response 597, C2, C3, C14, C15, C16: EPA disagrees with the statement that "SED 9/FP 4 MOD would destroy 126 acres of aquatic riverine habitat." On the contrary, the remediation will restore approximately 126 acres of currently contaminated aquatic riverine habitat. As discussed in the HHRA and ERA, benthic invertebrate populations in the Rest of River are demonstrably compromised by the high concentrations of PCBs in riverine sediments, particularly in depositional areas, and fish tissue is highly contaminated. Removal and capping of these contaminated sediments will allow benthic invertebrates to re-colonize the area and establish robust populations uncontaminated by PCBs, and will result in decreases in fish tissue concentrations, thus decreasing risks to human health and the environment.

The proposed remedy would remediate the entire river bed in Reaches 5A and 5C and would impact limited river banks in Reach 5A, or approximately 35% of the 10 linear miles of bank in that most upstream subreach, as well as selected areas of Reach 5B, the Backwaters and Impoundments. After sediment removal (sufficient to construct the appropriate Engineered Cap), the river bed will be returned to its former grade by placing the Engineered Cap to contain any residual PCB contamination. EPA recognizes that removal of the sediment in these reaches of the Housatonic River will create a short-term disruption to the ecosystem (e.g., to benthic invertebrates, fish populations, substrate composition, and colonization by invasive species), however, sediment removal and capping is necessary to mitigate the significant threat to human health and environment caused by GE's PCBs.

In recognition of these short-term impacts, EPA included measures in the proposed remedy to mitigate them to the extent possible. First, the remediation will be conducted using a phased approach, thus an entire reach will not be affected at any single time or place. Phasing the remediation (and restoration) will provide many species with areas not subject to remediation adjacent to the construction for refugia. The Restoration Performance Standards and Corrective Measures also include provisions for the management of impacts to state-listed species as necessary.

Second, the proposed remedy requires that the Engineered Cap include in its design a habitat layer approximating the natural sediment characteristics. Therefore, there should be minimal long-term effects on substrate composition. Furthermore, as shown following the remediation of the Upper 2-Mile Reaches, there will be significant redeposition of sediment from upstream sources and reworking of surficial sediment, which will further assist in returning the natural characteristic of the riverbed. Restoration techniques may include the planting of aquatic vegetation to accelerate the recovery process.

Third, the extent and timing of recovery of benthic invertebrates and fish populations in these reaches following remediation would be considerably more rapid than asserted by GE. There is an excellent example of the recovery that can be expected which was documented in the studies conducted upstream in the East Branch of the Housatonic River following the extensive remediation in the ½-Mile and 1 ½-Mile Removal Reaches (these actions included remediation of the river bed, all banks, and much of the floodplain immediately adjacent to the river). In 2007, approximately one year following completion of remediation of these two miles of river, EPA conducted a quantitative survey of benthic invertebrate populations and a semi-quantitative survey of fish populations at three transects in the 1 ½-Mile Removal Reach. The results of the investigation showed that benthic invertebrate populations had recolonized the sediment bed as measured by species richness, density, and diversity, and that the benthic community had higher diversity, increased abundance, and increased presence of pollution-intolerant taxa than before the remediation occurred. The fish species composition and numbers also were observed to meet expected conditions. In addition, tissue PCB concentrations in the invertebrates, which form the base of the aquatic food chain, were reduced by over 99% as compared with pre-remediation levels. Using similar field and laboratory methods, GE conducted surveys at the same three locations in 2012 and obtained substantially the same results, with even further reductions in tissue PCB concentrations observed (GE, 2012). There is no reason to believe that recovery in Reaches 5A and 5C, following sediment remediation, will be any less rapid or complete, particularly considering that recovery will be enhanced by placement of a habitat layer as part of the Engineered Cap.

Fourth, in these surveys, there was no indication of colonization by either invasive aquatic plant or animal species documented by EPA or GE. The development of an invasive species control plan is required by the Final Permit Modification, which EPA anticipates will include management strategies to control any invasive aquatic vegetation.

Similarly, there is no indication from these surveys that the removal of contaminated sediment and subsequent placement of an Engineered Cap have caused any meaningful change in groundwater flow and/or the presence of a hyporheic zone in the riverbed. GE cites a publication by Hester and Gooseff (2010) which is claimed to argue that “Disturbance of

[groundwater flows in the riverbed] by dredging, capping, and bank remediation will adversely affect groundwater-dependent habitats and flow patterns, and also destabilize the base of riverbanks, resulting in bank slumping and further erosion (e.g., Hester and Gooseff 2010).” EPA has reviewed the Hester and Gooseff paper and disagrees with GE’s interpretation of the paper with regard to the adverse effects caused by dredging, capping, or bank remediation. On the contrary, the Hester and Gooseff publication is a discussion of the importance of consideration of the hyporheic zone as part of stream restoration projects, and provides an argument for the inclusion of restoration of the hyporheic zone as part of stream restoration, which the authors clearly accept as a legitimate and valuable method for improving the overall ecological quality of rivers and streams. EPA agrees with this recommendation. Using another citation (Kasahara and Hill, 2006), GE notes that restoration of the hyporheic zone is possible but not at the scale of riverbed remediation included as part of SED 9/FP 4 MOD. The Kasahara and Hill publication does in fact support the first part of this comment, but the latter part, i.e., that restoration of the hyporheic zone on a scale of miles is unlikely, is not supported by this citation.

Fifth, in the case of the banks in Reach 5A that will be remediated, extensive ecological restoration using the well-established principles of bioengineering and natural channel design are expected to lead to a recovery similar to that observed in the 1 ½-Mile Removal Reach.

With regard to the position of the Commonwealth quoted in the comment, EPA notes that these remarks were part of the Commonwealth’s 2011 response to GE’s Revised CMS, not to the 2014 proposed remedy or the 2015 Intended Final Decision. The current position of the Commonwealth is stated in its October 27, 2014 comment letter, as follows: “we support . . . the more specific approach to remediating the Reach 5 river banks set forth in the Proposed Cleanup Plan, which is . . . responsive to the Commonwealth’s concern about ensuring that the fundamental, dynamic character of the river remains intact following the necessary remediation of eroding banks.” With regard to the effect of remediation in the Backwaters on state-listed species, the Commonwealth of Massachusetts worked with EPA to develop the SED9/FP4 MOD preferred alternative and identified Core 1 areas that have high-quality habitat for state-listed species. The Backwaters in these Core 1 areas will not be subject to excavation unless PCB concentrations exceed 50 mg/kg, a significantly elevated concentration that results in substantial risk to the environment. The Commonwealth has responsibility for ensuring the long-term protection of state-listed species and is fully supportive of EPA’s Final Permit Modification.

Also see Responses 147 *et al.*, and 604, C19 in this Section.

Comment 598: GE asserts that the proposed riverbank stabilization/excavation work, even if Natural Channel Design or “bioengineering” techniques are used, would cause an enduring negative change in the character of those banks, because it would: (a) prevent significant bank erosion and lateral channel movement, thus eliminating the vertical and/or undercut banks that provide critical habitat for certain birds and other animals, and reducing adjacent wetland habitats; (b) require the removal and permanent elimination of mature trees overhanging the River, thus changing the character of the banks from their current wooded condition to a more open condition; (c) produce a long-term reduction in slides and burrows of certain mammals and reduce access routes for reptiles, amphibians, and smaller mammals between the River and the floodplain; and (d) increase the potential for colonization by invasive exotic species.

Comment 25: Capping of residual PCB-contaminated sediments will be difficult to do and will be subject to failure, allowing contaminated sediments to be transported downstream. This is equivalent to sweeping the PCBs under the rug and represents a long-term risk for the community. The cleanup is based on an over-reliance on engineering to encapsulate and control the PCBs being left behind after the cleanup. This approach will be leaving a legacy of contamination in the environment that we pass on to our children and grandchildren. The Housatonic is a naturally meandering river that has changed significantly over the last 100 years in response to both natural and anthropogenic causes. Mass Audubon's map of the river's shifting banks (provided with the comments) provides ample evidence of this. The Housatonic shifts within its oxbow sections by as much as .9 feet per year. On such a river, dramatic changes will disrupt habitat inevitably. Furthermore, such bank shifts tend to accelerate when dramatic measures such as channel straightening are employed as the river attempts to restore equilibrium. Shifting river morphometry eventually jeopardizes the viability of caps as long-term solutions. As such, a more complete cleanup is warranted and can be achieved without long-term damage provided appropriate stream restoration practices are employed. I have grave misgivings about the dredging and capping proposal for this area. Letting GE decide how this is going to be accomplished is not acceptable. In a recent storm 2-3 feet of sand was deposited on the banks- I don't believe the capping is a viable alternative to this issue. This is a remote and secluded section of the river with no entrances or exits nearby, whether by land, rail or river. Also the idea of capping and covering up the problem is ridiculous.

EPA Response 25: See Response 330 above regarding the selection of capping. Regarding channel migration, EPA recognizes the dynamic nature of the river, and has explicitly addressed the challenges it poses in the Performance Standards and Corrective Measures specified in the Final Permit Modification. In Reach 5A, which is the most dynamic section of river, the Performance Standards require the consideration of the use of Natural Channel Design to reconstruct riverbanks to minimize erosion and to result in a channel that is in dynamic equilibrium, balancing flow and sediment loads, and reducing erosive forces. Bank restoration techniques are presented as a hierarchy, with the preferred method being the sole use of bioengineering techniques, and the second method including a component of the Engineered Cap extending into the bank. Whichever method is used, EPA expects that the bank remediation and restoration design will be coordinated with the Engineered Cap design and address site-specific conditions.

With regard to GE's role in deciding how the dredging and capping is to be accomplished, the Decree makes it clear that GE is to submit its proposed details in design documents for EPA to review and approve. For further details, see Section VIII of the Response to Comments.

Comment 26: If capping of contaminated sediments remains part of the remedy, provisions must be made for inspection and repair, particularly after high-flow storm events, in perpetuity.

EPA Response 26: EPA concurs that inspection, monitoring and maintenance of caps is a critical to ensure that the remedy remains protective of human health and the environment. Several sections of the Final Permit Modification address these requirements.

First, the Performance Standards for Engineered Caps includes the following: "Engineered Caps shall be inspected, monitored, and maintained to ensure long-term protectiveness and to ensure that they continue to function as designed" (see Section II.B.2.i.(1)(c)).

Second, the Performance Standards and Corrective Measures for Inspection, Monitoring and Maintenance require an inspection, monitoring and maintenance program. This includes the requirements that program be implemented *throughout* the Remedial Action to evaluate the effectiveness in achieving Performance Standards and to conduct maintenance, repair, or other response actions necessary to achieve and maintain compliance with Performance Standards (see Section II.B.4.). A component of this program is to require a plan for Engineered Caps (see Section II.H.18.). It is anticipated that this program will require inspections after high-flow storm events.

Third, the requirements for Operation and Maintenance to be implemented upon completion of the Remedial Action includes inspection and maintenance of Engineered Caps and inspection and maintenance of other Corrective Measures to ensure that Performance Standards are maintained (see Section II.C.). There is no termination date for these requirements in the Final Permit Modification.

Comment 384: If caps are used in the remedy, how will cap failure be determined? Would it be possible to include some sort of visible "marker" in or below the cap that would be released in the event of a failure?

EPA Response 384: The details of the inspection, monitoring and maintenance requirements will be developed in the SOW and subsequent documents which will be subject to EPA review and approval. Typical inspection requirements for Engineered Caps include visual inspections, surveying, sediment core chemistry (including surface sediment and the isolation layer) to confirm physical and chemical isolation, and pore water sampling. A marker is typically not used. However, if a geotextile layer is used as a component of the Cap, exposure of this layer could serve as a visual marker that there is an issue with the performance of the Engineered Cap.

Comment 66: The cap in place at Allendale School did not work and eventually all of the residual contamination needed to be removed. Capping of contaminated sediments in the river will be even more difficult and subject to failure. The Allendale School experience has shown that caps do not work.

EPA Response 66: EPA recognizes that capping of contaminated sediment is more challenging than capping soil. However, there is no basis for the statement that the temporary cap at Allendale School "did not work."

A temporary soil cap was placed on the Allendale School property to eliminate direct exposure to PCBs present in the soil pending a final remedy decision for the property. Following the placement of the cap, PCBs were detected in soil samples collected outside the cap footprint. However, this was not the result of cap failure or of migration of PCBs. Rather, it was because the initial sampling did not delineate the full lateral extent of PCB-contaminated soil. The decision to remove the cap and underlying soil contamination at Allendale School was made as

Comment 150: The section of the Permit dealing with Long-Term Operations, Monitoring and Maintenance needs to be more detailed. The Permit states that long-term monitoring and maintenance shall be conducted until the Long-term Biota Benchmarks have been achieved. For fish, this is 0.064 mg/kg. What if this benchmark is achieved, and severe storm events occur after achievement that reintroduce PCBs into the environment? If monitoring is no longer occurring, how will we know that PCBs have been reintroduced? If PCBs are reintroduced into water and sediment, it could take years for PCBs to again bioaccumulate in fish tissue.

EPA Response 150: Based in part on this comment, the phrase “until Long-term Biota Benchmarks have been achieved” has been deleted. The Final Permit Modification has been revised to require monitoring and maintenance throughout the Remedial Action and during Operation and Maintenance to ensure that Performance Standards are achieved and maintained.

In addition, in part in response to this comment, Section II.A. of the Final Permit Modification, includes “. . . achieve and maintain such Performance Standards. . .” (emphasis added). Similar changes were made in Section II.B. of the Final Permit Modification.

Comment 151: We request that the EPA set specific long-term performance standards and monitoring points all along the length of river where remediation has taken place to ensure encapsulation of PCBs. At a minimum, standards must be set for visual and water quality monitoring at these points to ensure that the caps and armoring are functioning as designed. We urge the EPA to establish environmental conditions, such as a specific flow regimes and/or storm events that will automatically trigger monitoring, inspections of caps and armoring, and possible remedial action. The Permit should outline a framework for setting long-term Performance Standards once cleanup activities have been completed. These Standards would reflect post-construction conditions and incorporate lessons learned throughout the process.

EPA Response 151: Based on current information, EPA believes there are sufficient remedy Performance Standards in the Final Permit Modification. Also, GE’s long-term compliance is already covered by the Final Permit Modification. GE will be submitting, for EPA approval, Work Plans for Inspection, Monitoring, and Maintenance and O&M. Examples of requirements related to such compliance include the following, without limitation: Inspection, Monitoring, and Maintenance programs and O&M to evaluate MNR and the effectiveness of the Corrective Measures in achieving and maintaining Performance Standards; and GE’s obligation to conduct other response actions necessary to achieve and maintain compliance with Performance Standards. Also see EPA Response 111 *et al.*

Comment 133: The word “Long-Term” and “temporary” are used throughout the Permit, but these terms are never defined. We request that long-term monitoring and response actions remain in place in perpetuity and be clearly stated as such.

Comment 152: There should be a requirement for ongoing, regular monitoring of sediments and sediment transport as long as areas of PCB contamination above specific thresholds are known to remain in the river channel, banks or floodplain. This requirement should remain in place in perpetuity, with commensurate requirements for additional cleanup, without triggering a modification to the Permit, as called for by the monitoring. We are concerned that there is no

language in the Permit stating that GE is responsible for maintaining the performance standards or remediating contamination in perpetuity.

EPA Response 133, 152: EPA concurs that for River of River, GE should be responsible for conducting monitoring for a very long period of time, if not in perpetuity. Section II.B.4. of the Final Permit Modification requires monitoring to be conducted throughout the Remedial Action to ensure that Performance Standards are achieved and maintained, and to monitor the effectiveness of the Corrective Measures. In addition, the Final Permit Modification clarifies that an O&M Plan is required to be developed and implemented upon completion of the Remedial Action for Rest of River. See Section II.C. of the Final Permit Modification. Among other requirements, the O&M Plan requires GE to monitor surface water, sediment and biota.

The Decree and the Final Permit Modification, should monitoring indicate that Performance Standards are no longer being met, include provisions to require GE, as appropriate, to take additional response actions necessary to meet and maintain the Performance Standards. See for example, Final Permit Modification Section II.B.1.a. and b., Decree Section XXVI, and Decree Paragraph 39.

There is no termination date set for these monitoring requirements.

Comment 396: The Long-Term Operation, Monitoring, and Maintenance Plan that is required pursuant to the draft Permit must include regular inspection and monitoring of all armoring and caps, including bathymetric surveys.

EPA Response 396: As discussed above, the Final Permit Modification requires inspection, monitoring and maintenance of all armoring and caps. In addition, based in part on this comment, the Final Permit Modification has been revised to require bathymetric surveys to be conducted both before and after sediment removal and the placement of the Engineered Cap in Woods Pond and Rising Pond. The post-capping bathymetric surveys will be the baseline used in determining the amount of future sediment deposition and will assist EPA in the determination as to whether or not such accumulated sediment needs to be removed. See the Final Permit Modification, Sections II.B.2.e. and g. Therefore, periodic post-removal bathymetric surveys will be required as part of the Inspection, Monitoring and Maintenance Plan.

Comment 441: Connecticut is relying on the remediation of the Massachusetts portion of the river to reduce downstream transport of PCBs and decrease the concentrations of PCBs in fish along with a robust environmental monitoring program in Connecticut before, during and after remediation in order to evaluate the risks from PCBs and the health of the Housatonic River.

EPA Response 441: EPA concurs with Connecticut's comment and, as discussed in Response 111 et al. above in this Section III.E., the Final Permit Modification requires a monitoring program before, during and after remediation both in Massachusetts and Connecticut.

Comment 452: A scope of work should be prepared for both the Baseline/Construction monitoring program as well as the Long-term monitoring program. The requirement for development of this work plan should be added to Section II.B.11 of the permit, and should include EPA and Connecticut review and approval for all monitoring activities to take place in Connecticut.

III.F.2.a Overall Protection of Human Health and the Environment

Comment 546: GE asserts the following: EPA acknowledges that both TD 1 [Off-site Disposal] and TD 3 [On-site Disposal] would provide “high levels of protection to human health and the environment” (Stmt. Basis, p. 35). It explains that TD 1 and TD 1 RR would provide such protection by “providing for permanent disposal of PCB- contaminated sediment and soil in permitted off-site landfills,” and that TD 3 would provide such protection by “permanently isolating the PCB-contaminated sediment and soil in an upland disposal facility, which would be constructed with an appropriate double liner, cover, and double leachate collection system” (Comp. Analysis, pp. 60-61). As shown in Table 1, EPA has long recognized that on-site disposal facilities are protective, particularly for sediment and soil containing PCBs, in selecting on-site disposal of such materials as a component of the remedy for numerous PCB sites throughout the country, including in Massachusetts.³⁰ Indeed, the EPA Region has already approved the use of on-site disposal facilities (the On-Plant Consolidation Areas [OPCAs]) at this very Site, based on determinations that such facilities are appropriate for PCB-containing sediment and soil and would not pose an unreasonable risk of injury to health or the environment. There is no justification for a different conclusion for the Rest of the River.

In an apparent attempt to distance itself from its own prior conclusions, the Region has inserted some qualifications into its discussion of the application of the overall protectiveness criterion in an effort to suggest that TD 3 would be less protective than TD 1 or TD 1 RR. Those qualifications do not withstand scrutiny and do not support the Region’s conclusion.

EPA Response 546: EPA disagrees with GE’s assertions, the characterization of EPA’s analyses, and the conclusions of GE favoring on-site upland disposal of excavated material. Based in part on GE’s evaluation in the Revised CMS, EPA performed a thorough comparative analysis of the alternatives with respect to Overall Protectiveness of Human Health and the Environment, analyzing the key tradeoffs among different treatment/disposal alternatives. EPA’s analysis is demonstrated in Section 3.2 of EPA’s Comparative Analysis. In addition, EPA’s analysis of the Overall Protectiveness of Human Health and the Environment is only part of EPA’s overall evaluation of the Permit criteria, on which EPA based its determination of the selected remedy as best suited to meet the Permit’s General Standards in consideration of the Permit’s Selection Decision Factors, including a balancing of those factors against one another. See Comparative Analysis, pages 60-62. Moreover, except as otherwise specified in the Responses to Comments, the comments, upon EPA evaluation, do not make a significant difference to the Comparative Analysis or EPA’s determination.

GE’s comment also include two specific assertions, which are addressed immediately below.

1. Protectiveness of on-site versus off-site permanent disposal: Pursuant to the Permit, EPA considered several factors in analyzing on-site vs. off-site permanent disposal. For example,

³⁰ [footnote from GE’s comment] As noted in Table 1, for example, the EPA New England Region has approved the use of an on-site Confined Aquatic Disposal (CAD) cell for disposition of PCB-contaminated sediment in New Bedford Harbor (EPA, 2011). It is inconsistent for the Region to conclude that disposition of such material within that waterbody is acceptable, but that disposition of similar materials in a secure on-site upland disposal facility outside the floodplain in Berkshire County is not.

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).

2. EPA's past practice regarding on-site and off-site disposal: GE cites a Table (Table 1) with 24 sites where it asserts that PCB-contaminated sediments and soil were disposed on-site or at local landfills. More complete and accurate information for each of the sites listed in GE's table is provided in EPA's Table 1 to this Response to Comments. While it is true that EPA has successfully implemented on-site disposal of dredged sediments at several sites around the country, GE's table is misleading because it lumps local landfills together with true on-site disposal. For instance, GE's Table 1 cites 250,000 cubic yards of non-TSCA sediment locally disposed at the Ottawa River Site. These non-TSCA sediments were actually disposed at an off-site landfill owned and operated by the City of Toledo, while the TSCA-regulated sediments from that site were disposed out of state at a hazardous waste landfill. This "local disposal" at a fully-regulated municipal landfill is not comparable to on-site disposal, where regulations may be waived. GE's table also does not differentiate where wastes were consolidated in areas already impacted by contamination (much like the On-Plant Consolidation Areas at the Pittsfield facility, for which limited disposal was allowed under the Decree), versus construction of a new facilities in previously uncontaminated areas, as is contemplated by alternative TD-1.

GE's Table 1 also stretches the term "on-site disposal" beyond its logical limits. For instance, Table 1 calls the disposal of roughly 100,000 cubic yards of less-contaminated sediment at the River Raisin Site "on-site disposal," but this sediment was actually disposed at an off-site pre-existing confined disposal facility two miles away operated by the US Army Corps of Engineers for disposal of contaminated sediments unearthed during navigational dredging. This disposal in a pre-existing federally-managed facility outside site borders cannot be considered "on-site disposal," and is not comparable to building a new upland disposal facility outside the area of contamination, adjacent to the Housatonic River site, where GE has argued that EPA should waive relevant and applicable regulatory requirements.

For nearly half of the Sites listed in GE's Table 1, only a portion of the wastes was disposed on-site while the remainder was shipped off-site to a licensed and regulated landfill. For instance, at Lower Fox River more than 95% of the contaminated sediment and soils were disposed off-site at TSCA and municipal landfills, but Table 1 mentions only the small amount disposed at an off-site landfill owned by a PRP. Similarly, at the Fields Brook Site, the vast majority of contaminated sediment and soil was disposed off-site: roughly 700,000 cubic yards out of a total of roughly 750,000. But Table 1 mentions only the first Operable Unit, where 14,000 cubic yards of contaminated sediment and soils were treated on-site or disposed on-site.

GE also cites the on-site disposal (On-Plant Consolidation Areas) of contaminated soil and sediment in the prior non-Rest of River Decree removal actions as its principal example of on-site disposal. The Decree allowed GE to dispose of dredged contaminated soil and sediment in two consolidation areas: the first on top of an existing landfill, the "Hill 78", and the second adjacent to the existing landfill, in an area called "Building 71." GE fails to mention that Hill 78 was a pre-existing landfill, not an area with no known contamination as contemplated in TD-3 (on-site disposal). Moreover, the Decree limited the footprint and height restriction for Hill 78 and Building 71 and required off-site disposal of remaining wastes. As a result, GE could only dispose approximately 245,000 cubic yards of soil,

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.

EPA Response 572, 573: GE questions the support for EPA's analysis that TD 3 is difficult and potentially not feasible to implement. GE's own support for its assertion consists of the permit exemption from the Decree and CERCLA, and from that, its speculation that EPA's Implementability analysis places too much weight on State acceptance or community acceptance.

For the reasons cited below, EPA disagrees with GE's assertions, the characterization of EPA's analyses, and the conclusions of GE favoring on-site upland disposal of excavated material. Based in part on GE's evaluation in the Revised CMS, EPA performed a thorough comparative analysis of the alternatives with respect to Implementability, analyzing the key tradeoffs among different treatment/disposal alternatives. EPA's analysis is demonstrated in Section 3.9 of EPA's Comparative Analysis. In addition, EPA's analysis of Implementability is only part of EPA's overall evaluation of the Permit criteria, on which EPA based its determination of the selected remedy as best suited to meet the Permit's General Standards in consideration of the Permit's Selection Decision Factors, including a balancing of those factors against one another. See Comparative Analysis, pages 73-76. Moreover, except as otherwise specified in the Response to Comments, the comments, upon EPA evaluation, do not make a significant difference to the Comparative Analysis or EPA's determination.

First, EPA's analysis regarding the implementability of TD 3 has multiple lines of support taken directly from the Permit language on the Implementability criterion. The multiple sub-criteria of the Implementability criterion demonstrate the reasonableness of EPA's analysis of the implementability of TD 3. And while the statutory permit exemption has been and is relevant to EPA's analysis, the exemption does not negate the obligation under the Decree and Permit to evaluate all the Implementability sub-criteria set forth in the Permit. For example, if the statutory permit exemption negated consideration of zoning restrictions, zoning restrictions would not be listed for consideration as one of the Implementability sub-criteria. Indeed, this sub-criterion is consistent with EPA's 1988 Guidance, which provides that in addition to ARARs, "other federal and state criteria, advisories, and local ordinances should also be considered, as appropriate, in the development of remedial action alternatives." *Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA*. Overall, the Comparative Analysis clearly shows that EPA has not imported new criteria into the nine criteria analyzed.

Second, GE's desire to minimize the significance of Implementability among the Permit criteria is clearly inconsistent with the Permit and with EPA guidance. In fact, the 1994 EPA RCRA Corrective Action Plan guidance highlights the potential significance of the Implementability criterion as follows:

Implementability will often be a determining variable in shaping remedies. Some technologies may require state or local approvals prior to construction, which may increase the time necessary to implement the remedy. In some cases, state or local restrictions or concerns may necessitate eliminating or deferring certain technologies or remedial approaches from consideration in remedy selection.

EPA, Final RCRA Corrective Action Plan, OSWER Directive 9902.3-2A, Office of Waste Programs Enforcement, Office of Solid Waste, May 1994.

Third, while not necessary for this analysis in light of the multiple lines of support, as described in Section II.A of this Response to Comments, EPA's decision-making process under the Permit includes "any other relevant information in the administrative record." For example, the Decree requires EPA to examine the views of the State and community by providing multiple opportunities for public comment and input.

A. Multiple Lines of Support for EPA's Implementability Determination are Squarely Within the Permit Criteria:

The Permit criterion of Implementability includes eight sub-criteria, including, relevant to this comment, the following:

- Coordination with other agencies,
 - Regulatory and zoning restrictions; and
 - Availability of suitable on-site and off-site treatment, storage and disposal facilities and specialists
1. Coordination with other agencies: This Permit provision requires an analysis of different alternatives on such coordination. It is eminently reasonable for EPA to consider the views of other state and local agencies in comparing off-site disposal and on-site disposal. The other agencies have very substantial support for off-site disposal and opposition for on-site disposal. For example, as discussed in more detail in Response 546, GE has stated that its proposed locations do not meet specific technical requirements for a TSCA landfill, including permeability and hydrogeology. Clearly GE would need to coordinate with state and local entities on the prospect of placing in their community a permanent PCB disposal facility at a location that would not meet the relevant PCB landfilling requirements. In fact, GE in its Revised CMS under the heading "Coordination with Agencies", states that "both prior to and during implementation of TD 3 at any of the three potential locations, GE would need to coordinate with EPA, as well as state and local agencies to provide support with public/community outreach programs."

Additionally, given the proposed locations' potential deviations from local zoning (discussed below), and the Commonwealth's statutory prohibition on permanent disposal facilities in an ACEC, an evaluation of the "coordination with other agencies" sub-criterion can reasonably be seen to strongly favor off-site landfilling over on-site landfilling.

2. Regulatory and zoning restrictions: Similarly, an analysis of "regulatory and zoning restrictions" could easily yield a negative comparison for on-site disposal. For example, multiple TSCA landfilling requirements will not be satisfied, nor will local zoning restrictions, or Massachusetts' ACEC prohibition. All of these are regulatory and zoning restrictions to be considered under the Permit. As noted above, the statutory exemption set forth in CERCLA for obtaining permits does not override the Decree's and Permit's specific requirement that EPA consider "regulatory and zoning restrictions" in selecting a remedy for the Rest of River. Indeed, this sub-criterion is consistent with EPA's 1988 Guidance, which provides that in addition to ARARs, "other federal and state criteria, advisories, and local

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

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.

additional requirements related to opportunities for municipalities to have input during the process for designing and implementing the remedy. For example, within the Rest of River SOW submittal:

- EPA requires GE to expedite the submittal of a Work Plan for the siting of Temporary Sediment Processing/Transfer Location(s), including a process to coordinate with affected communities regarding the operation of the temporary location(s). Final Permit Modification, II.H.1.d(3);
- EPA requires GE to submit, as part of its Quality of Life Compliance Plan, provisions for coordination with affected residents or landowners in or near areas impacted by remediation, and a Community Health and Safety submittal. Final Permit Modification, II.H.11.d., and e.

In addition, in part in response to these comments, Section II.H.2 of the Final Permit Modification now includes a requirement that “[i]n addition, the Permittee [GE] shall describe the permittee’s project organizational structure, roles, and responsibilities, and lines of communication among the Permittee, EPA, and state and local entities, as appropriate and will include the project organization and a project implementation schedule.”

Comment 109b: Our municipal health and safety agencies do not have the training or resources to deal effectively with this issue (trucking of contaminated materials), so such training and resources must be provided by EPA and/or GE.

EPA Response 109b: The Final Permit Modification includes the requirement for GE to submit Supplemental Implementation Plans, including a Health and Safety plan and Operation plan. Final Permit Modification at II.H.8. A component of these plans is a contingency plan that requires coordination with local responders. Also see Response 114 *et al.* above. For issues relate to compensation, see Section IX.D of this Response to Comments.

Comment 134: We believe that “the Site” should be defined, with two Site sub-categories: Primary Site and Secondary Site. The Primary Site would include those areas which contain any contamination above the minimum standard – likely the 10-year floodplain. The Secondary Site would be those areas which are not contaminated but are subject to cleanup operations impacts (e.g., processing, transport, noise, dust, and glare). We believe that the Permit should specifically include defined Primary and Secondary Site approval processes, which would give considerable deference to local permitting processes and involvement in review and comment of operational plans, particularly in Secondary Sites.

EPA Response 134: EPA has not endorsed the two-site concept proposed by the commenter. However, EPA’s approach does address the issues raised by the commenter. As noted more specifically in Response 114 *et al.* above, EPA will provide multiple significant opportunities for input by municipalities in the design and implementation of the remedy.

Comment 162: We request that the Overall Strategy and Schedule section of the Permit explicitly direct GE to consider the requirements of local bylaws and regulations during the design and construction phases of the cleanup. Local municipalities should be actively involved in the final plans for of all work areas, including locating access roads, staging areas, dewatering and treatment facility areas, storage sites, etc.

Comment 282: EPA should acknowledge in the RCRA permit two additional, and important, aspects of state and local authority. First, to the extent that any work is conducted off of the “Site,” EPA should ensure that GE’s scheduling submissions and other documentation take into account the necessity of obtaining all necessary municipal approvals (for example relating to heavy truck traffic beyond the perimeter of the site). Second, even with respect to Work conducted entirely on the Site, the Work must comply with the substance of local permit laws. See, e.g., *Town of Fort Edward v. United States*, 2008 U.S. App. LEXIS 62, at *5 (2d Cir. 2008): “EPA is required to comply with the substance of state and local permit laws, and is merely exempted from ‘the administrative processes’ of obtaining the necessary permits that ‘could otherwise delay implementation of a response action.’” (quoting 53 Fed. Reg. 51394, 51406).

EPA Response 162, 282: The Final Permit Modification includes requirements for GE to submit proposed schedules for its deliverables in designing and implementing the remedy. Final Permit Modification, Sections II.H. and II.I. EPA has approval authority over such proposed schedules and will ensure that the schedules take into account any necessary approvals for activities. Also, as discussed elsewhere in this Section, EPA intends to solicit the input of local governments and agencies when reviewing GE’s deliverables.

In general, EPA will ensure compliance with the substance of state and local bylaws, regulations, and permit requirements for on-site remedial action, except where those requirements conflict with federal law or the terms of the Final Permit Modification. See *Town of Acton v. W.R. Grace & Co. Conn. Tech.*, No. 13-12376-DPW, 2014 WL 7721859 at *9-12 (Sept. 22, 2014) (slip op.) (Discussing conflict preemption under CERCLA.) In addition, see EPA Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, 1988. (“Other federal and State criteria, advisories, and local ordinances should also be considered, as appropriate, in the development of remedial action alternatives.”). Under CERCLA, EPA is not required to obtain local or state permits for portions of “any removal or remedial action conducted entirely onsite,” where the action is selected and executed in compliance with CERCLA clean-up standards. 42 U.S.C. § 9621; see also 40 C.F.R. § 300.400 (defining “onsite” as “the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action”).

Comment 292: In recent years, EPA has said that the Pittsfield Economic Development Authority (PEDA) is responsible for responding to PCBs discovered in the stormwater system near the original GE Plant Area, even though these PCBs are attributable to an area GE was supposed to have cleaned up. EPA has so far taken no steps (e.g., under the reopener conditions in the CD) to hold GE responsible. The Committee respectfully requests a clarification from EPA as to why GE has not been held responsible for the additional contamination on the PEDA property.

EPA Response 292: The scope of the public comment period was to seek comments on EPA’s Draft Permit Modification for the Rest of River remedy. The comment seeks a clarification on actions outside the Rest of River area, and not related to the proposed remedy for Rest of River. The Final Permit Modification is not designed to affect the liability of PEDA or GE regarding the PEDA property. The Rest of River area does not include the PEDA property at the GE Plant Area. As such, the comment is beyond the scope of the public comment period established for the Draft Permit Modification for Rest of River.

EPA Response 300: EPA has not included the specific language requested by the commenter in the Final Permit Modification. As explained in Responses 165 and 299 above, the Final Permit Modification includes requirements for GE to address project impacts on infrastructure as part of the Rest of River SOW submittals. EPA will coordinate with municipalities affected by the remediation during the review and approval process for these submittals, including soliciting input from the municipalities. Specific details regarding infrastructure will be addressed at that stage. EPA expects that, consistent with other cleanups performed by GE under the Decree, GE will restore any infrastructure to its pre-remediation condition, to the extent practicable, unless GE and the appropriate government entity reach an agreement on other mitigation measures.

IX.C Property Values, Economic Impacts, and Tourism

Comments 13, 36, 39, 97, 274.a, 275, 390: Many commenters expressed concern about the potential negative effect of the remediation on local property values, particularly during the construction period. One commenter noted that fears of loss of property value are unfounded because once the contamination is cleaned up properties near the river and floodplain will be worth more than they are now. One commenter noted the Skeo Report that shows that there will likely be a loss of real estate tax revenue because of the "temporary" loss of value of the homes near the river. Considering the extent of the proposed remediation, including the work in the floodplains, we expect there to be a loss of value of most of the homes in the neighborhoods adjoining Reach 5A, and even the announcement of the proposed remedy will make selling homes in the Reach 5A neighborhoods more difficult. One commenter felt that such concerns are unwarranted because properties near the river will be worth more after the cleanup is completed. One commenter suggested that the permitting agencies and GE should work with local governments to identify beneficial opportunities to mitigate these direct and substantial impacts to municipalities, residents and businesses.

EPA Response 13, 36, 39, 97, 274.a, 275, 390: Consistent with EPA practice in evaluating remedies, EPA did not study the impacts on property values as part of the remedy selection process under the Permit. That being the case, EPA cannot assess whether the consequences will be negative or whether once the contamination is cleaned up properties near the river and floodplain will increase in value. Nonetheless, within the context of the selected remedy, the Final Permit Modification does include provisions to address minimizing impacts of the remediation. In response to public comment, EPA added to the Quality of Life Compliance Plan additional detail for GE to evaluate the impacts of road use on neighborhoods, infrastructure and the general public (specifically restrictions on transport of waste material through residential areas and methods to minimize and/or mitigate transportation related impacts to neighborhoods, infrastructure and the general public) (II.H.11.c and d.). See Response 4 *et al.* above. Moreover, EPA is requiring GE to expedite its plan for coordination with affected communities on the operation of temporary contaminated materials handling facilities (II.H.1.d.(3)). In addition, GE is required, in the Rest of River SOW, to develop plans for addressing impacts on aspects such as community health and safety (II.H.11.e), noise, air odor, light standards (II.H.11.a), and recreational activities (II.H.11.b).

As one commenter mentioned, EPA, separate from the remedy selection process, provided funding for a study requested by local municipalities titled *Cleanup of the Housatonic "Rest of River" Socioeconomic Impact Study* by Skeo Solutions (September 2012).