Ann R. Klee
Vice President, Global Operations
Environment, Health & Safety

3135 Easton Turnpike
Fairfield, CT 06828
USA

T +1 203 373 3198
F +1 203 373 3342
ann.klee@ge.com

Via Courier

January 19, 2016

Nancy Barmakian
Acting Director, Office of Site Remediation and Restoration
U.S. Environmental Protection Agency, Region I
5 Post Office Square, Suite 100
Boston, MA 02101-3912

Re: GE-Pittsfield/Housatonic River Site
Rest of River (GECD850)
Dispute of EPA's Intended Final Decision Selecting Rest of River Remedy
Submission of GE's Statement of Position

Dear Ms. Barmakian:

General Electric Company (GE) is submitting the enclosed Statement of Position, which presents GE's objections to EPA's intended final decision on a Rest of River Remedial Action, along with the bases for GE's position. GE remains committed to a common-sense solution for the Rest of River that is fully protective of human health and the environment. Unfortunately, EPA's intended Rest of River Remedial Action is not such a common-sense solution. By this submission, GE is invoking formal dispute resolution under Paragraph 135 of the Consent Decree for the GE-Pittsfield/Housatonic River Site.

As you know, EPA and GE agreed to continue the period for informal negotiations, including mediation, in accordance with Paragraphs 133 and 134 of the Consent Decree until March 15, 2016, while at the same time commencing formal dispute resolution under Paragraph 135 of the Consent Decree. We also agreed that GE's Statement of Position would be due on January 19, 2016.

EPA's intended final decision is both inconsistent with the Rest of River remedy selection criteria to which EPA agreed and was reached without the substantive evaluation that is required for a remedy decision. The anticipated benefits of EPA's unstudied approach are overstated (and the actual benefits achievable by approaches that have been studied are either ignored or downplayed). The inevitable negative impacts of EPA's Rest of River remedy are dismissed and cost considerations are ignored.

For example, the intended decision's requirement that GE dispose of over one million cubic yards of sediment and soil from the Rest of River out-of-state cannot be reconciled with the Rest of River remedy selection criteria. As EPA has repeatedly admitted, out-of-state disposal will be no more protective of human health or the environment than on-site disposal in a secure, state-of-the-art facility, but it will cost about a quarter of a billion dollars more. In the face of this substantial cost

difference, which EPA also admits, EPA asserts that on-site disposol would be difficult to implement. It is incontrovertible that on-site disposal is EPA's "presumptive remedy" for the disposal of PCB-contaminated sediment and soil, which it has approved and implemented at many other sites across the United States, including in Pittsfield and other locations in Massachusetts.

EPA's approach to Woods Pond is similarly violative of the selection criteria in the Consent Decree. EPA would require GE to deepen Woods Pond and install a cap to achieve a minimum post-dredging capping water depth of six feet. This would require the removal of approximately 340,000 cubic yards of sediment from Woods Pond alone ostensibly to reduce concentrations of PCBs in fish in the Pond and downstream reaches of the River and the downstream transport of PCBs from the Pond. However, projections using EPA's own PCB model show no discernible difference in these respects between EPA's requirement and the removal of only 44,000 cubic yards of sediment with capping of the entire pond. It is undisputed that EPA's Woods Pond requirement alone will add an estimated $130 million to the cost of the remedy for no environmental benefit.

As these examples, and many others presented in GE's Statement of Position, illustrate, EPA's Rest of River remedy is arbitrary and capricious and violates the terms of the Consent Decree, including the Reissued RCRA Permit, which specifies the Rest of River remedy selection criteria.

GE remains ready to resume the mediotion process with EPA and is hopeful that we can reach agreement on a common-sense solution for the Rest of River that GE would implement without the need for further dispute resolution proceedings.

Very truly yours,

A. R Kl

Ann R. Klee
Vice President
Global Operations - Environment, Health & Safety

Enclosure

cc: Curt Spalding, EPA
Robert Cianciarulo, EPA
Dean Tagliaferro, EPA
Timothy Conway, EPA (via Courier)
W. Benjamin Fisherow, Chief, Environmental Enforcement Section, Environment and Natural Resources Division, USDOJ
Catherine Adams Fiske, USDOJ
Martin Suuberg, MA DEP
Michael Gorski, MA DEP
Nancy E. Harper, MA AG
Betsey Wingfield, CT DEEP
Susan Peterson, CT DEEP

STATEMENT OF POSITION OF GENERAL ELECTRIC COMPANY IN SUPPORT OF DISPUTE OF EPA'S NOTIFICATION OF INTENDED FINAL DECISION ON REST OF RIVER REMEDY

January 19, 2016

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INTRODUCTION

On September 30, 2015, the U.S. Environmental Protection Agency (EPA) notified the General Electric Company (GE), pursuant to Paragraph 22.o of the Consent Decree (CD or Consent Decree) for the GE-Pittsfield/Housatonic River Site (the Site), of EPA's intended final decision on the modification of the Reissued Resource Conservation and Recovery Act (RCRA) Permit (the Permit) selecting a Rest of River Remedial Action. On October 29, 2015, GE invoked dispute resolution regarding that notification, pursuant to Paragraphs 22.o and 141.b(i) of the Consent Decree, by submitting a Notice of Dispute to EPA in accordance with CD Paragraph 133. Pursuant to Paragraph 134 of the Consent Decree, GE and EPA (and ultimately Massachusetts and Connecticut) agreed to confidential mediation on a limited number of issues raised by EPA's intended final decision with the understanding that, if the parties could resolve those issues, GE would forgo formal dispute resolution under Paragraph 135 of the Consent Decree and would implement a Rest of River remedy incorporating the parties' agreements on those issues. GE and EPA later agreed to continue the confidential mediation until March 15, 2016 while at the same time commencing formal dispute resolution under the Consent Decree. The parties further agreed that GE would submit its Statement of Position in the formal dispute resolution proceeding by January 19, 2016. As agreed, GE is now submitting this Statement of Position in accordance with Paragraph 135.a of the Consent Decree.

The Consent Decree requires EPA to apply site-specific remedy selection criteria, negotiated by the parties to the Consent Decree, to select a Rest of River Remedial Action. Those site-specific remedy selection criteria do not include state and community acceptance.[1] This Consent Decree agreement is particularly significant given the record relating to EPA's intended out-of-state disposal requirement (see Section I below). The Consent Decree also requires EPA to specify in its Rest of River Remedial Action decision the specific response actions necessary to meet the Performance Standards specified by EPA, and to evaluate each of those response actions under the Rest of River remedy selection criteria. The purpose of this requirement is to allow EPA, GE, and, if necessary, the Environmental Appeals Board and the United States Court of Appeals for the First Circuit, to apply the site-specific remedy selection criteria, including cost, to the intended Rest of River Remedial Action decision. In addition, the Consent Decree prohibits EPA from requiring GE to take any future response actions not specified in, and evaluated prior to, its Rest of River Remedial Action decision unless EPA later determines that the Rest of River Remedial Action is no longer protective of human health or the environment based on new information or conditions. EPA's intention to impose several open-ended requirements is flatly inconsistent with this requirement and prohibition because an application of the site-specific remedy selection criteria, including cost, is impossible.

[1] The Rest of River remedy selection criteria (three "General Standards" and six "Selection Decision Factors") are specified in the Permit, which is incorporated into and is part of the Consent Decree. They are: (i) Overall Protection of Human Health and the Environment; (ii) Control of Sources of Releases; (iii) Compliance with Applicable or Relevant and Appropriate Federal and State Requirements (ARARs) (unless waived); (iv) Long-Term Reliability and Effectiveness; (v) Attainment of Interim Media Protection Goals (IMPGs); (vi) Reduction of Toxicity, Mobility, or Volume of Wastes; (vii) Short-Term Effectiveness; (viii) Implementability; and (ix) Cost.

A. The Consent Decree Is a Contract to be Interpreted Under Contract Law.

As discussed below, GE disputes several elements of EPA's intended Rest of River Remedial Action decision because EPA has breached these Consent Decree requirements. If EPA does not rectify these breaches, **EPA will not be entitled to deference in the later adjudication of whether it has honored its Consent Decree obligations**. It is well established that, when a government agency enters into a consent decree, the agency is bound as a contractual matter by the terms of the decree to which it agreed, and that the provisions of such a consent decree are to be interpreted based on contract principles, with no special deference to the agency's interpretation. As the Supreme Court has stated, "[c]onsent decrees are entered into by parties to a case after careful negotiation has produced agreement on their precise terms. The parties waive their right to litigate the issues involved in the case and thus save themselves the time, expense, and inevitable risk of litigation." *United States v. Armour Co.*, 402 U.S. 673, 681 (1971). Like contracts, then, consent decrees create "a kind of private law," *Missouri v. Independent Petrochemical Corp.*, 104 F.3d 159, 162 (8th Cir. 1997); and because they "have many of the attributes of ordinary contracts," *United States v. ITT Continental Baking Co.*, 420 U.S. 223, 236 (1975), they should "be construed basically as contracts, without reference to the legislation the Government originally sought to enforce but never proved applicable through litigation" (*id.*). *See also Quinn v. City of Boston*, 325 F.3d 18, 34 (1st Cir. 2003) (the power to interpret a consent decree lies with the court, and no deference is due to an agency's interpretation); *Ricci v. Patrick*, 544 F.3d 8, 17 (1st Cir. 2008) (same); *Meadow Green-Wildcat Corp. v. Hathaway*, 936 F.2d 601, 604-5 (1st Cir. 1991) (where permit issued by federal agency "reads like a contract," court treated it "like a contract for purposes of deciding how much weight to give the interpretation one party . . . offers," and no deference is due to the agency's interpretation).

B. EPA's Decision-Making Is Constrained by Its Statutory Authority.

As further discussed below, GE also disputes several elements of EPA's intended Rest of River Remedial Action decision because that intended decision exceeds EPA's statutory authority and/or is arbitrary and capricious. It is axiomatic that EPA must act within the limits of its statutory authority, and any EPA decision that conflicts with its governing statute or exceeds its authority is unlawful and cannot stand. See Administrative Procedure Act (APA; 5 U.S.C § 706(2)(A)&(C)); *Chevron, U.S.A v. NRDC*, 467 U.S. 837, 842-43 (1984); *Utility Air Regulatory Group v. EPA*, 573 U.S. ___, 134 S. Ct. 2427, 2444-45 (2014). Further, to the extent that EPA's decision rests on a statutory interpretation, EPA's interpretation is entitled to deference under *Chevron* only if it is "reasonable" (*id.*, 134 S. Ct. at 2439, 2442; *Michigan v. EPA*, 576 U.S. ___, (2015), slip op. at 6), and only if the interpretation has been embodied in a formal way (*Christensen v. Harris County*, 529 U.S. 576, 587 (2000)).

C. EPA's Intended Decision Is Arbitrary and Capricious Under the Administrative Procedure Act.

In any event, EPA cannot issue a decision or take action that is arbitrary or capricious (APA § 706(2)(A)). An agency decision is arbitrary and capricious if the agency relied on factors that are not supposed to be considered, failed to consider an important aspect of the problem, or

offered an explanation contrary to the evidence. *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). Indeed, an agency decision would fail on this ground if it was not "founded on a reasonable evaluation of the relevant factors." *Dubois v. U.S. Dept. of Agriculture,* 102 F.3d 1273, 1285, 1289 (1st Cir. 1996).

As examples that are particularly relevant to the current dispute, EPA decisions have been found to be arbitrary and capricious where the Agency failed to adequately consider the harm that would result from its decision (e.g., *Michigan v. EPA*, slip op. at 7 (EPA action is not "'appropriate' if it does significantly more harm than good")), or where the Agency failed to consider reasonable alternative ways of achieving its objective (e.g., *Delaware Dept. of Natural Resources v. EPA*, 785 F.3d 1, 17-18 (D.C. Cir. 2015)). See also *Organized Village of Kake v. U.S. Dept. of Agriculture*, 795 F.3d 956 (9th Cir. 2015), holding an agency decision to be arbitrary and capricious where the agency failed to provide a reasoned explanation for disregarding facts and circumstances that underlay a prior decision. As is discussed below, EPA has failed to meet these burdens here.

* * *

This dispute is not over whether or not GE will implement a Rest of River Remedial Action. GE has already publicly proclaimed its willingness to implement one of the largest river cleanups in history on the Rest of River. However, as explained below, several aspects of EPA's intended decision selecting a Rest of River Remedial Action violate the requirements of the Consent Decree, including the requirement to apply the Rest of River remedy selection criteria, exceed EPA's authority, and/or are arbitrary and capricious and therefore violate the Administrative Procedure Act. Those aspects of EPA's intended final decision must be corrected.

STATEMENT OF FACTS

The facts relating to this dispute are well known to EPA and are only briefly summarized here.

A. Background

The judicially approved Consent Decree memorializes a comprehensive settlement agreement among EPA, Massachusetts, Connecticut, GE, and other parties relating to the cleanup of GE's facility in Pittsfield, the Housatonic River downstream of GE's facility, and other adjacent and nearby areas. The Consent Decree establishes a defined multi-step process leading to EPA's selection of a Remedial Action for the Rest of River and specifies the criteria to be applied in making that selection. The Consent Decree also specifies that EPA's Rest of River Remedial Action decision is subject to appeal by GE and others and is then to be implemented under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

In accordance with the process specified in the Consent Decree, GE completed and submitted a Corrective Measures Study (CMS) Report in March 2008, evaluating numerous remedial alternatives against the nine Rest of River remedy selection criteria. The Commonwealth of Massachusetts and others harshly criticized the CMS Report's analyses and conclusions. For example, the Commonwealth's Secretary of Energy and Environmental Affairs (EEA) wrote to

EPA on June 16, 2008, that "there was a "need for extensive discussions with GE and other stakeholders," which "must consider options that do not lie within the four corners of the Corrective Measures Study." As a result, on September 9, 2008, EPA directed GE to prepare a revised CMS, which it said "must provide a detailed discussion of how each alternative will provide species habitat protection through avoidance of negative impacts where possible or restoration where impacts are unavoidable and, if necessary, mitigation."

On March 30, 2009, the Commonwealth's EEA Secretary designated the Upper Housatonic River, extending from the Confluence of the East and West Branches of the River (the Confluence) in Pittsfield to slightly downstream of Woods Pond, as an Area of Critical Environmental Concern (ACEC), finding that this area contains "extensive and diverse wildlife habitats . . ., including rare species habitat for 32 state-listed species," with "unique biological value . . . highlighted by the unfragmented nature of much of the area" (MA EOEEA, 2009). However, that ACEC also included certain industrial sites.

In response to EPA's directives, GE submitted several follow-up CMS documents, including a detailed response to EPA's September 2008 comments on the CMS Report (March 6, 2009), a work plan for evaluation of two additional remedial alternatives (August 31, 2009), an in-depth evaluation of the impacts of the remedial alternatives and the potential for restoration in six "example areas" identified by EPA (February 12, 2010), and, finally, on October 11, 2010, a revised CMS Report (RCMS). The RCMS provided detailed evaluations of the original remedial alternatives plus the additional ones identified in the 2009 work plan, including an extensive evaluation of the ecological impacts of those alternatives, potential methods to avoid or minimize the negative impacts, and the likelihood of success of those methods in re-establishing the pre-existing conditions and functions of the impacted habitats in the Rest of River. It also included a detailed assessment of the impacts of the alternatives on the numerous state-listed endangered, threatened, or special concern species identified by the Massachusetts Department of Fish and Game (MassDFG) as present in the Rest of River, and the extent to which those impacts would affect significant portions of the local populations of those species. That evaluation was again based on the nine Rest of River remedy selection criteria; and it used the assumptions, IMPGs, procedures, and other inputs that EPA directed GE to use, even though GE disagreed (and continues to disagree) with many of them.

In January 2011, the Commonwealth submitted comments to EPA on the RCMS, concluding that "none of the current combinations of alternatives [which included alternatives far less disruptive than EPA's intended Rest of River Remedial Action] achieve the remediation goals without causing irreparable harm to this unique, diverse and vital ecosystem that has been designated by the Commonwealth as an [ACEC]," and that "in virtually all instances the actual inevitable damage to this existing, unique ecological resource [in the name of meeting purported ecological goals] will far exceed the theoretical benefit of lower PCB concentrations" (MA EOEEA et al., 2011). As a result, the Commonwealth proposed its own remedial alternative, which included no river sediment dredging other than in Woods Pond, no bank stabilization, and floodplain remediation only where necessary based on human health goals (*id.*).

B. Remedial Action Proposal

On May 30, 2014, EPA issued a draft modification of the Permit, which identified its proposed Rest of River Remedial Action. That proposed remedy included the removal and out-of-state disposal of approximately one million cubic yards of sediment and soil, impacting over 400 acres of habitat in the Rest of River. The draft modified Permit was accompanied by a Statement of Basis for the proposed Remedial Action (Stmt. Basis), a Comparative Analysis of Remedial Alternatives for the Rest of River (Comp. Analysis), a lengthy Administrative Record (AR) compiled by EPA, and other supporting documents.

On October 27, 2014, GE submitted detailed comments on the draft Permit modification and Statement of Basis (GE, 2013; referred to herein as GE's Comments). They demonstrated that, in numerous respects, EPA's proposed remedy was arbitrary and capricious and irreconcilable with the legal requirements applicable to EPA's selection of the Rest of River Remedial Action.

C. Notification of Intended Final Decision

On September 30, 2015, EPA notified GE, as required by Paragraph 22.o of the CD, of its intended final decision on a Rest of River Remedial Action. That intended final decision is similar to EPA's 2014 proposal.

Paragraph 141.b(i) of the CD provides GE the right to seek administrative dispute resolution within the EPA Region of EPA's intended decision. GE invoked such dispute resolution on October 29, 2015 by submitting a Notice of Dispute to EPA in accordance with Paragraph 133, triggering a period of informal negotiations, including mediation (CD ¶ 134). As noted above, GE and EPA have agreed to continue the mediation while at the same time commencing formal dispute resolution under the Consent Decree. As agreed, GE is now submitting this Statement of Position in accordance with Paragraph 135.a of the CD.

STATEMENT REGARDING APPLICABLE CONSENT DECREE PARAGRAPH

As noted above, this dispute is governed by Paragraph 141.b(i) of the CD. That provision specifies that the dispute resolution on EPA's notification of its intended final Rest of River remedy decision shall be conducted "in accordance with the administrative dispute resolution provisions of ***Paragraphs 133-136*** of this Consent Decree" (emphasis added). By virtue of this specific provision, the current administrative dispute resolution proceeding is subject to the procedures of Paragraph 136 of the CD. However, that provision of Paragraph 141.b(i) is limited to the current proceeding and does not govern or affect the appropriate standard or basis of review in any other context. GE reserves the right in any other proceeding regarding EPA's selection of a Rest of River Remedial Action to take any position on the applicable standard or basis of review that comports with applicable law and the rules of the reviewing board or court, as specified in Paragraph 22.q of the CD. This includes, but is not limited to, the right to contend that certain arguments raised in this dispute that are raised again in a future proceeding do not pertain to "the selection or adequacy of any response action" and/or would

not be "accorded review on the administrative record under applicable principles of administrative law" (as stated in Paragraph 136).

ARGUMENT

The following sections present GE's position on each of the disputed elements of EPA's intended final Rest of River Remedial Action decision. In addition, to provide further support for GE's position on these elements, this Statement of Position incorporates by reference GE's Comments submitted to EPA on October 27, 2014. A hard copy of the text of Volume I of GE's Comments and a compact disc containing the full comments were enclosed with GE's Notice of Dispute.

I. EPA's Out-of-State Disposal Requirement Conflicts with the Consent Decree's Remedy Selection Criteria and Is Unlawful.

EPA's intended final decision would require that GE dispose of all removed sediments and soils at out-of-state disposal facilities and rejects the use of a secure on-site upland disposal facility constructed outside the 500-year floodplain, as proposed by GE. See Section II.B.5 of intended final decision.[2] This out-of-state disposal requirement, which was included in EPA's intended decision to placate the Commonwealth of Massachusetts, would violate the Consent Decree and be arbitrary and capricious because: (a) as EPA admits, out-of-state disposal would be no more protective of human health or the environment than on-site disposal; (b) as EPA also admits, it would cost far more (approximately a quarter of a billion dollars more) than on-site disposal; and (c) it would not better satisfy any other Rest of River remedy selection criteria. The basis for GE's position is summarized below. More detailed support is provided in Section II of GE's Comments.

EPA admits, as it must, that disposal of PCB-containing sediment and soil in a properly designed and maintained on-site upland disposal facility would be protective of human health and the environment (Stmt. Basis, p. 35; Comp. Analysis, p. 61). Indeed, EPA has long recognized that on-site disposal facilities are protective, particularly for wastes containing PCBs, which are relatively immobile. On-site disposal of removed PCB-containing sediment and/or soil has been a component of the remedy selected by EPA for numerous PCB sites throughout the country, including in Massachusetts, as shown in Table 1 of GE's Comments. (An additional copy of that table is attached as Exhibit A.)

In fact, in the Consent Decree, EPA approved the use of on-site disposal facilities for sediment and soil from other portions of this Site, including the upper two miles of the Housatonic River. EPA concluded there that the use of on-site disposal facilities for PCB-containing material was appropriate and consistent with the use of such on-site containment as the "presumptive remedy" for similar situations and types of waste (United States' Response to Comments on proposed Consent Decree, pp. 69, 77). Further, in an attachment to the Consent Decree, EPA

[2] The intended final decision would require GE to maximize the use of rail for transport of the excavated material to the out-of-state facility.

recognized that the material to be disposed of on-site "consist[s] of relatively low levels of PCB contaminated soils and/or sediments which are spread over a large area measuring hundreds of acres," and that "PCBs are relatively immobile due to their low solubility in water" (CD Appendix D, p. 38). Thus, EPA concluded that the use of on-site facilities for disposition of this material "will not pose an unreasonable risk of injury to health or the environment" (*id.*, p. 41). Those prior conclusions are even more applicable to the Rest of River, where the PCB concentrations in the sediment and soil are generally lower overall than those in the areas of the Site for which EPA previously authorized on-site disposal.

EPA admits all of this. In its most recent Rest of River public statement, an EPA spokesman conceded that on-site disposal is "just as safe" as out-of-state disposal (*Berkshire Eagle*, December 22, 2015, copy of article attached as Exhibit B).

It is also clear, as shown in GE's Comments, that on-site disposal would control releases of PCB-containing materials as well as off-site disposal, would meet Applicable or Relevant and Appropriate Requirements (ARARs) (except potentially for ones that EPA has waived for other aspects of the remedy) as well as out-of-state disposal and as well as other elements of EPA's intended Rest of River Remedial Action,[3] and is comparable to or better than out-of-state disposal in terms of all of the remaining non-cost remedy selection criteria.[4] At the same time, EPA cannot and does not dispute that on-site disposal would cost far less – approximately $250 million less than out-of-state disposal by rail. As a result, EPA is obligated by the Rest of River remedy selection criteria to select on-site disposal over out-of-state disposal.

EPA guidance on RCRA corrective action states that, where multiple potential remedies meet the threshold criteria, "***cost becomes an important consideration*** in choosing the remedy which most appropriately addresses the circumstances at the facility and provides the most efficient use of Agency and facility owner/operator resources" (emphasis added).[5] That is the situation here. Given the overall comparability of out-of-state disposal and on-site disposal in terms of all of the other Rest of River remedy selection criteria, cost becomes a key factor; and given the substantially lower costs of on-site disposal, application of the criteria compels selection of that alternative.[6]

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[3] A detailed discussion of the ARARs relevant to disposal was provided in GE's Comments and is summarized later in this section. For example, to the extent that EPA relies on the state regulatory prohibition on waste disposal in an ACEC, it is significant that EPA has now decided to waive all other ACEC prohibitions that would interfere with its remedy – i.e., prohibitions on dredging and on temporary waste management in an ACEC (see Attachment C to EPA's intended final decision).

[4] The attainment of IMPGs criterion does not apply to the selection of a disposal alternative.

[5] Advance Notice of Proposed Rulemaking on Corrective Action, 61 Fed. Reg. 19432, 19449 (May 1, 1996), which EPA has stated is to be used as guidance for activities under RCRA corrective action permits (64 Fed. Reg., 54604, 54607, Oct, 7, 1999).

[6] In this respect, EPA's RCRA corrective action guidance is similar to a requirement of CERCLA's National Contingency Plan (NCP) that a remedy must be "cost-effective," meaning that "its costs [must be] proportional to its overall effectiveness" (40 CFR § 300.430(f)(1)(ii)(D)). The preamble to the NCP explained: "In comparing alternatives to one another, the decision-maker should examine incremental cost differences in relation to

In spite of these incontrovertible facts, EPA would reject on-site disposal and require out-of-state disposal as the Commonwealth has insisted (see MA EOEEA et al., 2011; Massachusetts Presentation of October 12, 2011 [Attachment B to GE's Comments]; Comp. Analysis, p. 75). In a transparent attempt to disregard its many prior approvals of "presumptive" on-site disposal, EPA argues in its Statement of Basis and Comparative Analysis that on-site disposal is ***not*** comparable to out-of-state disposal in terms of the non-cost remedy selection criteria in this case. EPA's arguments are premised on the inconsistent application of the Rest of River remedy selection criteria, the new identification of supposed problems with on-site disposal, and turning a blind eye to the problems with out-of-state disposal. The evolution of this opposition to on-site disposal began with the Commonwealth's initial concern that prior on-site disposal had "run into considerable public opposition" (MA DEP, 2007); it continued with the Commonwealth's 2009 inclusion of industrial properties (including a sand and gravel quarry that had been discussed as an on-site disposal location) in the ACEC, its 2011 statement that it "vigorously opposes" on-site disposal (MA EOEEA et al., 2011), and its 2013 revision of its hazardous waste regulations in an attempt to prevent on-site disposal (see prohibition on disposal in an ACEC, discussed below); and it culminated in EPA's spurious conclusion that, despite the equivalent safety of on-site disposal, the "community opposition" (which had preceded EPA's prior selection of on-site disposal) and unspecified "state regulations" would preclude on-site disposal here (see Exhibit B).

Below we explain that EPA's asserted concerns regarding on-site disposal are without merit.

- As noted above, EPA has publicly cited "community opposition" as an impediment to on-site disposal. Similarly, EPA has claimed that the "substantial local and state opposition" to on-site disposal would make on-site disposal "very difficult, if not impossible, to implement" (Comp. Analysis, pp. 75, 76). That assertion is both unsupported and unsupportable. EPA agreed in the Consent Decree that state and community opposition are ***not*** Rest of River remedy selection criteria. It is arbitrary for EPA to attempt to read state and community opposition into the "implementability" remedy selection criterion. Given the on-site permit exemption for remedial actions implemented under the Consent Decree and CERCLA (CD ¶ 9.a; CERCLA § 121(e)(1)), no state or local permits or approvals are necessary for any on-site disposal facilities. Thus, "local and state opposition" poses no impediment to the implementability of this option. The Consent Decree (Paragraph 22.bb) grants the Commonwealth the right to appeal EPA's Rest of River Remedial Action decision, but it does not provide for the elevation of state and local opposition to the status of a remedy selection criterion and it certainly doesn't give the Commonwealth the right to veto an element of the Rest of River Remedial Action that best meets the remedy selection criteria.

- As also noted above, EPA has also claimed that "state regulations" would prevent on-site disposal. More specifically, EPA has asserted that out-of-state disposal would have fewer ARARs and would meet all of them, whereas on-site disposal would be subject to more

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incremental differences in effectiveness. Thus, for example, ***if the difference in effectiveness is small but the difference in cost is very large, a proportional relationship does not exist***" (55 Fed. Reg. 8666, 8728 (1990), emphasis added). Since on-site disposal here satisfies the threshold criteria and has no "difference in effectiveness" from off-site disposal, the "very large" difference in cost would compel its selection.

ARARs and might not meet some of them, notably state ARARs prohibiting placement of a waste facility in an ACEC (e.g., Comp. Analysis, p. 63). That assertion is incorrect and simply a make-weight attempt to bolster EPA's decision. As discussed in GE's Comments and further supported by EPA's current analysis of ARARs (in Attachment C to its intended final decision), most of the regulations cited by EPA do not apply all. These include: (a) the federal and state hazardous waste management regulations (except for the latter's ACEC prohibition, which EPA must waive and has waived for the temporary storage of waste, as noted below);[7] (b) the Massachusetts solid waste facility site assignment regulations;[8] (c) the Massachusetts hazardous waste facility site safety council regulations;[9] and (d) requirements associated with "possibl[e] impacts on wetlands areas" (*id.*), which would not apply to at least at two of the identified potential disposal sites – those known as the Woods Pond Site and the Rising Pond Site – where the disposal facility would not impact any wetlands. With respect to the remaining regulation cited by EPA against on-site disposal – the state hazardous waste regulations' prohibition on a waste facility in an ACEC – that prohibition would not affect two of the potential disposal sites, which are well outside the ACEC; and it should not be applied to the one site that is located within the ACEC boundaries (the Woods Pond Site) because that site would be located in an area used as sand and gravel quarry, where on-site disposal would not affect any of the resources of the ACEC. In any event, if necessary, EPA should waive the ACEC prohibition for the latter site, just as it has now decided to waive any other ACEC prohibitions that would interfere with its remedy – i.e., prohibitions on dredging and on temporary hazardous or solid waste management facilities in an ACEC (see Attachment C, pp. 8, 12, 13). This is especially true given the evidence that the Commonwealth knowingly included the quarry at the Woods Pond Site in the ACEC and amended its hazardous waste regulations in an attempt to prevent on-site disposal.

- EPA claims that on-site disposal would be less protective than out-of-state disposal and have greater long-term and short-term adverse impacts because (EPA says) an on-site

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[7] The federal hazardous waste regulations under RCRA and the comparable state regulations would not apply so long as (as expected) the excavated sediments and soils do not constitute hazardous waste under RCRA or, even if some did, GE disposes of those wastes at a permitted off-site RCRA landfill. As EPA now appears to recognize (Attachment C, pp. 11-12), while the state hazardous waste regulations also apply to wastes with PCB concentrations at or above 50 mg/kg, they exempt facilities that manage such wastes in compliance with EPA's Toxic Substances Control Act (TSCA) regulations (as the facilities here could do), with the exception of the prohibition on hazardous waste management facilities in an ACEC (discussed separately in the text).

[8] EPA now recognizes that these regulations would not apply to wastes that have PCB concentrations at or above 50 mg/kg or are commingled with such materials (Attachment C, p. 12) – which would cover the wastes that would be subject to on-site disposal. In any event, these regulations should not be an ARAR here because EPA has not identified them as an ARAR at this and other sites in Massachusetts where an on-site disposal facility was part of the remedy, and the State has not consistently applied them to such on-site disposal facilities (see Section II.B.3 of GE's Comments). Alternatively, for similar reasons, these regulations should be waived. CERCLA and the NCP provide that a state ARAR should be waived where the State has not consistently applied that requirement in similar circumstances at other sites (CERCLA § 121(d)(4)(E); 40 CFR § 300.430(f)(1)(C)*(5)*).

[9] In addition to the points in GE's Comments, we note that the Massachusetts Department of Environmental Protection (MassDEP) previously determined that these regulations do not apply to cleanups such as this one, as shown by the MassDEP memorandum in Exhibit C.

disposal facility would cause a permanent alteration of the habitat at the site of that facility (e.g., Comp. Analysis, pp. 61, 66). However, as shown in GE's Comments and noted above, the facility at one of the identified potential disposal sites, the Woods Pond Site, would be located within an already disturbed area used for long-term sand and gravel quarry operations and where, in fact, the post-use planting of the disposal facility area with grass would result in a clear ***improvement*** of the habitat. The facilities at the other two identified sites would be located within areas that are not subject to any special protections and are not part of the ACEC. Moreover, these disposal facilities would not include any floodplain or wetland areas or rare species habitat of the sort that would be devastated by EPA's sediment and floodplain remedy, as discussed in Section II.B below. As evidence of EPA's arbitrary evaluations, EPA has not even mentioned the habitat impacts of the on-site rail loading facility that would be necessary for out-of-state disposal by rail.

- In an additional ill-fated attempt to show that on-site disposal would be less protective, involve less control of release sources, and have greater adverse impacts, EPA claims that on-site disposal would create a risk of PCB leaks from trucks carrying leachate from the on-site disposal facility, or from that facility itself if not operated properly (e.g., Comp. Analysis, pp. 61, 62, 64, 68, 69). EPA's identification of this risk only with respect to on-site disposal is the essence of arbitrariness. It is beyond question that the other on-site aspects of the Rest of River Remedial Action are subject to the same risk of releases or improper operation, which EPA apparently agrees is sufficiently mitigated by EPA's day-to-day oversight to ensure proper operation. In any case, long-distance transportation of sediment and soil to an out-of-state disposal facility would involve a greater risk of leaks during transport than the much shorter-distance transportation required for on-site disposal.[10] EPA doesn't even mention the out-of-state disposal-related risk. Further, the potential for leaks from the disposal facility itself is no greater for an on-site disposal facility than for an out-of-state disposal facility. The fact that any potential releases from an on-site facility, in the unlikely event that they should occur, would be within the Housatonic River watershed, whereas any potential releases from an out-of-state disposal facility would take place within the area of that facility, does not affect the ability of the facility to meet the standards of protectiveness or control of sources of releases. In fact, EPA recognized this in its recent statement that an on-site disposal facility is "just as safe" as an out-of-state facility.

- In addressing reliability, EPA has claimed that out-of-state disposal is more reliable than on-site disposal because "it does not rely on operation, monitoring, and maintenance requirements (except at the receiving facility)" (Stmt. Basis, p. 36). This claim is specious. Any disposal facility, whether it is on-site or out-of-state, requires long-term operation, maintenance, and monitoring.

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[10] If trucks were used to transport leachate from an on-site disposal facility for treatment, they would be water-tight to prevent any release. In any case, as shown in Table 2 of GE's Comments, the total mass of PCBs that would be transported in the leachate by truck over the life of the project would be approximately 2 pounds, which is minuscule compared to the total mass of PCBs that would be transported out of state under EPA's disposal approach – approximately 38,000 pounds.

- Finally, in addressing short-term effectiveness, EPA has asserted that out-of-state disposal by rail would greatly reduce the amount of truck traffic, erroneously claiming that that alternative would involve ***no*** off-site truck trips (Comp. Analysis, pp. 69-70). In fact, out-of-state disposal by rail ***would*** involve off-site truck trips for importation of construction materials and equipment for construction and closure of the rail loading facility; and it would also require ***on-site*** truck trips to transport the removed materials from their excavation location to the rail loading facility – for a total of over 100,000 trips.[11] Overall, considering both off-site and on-site truck trips, out-of-state disposal by rail would involve at least comparable truck traffic to on-site disposal, as shown in GE's Comments.

As these examples demonstrate, EPA has twisted its discussion of the Rest of River remedy selection criteria in an effort to support its intended decision to require out-of-state disposal as the Commonwealth has insisted.[12] In fact, for the reasons given above, the Rest of River remedy selection criteria compel selection of on-site disposal. EPA's selection of out-of-state disposal would conflict with those agreed-upon criteria and therefore violate EPA's Consent Decree obligations, and it would be arbitrary, capricious, and unlawful.[13]

II. EPA's Intended Remedy Is Not Necessary to Protect Health and Would Cause Overall Environmental Harm and Therefore Violates Consent Decree.

EPA's intended decision would require GE to remove approximately one million cubic yards of sediment and soil, resulting in the destruction of over 400 acres of the Rest of River ecosystem, primarily on the basis that a remedy of this magnitude is necessary to protect human health from risks associated with fish consumption and direct contact with floodplain soils and river sediments. In addition, EPA claims that its intended remedy is necessary to meet the General Standard of overall protection of the environment because it would reduce ecological risks and would not cause long-term ecological damage, based on EPA's bald assertion that restoration

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[11] Any alternative would also involve additional truck trips for the importation of backfill and cap material.

[12] While not directly applicable, two provisions of CERCLA indicate Congress's determination that, to the extent that EPA chooses to let state opposition to in-state disposal drive an out-of-state disposal requirement, the State would need to pay the difference. Section 121(d)(2)(C) provides that a state-wide prohibition on land disposal shall not apply to a CERCLA remedy unless, among other things, the prohibition was adopted for scientific reasons other than precluding on-site land disposal *and* the "State arranges for, and assures payment of, the incremental costs of utilizing" a disposal facility (§ 121(d)(2)(C)(iii)(III)). In the present case, the Commonwealth is attempting to apply to this Site a state-wide prohibition on land disposal, which is evidenced by the fact that it has not permitted any new land disposal facilities in the State. In addition, Section 104(c)(3) of CERCLA provides that, for a Fund-lead site, the State must "assure the availability of a hazardous waste disposal facility" for any necessary off-site disposition of wastes. The Commonwealth's definition of the ACEC to include a quarry that is one of the three sites identified for on-site disposal and its amendment of its hazardous waste regulations to prevent disposal in the Upper Housatonic ACEC do the opposite of assuring such availability.

[13] In addition, in its TSCA risk-based determination in Attachment D to its intended final decision – i.e., that the sampling, storage, cleanup, and disposal of PCB-containing materials would meet the requirements for a risk-based approval under EPA's TSCA regulations (40 CFR § 761.61(c)) – EPA has made that determination dependent on out-of-state disposal of the excavated materials. That is also arbitrary, capricious, and unlawful because on-site disposal would likewise meet the regulatory conditions for such a determination – i.e., it would not result in an unreasonable risk of injury to human health or the environment (*id.*). This position is supported by Section V.G of GE's Comments.

of the affected riverbed, riverbanks, and floodplain can be successfully achieved and maintained (see Comp. Analysis, p. 16). The record makes clear that EPA is wrong on both counts. First, EPA's intended Rest of River Remedial Action is ***not*** necessary to protect human health; less extensive remedies would also meet the General Standard of overall protection of human health. Second, EPA's intended Rest of River Remedial Action ***would*** cause extensive overall long-term damage to the environment that a less extensive, equally protective remedy would avoid. As a result, EPA's intended Rest of River Remedial Action contravenes the Consent Decree and is arbitrary, capricious, and unlawful.

A. EPA's Remedy Goes Beyond What Is Necessary to Protect Human Health.

EPA's intended Rest of River Remedial Action is based on the premise that PCBs cause adverse health effects in humans at the levels found in the Rest of River and that those effects can be represented by EPA's toxicity values for PCBs. As discussed in Section III.B of GE's Comments and shown in many of GE's prior submittals to EPA, GE disputes that premise.

However, even accepting EPA's PCB toxicity values, its intended Rest of River Remedial Action is more extensive, disruptive, and costly than necessary to protect human health, since remedies that are less extensive, disruptive, and costly would achieve the Agency's own health-based objectives by attaining protective levels both for human consumption of fish and for human contact with Rest of River soil and sediment. As a result, EPA's intended Rest of River Remedial Action would be arbitrary and capricious because EPA has failed to make a reasoned evaluation of the relevant factors and has failed to give adequate consideration to alternative means of achieving the Agency's objectives (see, e.g., *Dubois v. U.S. Dept. of Agriculture,* 102 F.3d at 1289; *Delaware Dept. of Natural Resources v. EPA*, 785 F.3d at 17-18). For the same reasons, EPA's intended decision reflects a misapplication of the applicable remedy selection criteria and thus violates EPA's Consent Decree obligations.

The basis for GE's position is provided in Section III.B of GE's Comments, which includes the following points:

- EPA acknowledges that no remedial alternative, including its intended Rest of River Remedial Action, will achieve the fish consumption Interim Media Protection Goals (IMPGs) that would allow unrestricted fish consumption – i.e., those based on EPA's Reasonable Maximum Exposure (RME) assumptions in its Human Health Risk Assessment (HHRA; EPA, 2005a) – in the Massachusetts portion of the Rest of River within the model projection period (over 50 years) (Comp. Analysis, p. 13, Table 2). Therefore, no matter what remedial alternative is adopted, fish consumption advisories will need to remain in place indefinitely in Massachusetts.

- Because not even EPA's Rest of River Remedial Action would allow unrestricted fish consumption, EPA relies on the fact that, according to projections using its PCB model, its remedy would achieve a lesser fish consumption goal in all Massachusetts reaches except one (Reach 5B) within the model projection period (Comp. Analysis, p. 13 & Table 2). That lesser goal is an IMPG of 1.5 mg/kg in fish fillets based on EPA's Central Tendency

Exposure (CTE) assumptions (for "average" exposure), derived from a probabilistic risk analysis set forth in the HHRA, and based a non-cancer hazard index (HI) of 1 for adults. ***However, a less extensive remedy would achieve the same probabilistic CTE IMPG for fish consumption in Massachusetts.*** For example, Table 2 in EPA's Comparative Analysis shows that alternative SED 5 (which would involve 377,000 cubic yards of sediment removal, instead of the approximately 900,000 cubic yards of sediment removal required by EPA's intended remedy) would achieve the same CTE IMPG in all Massachusetts reaches except one (in this case Reach 7B) within the model projection period.[14] Moreover, as discussed further in Section III below, alternatives involving less removal in Woods Pond, the Reach 7 impoundments, Rising Pond, and the backwaters would result in comparable reductions in fish tissue concentrations and comparable attainment of the probabilistic CTE IMPG as EPA's intended Rest of River Remedial Action.

- EPA decided not to extend its model to Connecticut. Instead, EPA chose to use the predictions generated by its already uncertain model for Massachusetts to extrapolate even more uncertain predictions of future PCB levels in fish in the Connecticut impoundments, using a number of simplifying assumptions and factors without any confirmatory data. Nevertheless, those extrapolations do not show significant differences between EPA's intended Rest of River Remedial Action and remedies involving much less sediment removal with respect to predicted concentrations of PCBs in fish in Connecticut, as shown in Section III below.

- For the floodplain, EPA's intended Rest of River Remedial Action would require removal of approximately 80,000 cubic yards of soil to achieve specified standards in various exposure areas (EAs) across the floodplain, based on IMPGs derived using EPA's RME exposure assumptions in its HHRA for direct human contact with floodplain soil. As discussed in GE's Comments, many of those exposure assumptions are unrealistic and unsupported. For example, for 62 areas of the floodplain which EPA has designated as "high use" recreational areas, EPA assumes that an individual would use those areas 90 days per year (Draft Permit, Table 1), which translates to three days per week, every week, from April through October, and that the individual would spend all of that time within the floodplain (as opposed to other parts of the recreational areas) and be exposed to the upper-bound PCB concentrations in the floodplain, and would continue to do so for 47 years. If more realistic (but still conservative) exposure assumptions were used, the resulting cleanup standards would be achieved by a far smaller and less ecologically damaging floodplain remedial alternative (involving removal of approximately 10,000 cubic yards of soil).

- Even if one accepts the validity of EPA's exposure assumptions, a less disruptive remedy than EPA's would still achieve levels within EPA's acceptable cancer risk range and below an acceptable non-cancer HI for direct contact, and thus would adequately protect health. For example, as demonstrated by Tables 8-7a and 8-8 in the RCMS, alternative FP 9, which would involve removal of approximately 26,000 cubic yards of floodplain soil, would achieve the EPA-approved RME IMPGs based on a 10^{-4} cancer risk and a non-cancer HI of 1 in ***all***

[14] In fact, that alternative would achieve other CTE IMPGs (i.e., those based on a 10^{-5} cancer risk and a non-cancer HI of 1 for children) in ***more*** reaches than EPA's intended remedy.

of the floodplain EAs, and would achieve the EPA-approved RME IMPGs based on a 10^{-5} cancer risk and a non-cancer HI of 1 in the majority (about two-thirds) of the direct-contact floodplain EAs.

Given these alternative means of achieving PCB levels that EPA considers protective of human health, EPA's selection of a larger, more damaging, and more costly remedy than necessary to meet that objective would be arbitrary and capricious and inconsistent with the Rest of River remedy selection criteria.

B. EPA's Remedy Would Cause Overall Harm to the Environment.

EPA's intended Rest of River Remedial Action would require the removal and capping of sediments in the entire river channel in Reaches 5A and 5C and portions of the river channel in Reach 5B; bank soil removal and stabilization in at least 3.5 miles of riverbanks in Reach 5; removal and capping of sediments in the impoundments in Reaches 6, 7, and 8; and removal and replacement of approximately 80,000 cubic yards of floodplain soil – impacting a total of over 400 acres of the Housatonic River ecosystem. As discussed below, this would cause substantial, extensive, and irreparable harm to the Rest of River ecosystem, particularly in the biologically unique stretch between the Confluence and Woods Pond Dam; and that damage would be greater than any ecological benefit that would result from the remedy. Therefore EPA's selection of its Rest of River Remedial Action: (a) violates the Rest of River remedy selection General Standard requiring "overall" protection of the environment; (b) conflicts with EPA guidance (cited in Section II.C of GE's Comments) requiring a balancing of the short-term and long-term adverse environmental impacts of a potential remedy with the residual risks; and (c) is arbitrary and capricious for failure to consider relevant factors, including the adverse impacts of its decision. As the Supreme Court recently noted in another context, EPA action is not "'appropriate' if it does significantly more harm than good." *Michigan v. EPA*, slip op. at 7.

The basis for GE's position is summarized briefly below, with reference to Section III.C of GE's Comments for supporting information.

As discussed in the RCMS, and determined by the Commonwealth, both in its designation of the Upper Housatonic River as an ACEC (MA EOEEA, 2009) and in its comments on the RCMS (MA EOEEA et al., 2011), the Rest of River ecosystem in the stretch between the Confluence and Woods Pond Dam is biologically unique, with substantial biodiversity and wildlife habitat and an exceptional number of state-listed rare species, owing in part to its rare, largely unfragmented forested riparian corridor and network of vernal pools. EPA's intended Rest of River Remedial Action would cause severe and enduring harm to this unique ecosystem, including the river channel, the riverbanks, floodplain forests, wetlands, vernal pools and/or the critical buffer zones around those pools, and the state-listed species and other wildlife that inhabit these areas – as described in detail in the RCMS, in comments prepared by Professors Robert Brooks, Aram Calhoun, and Malcolm Hunter (Attachment C to GE's Comments), and in an assessment of the impacts of EPA's intended Rest of River Remedial Action on state-listed

species (Attachment E to GE's Comments).[15] To avoid repetition, GE calls attention specifically to the examples of these adverse impacts given on pages 34-37 (in Section III.C.1) of GE's Comments.[16] In fact, the creation of such unnecessary ecological damage conflicts with the goals of the ACEC designation to "preserve and restore" the unique resources of the ACEC (301 CMR 12.03).

While EPA acknowledges that its intended Rest of River Remedial Action will have negative impacts on the various types of habitat in the Rest of River, it asserts that all of those impacts would be short-term, because the affected habitats can be successfully and fully restored to their pre-remediation state (Comp. Analysis, pp. 16, 26, 27-32, 56). Specifically, it claims that there is "a significant body of knowledge" that "documents the ability to reestablish the pre-remediation conditions and functions of the affected habitats" (*id.*, p. 26), citing only a 2011 paper by an EPA consultant (reprinted as Attachment 12 to the Comparative Analysis) to support that claim. EPA concludes, based on its consultant's paper, that "restoration is expected to be fully effective and reliable in returning [the affected] habitats . . . to their pre-remediation state," and that, "[a]s a result, the likelihood of effective restoration is equal under any of the [remedial] alternatives" (*id.*).

EPA's conclusion flies in the face of the full body of available evidence, and lacks an adequate reasoned justification. This is demonstrated by the above-named Professors both in their comments provided in Attachment C to GE's Comments and in a separate critique of EPA's claims that restoration would effectively and reliably re-establish the pre-remediation conditions and functions of the affected habitats, including a review of the consultant report on which EPA relies. The Professors' critique, provided in Attachment D to GE's Comments, references 30 sources not considered by EPA (most of which have been peer reviewed) that contradict EPA's conclusion. That critique includes a detailed explanation of why none of the sites referenced in EPA's consultant report as examples of "successful" restoration provides any support for EPA's claims regarding restoration in the Rest of River.

In addition to these unsupported and unsupportable conclusions regarding restoration, EPA's conclusions regarding ecological risk disregard EPA's own guidance. EPA's *Ecological Risk*

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[15] EPA has revised the vernal pool component of its intended Rest of River Remedial Action to require that activated carbon (or a comparable amendment) be applied in pools with an average PCB concentration ≥ 3.3 mg/kg to reduce bioavailability to a level equivalent to that associated with a concentration of 3.3 mg/kg, and that, if that is unsuccessful, GE must remove and replace soil to achieve an average PCB concentration of 3.3 mg/kg (except in Core Area 1) (Section II.B.3.b). As noted in GE's Comments and the comments of the above-named Professors, the impacts of activated carbon on vernal pools are unknown; and if that approach doesn't work, the required excavation would have the devastating adverse impacts described in those comments. In any event, even without considering the impacts on vernal pools themselves, EPA's remedy would still cause severe and persistent damage to the critical habitats surrounding the vernal pools, as well as to other habitats (including riverbanks and floodplain forests), as described in GE's Comments and the comments of the Professors.

[16] It is worth noting specifically that, although EPA's intended Rest of River Remedial Action would include only limited remediation in Core Area 1 (areas identified by the MassDFG as having "the highest quality habitat for species that are most likely to be impacted by PCB remediation activities" due to lack of mobility or high sensitivity), severe impacts on state-listed species would occur in other areas, including those in Core Areas 2 and 3, as shown on page 37 of GE's Comments.

Assessment and Risk Management Principles for Superfund specifies that the purpose of ecologically based remediation is to "result in the recovery and maintenance of healthy ***local populations and communities*** of biota," not to protect "organisms on an individual basis" (EPA, 1999, p. 3; emphasis added). However, many of the studies and conclusions in EPA's Ecological Risk Assessment (ERA; EPA, 2004) on which the ecological IMPGs were based focused on effects on individual animals, rather than local populations and communities, and used highly conservative and, in some cases, unsupportable assumptions and inputs that overstate purported ecological risks. In addition, for some wildlife species, EPA required GE to apply those IMPGs to designated "averaging areas" that are smaller than those commensurate with the local populations, resulting in an overestimate of the potential impacts of PCBs on the local populations of those wildlife species. These points were demonstrated in various prior GE submissions (cited in Section III.C.2 of GE's Comments), with a number of examples given on pages 38-39 (in Section III.C.2) of GE's Comments.

Further, EPA disregards the real-world evidence of an absence of ecological risk from PCBs to local populations and communities of wildlife in the Rest of River. The Commonwealth evaluated this ecosystem and reached the conclusion that, despite the PCB releases "from the 1930s through the 1970s," the "Housatonic River Watershed encompasses a rich and unique ecosystem supporting many rare plant and animal species and their associated habitats, including wetlands, floodplains, vernal pools, surface waters, and forested areas" (MA EOEEA et al., 2011, p. 2). The Commonwealth also concluded that "in virtually all instances the actual and inevitable damage to this existing, unique ecological resource will far exceed the theoretical benefit of lower PCB concentrations" (*id.*, p. 1). GE agrees.

In short, for the reasons given above, EPA's intended Rest of River Remedial Action would not provide "overall" protection of the environment, would cause more harm than good (and more than necessary), and therefore violates EPA's Consent Decree requirements and is arbitrary, capricious, and unlawful.[17]

III. The Remedies for the Impoundments and Backwaters Are Inconsistent with the Consent Decree's Remedy Selection Criteria and Are Arbitrary and Capricious.

A. EPA's Deep Dredging Remedy for Woods Pond

EPA's intended remedy for Woods Pond would require deep dredging and placement of an engineered cap throughout the Pond so as to achieve a minimum post-capping water depth of 6 feet (except in near-shore areas, where the slope from the shore to the 6-foot water depth must be as steep as possible) (Section II.B.2.e of intended final decision). This would require the removal of approximately 340,000 cubic yards of sediment from Woods Pond.[18] Because that

[17] With respect to EPA's reliance on health grounds to justify the remedy, we have shown in Section II.A that alternative remedies involving much less extensive removal could achieve comparable reduction in human health risks with fewer adverse ecological impacts.

[18] EPA has estimated that this remedy would require removal of 285,000 cubic yards of sediment from Woods Pond (Comp. Analysis, p. 8 & Att. 6). However, that volume estimate was based on achieving an ***average*** post-capping

removal would not have greater risk-based benefits than smaller, less disruptive, and much less costly alternatives, EPA's intended remedy for Woods Pond would be arbitrary and capricious for failure to make a reasoned evaluation of the relevant factors and failure to give adequate consideration to an alternative, less disruptive means of achieving EPA's objectives; and it is inconsistent with the applicable remedy selection criteria and thus would conflict with EPA's Consent Decree obligations.

The basis for GE's position is summarized below. More detailed support is provided in Section IV.A of GE's Comments.

EPA claims that its intended Woods Pond remedy would reduce human health risks associated with fish consumption (Comp. Analysis, p. 3). However, projections using EPA's own model show no discernible difference between that remedy and an alternative involving shallow dredging and full capping in reducing fish PCB concentrations or attaining fish consumption IMPGs in Woods Pond itself or in the downstream impoundments in Massachusetts and Connecticut. For example, based on the model projections, a remedy involving sediment removal to a depth of 9 inches in the shallower portions of the Pond (resulting in the removal of an estimated 44,000 cubic yards of sediment) and capping the entire Pond would result in the same reduction in PCBs in fish in Woods Pond and the downstream impoundments (i.e., the four Reach 7 impoundments, Rising Pond, and the four Connecticut impoundments) as EPA's deep removal remedy (holding all other aspects of these alternatives constant), as shown on Figures 8-a through 8-j of GE's Comments. This demonstrates that the substantial additional sediment removal required for EPA's intended Rest of River Remedial Action (nearly 300,000 cubic yards) would have no benefit in terms of reducing fish PCB concentrations.[19]

EPA also asserts that its remedy would reduce direct contact risks and ecological risks (Comp. Analysis, p. 4). However, the smaller remedy described above (involving the removal of an estimated 44,000 cubic yards of sediment and the installation of a cap) would result in a comparable reduction in any direct contact or ecological risks. For example, both of these alternatives are predicted to achieve a surface sediment PCB concentration of 0.4 mg/kg in Woods Pond, which is far below any threshold for direct contact or ecological risks.

The lack of environmental benefit from EPA's deep dredging remedy is further demonstrated by the fact that, based on review of the data, the great majority of the deeper sediments that would be removed under that remedy (particularly those more than two feet beneath the current pond bottom) consist of sediments with PCB concentrations less than 1 mg/kg, which EPA admits do not pose a health or environmental risk.

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water depth of 6 feet; achieving a ***minimum*** post-capping water depth of 6 feet, as provided in the intended final remedy, would require removal of approximately 340,000 cubic yards of sediment.

[19] The same points would apply to other smaller remedies that were previously evaluated, such as the Woods Pond component of RCMS alternative SED 5, which would involve removal to a depth of 1.5 feet in the shallow portion of the Pond (approximately 89,000 cubic yards) with capping of the entire Pond.

EPA states further that its deep dredging remedy would increase the solids and PCB trapping efficiency of Woods Pond and thereby reduce the downstream transport of PCBs (*id.*). However, solids trapping efficiency does not equate to PCB trapping efficiency, since some portion of the PCBs passes the dam in dissolved form. While EPA's intended Woods Pond remedy would appear to result in some increase in ***solids*** trapping efficiency compared to smaller alternatives (*id.*, p. 17), the model runs indicate very little difference between that remedy and the smaller alternative described above in terms of ***PCB*** trapping efficiency, as reflected by PCB transport past Woods Pond and Rising Pond Dams. The projected average annual PCB loads passing Woods Pond and Rising Pond Dams are 2.5 kg/year and 2.7 kg/year, respectively, after the implementation of EPA's Woods Pond remedy and 2.6 kg/year and 2.9 kg/year after the implementation of the smaller remedy described above. More importantly, this would not translate to any reduction in risk due to fish consumption or anything else compared to the smaller alternative, as discussed above. Thus, any difference in trapping efficiency would not result in an increase in the protectiveness of the remedy.

EPA also states that its deep dredging remedy would reduce the potential for a release of PCBs from Woods Pond in the event of dam failure (*id.*, pp. 4, 18). However, in addition to the fact that most of the deeper sediments to be removed have concentrations below 1 mg/kg (as discussed above), dam failure is not a realistic risk, since GE owns Woods Pond Dam and conducts the necessary monitoring, maintenance, and repair of the dam to prevent dam failure. Doing so is critically important to GE since the Consent Decree's covenants from the federal and state governments not to sue GE for additional natural resource damages (NRD) do not apply in the case of a failure of Woods Pond Dam (CD ¶ 176), and thus such a failure would open GE to additional claims for NRD. Hence, that potential does not provide a justifiable basis for the deep dredging.

In fact, it appears that EPA's actual purpose in proposing its Woods Pond remedy is to satisfy Massachusetts' desire to improve Woods Pond as a recreational fishery (see Massachusetts Presentation of October 12, 2011 [Attachment B to GE's Comments]) as a *quid pro quo* for Massachusetts' tolerance of other elements of the Rest of River Remedial Action that Massachusetts previously opposed. The improvement of recreation is not a Rest of River remedy selection criterion, or even within EPA's statutory authority, which is limited to requiring actions necessary to protect human health and the environment from identified risks due to releases. As shown above, any risks can be reduced to a comparable extent with a remedy that involves much less removal.

In contrast to a lack of difference in risk reduction and protectiveness, EPA's intended Woods Pond remedy would involve greater adverse impacts due to the extra removal and much higher costs than comparably protective smaller remedies. For example, due to the greater removal volume, EPA's remedy would require more truck trips (with their attendant community impacts) and produce greater greenhouse gas (GHG) emissions than the smaller remedy.[20] EPA's

[20] As shown in Section IV.A of GE's Comments and associated tables, GE has estimated that EPA's Woods Pond remedy would require a total of approximately 39,000-46,000 truck trips to import the necessary remediation material (i.e., capping and staging area/access road material) and to transport the dredged sediments from the Pond, while the alternative involving shallow dredging (44,000 cy) and capping of the entire Pond would require a total of only

remedy would also be much more costly. Assuming off-site disposal by rail, EPA's deep dredging remedy would cost approximately $165 million whereas the shallow dredging/full capping alternative described above would cost approximately $35 million – a difference of $130 million. Given the equivalent protectiveness and effectiveness of these remedies, the incremental costs of EPA's remedy are not proportional to its incremental benefits (if any), and hence that remedy would clearly not be cost-effective.[21]

For these reasons, EPA's deep dredging remedy for Woods Pond would be arbitrary and capricious and contrary to the applicable remedy selection criteria in violation of EPA's Consent Decree obligations.

B. Remedy for Reach 7 Impoundments

EPA's intended remedy for the Reach 7 impoundments would require that, in any Reach 7 impoundment for which GE does not reach an agreement with an entity planning dam removal regarding the scope and costs of that work,[22] GE must: (a) remove surface sediments (including any sediments with PCBs > 50 mg/kg) and cap those areas so as to achieve a spatially weighted average concentration (SWAC) of 1 mg/kg in each of various averaging areas; and (b) for areas outside the footprint of that cap, remove and cap sediments as necessary to achieve a SWAC of 1 mg/kg in the subsurface sediments in each averaging area (Section II.B.2.f). GE has estimated that this would require removal of a total of approximately 53,000 cubic yards of sediment from the Reach 7 impoundments.[23]

As with other aspects of EPA's decision, this removal/capping remedy is unjustified because a less extensive and less costly remedy would achieve similar or sufficient reductions in risks. Accordingly, the intended remedy would be arbitrary and capricious for failure to make a reasoned evaluation of the relevant factors and failure to give adequate consideration to a reasonable alternative; and it is inconsistent with the applicable remedy selection criteria and thus would conflict with EPA's Consent Decree obligations.

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approximately 10,000-11,000 such truck trips – approximately 30,000 truck trips less. Further, GE has estimated that the proposed remedy for Woods Pond would produce 51,000 tonnes of GHG emissions, compared to 7,800 tonnes for the smaller alternative – a difference of more than six-fold.

[21] This would be true even with on-site disposal. In that event, EPA's intended Woods Pond remedy is estimated to cost $73-95 million (depending on the location of the on-site disposal facility) versus $21-24 million for the alternative described above – a difference of over $50 million. Those incremental costs are not proportional to or justified by any incremental benefits.

[22] More specifically, this option provides that GE must propose such a coordination /agreement approach to EPA for review and approval (Section II.B.2.f.(1)(e)). That proposal must include a schedule for reaching agreement with the entity on the scope and extent of the work, the entity to conduct the work, the allocation of costs, and prompt payment by GE of costs in advance of implementation of the work. The intended final decision provides that, if GE cannot secure and implement such an agreement "in a timely manner," it must conduct the remediation described in the text (*id.*).

[23] This GE estimate and all other GE estimates regarding EPA's remedy for the Reach 7 impoundments assume removal of all sediments over 1 mg/kg in two of the impoundments (Reaches 7B and 7C) and removal to achieve a SWAC of 1 mg/kg in the other two impoundments (Reaches 7E and 7G).

The basis for GE's position is summarized below, with reference to more detailed support in Section IV.B.2 of GE's Comments.

Although EPA has attempted to justify its removal/capping remedy for these impoundments on ground that it will reduce the concentrations of PCBs in fish to levels acceptable to EPA and reduce direct contact and ecological risks and the downstream transport of PCBs (Comp. Analysis, p. 4), none of those grounds provides an adequate justification for the remedy. As shown in Section IV.B.2 of GE's Comments, projections using EPA's model show that a much less extensive, less disruptive, and less costly alternative remedy in these impoundments – namely, thin-layer capping (placement of a 6-inch layer of clean material with no removal) – would achieve similar reductions in fish PCB concentrations in the impoundments themselves (with differences within the general uncertainty of the model) and the same reductions downstream. Similarly, thin-layer capping would achieve adequate reductions in direct contact and ecological risks and virtually equivalent reduction in downstream PCB transport. For example, the model results show that, assuming the same remediation in other reaches, EPA's Reach 7 remedy would result in annual PCB transport past Rising Pond Dam of 2.3 kg/year, compared to 2.4 kg/year for thin-layer capping in the impoundments.

EPA's claim that thin-layer capping is not likely to perform as well as the model predicts is not supported or supportable for the Reach 7 impoundments. As shown in detail in Attachment H to GE's Comments, thin-layer capping would be an effective method of enhancing natural recovery in those impoundments consistent with EPA guidance. At the same time, it would have fewer short-term adverse impacts in terms of truck trips and GHG emissions, and it would cost much less than EPA's Reach 7 impoundments remedy ($14 million versus $36 million for EPA's remedy with out-of-state disposal by rail).[24] EPA's asserted concern about the theoretical potential for dam failure or removal in this reach has been, and will continue to be, adequately addressed by the existing regulatory requirements applicable to the dam owners, as shown in Section IV.B.2 of GE's Comments.

In short, the substantial costs of EPA's remedy for the Reach 7 impoundments are not proportional to or justified by any incremental benefits not provided by less extensive, less disruptive, and less costly alternatives. As a result, EPA's remedy would be arbitrary and capricious and contrary to EPA's Consent Decree obligations.

C. Rising Pond Remedy

EPA's intended decision would require the following for Rising Pond (Reach 8): (a) removal of surface sediments (including any sediments with PCBs > 50 mg/kg) and capping of those areas to achieve a SWAC of 1 mg/kg in each of various averaging areas; and (b) for areas outside the footprint of the above cap, removal and capping of sediments as necessary to achieve a SWAC of 1 mg/kg in the subsurface sediments in each averaging area (Section II.B.2.g). By GE's estimate, this would require removal of approximately 50,000 cubic yards of sediment from Rising Pond.

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[24] With on-site disposal, EPA's impoundment remedy is estimated to cost $27-30 million, depending on the location of the disposal facility.

Again, this would require unnecessary removal and would not have the risk-based benefits claimed by EPA compared to a smaller, less disruptive, and much less costly alternative. As a result, the intended remedy would be arbitrary and capricious for failure to make a reasoned evaluation of the relevant factors and failure to give adequate consideration to an alternative, less disruptive means of achieving EPA's objectives; and it is inconsistent with the applicable remedy selection criteria and thus would violate EPA's Consent Decree obligations.

The basis for GE's position is summarized below, with more detailed support provided in Section IV.C of GE's Comments.

EPA has sought to justify its remedy for Rising Pond on the grounds that it would reduce the concentrations of PCBs in fish to levels acceptable to EPA and would reduce ecological risks and downstream PCB transport (Comp. Analysis, p. 4). Again, that attempt fails. As discussed in Section IV.C of GE's Comments, projections using EPA's model show that smaller remedies would achieve comparable risk reduction. For example, they show that, compared to EPA's remedy, a remedy involving sediment removal to a depth of 6 inches in the shallow portions of that Pond (approximately 15,300 cubic yards) and placement of a cap over the entire Pond would achieve the same or greater reduction in fish PCB concentrations both in Rising Pond and downstream. Further, by capping the entire Pond, the smaller remedy would reduce exposure to ecological receptors to the same extent as EPA's remedy and would result in a comparable reduction in downstream PCB transport. Assuming the same upstream remediation, EPA's remedy for Rising Pond is predicted to result in annual PCB transport past Rising Pond Dam of 2.7 kg/year, compared to 2.6 kg/year for the partial removal/full capping remedy described above. Finally, EPA's asserted concern about the theoretical potential for failure of Rising Pond Dam (owned by GE) is unrealistic; that concern has been, and will continue to be, adequately addressed by GE's continuation of the necessary monitoring, maintenance, and repairs to prevent dam failure. As with Woods Pond Dam, doing so is critical to GE since the Consent Decree's NRD covenants do not apply in the case of a failure of Rising Pond Dam (CD ¶ 176).

Again, EPA's remedy for Rising Pond would have greater adverse impacts and costs than smaller and equally protective alternatives. For example, as shown in Section IV.C of GE's Comments, the partial removal/full capping remedy described above would involve about half of the estimated truck trips and fewer GHG emissions compared to EPA's remedy. Additionally, that remedy would cost much less – approximately $17 million, compared to $31 million for EPA's remedy, assuming off-site disposal by rail.[25] Given the equivalent protectiveness and effectiveness of these remedies, the incremental costs of EPA's remedy cannot be justified, and hence that remedy would clearly not be cost-effective.

For these reasons, EPA's remedy for Rising Pond would be arbitrary and capricious and contrary to EPA's Consent Decree obligations.

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[25] There would be a similar cost discrepancy even with on-site disposal. In that case, EPA's remedy is estimated to cost $22-26 million, compared to $14-15 million for the partial dredging/full capping alternative.

D. Remedy for Backwaters

EPA's intended decision would require the following for the backwaters (Section II.B.2.d):

(a) For areas outside Core Area 1, (i) removal and capping of surface sediments (including removal of any sediments with PCBs > 50 mg/kg) to achieve a SWAC of 1 mg/kg in each of various averaging areas and (ii) for areas outside the footprint of the cap, removal and capping of sediments as necessary to achieve a SWAC of 1 mg/kg in the subsurface sediments in each averaging area; and

(b) For backwaters within Core Area 1, (i) removal and capping of all discrete sediment locations with PCBs > 50 mg/kg, and (ii) placement of an amendment such as activated carbon in areas with PCB concentrations between 1 and 50 mg/kg.

This would require the removal of approximately 95,000 cubic yards of sediment from the backwaters.

The purported risk-based benefits of EPA's intended remedy do not justify its adverse impacts and costs compared to other alternatives for the backwaters. Again, therefore, like the remedy components discussed above, this intended remedy would be arbitrary and capricious for failure to make a reasoned evaluation of the relevant factors and failure to give adequate consideration to a reasonable alternative; and it is inconsistent with the applicable remedy selection criteria and thus would violate EPA's Consent Decree obligations.

The basis for GE's position is summarized below, with more detailed support provided in Section IV.D of GE's Comments.

With respect to reductions in fish PCB concentrations, it is important to recognize that backwaters have poor fish habitat (due to high temperatures and low dissolved oxygen in the summer) and do not contribute appreciably to PCB concentrations in the main stem of the River or its fish. For example, as shown in Section IV.D of GE's Comments, the results of EPA's model reveal that predicted fish PCB concentrations in the main stem of the River are essentially the same regardless of whether there is any sediment removal at all in the backwaters.

For any fish in the backwaters themselves (despite the poor habitat), model results show that a smaller alternative would achieve nearly the same benefits with much less disruption and costs. For example, as shown in Section IV.D of GE's Comments, projections using EPA's model show that a smaller alternative involving removal/capping to achieve a SWAC of 3.3 mg/kg outside Core Area 1 and removal of sediments with PCB concentrations over 50 mg/kg in Core Area 1 (estimated to require removal of approximately 40,000 cubic yards, instead of 95,000 cubic yards) would result in achieving EPA's intended Biota Performance Standard (1.5 mg/kg).

In addition, that smaller alternative would be protective of direct human contact with sediments and of ecological receptors because, based on the model, it would achieve PCB levels in the backwater sediments that are below EPA's approved remediation goal for sediments and would meet EPA's lower-bound remediation goal for protection of amphibians.

By contrast, EPA's remedy for the backwaters would have greater adverse impacts and costs than the smaller alternative due to its much greater removal volume. As shown in Section IV.D of GE's Comments, the smaller alternative described above would involve only about 40% of the truck trips and GHG emissions that would be involved in EPA's remedy. Further, that smaller alternative would cost less than half of EPA's remedy for the backwaters – approximately $26 million, compared to $58 million for EPA's remedy, assuming off-site disposal by rail.[26]

For these reasons, EPA's intended decision to more than double the removal volume, adverse impacts, and costs to address the backwaters is not proportional to and cannot be justified by any incremental benefits. As a result, that remedy would be arbitrary and capricious and contrary to the remedy selection criteria in violation of EPA's Consent Decree obligations.

IV. EPA's Engineered Cap Performance Standards and Requirements Arbitrarily Fail to Consider Cap Information Presented by GE.

EPA's intended final decision includes Performance Standards for the design and construction of the engineered caps to be installed in various areas of the Rest of River, along with other requirements for the design and construction of such caps (Section II.B.2.i). Those standards and requirements are generally similar to those in EPA's proposed remedy, which EPA had estimated would lead to total cap thicknesses (and corresponding depths of removal) of 2.5 feet for Reach 5A (Comp. Analysis, pp. 2. 6) and 2 feet for Reach 5C (*id.* p. 7). However, there are some changes that could potentially lead to increases in cap thicknesses in some areas. These include a change in the design flow event for the erosion protection layer from a 100-year flow event to "the applicable return interval event (for example, 100 year or 500 year flow event)" (Section II.B.2.i.(2)(c)(ii))) and the addition of a requirement to consider the periodic post-construction removal of accumulated sediments on top of the caps in Woods Pond and Rising Pond in designing the engineered caps for those impoundments (Section II.B.2.i.(2)(g)(iii)).

These Performance Standards and requirements fail to account for information presented by GE during discussions with EPA and in GE's Comments showing that thinner caps than estimated by EPA would be reliable, effective, and consistent with EPA guidance, and specifying target thicknesses for the engineered caps in the various portions of the River, subject to confirmation based on data collected during remedial design. As such, EPA's engineered cap Performance Standards and requirements are arbitrary and capricious due to the Agency's failure to consider key relevant factors.

The basis for GE's position was provided in Section IV.E and Attachment I of GE's Comments and is summarized below.

As shown in Section IV.E of GE's Comments, GE presented detailed information to EPA, based on EPA guidance and cap design models specified in or consistent with EPA guidance,

[26] Again, a similar discrepancy would occur even with on-site upland disposal. In that case, EPA's remedy for the backwaters is estimated to cost $35-41 million, compared to $16-19 million for the smaller alternative – a difference of at least $19 million.

demonstrating that thinner caps than estimated by EPA would be effective and reliable to meet the objectives of engineered caps, including: (1) isolation of the PCBs remaining in the underlying sediments to minimize their transport up through the cap and into the water column; (2) reducing the possibility of direct contact with those isolated sediments; (3) protection against the ability of burrowing organisms to move those isolated sediments to the surface (bioturbation); (4) protection against erosion of the cap material that could expose the isolated sediments; and (5) provision of appropriate habitat on the surface. Specifically, that information showed that, subject to confirmation based on site-specific data collected during remedial design, caps with certain thicknesses and layers would be reliable, effective, and stable. That information was summarized in the Capping Principles Overview document attached as Attachment I to GE's Comments, which presented cap design principles and design objectives and specific target thicknesses (subject to confirmation during design) for the engineered caps required in the portions of the River subject to such capping.

The engineered cap Performance Standards and requirements included in EPA's intended final decision do not reflect those cap design principles and design objectives and, in particular, do not include target thicknesses such as those presented in GE's Capping Principles Overview. As such, they fail to reflect consideration of important information and factors relevant to the establishment of cap standards and requirements.[27] It is important that the Performance Standards and requirements for the caps specify target thicknesses, subject to confirmation during design based on the principles and objectives presented, so that GE, EPA, and others have an understanding of the types and thicknesses of the caps that will be required to be designed and implemented. Accordingly, EPA's Performance Standards and requirements for the engineered caps should be revised to reflect the principles, design objectives, and target thicknesses described in Attachment I to GE's Comments.

V. The PCB Downstream Transport and Biota Performance Standards Exceed EPA's Authority, Are Arbitrary, and Conflict with the Consent Decree.

EPA's intended remedy contains two provisions, referred to as the Downstream Transport Performance Standard and the Biota Performance Standard, that specify numerical requirements to be met in the future in years following the completion of the remediation activities specified in the Rest of River Remedial Action.[28] The Downstream Transport Performance Standard specifies annual average values for PCB transport over Woods Pond Dam and Rising Pond Dam, depending on flow rates. It provides that an exceedance of this

[27] We also note that EPA's change in the design flow event for the erosion protection layer from a 100-year flow event to "the applicable return interval event (for example, 100 year or 500 year flow event)" is not consistent with EPA's own Contaminated Sediment Remediation Guidance (EPA, 2005b, Section 2.8.2), which states that "project managers should evaluate the impacts on sediment and contaminant movement of a 100-year flood and other events or forces with a similar probability of occurrence (i.e., 0.01 in a year)." It is also inconsistent with EPA's decisions at a number of other contaminated sediment sites, where EPA has determined that the appropriate design event for caps is a 100-year (or less) flow event; these include the 1½ Mile Reach of the Housatonic River (USACE, 2006), the Hudson River (EPA, 2010b), and Onondaga Lake (see Parsons and Anchor QEA, 2012).

[28] GE does not agree that these provisions are proper Performance Standards. However, for ease of identification, they are referred to herein as the Downstream Transport and Biota Performance Standards without conceding that they are appropriate Performance Standards.

standard would occur if the annual average PCB transport is greater than the standard at either dam in three or more years within any five-year period after completion of the remedial activities (Section II.B.1.a). The Biota Performance Standard specifies an average PCB concentration of 1.5 mg/kg in fish fillets in each reach of the river and the backwaters, to be achieved within 15 years of the completion of remedial construction activities in that reach (or, where the reach is subject to MNR, completion of such activities in the closest upstream reach subject to active remediation). It provides that an exceedance would occur if this standard is exceeded in two consecutive monitoring periods after that 15-year period (Section II.B.1.b). Both "standards" provide that, in the event of an exceedance, GE "shall evaluate and identify the potential the cause(s) of the exceedance and propose, to EPA for review and approval, additional actions necessary to achieve and maintain the Performance Standard," and EPA "will determine any additional actions necessary to achieve and maintain the Performance Standard in accordance with the CD."

These "standards" exceed EPA's statutory and Consent Decree authority and are arbitrary and capricious. First, the Downstream Transport Standard does not have any human health or environmental risk-based justification at all. EPA has made no determination that the transport values specified are necessary to protect human health or the environment. Second, both "standards" are based on predictions from EPA's model, and EPA admits that its model cannot accurately predict the achievement of absolute values like these "standards." Third, the provisions that GE must propose and EPA will determine additional response actions in the future based merely on an exceedance of the specified "standards" would (a) conflict with the requirement in the Consent Decree that EPA now identify any response actions necessary to meet Performance Standards, (b) violate the covenants in the Consent Decree, and (c) constitute an impermissible "contingency remedy" without an evaluation of the remedy selection criteria as required by the Consent Decree (and EPA's own guidance). EPA has not specified the additional response actions that may be necessary in the future to meet the "standards" because it can't know, based on the model or extrapolations of the model results, what, if any, additional response actions will achieve them.

The basis for GE's position is summarized below. More detailed support is provided in Sections IV.G and IV.H of GE's Comments.

To begin with, it is clear under RCRA, as well as CERCLA, that EPA's authority to select and require remedial actions or corrective measures pertains to prescribing such actions as are necessary to protect human health and the environment from identified risks due to releases (see RCRA § 3004(v); CERCLA §§ 101(24), 121(d)(1)). However, the Downstream Transport Performance Standard is not based on or not tied to a reduction in risk at all. The annual average PCB transport values specified by this "standard" were simply derived from model predictions of the annual average PCB transport that would occur at these dams in the future under EPA's remedy. These values were not based on an analysis of risk, and EPA has made no showing that the specified values are tied to reductions in risk or are otherwise justified under the Rest of River remedy selection criteria. As such, this "standard" exceeds EPA's statutory and Consent Decree authority and is arbitrary.

In addition, both the Downstream Transport Performance Standard and the Biota Performance Standard are based on predictions by EPA's model that the specified numerical values can and will be achieved by the selected remedy. In fact, however, as EPA has previously recognized, EPA's model was not designed and is not appropriately used for prediction of such absolute values.[29] Reliance on such a model to set numerical values that it cannot reliably predict will be met is arbitrary and capricious.

Beyond that, the intended requirement that GE propose and EPA will determine additional, currently undefined response actions in the future based merely on an exceedance of the specified levels would conflict with the Consent Decree. In the Consent Decree, the parties agreed that EPA, at the time it proposed and issued the Rest of River Remedial Action, would specify all of the particular remedial actions necessary to meet the Performance Standards. For example, Special Condition II.J of the Permit requires that EPA's proposed remedy must specify not only the Performance Standards, but also "the appropriate corrective measures necessary to meet the Performance Standards." See also CD ¶¶ 22.n, 22.p. These provisions express the contracting parties' intention that the Performance Standards included in the Rest of River Remedial Action would be ones whose achievement would be attainable by completing the activities specified in the Rest of River Remedial Action, rather than leaving the specification of additional required work to a later date. Only through that approach could GE, EPA, and a reviewing court determine whether the Rest of River Remedial Action satisfied the Rest of River remedy selection criteria.

Moreover, such an open-ended requirement would contravene the covenants in the Consent Decree. Those covenants prohibit the United States from seeking to require GE to conduct additional response actions beyond the Rest of River Remedial Action as currently specified unless the reopener conditions are met – i.e., that new information or conditions are discovered that indicate that the selected remedial action is no longer protective of human health or the environment (CD ¶¶ 161, 162, 163). While the Consent Decree provides that EPA will conduct periodic reviews of the Rest of River Remedial Action and may select further response actions in the course of those reviews (CD ¶¶ 43.c, 44), it specifies that GE can be required to perform such later-selected response actions only if the covenant reopener conditions are satisfied (CD ¶ 46). A provision that allows EPA to require GE to conduct additional response actions (not specified in the remedy decision) in the future without satisfying the reopener conditions would violate the Consent Decree.

In addition, a provision that allows EPA to require GE to undertake future, unspecified response actions in response to a contingent future event without an evaluation of those actions under the

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[29] For example, in its Model Calibration Responsiveness Summary, EPA stated: "Because [the] projections [of future boundary conditions for flow, solids, and PCBs] will have an unknown degree of uncertainty associated with them that will impact model predictions, ***predictions of absolute concentrations are not anticipated to be accurate***. Therefore, EPA will focus primarily on comparisons of relative performance among remedial alternatives against baseline conditions." (EPA, 2006a, p. 3; emphasis added.) Similarly, in its Responsiveness Summary to the Peer Review of Model Validation, EPA "acknowledge[d] that given the uncertainty in the rate of decline [in PCBs in sediments] (due to the lack of ability to project this from the data), relative predictions by the model are likely more reliable than absolute predictions" (EPA, 2006b, p. 2-12)

Rest of River remedy selection criteria would conflict with the requirement in the Consent Decree to apply those criteria in selecting a remedy for the Rest of River. In fact, that approach would constitute a "contingency remedy" under EPA's CERCLA guidance (EPA, 1995b, Sec. 8.3). EPA's guidance states that such a contingency remedy (as well as the selected remedy) "should be evaluated fully against the [remedy selection] criteria" (*id.*, p. 8-10). Thus, under the Consent Decree as well as EPA's own guidance, EPA is required to evaluate any proposed contingency remedy under the applicable remedy selection criteria. For requirements in response to an exceedance of one of these Performance Standards, EPA has not done that.

For these reasons, the Downstream Transport and Biota Performance Standards exceed EPA's authority, are arbitrary and capricious, and violate the Consent Decree (and are also inconsistent with EPA guidance).

VI. The Required Additional Response Actions for Third-Party Dams and Other River Projects Are Unauthorized, Contrary to the Consent Decree, and Otherwise Unlawful.

EPA's intended final decision contains a number of new provisions (not contained in its May 2014 proposal) that would require GE to conduct what EPA calls "additional response actions" relating to dams and other river projects implemented by third parties along the Housatonic River in Massachusetts and Connecticut (Section II.B.2.j – II.B.2.l). In large part, those new provisions exceed EPA's authority, contravene the Consent Decree, and are otherwise unlawful, as described below.

A. Requirement to Inspect and Maintain Non-GE-Owned Dams in Massachusetts

EPA's intended final decision would require GE to inspect, monitor, and maintain all dams on the River in Massachusetts in Reaches 5 through 9 that are not owned by GE, including maintaining the integrity of the dams and conducting materials handling and disposal and engineering controls related to dam maintenance, repair, upgrades, and enhancements (Sections II.B.2.j.(1)(a) and (2)(b)). This requirement would impose on GE obligations that are the responsibility of the dam owners under federal and state law. The non-GE-owned dams in Massachusetts are regulated either by the Federal Energy Regulatory Commission (FERC) under its regulations (18 CFR Subchapter B) or by the Massachusetts Department of Conservation and Recreation (Office of Dam Safety) under the Massachusetts dam safety regulations (302 CMS 10.00). Under those regulations, the dam owners are responsible to inspect, monitor, maintain, and repair the dams as necessary (18 CFR Part 12; 302 CMR 10.07-10.14). EPA's imposition of those general responsibilities on GE exceeds EPA's authority, is arbitrary and capricious, and contravenes the Consent Decree for the following reasons.

First, EPA has no authority under RCRA or CERCLA to interfere with the existing federal and state dam regulatory programs, which this requirement would do. Indeed, this requirement sets the stage for a direct conflict between GE and the dam owner, each of which would be subject to independent legal dam maintenance obligations (under different statutes and subject to oversight by different authorities), but which may reach different conclusions about the need for, scope of, or process for implementing particular repairs or upgrades. This is at odds with the

existing dam regulatory programs, which provide for one responsible party under one set of rules.[30] It is also arbitrary and capricious. Indeed, there is no indication that EPA even considered the likelihood of such conflicts, which is plainly an important aspect of the problem; and that failure by itself renders this requirement arbitrary and capricious.

Second, by requiring GE to conduct general dam maintenance and repair activities (regardless of their relationship to the PCBs in the dammed impoundments), this requirement exceeds EPA's statutory and Consent Decree authority because it would impose obligations and liabilities on GE that go beyond what is necessary to protect human health or the environment from PCB releases. Indeed, EPA's requirement would potentially expose GE to expanded liability under CERCLA and state and common law as an alleged "operator" of those dams, based on the argument that GE's maintenance obligations create indicia of control over the dams, for all consequences of any dam failure or breach, including those that may have nothing to do with PCBs (e.g., personal injury, property damage).[31]

Finally, this component of EPA's intended final decision would conflict with the Consent Decree requirement that EPA must evaluate its remedy under the specified Rest of River remedy selection criteria, since there is no indication that EPA has evaluated this dam maintenance requirement under those criteria (considering its costs, impacts, implementability, etc.).

B. Requirements to Conduct Response Actions for Future River Projects

EPA's intended final decision would impose several requirements on GE that would apply in the event that a third party plans to conduct any Legally Permissible Future Project or Work (as broadly defined in definition 17 of the intended final decision) on or along the River.[32] It would require first that if any entity implements such a project or work at any non-GE-owned dam or impoundment in Massachusetts, GE must conduct response actions to allow that project or work "to be conducted in a manner that maintains Performance Standards and/or maintains the effectiveness of the Rest of River Remedial Action" (Sections II.B.2.j.(1)(c) and (2)(e)). More broadly, EPA's intended final decision would require that, in the case of ***any*** such third-party project or work at any location along the River in Massachusetts (e.g., road, bridge, or other infrastructure work, utility work, installation of a boat launch or dock, etc.), GE must conduct response actions to be protective of such project or work – i.e., to allow such project or work "to be conducted in a manner that maintains Performance Standards and/or maintains the effectiveness of the Rest of River Remedial Action" (Section II.B.2.k). It provides that such

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[30] In the context of FERC-regulated dams, the courts have specifically held that actions that would conflict or interfere with FERC's regulatory authority over such dams are invalid. *First Iowa Hydro-Electric Cooperative v. Federal Power Comm'n*, 328 U.S. 152, (1946); *California v. Federal Energy Regulatory Comm'n*, 495 U.S. 490 (1990); *Simmons v. Sabine River Authority*, 732 F.3d 469 (5th Cir. 2013).

[31] The requirements relating specifically to dam failure or breach are discussed in Section VI.C below.

[32] That provision broadly defines such project or work as including, but not limited to, "construction and repair of structures; utility work; flood management activities; road and infrastructure projects; dam removal, maintenance, repair, upgrades, and enhancement activities; and activities such as the installation of canoe/boat launches and docks," provided that the property owner or project proponent has any necessary governmental approvals and is committed to the project or work.

response actions "include, without limitation, material handling and off-site disposal and any engineering controls, repairing any aspect of the Rest of River Remedial Action disturbed by such [project or work], and all other related activities" (Section II.B.2.k.(2)). The intended final decision would impose essentially the same requirements on GE for any such project or work on or along the River in Connecticut (Reaches 10-16) that would involve the handling or disturbance of sediments or riverbank soils with PCB concentrations greater than 1 mg/kg (Section II.B.2.l.(1)(a)&(2)(a)). These requirements contravene the Consent Decree, exceed EPA's authority, and are otherwise arbitrary, capricious, and unlawful for the following reasons.

First, these open-ended provisions conflict with the Consent Decree requirement that EPA must now identify the response actions necessary to meet Performance Standards, rather than leaving them for a future determination (see Special Condition II.J of the Permit and CD ¶¶ 22.n, 22.p, as discussed in Section V above), and must evaluate those response actions under the Rest of River remedy selection criteria (considering their potential costs, impacts, implementability, etc.). Similarly, since these provisions would apply only in the event of a future contingency, they would constitute a "contingency remedy" under EPA guidance (as also discussed in Section V above), which would likewise require that they be evaluated under the applicable remedy selection criteria. In this case, EPA has not evaluated these requirements under the Rest of River remedy selection criteria, which is contrary to the Consent Decree and inconsistent with EPA's own guidance.

Second, the requirements to conduct additional response actions in the future would run afoul of the Consent Decree covenants, which provide that additional response actions (beyond those specified as part of the Rest of River Remedial Action) can be required only based on an EPA determination that there is new information or conditions indicating that the remedy is no longer protective of human health or the environment (CD ¶¶ 161, 162, 163).

Third, these requirements are unlawful because they could impose greater liability on GE than allowed by law. There are legal limits on GE's liability to third parties for costs that third parties incur related to PCBs. For example, under Section 107(a)(4)(B) of CERCLA, a responsible party is liable only for necessary response costs incurred by private parties that are consistent with the National Contingency Plan (NCP). In the normal course, such claims are resolved by discussions between the parties or, if necessary, a decision by the courts. EPA's requirements, however, would make GE entirely responsible to perform, at its sole cost, the response actions associated with whatever project or work a property owner or project proponent selects, regardless of its timing, scope, or costs and without the need for the property owner or project proponent to consider the necessity of the costs, their consistency with the NCP, and whether there are more reasonable and cost-effective alternatives that would involve less PCB handling or fewer impacts. As such, those requirements would unlawfully interfere with the established process for resolving such third-party claims and strip GE of potential defenses to unreasonable or untimely claims.[33]

[33] The courts have held that EPA has no authority to define the scope of CERCLA liability in a private action, since that issue has been committed to the judiciary. E.g., *Kelley v. EPA*, 15 F.3d 1100 (D.C. Cir. 1994).

C. Requirements to Conduct Response Actions for Future Dam Failure or Breach

EPA's intended final decision would require that, if there is a catastrophic failure or material breach of any dam or dam component in Massachusetts or Connecticut that results in a release of PCBs that is materially greater than normal transport, GE must conduct response actions to maintain the Performance Standards and/or the effectiveness of the Rest of River remedy (Sections II.B.2.j.(1)(b) & (2)(c) and II.B.2.l.(1)(b) and (2)(c)). Such response actions must include repair (or, alternatively in Massachusetts, removal) of the dam and actions to respond to the PCBs released by the failure or breach (if necessary to maintain the Performance Standards or the effectiveness of the remedy) (*id.*). Similar to the requirements discussed in Sections VI.A and VI.B, these requirements, as applicable to non-GE-owned dams, exceed EPA's authority, conflict with the Consent Decree, and are otherwise arbitrary, capricious, and unlawful for the following reasons.

First, EPA does not have the authority to require GE to repair (or remove) a failed or breached dam that is not owned by GE. Under the dam regulatory programs discussed in Section VI.A, that is the obligation of the dam owner that is liable for the dam failure or breach.[34] While the dam owner may have a claim against GE for any incremental costs attributable to PCBs, that is a matter for the parties to resolve or, if necessary, for the courts to decide. EPA cannot lawfully interfere with that process by making GE responsible to carry out the dam owner's obligation to repair (or remove) the dam.

Second, as with the requirements discussed in Section VI.B, the requirements for GE to conduct response actions in the event of a dam failure or breach have not been evaluated under the Rest of River remedy selection criteria and thus conflict with the Consent Decree's mandate that EPA must apply those criteria in selecting a remedy. Again, too, such requirements would constitute a contingency remedy under EPA's guidance, which would likewise require such an evaluation.

Third, these future contingent requirements conflict with the Consent Decree covenants. Under those covenants, in the event of a dam failure or breach, additional response actions can be required of GE only if EPA determines that that occurrence results in new information or conditions indicating that that the remedy is no longer protective of human health or the environment (see CD ¶¶ 161, 162, 163).

VII. Many of the Requirements Relating to Future Activities and Uses at Floodplain Properties Conflict with the Consent Decree, Exceed EPA's Authority, and/or Are Otherwise Unjustified.

EPA's intended final decision contains numerous new or revised provisions, which it terms "institutional controls," that set forth requirements for addressing future activities and uses at floodplain properties. These requirements include the following:

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[34] It is clear that the dam owner is liable for the consequences of a failure or breach of its dam (M.G.L. ch. 253 sec. 48B; 302 CMR 10.13; C.G.S. Sec. 22a-406).

- For properties within designated exposure areas (EAs) in Reaches 5 through 8 that do not meet the residential Performance Standard (2 mg/kg), GE must: (a) record Grants of Environmental Restrictions and Easements (EREs) on GE properties and Notice EREs on Commonwealth properties; (b) offer compensation in accordance with the CD for EREs on all other properties; and (c) for properties where the owner declines an ERE, implement Conditional Solutions (Section II.B.6.b). For properties subject to Conditional Solutions, GE must: (i) undertake any response actions to be protective of any Legally Permissible Future Project or Work (defined as noted above) implemented by the property owner, including material handling and off-site disposal, engineering controls, protection of workers, and restoration of any aspect of the remedy; and (ii) undertake any additional response actions for any change in use to a Legally Permissible Future Use (as also defined in the intended final decision) as necessary to meet certain specified Performance Standards for future floodplain uses (Section II.B.6.b.(2)(b) and Tables 3 and 4). In addition, for any other floodplain property within an EA that is not subject to an ERE or Notice ERE, as well as for any property interest on a property with an ERE or Notice ERE that is not subordinated to the ERE, GE must likewise conduct any response actions for any Legally Permissible Future Project or Work so as to allow that project or work to maintain the Performance Standards and/or the effectiveness of the Rest of River remedy (Section II.B.6.b.(1)(a)).

- For any floodplain properties in Massachusetts and Connecticut in Reaches 5 through 16 that are outside the designated EAs, where sampling data indicate that PCB concentrations exceed 1 mg/kg in the floodplain portion, GE must: (i) conduct any response actions to be protective of any Legally Permissible Future Project or Work at the property (again including material handling and off-site disposal, engineering controls, etc.); and (ii) conduct any additional response actions for any change in use to a Legally Permissible Future Use as necessary to meet the specified Performance Standards for future floodplain uses (Section II.B.6.c and Tables 3 and 4).

EPA's requirements to record or seek EREs (or, for state properties, Notice EREs), or, where the property owners decline EREs, to implement Conditional Solutions, for ***all*** properties within the designated EAs that do not meet the residential Performance Standard are overbroad. Under EPA guidance, remedies are to consider not only current uses, but also "reasonably anticipated" future uses (EPA, 1995a, 1995b, 2010a), as determined based on "existing information" and "reasonable assumptions" (EPA, 1995a). In this case, EPA disregards its own guidance regarding "reasonably anticipated" future uses because it admits that there are many properties within the EAs where there is no reasonable potential for changes in use. For example, Table 16 of GE's Comments listed several examples of residential properties in the floodplain that are not part of the Actual/Potential Lawns required to achieve the residential Performance Standard (under CD ¶ 28.b(i)) and are not currently in residential use, for which EPA's own HHRA concluded that there is no reasonable potential for a change to a different use. In addition, review of the HHRA (EPA, 2005a, Volume III.A, Section 5) reveals numerous non-residential properties not owned by GE or the Commonwealth for which the HHRA concluded that a change in use is not expected. These include EAs 8 and 10 (owned by the Massachusetts Audubon Society); EAs 5, 27, and 33 (owned by the City of Pittsfield): EAs 68 and 85 (owned by other municipalities); EA 36 (the Electric Power Research Institute property);

EA 87 (owned by a local conservation organization); EAs 14, 35, 56, 58, 59, 69, 71, 74, 77, 84, 89, and 90 (privately owned);[35] and EAs 12 and 61-66 (utility easements). Consistent with EPA's guidance, there is no need or justification for requiring GE to seek EREs or implement Conditional Solutions to address future uses at such properties where changes in use are not anticipated. Thus, EPA's overbroad requirements to seek EREs or implement Conditional Solutions at properties that do not meet the residential Performance Standard would be arbitrary and capricious and should be limited to properties where a change in future use is reasonably anticipated.

Even for state-owned properties, although the Commonwealth has agreed in the CD to execute Notice EREs for its properties that do not meet the residential Performance Standard, there is no need or basis for doing so at such properties where a change from the current recreational or conservation use to residential use is not anticipated – e.g., due to the conservation purposes of the properties, state law governing the disposition of state-owned properties, or other reasons.

In addition, for all floodplain properties and property interests that are not subject to EREs or Notice EREs – including Conditional Solution properties, other non-ERE properties within the EAs, non-subordinated property interests at properties with EREs or Notice EREs, and properties outside the EAs with PCB concentrations greater than 1 mg/kg – EPA's requirements that GE must conduct any response actions to be protective of any Legally Permissible Future Project or Work and any Legally Permissible Future Use are inconsistent with the Consent Decree and/or otherwise arbitrary, capricious, and unlawful in several respects.[36]

First, contrary to the Consent Decree and EPA's longstanding application of it, these requirements would apply to certain properties or portions of properties that meet the residential Performance Standard of 2 mg/kg – namely, any properties in the EAs without EREs that have PCB levels below 2 mg/kg (Section II.B.6.b.(1)(a)), and properties outside EAs with PCB levels between 1 and 2 mg/kg (Section II.B.6.c). As EPA recognizes (Table 3; Attachment C, p. 2), the Consent Decree established a Performance Standard of 2 mg/kg for all residential properties and uses in the Rest of River. EPA has long acknowledged, in applying this CD Performance Standard to other portions of this Site, that this standard is protective for unrestricted uses and activities. Accordingly, with EPA concurrence and approval, GE has not implemented any contingent future requirements for soil handling, disposal, or other response actions at properties that meet that standard. EPA's intended requirement conflicts with the Consent Decree and EPA's longstanding application of it.

Second, like the similar requirements discussed in Section VI.B relating to future river projects, these open-ended requirements conflict with the requirements of the Consent Decree that EPA identify its intended requirements and evaluate them under the Rest of River remedy selection

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[35] EAs 14 and 56 were considered residential at the time of the HHRA, but are now non-residential.

[36] Although EPA styles these requirements as "institutional controls," they are not. EPA defines institutional controls as administrative or legal instruments that "help to minimize the potential for exposure to contamination and/or protect the integrity of a response action" by "limiting land and/or resource use or by providing information that helps to modify or guide human behavior at a site" (EPA, 2012, p. 2). The requirements to conduct additional response actions for third parties do not meet this definition.

criteria (which EPA has not done); and they would also constitute a contingency remedy under EPA guidance, which would likewise require such an evaluation.

Third, as also discussed in Section VI.B, these requirements would contravene the Consent Decree covenants that additional response actions (beyond those specified as part of the Rest of River Remedial Action) can be required only based on new information or conditions indicating that the Rest of River Remedial Action is no longer protective of human health or the environment.

Finally, again like the requirements discussed in Section VI.B, these floodplain requirements would make GE responsible to conduct response actions associated with whatever project or work a property owner selects, regardless of its timing, scope, or cost and without the need for the owner to consider its necessity, consistency with the NCP, or reasonableness. They could thus greater liability on GE than allowed by CERCLA or general legal principles and strip GE of potential defenses to unreasonable or untimely claims. As such, these requirements are unlawful for the same reasons given in Section VI.B.

VIII. EPA's Requirements for Habitat Restoration/Mitigation and a MESA Conservation Plan Exceed EPA's Authority and Conflict with the Consent Decree.

A. Habitat Restoration/Mitigation Requirements

EPA's intended final decision contains habitat restoration requirements (Section II.B.1.c). These include requirements that GE must: (1) perform a baseline assessment of pre-remediation conditions, functions, and values of habitats that will be affected and of the occurrence of state-listed species; (2) develop Restoration Performance Objectives and Evaluation Criteria; (3) develop a Restoration Corrective Measures Coordination Plan (for integrating restoration with remediation); and then (4) design and submit a Restoration Plan. These provisions contain no specifics as to the types of restoration measures that would be required or an evaluation of their potential for success. Yet EPA has summarily concluded that restoration efforts will in fact be able to re-establish the pre-remediation conditions and functions of all of the affected habitats (see Comp. Analysis, pp. 26, 28-32, 35; Stmt. Basis, p. 31). As noted in Section II.B above and shown in Section III.C.1 and Attachment D of GE's Comments, that conclusion is arbitrary and contrary to the evidence.

Moreover, in this case, the requirements for restoration of natural resources damaged by implementation of the Rest of River Remedial Action exceed EPA's statutory and Consent Decree authority and would amount to requiring actions to address natural resource damages (NRD) in violation of the CD covenants in the Consent Decree.

The basis for GE's position was provided in Section V.A of GE's Comments and is summarized below.

Section 101(24) of CERCLA defines "remedial action" as action "to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to

present or future public health or welfare or the environment." It does not mention restoration. While CERCLA also requires that remedial actions comply with federal and state laws and regulations that constitute ARARs, CERCLA defines ARARs as requirements that will address pollutants "that will remain onsite" (§ 121(d)(2)(A)), which would not include requirements for restoration of affected resources. By contrast, CERCLA separately authorizes recovery of NRD by natural resource trustees, and specifies that the amounts recovered may be used "only to ***restore***, replace, ***or acquire the equivalent*** of such natural resources (§ 107(f)(1), emphases added). Thus, restoration and acquisition of equivalent resources are part of NRD, not remedial action. This is recognized in the Interior Department's NRD regulations, which specifically allow recovery of NRD (including restoration) for harm caused by remediation (43 CFR § 11.15(a)). This distinction between remediation and restoration/replacement of resources (which is part of NRD) is also recognized in EPA's own guidance. See *CERCLA Coordination with Natural Resource Trustees* (EPA, 1997), p. 3), quoted in GE's Comments.

In the Consent Decree, GE resolved its NRD liability through a combination of monetary payments and specified "Restoration Work" (CD Section XXI). Significantly, the CD provides that GE's satisfaction of the trustees' NRD claims included payment of $600,000 "as mitigation for wetlands impacts associated with PCB contamination ***and with response actions at the Site***" (CD ¶ 114.b, emphasis added), the latter of which would include the Rest of River Remedial Action. This demonstrates that, at least with respect to wetlands impacts from the Rest of River remedy, GE already settled any claims for mitigation, and thus EPA cannot require additional restoration or mitigation. In return for the monetary payments and Restoration Work, GE received from both the federal and state governments full covenants not to sue for additional NRD, subject only to a reopener in the event of a failure or breach of Woods Pond Dam or Rising Pond Dam (CD ¶¶ 161, 166, 170, 176). Thus, EPA's habitat restoration requirements would amount to claims for additional NRD in violation of the Consent Decree covenants.

In any event, to the extent that EPA would require GE to conduct actions that go beyond efforts to return the affected resources to their pre-remediation condition (to the extent practicable) – i.e., actions directed at enhancing the affected resources or the implementation of other on-site or off-site projects designed to "compensate" for the remedy's impacts (see Section IX.B below) – such requirements would clearly constitute an effort to recover additional NRD and thus would violate the CD's NRD covenants.

B. MESA Conservation/Net Benefit Plan Requirement

EPA states in its table of ARARs that, to the extent that implementation of its remedy would result in a "take" of any state-listed threatened, endangered, or special concern species, "EPA would follow the regulatory requirements [under the Massachusetts Endangered Species Act (MESA)] with respect to implementing a conservation and management plan providing for a long-term benefit to the affected state-listed species" (Attachment C to EPA's intended decision, p. 14). EPA states elsewhere in that table that remedial work that may affect the habitat of such species "will be carried out in accordance with the MESA ARAR requirement for a Conservation and Management Plan" (*id.*, pp. 8, 9, 10). It thus seems clear that EPA intends to require GE to

prepare and submit a MESA Conservation and Management Plan for providing a "long-term net benefit" to the conservation of the species to be taken.

Even accepting the potential applicability of the State's MESA regulations, EPA's intended requirement is overbroad. As EPA recognizes in its synopsis of this requirement (*id.*, p. 14), the MESA regulations allow the Director of the Massachusetts Division of Fisheries and Wildlife (MassDFW) within the MassDFG to permit a take, at his/her discretion, if three conditions are met: (a) the project proponent has "adequately addressed alternatives to both temporary and permanent impacts" to the species; (b) an "insignificant portion of the local population would be impacted"; and (c) the project proponent "agrees to carry out a conservation and management plan that provides a long-term Net Benefit to the conservation of the State-listed species" (321 CMR 10.23). Thus, under these regulations, the requirement to submit a Conservation and Management Plan providing for a Net Benefit to the species applies ***only*** when the take would impact an insignificant portion of the local population; if the take would impact a significant portion, it is prohibited altogether. However, there is no indication that EPA intends to so limit the Conservation and Management Plan requirement, since its ARARs table does not mention this limitation (see also Section IX.I below).[37]

In any event, as shown in Section V.B of GE's Comments, the requirement that GE must take actions that provide a Net Benefit to the conservation of affected species is unauthorized for two reasons. First, it cannot constitute an ARAR for the remedy, because Section 10.23 gives the MassDFW Director complete discretion, if the three above-listed conditions are met, to decide whether or not to permit a take, and it thus does not provide any "standard, requirement, criteria, or limitation" for that determination – which would be required for a regulation to constitute an ARAR under CERCLA (§ 121(d)(2)(A)). Second, application of the Net Benefit requirement here, requiring GE to conduct unspecified conservation and management measures in return for a take, would constitute an attempt to recover compensation for a take, which is a form of NRD. As noted above, GE has already provided compensation for NRD at this Site, and has a covenant from the federal and state governments not to seek additional NRD (except in the case of dam failure, not relevant here). Thus, any attempt to require additional conservation and management measures would violate those Consent Decree covenants.

IX. EPA's Identifications of Several ARARs Contain Erroneous or Unsupportable Conclusions or Are Unauthorized.

EPA's ARARs table in Attachment C to its intended final decision presents a list of the federal and state statutes, regulations, and other authorities that EPA has identified as ARARs (and to-be-considered [TBC] requirements) for the Rest of River Remedial Action, along with a synopsis of each of those requirements and a description of the actions that EPA believes will be taken to achieve those ARARs (or the basis for a waiver). For a number of the listed requirements,

[37] EPA has previously asserted that the impacts on state-listed species can be limited to an insignificant portion of the local populations (Comp. Analysis, p. 20), but it provided no support for that assertion. In fact, that conclusion is contrary to the evidence, presented in Attachment E of GE's Comments and summarized in Section III.C.1 and Table 12 of those comments that, for at least nine state-listed species, the takes resulting from the proposed remedy would impact a significant portion of the local populations.

EPA's ARARs table contains statements that are erroneous, unsupportable, incomplete, and/or misleading or lists requirements that should not constitute ARARs for this remedy at all. Those instances are discussed below, along with a summary of GE's position and a reference to GE's Comments (where applicable) providing further support for that position.[38]

A. Federal and State Water Quality Criteria

EPA lists the national ambient water quality criteria for PCBs and the comparable Massachusetts and Connecticut water quality criteria (included in those States' water quality standards) as chemical-specific ARARs (Att. C, pp. 1-2). These include a human health criterion of 0.000064 µg/L of PCBs based on consumption of water and organisms. EPA states that it is waiving that criterion in Massachusetts on the ground of technical impracticability since that criterion is not predicted to be met in Massachusetts by the intended remedy or any other sediment remediation alternative. For Connecticut, however, EPA declines to waive this criterion, stating that the modeling results indicate that the remedy would achieve that criterion in "at least 3 of the 4 Connecticut impoundments." It notes that the results from the "Connecticut model" (which is actually not a model at all, but an extrapolation of the EPA model results in Massachusetts to Connecticut) are "very uncertain due to the empirical, semi-quantitative nature of the analyses," and thus "it is not possible to predict with certainty attainment or lack of attainment" of this criterion in Connecticut." In the face of this uncertainty, the Agency then asserts that "EPA, in consultation with Connecticut, does not believe there is a basis to waive this criterion at this time." It also recognizes that "this concentration (0.000064 µg/L) cannot be reliably measured using available analytical techniques"; but instead of waiving the criterion on this basis, it states that "monitoring, using appropriate analytical techniques and reporting levels, will be conducted to measure progress toward this standard . . . ."

EPA's decision not to waive this criterion in Connecticut is unsupportable for the reasons given in Section V.F.1 of GE's Comments. As shown there, under the NCP, ARARs must be both measurable and attainable. As EPA concedes, the 0.000064 µg/L water quality criterion "cannot be reliably measured" using an EPA-approved method. That is true in both Massachusetts (where EPA proposes to waive the criterion) and Connecticut (where EPA proposes a different result). Because the criterion "cannot be reliably measured," it must be waived as an ARAR as technically impracticable in Connecticut as well as Massachusetts.[39] Moreover, given the high uncertainties in the extrapolation of the model results to Connecticut (as EPA also concedes), there is no reliable method to predict the attainment of this criterion in

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[38] This section presents GE's position on the ARARs for EPA's sediment and floodplain remedy, as set forth in Attachment C to the intended final decision. EPA's discussion of ARARs in connection with its selection of off-site disposal for the removed sediments and soils is addressed in Section I above.

[39] EPA guidance on ARARs indicates where compliance with applicable standards cannot be measured due to detection limit issues, "the technical impracticability waiver should generally be invoked," and that, in the absence of a reliable measurement tool, extrapolations should not be used because they "cannot be verified scientifically with any degree of certainty" (*ARAR Q's and A's: Compliance with Federal Water Quality Criteria*, EPA, 1990).

Connecticut.[40] The absence of any reliable basis to determine that the criterion is attainable in Connecticut also requires waiver of the criterion as technically impracticable.[41]

B. Clean Water Act Section 404 Regulations

EPA cites its regulations and those of the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act (relating to the discharge of dredged or fill material) as location-specific ARARs (Att. C, pp. 4-5). In doing so, EPA states that, as required by those regulations, "[t]here is no practicable alternative with lesser effects on the aquatic ecosystem," and the remedy "will not cause or contribute to a violation of any applicable water quality standard" or "contribute to significant degradation of waters of the U.S." (which include the river and adjacent wetlands). As discussed in Section V.F.3 of GE's Comments, those statements are erroneous and unsupportable. As shown in Sections II and III above, there ***are*** practicable alternatives that would be protective and have less adverse impacts on the Rest of River ecosystem than EPA's intended remedy. Further, since the Housatonic River does not currently meet the Massachusetts water quality criterion of 0.000064 µg/L, any discharge of PCB-containing dredged or fill material (which will be part of any in-river work) would unavoidably involve some releases of PCBs to the water column and resuspension of PCB-containing sediments and thus would necessarily ***contribute*** to an exceedance of that criterion. Additionally, since EPA's intended remedy would cause significant adverse effects on aquatic life and the aquatic ecosystem (including wetlands), as shown in Section III.C.1 of GE's Comments, it would cause significant degradation of waters of the United States.

In addition, these regulations include provisions requiring compensatory mitigation for projects with adverse impacts on the aquatic ecosystem after all practicable steps have been taken to avoid or minimize the impacts (40 CFR Part 230, Subpart J; 33 CFR Part 332). As noted in Section V.F.3 of GE's Comments and Section VIII.A above, it is clear that, at a minimum, any requirements to implement on-site or off-site projects designed to "compensate" for the remedy's impacts (as opposed to on-site efforts to return the affected habitats to their pre-remediation condition, to the extent practicable) would exceed EPA's remedial authority at this Site and constitute efforts to recover additional NRD in violation of the Consent Decree's NRD covenants.

C. Executive Orders on Floodplain Management and Wetlands Protection

In listing Executive Order 11988 on Floodplain Management as To Be Considered, EPA claims that the remedial activities will "be conducted to ensure that they do not result in occupancy or modification of the floodplain" (Att. C, p. 7). In fact, however, as noted in Section V.F.4 of GE's Comments, the floodplain soil excavation and supporting activities in the floodplain ***will*** result in

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[40] As discussed in GE's Comments, this is exacerbated by the continued input of PCBs at and above these low levels from atmospheric sources, which decreases the chances of ever attaining a criterion of 0.000064 µg/L.

[41] Section V.F.1 of GE's Comments demonstrated that this conclusion is supported further by EPA requirements under the Clean Water Act, which use the water quality criteria as endpoints for total maximum daily load (TMDL) calculations and provide that they must be waived for those purposes if "proper technical conditions," including the availability of adequate analytical methods and modeling techniques, are not present.

modification of the current condition of the floodplain through extensive clearing of trees and other vegetation and changes to soil composition and stratigraphy, with long-term impacts. Further, as also shown in that section, contrary to EPA's claims, its remedy would not meet the requirements of that order or of Executive Order 11990 on Protection of Wetlands because there are practicable alternatives with less adverse impacts on the floodplain and wetlands.[42]

D. Massachusetts Water Quality Certification Regulations

In listing the Massachusetts water quality certification regulations (314 CMR 9.01-9.08) as an ARAR, EPA erroneously asserts that "[a]ll activities will be conducted in accordance with these regulations" (Att. C, p. 8). To begin with, for the same reasons indicated above, EPA's conclusion that there is no practicable alternative with less adverse impact on the aquatic ecosystem (as required by these regulations) is unsupported and unsupportable, fails to consider important evidence, and is arbitrary and capricious (see *id.*, pp. 8, 9). In addition, EPA claims that, although the remedial work may affect specified habitat sites of rare (i.e., state-listed) wildlife species, the prohibition on such a project in Section 9.06(2) of these regulations does not apply because such work will be carried out in accordance with a MESA Conservation and Management Plan (*id.*). That is also incorrect since Section 9.06(2) prohibits a project involving the discharge of dredge or fill material that would adversely affect the specified habitat of rare wildlife species without regard to whether it is subject to a MESA Conservation and Management Plan.[43] We also note that the requirement of these regulations for a minimum of 1:1 restoration or replication of affected wetlands (314 CMR 9.06(2)(a)), if applied to require the acquisition or construction of new wetlands as compensatory mitigation, would be unauthorized for the same reasons given in Section VIII.A above. See Section V.F.8 of GE's Comments.

E. Massachusetts Wetlands Protection Act Regulations

EPA makes a number of similar unsupportable statements in citing the Massachusetts Wetlands Protection Act regulations (310 CMR 10.00) as an ARAR (Att. C., p. 10). It states that the remedy has no practicable alternative that would be less damaging to resource areas subject to these regulations (including wetlands and land under water), and that since remedial work that may affect the habitat of rare wildlife species will be subject to a MESA Conservation and Management Plan, the prohibition in these regulations against such a project does not apply.

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[42] In addition to those Executive Orders, EPA now cites an additional order, Executive Order 13690, issued in January 2015, titled *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*; and it states that, if and when that standard is revised or finalized or federal agencies issue regulations thereunder in the future, EPA will consider whether the substantive components of the standard or regulations should be identified as ARARs (Att. C., p. 7). The latter, future-looking statement conflicts with the Consent Decree, including the covenants, and with the provision of the NCP that ARARs are frozen at the time of remedy selection unless later requirements are determined to be necessary to ensure that the remedy is protective of human health and the environment (40 CFR § 300.430(f)(1)(ii)(B)).

[43] By contrast, the prohibition in Section 9.07(1)(a) of these regulations on ***dredging*** that would adversely affect the specified habitat of rare species does provide an exception for work subject to a MESA Conservation and Management Plan. However, the requirement for GE to develop such a plan is unauthorized for the reasons given in Section VIII.B above.

Again, these statements are erroneous, because: (1) there are practicable, protective, and less damaging alternatives; and (2) Section 10.59 of these regulations (which is not cited by EPA and applies to "limited projects" of the type that EPA says that the Rest of River Remedial Action would be) prohibits projects that would have short- or long-term adverse effects on the habitat of a local population of a state-listed species (which EPA's remedy would do), without mentioning a MESA Conservation and Management Plan.[44] See Section V.F.9 of GE's Comments.

F. Massachusetts and Connecticut Dam Safety Regulations

EPA lists the Massachusetts Dam Safety Standards (302 CMR 10.00) and the Connecticut Dam Safety Regulations (Conn. Agencies Regs Section 22a-409-2) as "potentially applicable" (Att. C, pp. 11, 14-15). The Massachusetts Dam Safety Standards would constitute ARARs only as they would apply to the GE-owned dams (i.e., Woods Pond and Rising Pond Dams). For the other dams in Massachusetts, as well as for all dams in Connecticut, the cited regulations do not constitute ARARs for the reasons given in Section V.F.10 of GE's Comments. Specifically, the dams that are regulated by FERC are not subject to these state regulations at all because the FERC regulation under the Federal Power Act preempts state regulatory requirements;[45] and for the non-GE-owned dams that are subject to the state regulations, those regulations establish responsibilities of the dam owners (who are not subject to this remedy) and thus cannot be ARARs for this remedy. As discussed in Section VI.A above, EPA's effort to impose requirements on GE for the inspection and maintenance of non-GE-owned dams in Massachusetts exceeds EPA's authority, is arbitrary and capricious, and violates the Consent Decree.

G. Massachusetts Location Standards for Hazardous Waste Management Facilities

EPA lists the Massachusetts location standards for hazardous waste management facilities (310 CMR 300.700) as a potential ARAR (Att. C., pp. 11-12). It notes that PCB-contaminated materials that constitute hazardous waste under the state regulations solely due to containing PCB concentrations at or above 50 mg/kg are regulated as PCB remediation waste under EPA's Toxic Substances Control Act (TSCA) regulations in 40 CFR Part 760; and it states that temporary facilities for the staging or loading of such TSCA-regulated materials at locations outside the ACEC are exempt from the state hazardous waste regulations by virtue of 310 CMR 30.501(3)(a). EPA also states that, for such facilities located within the ACEC, the provisions of the state hazardous waste regulations "may apply" (id., p. 11). In fact, however, facilities for the management of such TSCA-regulated PCB remediation waste within the ACEC are also exempt from the state hazardous waste regulations by virtue of 310 CMR 30.501(3)(a), with the exception of those regulations' prohibition on the location of a hazardous waste management facility within an ACEC (or close to an ACEC if it would fail to protect the resources of the ACEC) (310 CMR 30.708).

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[44] Indeed, as noted in Section VIII.B above, the MESA requirement to submit such a plan does not even apply to actions that would significantly impact the local population of a state-listed species (which are prohibited altogether).

[45] See the Supreme Court's decisions in *First Iowa Hydro-Electric Cooperative v. FPC* and *California v. FERC*, cited in the footnote in Section VI.A above.

With respect to the latter prohibition, EPA states that, to the extent that the state hazardous waste regulations would be otherwise applicable and would prohibit temporary waste management or loading facilities within (or close to) the ACEC, "EPA, in consultation with the Commonwealth, considers [those provisions] as waived" as technically impracticable to meet. (Att. C., p. 12). By contrast, in the context of an on-site disposal facility, EPA has declined to provide such a waiver for the one potential disposal site located within the boundaries of the ACEC (the sand and gravel quarry site). For the reasons given in Section I of this Statement, that decision is arbitrary and capricious; EPA should provide a similar waiver, if necessary, for that potential disposal site.

H. Massachusetts Site Suitability Criteria for Solid Waste Facilities

EPA also cites the site suitability criteria in the Massachusetts site assignment regulations for solid waste facilities (319 CMR 16.40(3)&(4)) as "potentially applicable" (Att. C., pp. 12-13). It notes that these criteria are potentially applicable to temporary staging and loading facilities ***only*** where "the remedy involves sediments and soils with PCB concentrations below 50 ppm [mg/kg], and such soils and sediments are not commingled with sediments and soils with PCB concentrations at or above 50 ppm or other hazardous wastes" (*id.*, p. 12). However, even for facilities to be used for such materials (if any), these regulations should not be listed as an ARAR at all because EPA and the Massachusetts Department of Environmental Protection (MassDEP) have not applied them to on-site waste management/disposal facilities at other sites in Massachusetts, including this same site, as shown in Section II.B.3 of GE's Comments. Alternatively, for similar reasons, these regulations should be waived in their entirety. CERCLA provides that a state ARAR should be waived where the State has not consistently applied that requirement in similar circumstances at other sites, as is the case here.

EPA states further that to the extent that these regulations would apply to temporary facilities within the ACEC, the regulations' prohibition on siting a solid waste management facility in an ACEC would be waived (*id.*, p. 13). However, such a specific waiver is unnecessary since, as indicated above, these regulations do not apply or should be waived in their entirety. We also note that, if these regulations did apply, their prohibition on siting a solid waste handling facility within a Riverfront Area (the area within 200 feet of any flowing waterbody) (310 CMR 16.40(3)(d)6.) – which would apply to many staging areas and likely the rail loading facility – would likewise need to be waived as technically impracticable to meet for those areas.

I. MESA Regulations

As discussed in Section VIII.B above, in citing MESA and its implementing state regulations (321 CMR 10.00) as an ARAR, EPA states that, to the extent that its remedy would result in a take of any state-listed species, "EPA would follow the regulatory requirements with respect to implementing a conservation and management plan providing for a long-term benefit to the affected state-listed species" (Att. C, p. 14). In its synopsis of this regulatory requirement, EPA recognizes that one of the conditions for issuance of a conservation and management permit for a take of such a species is that the activity in question must impact only "insignificant portion of the local population" (*id.*), as provided in Section 10.23 of these regulations. However, EPA

does not mention that the regulation flatly prohibits takes that would impact a significant portion of the local population, as would be the case for several state-listed species under EPA's remedy,[46] and that thus, for such takes, the requirement for a Conservation and Management Plan does not come into play. Nor does it indicate that the regulatory prohibition on such takes would be waived. In this respect, EPA's discussion of this regulation is, at a minimum, incomplete.

In any event, as shown in Section V.B of GE's Comments and summarized in Section VIII.B above, the requirement for GE to implement a Conservation and Management Plan providing for a long-term "net benefit" to the affected species does not constitute an ARAR (due to the unfettered discretion that it gives to the MassDFW) and is unauthorized in this case as an effort to recover additional NRD, for which GE has a covenant from the federal and state governments. Thus, that requirement should not be listed as an ARAR at all.

CONCLUSION

For the foregoing reasons, EPA's intended Rest of River Remedial Action violates its Consent Decree obligations, exceeds EPA's statutory authority, and is arbitrary, capricious, and otherwise unlawful. To eliminate these legal defects, that decision should be revised in the respects discussed in this Statement.

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EXHIBIT A

Table 1

Sites Where On-Site or Local Disposal of PCB-Containing Soils and/or Sediments Has Been Part of EPA-Selected Remedy

Site	Location	Program (Agency(ies))	Source/Basis	Primary Contaminant	Volume (cubic yards)	Type of Disposal
GE-Pittsfield/ Housatonic River, incl. Upper ½ Mile and 1½ Mile Reaches of Housatonic River	Pittsfield, MA	Superfund, RCRA (EPA and MassDEP)	Federal Consent Decree (2000)	PCBs	245,000	• Placement in two on-site consolidation areas at GE Plant – a new one for TSCA- and RCRA-regulated material and an existing one for other material
New Bedford Harbor	New Bedford, MA	Superfund (EPA)	ROD (1998); Fourth ESD for ROD 2 (2011)	PCBs	up to 550,000	• Disposal of sediments in on-site CAD in Lower Harbor
Norwood PCBs – OU 1	Norwood, MA	Superfund (EPA)	ROD Amendment (1996)	PCBs	20,000	• Consolidation of soils and sediments into portion of site to be covered with TSCA-compliant multi-layer cap
Sullivan's Ledge – OU 1 and OU 2	New Bedford, MA	Superfund (EPA)	ROD for OU 1 (1989); ROD for OU 2 (1991)	PCBs	26,100 (OU 1) + 5,200 (OU 2)	• Disposal of excavated soils and sediments (after solidification of OU 1 soils) in on-site disposal area to be capped
Silresim Chemical Corp.	Lowell, MA	Superfund (EPA)	ROD (1991)	VOCs, PCBs, metals, PAHs	18,000	• After in-situ treatment for VOCs, removal of soil with non-VOC contamination, solidification, and on-site disposal under RCRA cap
Alcoa Grasse River	Massena, NY	Superfund (EPA)	ROD (2013)	PCBs	109,000	• Disposal in on-site landfill
Onondaga Lake	Syracuse, NY	Superfund (EPA and NYSDEC)	ROD (2005)	Mercury, chlorobenzene, PAHs, VOCs (BTEX), PCBs	2,650,000	• Disposal of dredged sediments in on-site upland sediment consolidation areas (except for pure-phase chemicals, e.g., NAPL)
Lower Ley Creek Subsite of Onondaga Lake Site	Syracuse & Salina, NY	Superfund (EPA)	ROD (2014)	PCBs	160,000 total (~ 140,000 non-TSCA & non-RCRA)	• Disposal in on-site local landfill(s) (if available) for soils and sediments with PCBs < 50 ppm and not RCRA hazardous waste • Off-site disposal for TSCA/RCRA material
Grand Calumet River	Gary, IN	RCRA, CWA (EPA)	AOC under RCRA (1998); Consent Decree under CWA (1998)	PCBs	~800,000	• On-site disposal of sediments in a RCRA CAMU
Fox River – SMU 56/57	Green Bay, WI	Superfund (EPA and WDNR)	AOC (2000); see also Final Report on Project (2001)	PCBs	81,000	• Disposal at local industrial landfill owned by PRP located approximately 6 miles away

Site	Location	Program (Agency(ies))	Source/Basis	Primary Contaminant	Volume (cubic yards)	Type of Disposal
Ashtabula River	Ashtabula, OH	Great Lakes Legacy Act (EPA and Ohio EPA)	Ashtabula Legacy Act Cleanup (2005-07)	PCBs	500,000	• On-site disposal on PRP's property
Ottawa River	Toledo, OH	Great Lakes Legacy Act (EPA)	Ottawa River Legacy Act Cleanup (2010)	PCBs, PAHs, lead, oil, grease	250,000	• Disposal of sediments (except from limited "hot spots") in nearby landfill
River Raisin	Monroe, MI	Great Lakes Legacy Act (EPA and MDEQ)	River Raisin Legacy Project (2012)	PCBs	109,000	• On-site disposal of less contaminated sediment (106,000 cy) at CDF 2 miles north of river mouth • Off-site disposal of the most contaminated sediment (3,000 cy)
Outboard Marine Corporation Site, Waukegan Harbor – OU 2	Waukegan, IL	Superfund (EPA)	ROD Amendment (2009)	PCBs	124,000	• On-site disposal at Outboard Marine Corporation Plant 2 property at newly constructed sediment consolidation facility
Kinnickinnic River	Milwaukee, WI	Great Lakes Legacy Act (EPA and WDNR)	Kinnickinnic River Legacy Act Cleanup (2009); see also Remedial Action Report (2011)	PCBs, PAHs	167,000	• Disposal at newly constructed cell within the already existing on-site CDF
Allied Paper/Portage Creek/Kalamazoo River – OU 3	Kalamazoo, MI	Superfund (EPA)	ROD (1998)	PCBs	4,000+	• Consolidation of soil/sediment into existing on-site landfill to be capped
Bryant Mill Pond (portion of Portage Creek)	Kalamazoo, MI	Superfund (EPA)	Time Critical Removal Action (1999)	PCBs	~ 150,000	• Disposal in on-site former dewatering lagoons on PRP property
Willow Run Creek	Ypsilanti and Van Buren Townships, MI	Superfund and state law (EPA and MDEQ)	EE/CA (1994)	PCBs	450,000	• Disposal in newly constructed on-site dedicated TSCA landfill
Fields Brook – Sediment OU	Ashtabula, OH	Superfund (EPA)	ROD (1986); ESDs (1997, 1999, 2001)	PCBs, radionuclides	14,000	• Off-site thermal treatment of most contaminated sediments (3,000 cy) • Disposal of other excavated sediments (11,000 cy) at on-site TSCA-equivalent landfill
Ormet Corporation (backwater sediments)	Hannibal, OH	Superfund (EPA)	ROD (1994)	PCBs, PAHs	Not specified	• On-site consolidation of sediments with PCBs < 50 ppm under cap • Off-site disposal of sediments with PCBs > 50 ppm

Site	Location	Program (Agency(ies))	Source/Basis	Primary Contaminant	Volume (cubic yards)	Type of Disposal
Twelve Mile Creek – OU 2	Pickens, SC	Superfund (EPA)	ESD (2009)	PCBs	Not specified	• On-site disposal of sediments dredged from behind dams at upland SMU proximate to site
St. Lawrence River - Reynolds Metals Co.	Massena, NY	Superfund (EPA)	Decision Document Amendment (1998)	PCBs, PAHs, TDBFs	77,600	• On-site disposal of sediments with PCBs < 50 ppm at industrial landfill on PRP property with RCRA cap • Off-site disposal of sediments with PCBs > 50 ppm
Thea Foss/Wheeler Osgood Waterway – part of Commencement Bay	Tacoma, WA	Superfund (EPA)	ROD (1989); ESD (2000)	PAHs, PCBs, metals, phthalates, pesticides, phenols	620,000	• Disposal of contaminated sediments in on-site near-shore fill area (St. Paul near-shore fill area)
Hylebos Waterway – part of Commencement Bay	Tacoma, WA	Superfund (EPA)	ROD (1989); ESD (2000)	Metals, PCBs, PAHs	940,000	• Disposal of contaminated sediments at local near-shore man-made slip (Blair Slip 1) converted to CDF and at upland regional landfill

Abbreviations:

AOC = Administrative Order on Consent
BTEX = benzene, toluene, ethylbenzene, and xylenes
CAD = confined aquatic disposal
CAMU = corrective action management unit
CDF = confined disposal facility
CWA = Clean Water Act
cy = cubic yards
EE/CA = Engineering Evaluation/Cost Analysis
EPA = U.S. Environmental Protection Agency
ESD = Explanation of Significant Differences
MassDEP = Massachusetts Department of Environmental Protection
MDEQ = Michigan Department of Environmental Quality
NAPL = non-aqueous-phase liquid
NYSDEC = New York State Department of Environmental Conservation
Ohio EPA = Ohio Environmental Protection Agency
OU = operable unit
PAHs = polycyclic aromatic hydrocarbons
PCBs = polychlorinated biphenyls
ppm = parts per million
PRP = potentially responsible party
RCRA = Resource Conservation and Recovery Act
ROD = Record of Decision
SMU = sediment management unit
TCSA = Toxic Substances Control Act
TDBFs = total dibenzofurans
VOCs = volatile organic compounds
WDNR = Wisconsin Department of Natural Resources

EXHIBIT B

Rest of the River: EPA, GE talks on cleanup plan enter critical phase

By Clarence Fanto

(mailto:cfanto@yahoo.com?subject=Berkshire Eagle Online:)
(mailto:cfanto@yahoo.com?subject=Berkshire Eagle Online:)cfanto@yahoo.com
(mailto:cfanto@yahoo.com)

@BE_cfanto on Twitter

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Woods Pond in Lenox, which is fed by the Housatonic River, would be dredged and then refilled to a greater depth, up to 6 feet, compared to the current 3 feet, under the proposal by the Environmental Protection Agency. (Gillian Jones — The Berkshire Eagle)

Complex negotiations between the U.S. Environmental Protection Agency and General Electric are moving into a decisive phase on the scope of the Rest of River PCB cleanup along the Housatonic south of Pittsfield.

While informal, confidential discussions are continuing with a mediator in Washington, D.C., both sides also are moving into a formal "dispute resolution" procedure in order to seek a potential agreement within the next several months.

"We want to stay on track, keep the mediation process moving but also move into the formal phase with a timetable," said Boston-based EPA official Jim Murphy.

The agency's "intended final decision" on the plan was issued three months ago in consultation with environmental agencies in Massachusetts and Connecticut.

In a recent letter to the EPA's senior environmental counsel, GE attorney Thomas Hill confirmed an agreement by both sides to extend the informal mediation effort until March 16, unless either party chooses to terminate it sooner. The previous deadline for the talks had been Dec. 18.

The Dec. 9 letter, made public late last week, also states that the formal attempt to resolve differences has a series of upcoming deadlines. By Jan. 19, GE must issue its written position statement on the dispute.

Then the EPA responds to GE by Feb. 29. Both statements will be made public.

The third and final exchange has a March 15 deadline — GE's reply to the EPA's response.

In a November letter to the EPA, GE identified the three major issues under discussion with mediator John Bickerman of Bickerman Dispute Resolution in Washington:

• The location of a disposal facility for PCB-contaminated material to be dredged from the river and excavated from the flood plain along the Housatonic between Fred Garner Park in southeast Pittsfield and Woods Pond in Lenox. The pond is the site of the most extensive infestation of the chemical believed to cause cancer.

• The scope of PCB removal from Woods Pond, the extent of dredging required, and the depth of the pond once operations are completed.

• What GE terms "open-ended requirements" for monitoring and maintenance of the 10.5 mile stretch of the river to be cleaned up, including the company's obligations in case of any remaining flow of PCBs.

The company has strongly opposed the EPA's recommendation that PCB waste be shipped to an out-of-state, federally licensed disposal facility. GE contends that a local site would save the company $250 million.

But the federal agency has stated that, because of "community opposition and state regulations," on-site disposal cannot be implemented, even though the EPA considers a local, capped landfill for PCB disposal "just as safe" as a distant facility, Murphy pointed out.

GE discharged PCBs into the Housatonic from its Pittsfield electrical transformer plant from the 1930s until 1977, when the U.S. government banned the use of the chemical.

...

Bickerman, whose 20-plus years of mediation experience includes major environmental superfund sites, told The Eagle on Monday that "we've had very constructive discussions" but, citing confidentiality requirements, declined to describe the extent of progress made so far.

He described the informal mediation and the formal dispute resolution approaches as "very independent processes."

"Elsewhere in the [United States]," he said, "it's not uncommon to pursue two tracks at the same time."

After the March 15 deadline for comments on the formal dispute resolution procedure, the EPA would designate a senior official in Boston to review the documents and issue a binding decision. There's no timetable for issuing that ruling, Murphy said.

If the hearing official calls for revisions in the EPA's proposed Rest of River plan, the agency would open a period for public comment.

But if no significant revisions are required, the agency would issue its final permit for the cleanup operation.

If GE or the EPA are dissatisfied with the Boston hearing officer's decision, either or both sides can take the dispute to the EPA's Environmental Appeals Board in Washington, D.C., which functions much like a court, Murphy said. Individuals, organizations or local governments that have submitted comments on the EPA's proposed cleanup plan also would be eligible to file appeals to that board.

Once the board upholds the EPA's plan or seeks revisions, legal appeals could be filed to the U.S. First Circuit Court of Appeals in Boston, "the court of last resort," as Murphy described it.

As proposed, the $613 million, 13-year project would involve excavation, dredging and removal of contaminated sediment and soil from eight miles of the river, including Woods Pond. Two miles of less extensive PCB removal would stretch from the Pittsfield-Lenox border south to Roaring Brook in Lenox.

Most of the major work would take place over the first eight years.

The dredging, excavation and capping of soil and sediment from the waterway, riverbank, backwaters and floodplain would eliminate 89 percent of the toxins that now spill over the dam at Woods Pond, according to the EPA. The plan calls for Woods Pond to be dredged and then refilled to a greater depth, up to 6 feet, compared to the current 3 feet.

The procedure for resolving the differences between GE and the EPA was outlined in the Consent Decree, a legally binding U.S. District Court settlement reached in 2000 that laid the groundwork for the cleanup of 1.5 miles of contamination in Pittsfield just south of the company's former electrical transformer plant.

Murphy emphasized that municipal leaders from Pittsfield to Sheffield, as well as concerned members of the public, are still welcome to comment or inquire about the settlement talks.

"If people want to take a position, this is a critical time," he noted.

Contact Clarence Fanto at 413-637-2551.

What's next ...

Efforts to resolve differences between GE and the EPA on the scope of the Housatonic Rest of River PCB cleanup project are moving ahead on two tracks:

Jan. 19: Now that both sides have invoked the formal dispute resolution process, GE is due to submit a written statement outlining its position.

Feb. 29: The EPA responds to GE's statement. Both will be made public.

March 15: Deadline for GE's response to EPA's response.

March 16: Deadline for informal mediation discussions, unless either side chooses to end the talks sooner.

TBA: An EPA-designated senior official in Boston evaluates the statements and issues a binding decision.

TBA: If either side disputes that decision, an appeal can be filed to the EPA's Environmental Appeals Board in Washington, D.C.

TBA: If either side, or other parties to the dispute, disagree with that board's ruling, the case could be routed to the U.S. First Circuit Court of Appeals in Boston.

Information: Jim Murphy, who serves as spokesman as well as community involvement coordinator for EPA New England, can be reached at murphy.jim@epa.gov (mailto:murphy.jim@epa.gov) or at 617-918-1028.

EXHIBIT C

Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Protection

William F. Weld
Governor
Daniel S. Greenbaum
Commissioner

Memorandum

To: Applicability Committee
Hazardous Waste Facility Site Safety Council

From: Richard Lehan
Deputy General Counsel, DEP

Re: DEP comments on legal evaluation by Daniel Hassenfeld dated December 29, 1993 on the jurisdiction of M.G.L.c. 21D over the New Bedford Harbor Remedial Action

Date: January 28, 1994

Per the meeting of the Applicability Committee on January 6, 1994, the Department of Environmental Protection (the "Department") is submitting the following comments on the above referenced legal memorandum by Daniel Hassenfeld, Esq., dated December 29, 1993 (the "Hassenfeld memorandum"):

1. The Department supports the analysis and conclusion in the Hassenfeld memorandum that the New Bedford Harbor remedial action is clearly "on-site" within the meaning of s.121(e) of CERCLA and the NCP and is, therefore, exempt from any federal, state or local permit (or similar "administrative" requirement). See p.p. 10-13.

2. The Department also supports the conclusion in the Hassenfeld memorandum that even if the 990 CMR locational criteria had been identified as an ARAR, EPA would have had grounds for waiving it under s.121(d)(4)(E) based on the Commonwealth's record to date of not applying such state standard to any other Superfund site. See p.p. 29-32.

3. In evaluating the remedial action exemptions under 990 CMR 1.02(e) and (f), the Hassenfeld memorandum concludes that arguments can be made for and against applying either the remedial action or cleanup exemption to this case. See p.8. The Hassenfeld memorandum states, however, that the "best" argument against their application is that if the Siting Council considered them to apply to all cleanups, it would presumably not have spent the time it did between 1984 and 1989 devising [but never adopting] a policy

specifying the circumstances under which it would take jurisdiction over cleanups. See p.8. In the Department's view, the best argument for their application is the same argument used in the Hassenfeld memorandum in favor of the waiver of the 990 CMR locational criteria as an ARAR - although the Siting Council has been considering the question of whether to take jurisdiction over cleanups for over nine years, it has yet to take jurisdiction over any such cleanup. See p.32. The Hassenfeld memorandum uses the same argument in support of its conclusion that M.G.L.c. 21D is not a legally applicable ARAR. See p.26. The Siting Council's own practice for the last decade on this threshold issue of its jurisdiction is the best argument for interpreting the scope of its existing regulatory exemptions to apply to cleanups.

4. The Hassenfeld memorandum concludes, based on the ARAR evaluation factors in 40 CFR s.300.400(g)(2) and EPA guidance on the application of such factors, that it can be reasonably argued that the 990 CMR locational criteria constitutes a relevant and appropriate ARAR for the New Bedford Harbor remedial action. See p.p.27-28. The Department disagrees with this conclusion. As the Hassenfeld memorandum states, EPA's general criterion of whether a particular state requirement is "appropriate" is whether it is "well suited to the particular site." See p.27. In contrast to an "applicable" state requirement, EPA has emphasized that flexibility exists to identify "appropriate" portions of a state regulation in a manner that "makes good environmental sense for the site." See p.19. More specific to the instant case, EPA has further stated that "[c]onsideration must also be given to whether locational restrictions are prospective only (e.g., siting requirements) or whether they are intended for existing situations." See p.28. The Hassenfeld memorandum acknowledges that this guidance is a reason for thinking that siting act locational requirements may not always be appropriate, "in view of the significant differences between the decision whether to site a commercial facility, and the need to cleanup a site already contaminated." See p.28. The Hassenfeld memorandum did not, however, determine whether the siting of the "Hot Spot" incinerator complies with the 990 CMR locational criteria in reaching its conclusion that such criteria is an "appropriate" state requirement. See p.29. As explained below, the 990 CMR locational criteria would, by its express terms, prohibit the siting of the "Hot Spot" incinerator. For this reason, it is clear that such state criteria can not be "well suited" to, or make "good environmental sense" for, this Site if its application would preclude the remedial action as proposed from going forward.

990 CMR 5.04 provides, in pertinent part, that any proposed project which names a specific site shall be determined to be feasible and deserving with respect to that site only if the Siting Council finds, based on available information, that it can be reasonably expected that no portion of the proposed site is located

in bordering vegetated wetlands or within the 100 year floodplain or the boundary of the inland or coastal flood of record, whichever is greater. See 990 CMR 5.04(2) and 5.04(8)(d) respectively. [Compare with 310 CMR 30.705 of the Department's Hazardous Waste Regulations which requires the Department to "evaluate" certain location factors in making a licensing decision.] Portions of the site of the proposed "Hot Spot" Incinerator are located in bordering vegetated wetlands and within the 100 year floodplain, which means that the locational criteria under 990 CMR 5.04 would prohibit the use of the "Hot Spot" Incinerator and related disposal facilities at that site and thereby preclude the implementation of core components of the "Hot Spot" remedy in a timely and feasible manner. Because of its proximity to the "Hot Spot" contamination and its availability to EPA for its intended use, at this juncture the City owned site represents the only practicable location for the proposed "Hot Spot" Incinerator, and for implementing the "Hot Spot" remedy "on-site" within the meaning of s.121(e) of CERCLA and the NCP.

A recognition of the confines of the site of the proposed "Hot Spot" Incinerator and its necessity to implementing the overall "Hot Spot" remedy underscores the relevance of EPA's distinction between prospective siting criteria (which, in the Department's view, is clearly the purpose of 990 CMR 5.04) and location restrictions intended for existing situations (e.g., an existing Superfund site such as New Bedford Harbor whose limitations are dictated by the nature and scope of the release). The application of the locational criteria in 990 CMR 5.04 to the site of the proposed "Hot Spot" Incinerator clearly demonstrates, consistent with EPA guidance, the inappropriateness of such criteria as an ARAR for the "Hot Spot" remedy. For the above stated reasons, the Department requests that the Applicability Committee's final evaluation of this issue for the Siting Council affirm that the locational criteria in 990 CMR 5.04 is not an "appropriate" ARAR.

5. Finally, the Department urges the Siting Council to use this opportunity to decide the applicability of M.G.L.c. 21D to cleanups under M.G.L.c. 21E. See p.p.33-34. In the Department's view, the existing language in 990 CMR 1.02(e) and (f) of the Siting Council regulations - when read in light of the non-remediation purpose of M.G.L.c. 21D - would support an interpretation exempting both the on-site treatment and disposal components of a "remedial action" or "cleanup" under M.G.L.c. 21E from jurisdiction under M.G.L.c. 21D. See the Department's memorandum to the Siting Council dated November 22, 1993. For the purposes of conducting such actions pursuant to 990 CMR 1.02(e) and (f), the Department believes that the proper scope of the existing exemptions should reflect the Department's actual practice at these sites over the last decade - i.e., the exemptions would apply as long as the treatment and disposal facilities are used for on-site remediation (which includes other areas in close proximity to the contamination

necessary for the implementation of the remedial action).

Alternatively, the Department urges the Siting Council to revise its regulations in a timely manner to specify the exact parameters of the remedial action exemptions, including their relationship to other pertinent definitions and requirements thereunder (e.g., the definition of "on-site"). Using the framework identified in the Hassenfeld memorandum for deciding issues of jurisdiction under M.G.L.c. 21D, the Department believes that the fundamental difference between the Siting Council's mission of developing new hazardous waste treatment facilities and the use of these facilities to remediate existing sites justifies an exemption from jurisdiction because it acts to coordinate and further the separate missions of the Siting Council and the Department under their respective statutes and regulations. See p.p.33-34.

Thank you for your consideration of the Department's comments.

cc: James Colman, Assistant Commissioner, BWSC, DEP
Madeleine Snow, BWSC, DEP
Helen Waldorf, BWSC, DEP
Paul Craffey, BWSC, DEP
Steve Dreeszen, BWP, DEP