

**RESPONSE TO PUBLIC COMMENTS ON
DRAFT PERMIT NO. MA0003891 FOR
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS**

On December 22, 2004, the U.S. Environmental Protection Agency (“EPA”) and the Massachusetts Department of Environmental Protection (“MassDEP”) released for public notice and comment draft National Pollutant Discharge Elimination System (“NPDES”) permit number MA0003891 (“Draft Permit”), which authorized discharges from a facility owned and operated by the General Electric Company (“GE” or “permittee”) to Silver Lake, Unkamet Brook, and the East Branch of the Housatonic River. These waters have been classified as Class B warm water fisheries under the Massachusetts Surface Water Quality Standards. EPA and MassDEP held a joint public hearing on the Draft Permit in Pittsfield, Massachusetts, on February 10, 2005. The public comment period for this Draft Permit ended on March 25, 2005.

Written comments were received from:

1. General Electric Co.
2. Massachusetts Senator Andrea F. Nuciforo, Jr.
3. Connecticut Department of Environmental Protection
4. Massachusetts Riverways Programs, an Agency of Massachusetts Fish and Game
5. Housatonic River Commission
6. Environmental Stewardship Concepts, on behalf of the Housatonic River Initiative
7. Conservation Law Foundation
8. Jane Winn, Berkshire Environmental Action Team
Tim Gray, Housatonic River Keeper
Judy Herkimer, Housatonic Action League
9. Pittsfield Economic Development Authority
10. U.S. Fish and Wildlife Service
11. Mass Audubon
12. Housatonic Valley Association
13. Berkshire Environmental Action Team
14. Berkshire Regional Planning Commission
15. Twenty one other individuals (each submitting a form letter stating “Please do not let GE continue to release PCBs and other toxins into our river.”)

Several persons made oral comments on the Draft Permit at the public hearing. The comments are substantively addressed by the responses below.

After a review of the comments received, EPA and MassDEP have determined to issue the permit. The permit is being jointly issued by EPA and MassDEP under the Clean Water Act and the Massachusetts Clean Waters Act, respectively.

This document includes responses to the written comments received during the public comment period and the oral comments made at the public hearing. EPA has organized the responses to comments in this document by commenter.

EPA's decision making process has benefited from the various comments and additional information submitted during the public comment period. The information and arguments presented did not raise any substantial new questions concerning the permit. EPA did, however, improve certain analyses and make certain changes in response to comments. These improvements and changes are detailed in this document and reflected in the Final Permit. The analyses underlying these changes are explained in the responses to comments that follow.

A copy of the final permit may be obtained by sending a written request to the following address:

United States Environmental Protection Agency, Region 1
Attn: Janet Deshais
1 Congress Street, Suite 1100 (CMP)
Boston, Massachusetts 02114-2023

Copies of the permit may also be obtained by calling or emailing Janet Deshais, who can be reached at (617) 918-1667. Copies can also be obtained from <http://www.epa.gov/region1/npdes/index.html>.

This document includes a background section which briefly describes the site and summarizes recent activities which have affected the final permit decision, followed by responses to the comments received.

I. BACKGROUND INFORMATION

The General Electric Company (GE) currently occupies and owns a 225-acre parcel of land adjacent to the Housatonic River in Pittsfield, Massachusetts. Although the GE site historically housed various manufacturing operations, GE had terminated the majority of those operations by 2003. The only manufacturing operations still conducted at the site are plastics molding and extrusion studies. This Division was sold by GE approximately a year ago, and the operation does not generate any process wastewaters that are discharge to waters of the United States.

GE occupied and owned 252 acres of land adjacent to the Housatonic River prior to and during the public comment period. In May of 2005, shortly after the public comment period closed, GE transferred approximately 27 acres of land to the Pittsfield Economic Development Authority (“PEDA”) for re-development. This parcel is the first portion of a 52-acre parcel to be transferred. The details of the 52-acre land transfer, and how this will affect GE’s permit, is discussed in more detail below under the heading “Activities Since the Close of the Public Comment Period.”

GE is currently covered under two NPDES permits: the individual permit that is being reissued as a result of this permit decision (No. MA0003891) and the Multi-Sector General Storm Water Permit for Industrial Activities, or MSGP (No. MAR05A021).

The current individual permit was last issued by EPA and MassDEP on September 30, 1988, became effective on February 7, 1992, was modified on May 21, 1992 and expired on February 7, 1997 (“1992 permit” or “prior permit”). It has been administratively continued by virtue of a timely and complete renewal application, which was submitted by GE on August 9, 1996. GE sought and obtained coverage under the MSGP on April 4, 2001, for storm water discharges associated with industrial activity, which were not included in the individual permit. Pursuant to an EPA decision to cover all of GE’s outfalls in the individual NPDES permit, GE also submitted the appropriate individual permit application materials for these discharges to EPA and MassDEP in July 2001. Since that time, GE has provided requested information to EPA and MassDEP in support of the development of a single NPDES permit. When the final individual permit is issued and has become effective, coverage under the MSGP will be revoked.

At the time the permit was last issued, the facility was an active manufacturing operation. Currently, the predominant activity on the GE site consists of environmental remediation, and is being conducted in accordance with a consent decree, which was signed by GE, EPA, MassDEP and others, and approved and entered by the U.S. District Court in Springfield, Massachusetts, on October 27, 2000 (“Consent Decree,” “Decree” or “CD”). The Consent Decree established a program for comprehensive environmental remediation of the GE site and surrounding areas, including removal of contaminated soil, demolition of buildings, and groundwater treatment.

The changes in site uses have resulted in alterations in flows, pollutant constituents and operations that will continue to evolve as the GE site is further remediated and as additional portions of the GE site are transferred to and redeveloped by PEDA. With the phase-out of manufacturing operations, all manufacturing-related discharges have been eliminated, and the

remaining discharges consist primarily of groundwater and storm water. As described in GE Technical Exhibit 1, storm water and groundwater from the City of Pittsfield also contribute to discharge flows at certain outfalls.

II. ACTIVITIES SINCE THE CLOSE OF PUBLIC COMMENT

Since the close of public comment, GE has eliminated outfalls 004, 007, YD3, YD4, YD5, SR02, SR03, SR04, YD7, YD8, YD15, YD9, 09A, OF-P1, and GE has eliminated its flow contribution to outfalls YD6 and YD14. As a result, these outfalls are no longer authorized under the Final Permit, and the limits and conditions pertaining to such outfalls have accordingly been eliminated from the Final Permit. The comments related to these outfalls have been included in this response to comments document and have been addressed to the extent appropriate.

On May 2, 2005, GE transferred ownership of 26.8 acres of land to PEDDA, pursuant to an agreement executed by GE, the City of Pittsfield and PEDDA on July 22, 1999, known as the "Definitive Economic Development Agreement." This approximately 27-acre parcel includes outfalls 001, 01A, 004 and YD3 (however, as described above, outfalls 004 and YD3 have been eliminated). The NPDES permit coverage for these outfalls was therefore transferred by EPA from the existing GE permit to PEDDA on May 2, 2005, and these outfalls have been removed from the final GE permit. EPA is currently preparing a draft permit for the PEDDA outfalls. As required by federal regulations, PEDDA's draft permit will be released for public notice and comment.

GE notified EPA by letters dated December 8, 2005 and June 26, 2007 and in update meetings held on November 17, 2005 and June 19, 2006 that it has performed the following best management practices required in the Draft Permit since the close of public comment: (1) filled in all of the drains located outside of Building 100, called scupper drains, and all of the floor drains in Building 100 that were not connected to the sewer system; (2) inspected and cleaned oil/water separators (OWS) 31W and 119W in August 2005, inspected and cleaned OWS 64W, 64X, and 64Z in 2006, and has committed to maintaining the "once every 3 years" schedule for inspection and cleaning of OWS; (3) installed weirs at the discharge of OWS 64Z, and intends to install a similar structure at OWS 64W and 64X; (4) inspected and cleaned all 127 manholes/catch basins located within the Drainage Basins 005, 006, and 007 prior to December of 2005; (5) in June 2006, conducted follow-up inspections at 15 select manholes/catch basins that had been previously cleaned, and will maintain a once per year inspection and cleaning schedule for these, since these structures have historically accumulated the greatest amount of debris; and (6) will continue to use a street sweeper at this site in order to maintain a minimal amount of debris in the manholes/catch basins.

III. COMMENTS FROM GE

GE's 43-page comment letter included an executive summary, a technical comments summary chart, a background section, a section on Consent Decree limitations, a section on Clean Water Act limitations, and a section with GE technical exhibits. The comments are presented in the following order:

- A. Consent Decree Limitations
- B. Clean Water Act Limitations
- C. Other Technical Comments

A. CONSENT DECREE LIMITATIONS

Among the public comments EPA has received on the Draft Permit are comments from GE with respect to the relationship of the Permit to a separate Consent Decree governing cleanup of hazardous substances. GE's comments relating to the Decree are structured as an overall comment that GE argues is supported by particular comments. In response, EPA first provides background on the Decree. Second, EPA responds to GE's overall comment. Third, EPA responds to each of the comments cited by GE in support of its overall comment.

Background:

On October 27, 2000, the U.S. District Court for Massachusetts entered a Consent Decree negotiated by the United States (on behalf of EPA and other federal agencies), Massachusetts, Connecticut and the General Electric Company ("GE"). Using the authority of the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601 et seq. ("CERCLA"), the Decree requires GE to perform or pay for over 25 response actions to address unacceptable threats posed by polychlorinated biphenyls ("PCBs") and other hazardous substances that originated from GE's operations at its former Pittsfield facility. The Decree response actions deal with specific areas of soil, sediment or ground water contamination, and each response action is identified specifically in the Decree. The response actions include CERCLA removal actions at areas contaminated with PCBs, such as the former GE Plant Area; former oxbows of the Housatonic River; Silver Lake, a 26 acre lake in Pittsfield; the Allendale School; the Unkamet Brook area; residential and non-residential floodplain soils; and three segments of the Housatonic River. Under the Decree, two segments of the River cleanup, and several removal action areas outside the River, have been completed, with the remainder of response actions at different stages in the remediation process.

Comment 1 (Overall Comment):

GE's overall comment regarding the Decree is essentially that the presence of the Decree, and particular provisions therein, place limitations on the terms allowable in EPA's NPDES permit. Specifically, GE argues that as long as GE satisfies its obligations under the Decree, neither EPA nor Massachusetts Department of Environmental Protection has the authority to require GE to implement additional response actions to address the contaminants at or being discharged from its site. GE then argues that a number of individual Decree provisions support GE's assertion,

and that therefore certain requirements of the draft NPDES permit which GE asserts are response actions are in conflict with the Decree.

Response 1 (Overall Response):

The Clean Water Act's ("CWA") NPDES program, on the one hand, and CERCLA and RCRA cleanup programs, on the other, serve different statutory purposes. CWA Section 301 generally prohibits the discharge of pollutants from point sources to waters of the United States, and Section 402 establishes the NPDES program, under which permits may be issued to allow the discharge of pollutants that otherwise would be prohibited. In contrast, CERCLA and the RCRA corrective action program govern the cleanup of hazardous substances and hazardous waste that have already been released or for which there is a threat of release. Nothing in this Decree limits EPA's authority to issue an NPDES permit consistent with the CWA or to impose limitations on discharges authorized by the permit.

The Decree as a whole is clearly designed to use CERCLA and RCRA corrective action authorities for response actions and corrective measures under those statutes to address PCB contamination in soils, sediments and ground water in Pittsfield, the Housatonic River, Silver Lake, and Unkamet Brook.

The Work specified by the Decree consists of, *inter alia*, performing CERCLA removal actions and performing actions under a RCRA corrective action permit leading to a CERCLA remedial action. The Statement of Work for Removal Actions Outside the River, Appendix E to the Decree ("Statement of Work"), along with pertinent Decree provisions, provide requirements for GE's performance of the Removal Actions Outside the River, which include addressing soil contamination at Housatonic River floodplain properties, addressing soil contamination at the GE Plant area, addressing soil contamination at Former Oxbow Areas, addressing soil/sediment contamination at Silver Lake, addressing soil contamination at the Allendale Schoolyard, and investigating, monitoring and potentially taking other responses at five ground water management areas.

The Work Plan for the Upper ½ Mile Reach Removal Action, Appendix F to the Decree, along with pertinent Decree provisions, provides requirements for GE's performance of the Upper ½ Mile Reach Removal Action. The 1½ Mile Reach Removal Action is a CERCLA removal action performed by EPA under a cost-sharing agreement with GE, pursuant to Paragraph 21, and Paragraphs 103-111 of the Decree. The 1½ Mile Reach Removal Action work requirements are provided in EPA's July 17, 2000, Engineering Evaluation and Cost Analysis, and EPA's November 22, 2000 Action Memorandum for the 1½ Mile Reach Removal Action, and Paragraph 21 of the Decree.

The Reissued RCRA Corrective Action Permit, Appendix G to the Decree, along with Paragraph 22 of the Decree, provide requirements for GE to perform a RCRA Facility Investigation and a Corrective Measures Study for the Rest of River, and, following EPA's proposal for Rest of River corrective measures, provide GE and the public with the ability to appeal EPA's RCRA decision. Following all appeals, the Decree provides for GE to perform the Rest of River remedial action pursuant to CERCLA.

Each of these Decree-related statements of work or work plans is very detailed. None has any reference to, nor reflects any intent to, supersede either the NPDES permit that was in place when the Decree was signed or a reissued permit. The NPDES permit in place at the time the Decree was signed regulated manufacturing process water, storm water, cooling water, and contaminated ground water discharges to waters of the U.S. – similar to the discharges regulated by the reissued permit, with the exception that there are no longer manufacturing process and cooling water discharges from the facility.

Responses 1.A-1.E below provide more detail on the Decree provisions referenced by GE in its comments. None of these provisions shows any intent by the Decree parties to negate or limit EPA's NPDES permitting authority through the Decree.

Comment 1.A:

GE asserts that Paragraph 8.b. of the Decree is a bar against EPA's requiring, through the NPDES permit, other activities to be undertaken. Paragraph 8.b. includes a determination by EPA and MassDEP that the Removal Actions, when implemented and completed in accordance with the Decree, the SOW, and the Upper ½ Mile Reach Work Plan (including achieving and maintaining Performance Standards), are protective of human health and the environment with respect to the areas addressed by those Removal Actions (the "protectiveness determination"). The paragraph further states that no further response actions for the areas addressed by the Removal Actions are necessary to protect public health and the environment, unless expressly provided elsewhere in the Decree. GE asserts that this provision should be interpreted to preclude actions to implement the NPDES permit program.

Response 1.A:

Paragraph 8.b. refers to the Removal Actions required by the Decree. Each Removal Action consists of a set of activities at a particular geographic area. EPA's action memoranda for approval of the Removal Actions (Appendices B, C, and D of the Decree), the risk-based evaluations for the protectiveness of the PCB cleanup levels contained in Appendix D, and the performance standards for the Removal Actions contained in Appendices E and F, are all clearly focused on addressing upland soil contamination, river sediment contamination, bank soil contamination, and ground water contamination. The NPDES permit, in contrast, does not address either soil and sediment contamination or ground water contamination. Rather, it places limits on storm water and treated ground water that is discharged to the Housatonic River and Unkamet Brook. Nowhere does the Decree state that compliance with the Removal Action requirements obviates the need for any NPDES permit, let alone forbid continued implementation of the Clean Water Act. Had the parties intended an interpretation so at odds with the existing statutory scheme, the Decree surely would have said so explicitly. On the contrary, the Decree's provisions assume the continued applicability of NPDES permit requirements. See, e.g., Appendix K (page 7) and Appendix E (Technical Attachments B and H). GE is simply incorrect in its interpretation of Paragraph 8.b.

Comment 1.B:

GE asserts that the U.S. is bound by the covenants made in the Decree and cannot use the NPDES permit program to require new response actions outside of the Decree. GE asserts that “[i]n the federal covenants, EPA agreed that it would not seek to compel GE to implement additional response actions to address releases of waste material at the Site, including pursuant to Section 309 of the Clean Water Act. Section 309 is EPA’s source of authority to enforce the NPDES provisions of the Act.”

Response 1.B:

The U.S. covenants not to sue in the Decree do not limit implementation of the NPDES regulatory program as applied to GE.

First, GE’s argument regarding enforcement is premature. EPA has not brought an action under Section 309 to compel GE to implement additional response actions at the Site. If EPA ever sues GE under Section 309 to compel additional work at the Site, this argument will be ripe for consideration. Nothing in the Consent Decree prohibits the reissuance of an NPDES permit or constrains the conditions imposed in this reissued permit.

Second, the covenants not to sue in the Decree reference a number of provisions of environmental statutes. See Paragraphs 161.a. and 161.b. With respect to the CWA, the covenants reference Section 309 (related to enforcement), Section 311 (related to oil spills), Section 404 (related to discharges of dredged or fill material), and Section 504 (related to imminent and substantial endangerment). In contrast, the covenants do not reference either of the jurisdictional prerequisites of the NPDES program, namely Section 301 and Section 402 of the Clean Water Act. There is simply no evidence that the parties intended the covenants to preclude EPA’s reissuance of the NPDES Permit or constrain the conditions imposed in this reissued permit.

The CWA Section 309 reference in Paragraph 161.b. is among a number of statutory references which, if one reviews the paragraph in its entirety, are clearly intended only to preclude enforcement for injunctive relief designed solely to accomplish the same relief as that which is covered by the Decree, rather than to supplant all or part of the Section 402 CWA NPDES program. The terms used in this covenant are narrowly framed to avoid the potential of the United States using a statutory provision outside of CERCLA or RCRA corrective action to compel GE to take or pay for other CERCLA response actions or RCRA corrective actions.

This is underscored by the language that limits the covenant not to sue to actions to implement “response actions, corrective actions or measures, or other similar judicial or administrative response-type injunctive relief.” This phrase limits the scope of the covenant to include only actions *similar* to the response actions or corrective actions/measures described. “Response actions” is a term under CERCLA which encompasses the CERCLA “removal actions” and “remedial actions.” At the Site, GE is required to perform all but one of the discrete remediation activities as CERCLA removal actions; the remaining activity – the “Rest of River” -- is being performed currently under a RCRA corrective action permit. At the conclusion of the RCRA

corrective action permit process, the EPA will select “corrective measures” under RCRA for the Rest of River. By the clear language, the types of actions included under Paragraph 161.b. are intended to be those similar to the response actions, corrective actions or measures already being undertaken under the Decree – i.e., soil and sediment removal and remediation, ground water remediation, and other steps that address specified areas of past contamination. The NPDES permit, in contrast, addresses different activities, with different purposes, from the Decree’s response actions, corrective actions and measures.

The effluent limitations imposed by the NPDES permit also cannot reasonably be construed to be “other similar judicial or administrative response-type injunctive relief.” An NPDES permit is an authorization to discharge pollutants that would otherwise be prohibited from discharge under Section 301 of CWA. By contrast, an injunction is a prohibitive remedy sought by or issued in response to an administrative or judicial enforcement action.¹ Conditions in an NPDES permit are not injunctive relief.

Furthermore, the Decree demonstrates that where the parties intended to modify or revoke an environmental permit, they did so explicitly. Appendix G to the Decree is the Reissued RCRA Permit for the Rest of River portion of the Site. Prior to Decree entry, GE had been subject to a RCRA corrective action permit to address releases of PCBs and other hazardous waste. In the Decree, the parties agreed to reissue that RCRA corrective action permit to address a different set of activities than in the prior RCRA corrective action permit. To accomplish that, the parties followed the regulatory process for reissuance of a RCRA Permit, including a public comment period and a public hearing. If the parties to the Decree had meant to revoke or modify the NPDES Permit requirements, or to preclude its reissuance, the parties would have stated so explicitly, and followed the applicable regulatory process, including an opportunity for public comment.

Comment 1.C:

GE’s comments include references to Consent Decree terms that relate to discharges, to support GE’s argument that “discharges from the GE Site were fully understood and taken into account at the time that EPA, DEP and the Court all concluded that the Consent Decree would be fully protective of human health and the environment.” Specific references by GE are:

i. in the Upper ½ Mile Reach Removal Action Work Plan (“½ Mile Work Plan” (note GE refers to it as the Statement of Work for the Upper ½ Mile Reach Removal Action)), Performance Standard 7 provides that GE will evaluate potential redeposition of PCBs to the Upper ½ Mile Reach, within 5 years after completion of that Removal Action;

¹ Black’s Law Dictionary, 5th Ed: “Injunction” is “a prohibitive, equitable remedy issued or granted by a court at the suit of a party complainant, directed to a party defendant in the action, ..., forbidding the latter to do some act, or to permit his servants or agents to do some act, which he is threatening or attempting to commit, or restraining him in the continuance thereof, such act being unjust and inequitable, injurious to the plaintiff, and not such as can be adequately redressed by an action at law. A judicial process operating in personam, and requiring person to whom it is directed to do or refrain from doing a particular thing.”

ii. the Statement of Work for Removal Actions Outside the River (“Statement of Work”) includes Work requirements for GE for each of the categories of Removal Actions Outside the River, including the Removal Action at Silver Lake. Within the Silver Lake section, the Statement of Work provides Performance Standard 9, which GE asserts bars EPA from requiring additional response actions if the redeposit of PCBs comes from currently known discharges of PCBs into the Lake from NPDES-permitted or other outfalls; and

iii. the Consent Decree specifically addresses discharges from GE’s ground water treatment facility, known as the “64G” facility.

Response 1.C:

GE overstates the scope of the cited Performance Standards and the references to 64G. These Consent Decree provisions do not preclude EPA from issuing an NPDES permit consistent with the CWA.

Response 1.C.i:

The Removal Action for the Upper ½ Mile Reach involves the removal, replacement, and restoration of select river sediments and river bank soils in a half mile reach of the Housatonic River, as well as certain habitat enhancement activities. The Performance Standards establish requirements for the conduct of the Removal Action activities and for post-activity sampling and monitoring. Performance Standard 7 requires sampling to determine whether there has been redeposition of PCBs on the surface of the covered/restored sediments in the ½ Mile Reach. If there is redeposition, GE must determine the source of the PCBs and whether the sources are other than those being addressed by GE under the Decree. If so, GE must evaluate, propose, and implement source control measures; but if not, no further response actions shall be required to address such PCBs deposited on the surface of the covered/restored sediments (except under certain circumstances).

EPA’s issuance of the final NPDES permit is not a “response action” to address PCBs that have been redeposited on the covered/restored sediments. The permit authorizes storm water and ground water discharges to the River subject to certain limitations. Such limitations are based on technology and water quality requirements of the Clean Water Act. They are not in any way premised on whether or not PCBs have been redeposited on restored or covered River sediments. There is simply no relationship between the requirements of the reissued NPDES permit and the activities that were undertaken under the Removal Action for the Upper ½ Mile Reach and its applicable Performance Standards. Furthermore, an NPDES permit was in existence for the GE facility at the time of the Decree entry. Nothing in the Work Plan for this Removal Action states anything about limiting the applicability of that NPDES permit, foreclosing EPA’s authority to reissue a future, more stringent NPDES permit, or constraining the activities that may be required to comply with the terms of any such reissued permit.

Response 1.C.ii:

Since the issuance of the draft permit, areas of GE’s Site that generate storm water discharges to Silver Lake have been transferred to the Pittsfield Economic Development Authority (“PEDA”).

As a result, the final permit for GE no longer includes authorization of discharges to Silver Lake. Therefore there is no need to respond to GE's comments related to those discharges.

Response 1.C.iii:

The Decree's recognition that remediation-related water would be discharged from the 64G facility does not reflect any intent by the parties to limit or eliminate EPA's authority to impose through the NPDES program appropriate permit limitations to satisfy CWA requirements. Nothing in Attachment H of Appendix E suggests otherwise; rather, it simply notes that treated ground water is discharged under GE's NPDES permit.

Comment 1.D:

GE cites to language from four entries of the Statement of Work's Applicable or Relevant and Appropriate Requirements (ARAR) Tables to support its argument that EPA and the State specifically considered discharges from the Site into surface waters when evaluating the removal actions. GE further asserts that EPA relied on the then-existing (1992) NPDES permit limits to conclude that the discharge of treated waters from 64G would satisfy ARARs related to the federal Clean Water Act and the Massachusetts Surface Waters Act. Finally, GE asserts that EPA considered the ambient water quality criteria that relate to PCBs and concluded that if surface water quality standards are not met by the CERCLA removal actions required by the Decree, no further response actions would be required as part of such removal actions. As a consequence of these various statements in the ARARs Tables, GE claims that the Decree precludes EPA from imposing in the reissued permit any limits more stringent than those in the 1992 permit.

Response 1.D:

As a threshold matter, the only discharges implicated by GE's comment and examples are discharges from Building 64G, the ground water treatment plant at the facility. The storm water discharges covered by this NPDES permit are not addressed anywhere in the Decree. All other discharges that would be associated with the activities identified in the Statement of Work are outside the scope of the permit (although they may be regulated by other NPDES permits, such as the Construction General Permit for storm water discharges associated with construction site activities).

GE's argument that EPA's evaluation of ARARs reinforces GE's position that the Decree "comprehensively regulates PCBs that might be discharged," thereby precluding EPA from reissuing an NPDES permit more stringent than the 1992 permit, fails for several reasons. First, in addition to the ARARs, the Decree requires, in Paragraph 8.a., that all Work required under the Decree be performed in accordance with the requirements of "all applicable federal and state laws and regulations." Nowhere in Paragraph 8.a., in the Decree's definitions section (Section IV), or anywhere else in the Decree, is the term "applicable" limited in time only to requirements in effect at the time of entry of the Decree. Thus, consistent with Paragraph 8.a., discharges from 64G must comply with any CWA requirements that are applicable at the time the discharges occur, including any NPDES permit issued consistent with those requirements.

Second, GE reads too much into EPA's reference to effluent limitations in the "existing NPDES permit" in its conclusion that the discharge of treated waters from 64G would satisfy ARARs related to the federal Clean Water Act (specifically identified as BAT, BCT, and water-quality based effluent limitations and BMPs). GE's narrow interpretation of the term "existing permit" to mean *only* the permit that existed at the time the Decree was entered (i.e., the 1992 permit), and to preclude any reissued permit to the extent that it is more stringent than the 1992 permit, would essentially block implementation of the Clean Water Act at the site, a result that the parties did not intend.

Section 402(b)(1)(B) of the CWA limits the term of NPDES permits to no longer than five years. The fixed term allows permits to be updated to reflect changes in technology, analytic methods, water quality standards and other factors over time, consistent with the goal of the Clean Water Act to restore and maintain the chemical, physical and biological integrity of the nation's waters. When EPA reissues a permit, it is required to establish effluent limitations that reflect current technology and water quality requirements. Indeed, NPDES permit regulations forbid the issuance of a permit if its conditions do not provide for compliance with all applicable requirements of the CWA, or where the imposition of conditions cannot ensure compliance with water quality standards. *See* 40 C.F.R. §§ 122.4(a) and (d); *see also, In re City of Marlborough Massachusetts Easterly Wastewater Treatment Plant*, 12 E.A.D. 235, 250-252 (EAB 2005). Thus, as described in more detail below in Section B of this Response to Comments, EPA was required to establish more stringent limitations on PCBs compared to the 1992 permit, based on updated information about background levels of PCBs and the inability to use receiving water dilution in setting effluent limitations as was done in the 1992 permit. Reissuance of the permit with limits unchanged from the 1992 permit would have been inconsistent with the ARARs that were specifically identified as being applicable to the 64G discharges.

Finally, GE attempts to support its argument about the "existing permit" by reference to ARAR Table 1 (page 1), which contains EPA's attainment determination for "relevant and appropriate" PCB-specific ARARs. The determination states that if ambient surface water quality criteria for PCBs are not met at or adjacent to the CERCLA Removal Actions Areas, "no further response actions to attain the criteria shall be required *as part of such Removal Actions* . . . , because EPA has determined that such further response actions are not practicable *as part of these Removal Actions*" (emphasis added). On the contrary, this language has no bearing on the effluent limitations established by the NPDES permit, which implements CWA requirements that are "applicable" to point source discharges from GE's site. This language simply governs the extent to which additional response actions as part of the Removal Actions would be required.

Comment 1.E:

GE claims that the Best Management Practices (BMPs) required in the proposed NPDES permit are in violation of the agreement set out in the consent decree because the BMPs are *de facto* soil cleanup requirements beyond the work delineated in the settlement agreement.

Response 1.E:

First, nothing in the Decree even refers to ongoing storm water discharges from the Site; it only references storm water associated with construction activities required by the Decree, which discharges are subject to EPA's Construction General Permit for storm water associated with construction site activities, not to this individual permit.

Second, the permit is wholly consistent with EPA's policies and practices with respect to NPDES permits, including the requirement to undertake best management practices ("BMPs"), and is not an impermissible attempt to expand the scope of the "response actions" agreed to under the Decree. While the BMPs can be expected to result in the reduction of PCBs in the storm water discharges, they are far afield from the soil and sediment removal actions required by the Decree.

Within the regulations governing administration of the NPDES Program, 40 C.F.R. § 122.2 defines Best Management Practices as follows: "*Best Management Practices* means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of 'waters of the United States.' BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage." Furthermore, 40 C.F.R. § 122.44(k) authorizes EPA to impose BMPs in NPDES permits in several circumstances, including for the control of storm water discharges; where numeric effluent limits are infeasible; or where BMPs "are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA."

The BMPs in the final permit are included specifically for purposes of effective implementation of the NPDES permitting program for this facility. As discussed further in Section B of this Responsiveness Summary, EPA typically expresses effluent limits on storm water in terms of BMPs rather than numeric pollutant limits because of the difficulty associated with setting numeric limits on intermittent and variable discharges. See, e.g., Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, issued September 1, 1996; <http://www.epa.gov/npdes/pubs/swpol.pdf>.

In this case, EPA has required a variety of BMPs to enhance the effectiveness of the NPDES permit, as follows:

- The obligation to remove accumulated debris from manholes and catch basins in drainage basins, and the continuing obligation to remove additional such debris, are basic operation and maintenance practices for any storm water collection system. Removal of accumulated solids is necessary to ensure that the collection system does not become blocked or have flow restrictions which inhibit its carrying capacity. Catch basins are specifically designed to remove solids so that they do not enter the conveyance pipes. Failure to remove these solids can reduce the removal efficiency of the catch basin, and in extreme cases, plug the catch basin inlet or outlet. Enhancement of solids removal efficiency is especially critical for this permittee since the main pollutant of interest, PCBs, has an affinity for solids.

- The requirement to remove accumulated debris from five specified oil-water separators is a basic operation and maintenance practice for any treatment system of this type and is especially important in this case given that PCBs have an affinity for solids. Routine removal of accumulated solids will ensure that these solids are not re-suspended and discharged during large storm events. This requirement is also consistent with 40 C.F.R. § 122.41(e), which requires all permittees to “properly operate and maintain all facilities and systems of treatment and control....”
- The requirement to clean, repair, and rehabilitate piping within drainage basins is a typical management practice for collection systems to ensure that transport capacity is maintained. In the GE collection system, these measures will also serve to remove PCBs that are bound to the accumulated solids, and reduce the quantity of PCBs which infiltrate into the collection system from ground water sources.
- The obligation to implement enhancements to oil-water separators, changing them from an underflow to an overflow system and increasing the water storage volume and solids settling capabilities of each, as well as the requirement to implement permanent changes to the solids setting capabilities of certain oil-water separators, will improve the removal of solids from storm water runoff from several drainage areas, and therefore improve the removal of PCBs from the discharge. Such enhancements are “...treatment requirements... to control plant site runoff” as described in the definition of BMPs found at 40 C.F.R. § 122.2.
- With respect to the requirement to place soil and vegetative covers over impervious surfaces in the 60's Complex at the GE Site, reducing storm water runoff by reducing impervious area is a fundamental storm water management technique (See, e.g., EPA's October 30, 2000 Storm Water Multi Sector General Permit for Industrial Activities, Part 4.2.7.2.2.2, Management of Runoff; see also the MSGP reissued on September 29, 2008 at Part 2.1.2.6; and EPA's 1992 guidance entitled “Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices,” Part 4.6, Infiltration Practices, http://www.epa.gov/npdes/pubs/contents_indguide.pdf).

B. Clean Water Act Limitations

GE commented that there are substantial Clean Water Act reasons not to impose any more stringent requirements than are already contained in the Draft Permit, such as numeric effluent limits for PCBs. The comments are organized in the following sections:

1. Numeric Storm Water Limits are Unnecessary and Infeasible
2. Numeric Storm Water Limits Cannot be Calculated Until the Remediation Work is Completed
3. More Stringent PCB Limits Would be Inappropriate at 64G
4. The Conditions and Requirements Related to the Mass limits FOR Outfalls 001, 005, and 009 are Inappropriate and Should be Revised, including comments from Section V.D. and from Technical Exhibit 5

Comment 1:*Numeric Storm Water Limits Are Unnecessary and Infeasible*

EPA's decision to impose storm water BMPs instead of numeric PCB limits in the Draft Permit is supported by long-standing EPA policy and unique site-specific constraints.

Due to the practical difficulties associated with regulating storm water runoff (*e.g.*, inherent variability and intermittent volume), EPA adheres to an interim permitting policy for water quality-based limits in storm water permits. *See* Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits (EPA 833-D-96-001) (September 1996); *see also* 61 Fed. Reg. 43,761 (August 26, 1996). EPA's policy is predicated on the technical infeasibility of deriving justifiable numeric limits and the risk of imposing unnecessarily stringent numeric limits. *Id.*

Through its interim permitting policy, EPA recommends BMPs (augmented as necessary in subsequent permit cycles) instead of numeric limits to protect water quality standards. EPA's recommended approach is supported by 40 C.F.R. § 122.44(k), which authorizes BMPs, *inter alia*, where numeric limits are infeasible. EPA's approach also is supported by a string of uniformly favorable court decisions.²

As contemplated in EPA's interim permitting policy, GE's existing and EPA's proposed BMPs render numeric limits unnecessary. Those BMPs include structural measures to reduce solids loadings (including PCBs) and non-structural measures to maximize removal efficiency. *See* Draft Permit Part I.C and Attachment C.

Site-specific constraints also render numeric limits infeasible. To even approach numeric PCB limits at its storm water outfalls, GE would need to design, construct, operate, and maintain a massive storm water collection, conveyance, storage and treatment system. The system would need to address an approximate 315-acre drainage area (80% of which is impervious) that is in flux due to remedial activity, demolition, reconstruction and City inflow. Due to the size and nature of this drainage basin, the system would need to accommodate very large runoff volumes.

² *See NRDC v. Costle*, 568 F.2d 1369 (D.C. Cir. 1977) (prompting the promulgation of 40 C.F.R. 122.44(k)); *In Re: Arizona Municipal Storm Water NPDES Permits for City of Tucson, Pima County, City of Phoenix, City of Mesa, and City of Tempe*, NPDES Appeal No. 97-3 (EAB 1998) (upholding the permit writer's decision not to impose numeric limits on grounds of infeasibility, in particular, due to the unique nature of storm water discharges in the arid Arizona environment and the uncertainties associated with the impacts of short-term, periodic discharges) (subsequently appealed and decided on other grounds); *Communities for a Better Environment, et al., v. State Water Resources Control Board*, 1 Cal.Rptr.3d 76 (Cal. Ct. App., 2003) (upholding the permit writer's decision not to impose numeric limits on grounds of infeasibility, in particular, due to the need for a comprehensive TMDL study of all sources and causes of impairment, the significant reductions achieved by the permit holder during the previous permit cycle, and the relatively prohibitive costs of additional reductions by the permit holder).

For example, one inch of rainfall results in 6.5 million gallons of runoff, while the 25-year, 24-hour storm event in Pittsfield would produce a runoff volume of approximately 34 million gallons. The location, number and size of the required system components would adversely impact areas of the GE Site slated for Brownfields redevelopment by PEDDA. The system also would be cost-prohibitive to design, construct, operate and maintain.

The factors that militate against numeric limits here (*i.e.*, necessity and feasibility) are precisely the same as the ones that prompted EPA to develop its interim permitting policy and that have led various courts to affirm the use of BMPs to protect water quality standards. The Draft Permit properly reflects this precedent.

Response 1:

NPDES permits may include Best Management Practices (“BMPs”) to control or abate the discharge of pollutants, including when authorized under Section 402(p) of the Clean Water Act, when numeric effluent limitations are infeasible, or when the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the Clean Water Act. EPA has concluded that calculation of numeric effluent limitations for PCBs in the storm water discharges authorized by this permit is not technically or administratively feasible at this time. EPA’s decision to move forward with non-numeric limits on these industrial storm water discharges is supported by CWA section 402(p), by federal regulations implementing the NPDES permitting program and the EPA Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits (“Interim Permitting Policy”), 61 Fed. Reg. 57,425 (Nov. 6, 1996). As explained in further detail below, EPA may impose numeric effluent limitations on PCBs in storm water discharges in a future permit once more information is known regarding storm water effluent characteristics and receiving water conditions during wet weather.

In order to calculate numeric effluent limitations for NPDES permits, the permit writer typically must be able to determine: (1) the water quality standards for each pollutant of concern in the receiving water; (2) the rate, volume and duration of flow of the effluent; and (3) the rate and volume of flow in the receiving water (for the purpose of ascertaining the effects of dilution and dissipation). In the case of continuous discharges, as from industrial facilities and publicly or privately owned waste treatment works, the rate, volume and duration of flow are known or can be easily measured. Therefore, the effluent’s impact upon the receiving water can be estimated with a reasonable degree of accuracy. In the case of intermittent discharges from sources such as storm drains, information regarding rate, volume, duration of flow and quantities and types of pollutants does not typically exist, and the relationship among these parameters is not fully understood. Storm water discharges can be highly intermittent, are usually characterized by very high flows occurring over relatively short time intervals, and carry a variety of pollutants whose source, nature and extent varies according to local land use activities. *See* 55 Fed. Reg. at 48,038; 53 Fed. Reg. at 49,443. Water quality impacts, in turn, also depend on a wide range of factors, including the magnitude and duration of rainfall events, the time period between events, soil conditions, the fraction of land that is impervious to rainfall, land use activities, the presence of illicit connections, and the ratio of the storm water discharge to receiving water flow, among other factors. *See* 53 Fed. Reg. at 49,444. The variability in the system and minimal data generally available often make it difficult to determine with precision or certainty actual and

projected loadings for individual storm water dischargers or groups of dischargers. Storm water discharges accordingly present difficult challenges with respect to calculating numeric water quality-based effluent limitations.

The CWA and its implementing regulations provide EPA the authority to use BMPs, as opposed to numeric effluent limitations, in NPDES permits to control storm water discharges. Section 402(a) of the CWA provides that a permit for the discharge of any pollutant may be issued upon condition that such discharge will meet all the applicable requirements under sections 301, 302, 306, 307, 308, and 403 of the CWA, or prior to taking the necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of the Act. This provision gives EPA substantial flexibility in framing permits to achieve desired reductions in pollutant discharges. *See NRDC v. Costle*, 568 F.2d 1369, 1380 (1977). Federal regulations governing the NPDES permitting program expressly authorize the use of BMPs to control or abate the discharge of pollutants, including when authorized under Section 402(p) of the Act for the control of storm water discharges; numeric effluent limitations are infeasible; or the practices are reasonably necessary to achieve effluent limitations and standards, or to carry out the purposes and intent of the Act. 40 C.F.R. § 122.44(k).

In regulating storm water discharges, EPA has repeatedly expressed a preference for doing so by way of BMPs, rather than by way of imposing water quality-based numeric limitations. *See* Interim Permitting Policy, 61 Fed. Reg. 43,761 and Questions and Answers Regarding Implementation of an Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits (“Interim Permitting Policy Q & A”), 61 Fed Reg. 57,425 (November 6, 1996). “The interim permitting approach uses BMPs in first-round storm water permits, and expanded or better tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.” Interim Permitting Policy at 43,761. The rationale for this policy is “the nature of storm water discharges, and the typical lack of information on which to base numeric water quality-based effluent limitations.” *Id.* Some of the specific difficulties in deriving numeric water quality-based effluent limitations are summarized in the policy, and include the variability of storm water discharges in terms of both flow and pollutant concentrations, and the complex relationship between discharges and water quality. Interim Permitting Policy Q & A, 61 Fed Reg. at 57,427. When it is infeasible for EPA to establish numerical effluent limitations on dischargers, the Agency may issue permits with conditions designed to reduce effluent discharges to acceptable levels. “[T]his may well mean opting for a gross reduction in pollutant discharge rather than the fine-tuning suggested by numerical limitations.” *Costle*, 568 F.2d at 1380.

As discussed in the Fact Sheet and as noted by GE, the approach taken by EPA in this permit is in accordance with the Agency’s storm water policy. EPA has imposed numeric PCB limits on all continuous discharges of PCBs on the GE Site. EPA has not imposed numeric PCB limits on storm water discharges, because the Agency does not currently have appropriate effluent or receiving water characterization to derive numeric limits.³ There are several reasons for this

³ This is in accordance with EPA storm water policy, which provides:

informational gap. First, the prior permit did not require collection of data reflecting the current quality of storm water runoff, nor collection of data from all dry weather discharges from the collection system. Second, the ongoing remediation effort at the site has resulted in substantial changes and reductions in storm water flows and makes a determination of future background conditions difficult. Third, the resuspension of contaminated sediments during storm events is not yet fully understood by EPA. In contrast to disturbance of sediment caused by continuous discharges, the sediment disturbances caused by storm drain discharges will vary according to any number of factors, including the rainfall depth and intensity, and inter-storm duration. Until sufficient information is available regarding the rate, volume and duration of flow of the effluent and the resulting rate and volume of flow in the receiving water (to take into account dilution and flushing patterns during rainfall events), accurate numeric effluent limitations cannot be calculated. To rectify the foregoing, the Final Permit requires effluent data monitoring, including a receiving water sampling program. The monitoring requirements in this permit will serve to provide effluent and receiving water characterization for future analyses.

EPA has also not imposed numeric water quality-based limits on storm water discharges given the considerable technical complexity associated with deriving such limits. Wet weather modeling is technically more difficult, time-intensive, and expensive than the simple dilution models generally used in the permitting process. In light of this, EPA has determined that effluent limitations expressed as BMPs are the most appropriate mechanism to achieve the purposes of the Act. The severe existing impairment in the receiving waters; the need to reduce pollutant loading into such waters in light of the tendency of the pollutants to persist in the sediments and water column, as well as to bioaccumulate; and the fact that the prior permit has long since expired are also factors counseling in favor issuing the permit without additional delay.

EPA has determined that the permit's limits and conditions, taken together, will ensure compliance with applicable water quality standards. Specifically, the permit includes:

- *Numeric Limits on Dry Weather Discharges.* The permit establishes numeric effluent limits for PCBs and sampling requirements for all dry weather discharges. EPA and MassDEP did not consider the use of dilution in establishing PCB limitations and conditions due to the persistence and high rate of bioaccumulation of PCBs in the

“Deriving numeric water quality-based effluent limitations for any NPDES permit without an adequate effluent characterization, or an adequate receiving water exposure assessment (which could include the use of dynamic modeling or continuous simulations) may result in the imposition of inappropriate numeric limitations in a discharge. Examples of this include the imposition of numeric water quality criteria as end-of-pipe limitations without properly accounting for receiving water assimilation of the pollutant or failure to account for a mixing zone....”

See Answer 5 in the Interim Permitting Policy Q & A.

environment, and to provide a reasonable margin of safety required by the Massachusetts Water Quality Standards under 314 C.M.R. 4.03(1).

- *Updated Storm Water Pollution Prevention Plan (SWPPP) to Further Reduce or Eliminate PCB Discharges.* The permit requires that a SWPPP be updated and implemented for the entire site.
- *Targeted BMPs to Further Reduce or Eliminate PCB Discharges from Areas of Concern.* The permit requires enhanced BMPs for areas which have historically shown higher effluent concentrations of PCBs, including runoff areas 005 and 006. These BMPs include: (1) cleaning and inspection of existing storm sewer components (debris removal from manholes and catch basins; debris removal from oil/water separators; pipeline cleaning and inspection); (2) enhancements to oil/water separators (short-term OWS enhancements; longer-term OWS-related activities); and, (3) physical modifications to drainage basins; modify 60s complex to reduce storm water runoff bypasses).
- *Comprehensive Monitoring Program to Relate Storm Water Discharges to Ambient Water Quality.* The permit imposes a comprehensive effluent and ambient sampling program to allow for a more accurate assessment of the PCB loads entering into the Housatonic River and its tributaries. The data generated by more comprehensive sampling will help in identifying the extent of recontamination and environmental degradation due to storm water discharges from the GE facility. This sampling augmentation coupled with continuous flow monitoring will allow loads entering the receiving waters to be calculated on a per outfall, event and annual basis.
- *Permit Re-opener Based on Monitoring Program.* To ensure compliance with applicable water quality standards in accordance with Section 301(b)(1)(C) of the CWA, the permit includes a re-opener provision under which EPA will assess the results of the monitoring program during the term of permit, and if necessary, modify the permit to include any more stringent limitations to ensure compliance with water quality standards.

While EPA agrees with the general thrust of GE's comment that "GE's existing and EPA's proposed BMPs render numeric limits unnecessary," the Agency wishes to clarify that its specific conclusion is that numeric limits are infeasible at this time based on the current record. In accordance with the Interim Permitting Policy, when "adequate information exists to develop more specific conditions or limitations to meet water quality, these conditions or limitations are to be incorporated into storm water permits as necessary and appropriate." Interim Permitting Policy at 61 Fed Reg. 43,761. Such conditions or limitations may include additional BMPs or numeric water quality-based effluent limitations.

EPA disagrees with GE's interpretation of "infeasibility" as it is used in the Interim Permitting Policy. The Policy refers to the technical infeasibility of developing appropriate numeric water quality-based limits; GE uses the term to describe the infeasibility of constructing treatment adequate to *meet* a numeric water quality based limit. In general, under the Clean Water Act cost considerations or technological feasibility are *not* permissible factors in setting water quality-based effluent limits. *See United States Steel Corp. v. Train*, 556 F.2d 822, 838 (7th Cir. 1977); *see also, In re City of Moscow*, 10 E.A.D. 135, 168 (EAB 2001). The feasibility of numeric effluent limitations is determined not by whether *compliance* with those limits would be technologically or economically impracticable, but rather whether it is infeasible to *derive* them

in the first place. Thus, water quality standards and the permit limits based on them may be set so as to force technological advances and environmental progress.

Comment 2:

Numeric Storm Water Limits Cannot Be Calculated Until the Remediation Work is Complete

The ongoing and planned remediation and redevelopment work will alter “background” water quality conditions in Unkamet Brook, Silver Lake and the Housatonic River. Until that work has been completed and a true background has been established, the Agencies cannot calculate or, more importantly, confirm the need for numeric limits for GE’s storm water outfalls.

Water quality-based limits are required whenever a permit writer determines that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above an applicable water quality criterion (commonly referred to as a “reasonable potential determination”). In making a reasonable potential determination, the permit writer is required to use procedures that account for certain background water quality conditions, including existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.

Where, as here, water quality conditions are in flux due to ongoing and planned remediation and redevelopment work, the permit writer lacks the necessary inputs to make a reasonable potential determination. Recent precedent bears this out.

For example, remediation of PCB-contaminated sediments in New Bedford Harbor has been underway for over a decade. One of the facilities involved in and affected by the remediation work, Aerovox, Inc., received an NPDES permit for storm water discharges to the Acushnet River/New Bedford Harbor on October 17, 2000 (Permit No. MA0003379). In the fact sheet accompanying that permit, EPA acknowledged that PCBs would be present in the storm water discharge due to past activities at the facility. However, the Agency elected not to impose numeric PCB limits at Aerovox’s storm water outfalls for the following reason:

A true water quality based limit cannot be determined until the sedimentation remediation work is completed and background PCB levels are determined. It is reasonable to assume that remediation of the high concentration of PCBs in the sediments will result in improved background concentrations of PCBs.

Fact Sheet at p. 3.

EPA reached an identical conclusion in the NPDES permit proceeding for Cornell-Dubilier Electronics Corporation, which also discharges storm water contaminated with PCBs to the Acushnet River/New Bedford Harbor (Permit No. MA0003930, December 28, 2000). As in the

Aerovox proceeding, EPA elected not to impose numeric PCB limits at Cornell Dubilier's storm water outfalls due to the ongoing and planned remediation work in the Harbor.

In response to comments on the draft permit, EPA explicitly acknowledged that it was unable to make a determination at [that] time as to whether or not [Cornell Dubilier] causes or contributes to a water quality standards violation due to the ongoing Superfund cleanup activities.

EPA Response to Comment No. 1.

Like the New Bedford Harbor clean-up, the remediation and redevelopment activities associated with the GE Site will alter background water quality conditions in Unkamet Brook, Silver Lake and the Housatonic River. These activities include:

- GE has already completed remediation of the 1/2 Mile reach of the river adjacent to the plant site, including substantial removal of sediments and bank soils, and remediation of NAPL seeps to the river encountered during excavation activities.
- At Silver Lake, remediation will include removal of select bank soils, removal and replacement of identified sediments near an outfall, capping of the entire 26 acre lake bottom, and armoring the perimeter of the lake.
- For the GE Plant Area, GE must meet soil cleanup levels set forth in the CD. In some places, this will involve substantial excavation of soils, backfilling with clean soils, and installation of engineered barriers.
- Pavement will be removed in a 200-foot-wide buffer zone along an area on the northern side of the Housatonic River, in the plant area, to reduce storm water runoff.
- In the Lyman Street and Newell Street parking lots adjacent to the river, GE will install vegetative engineered barriers.
- In the oxbows, soil cleanup standards will be met through excavation of soils where necessary.
- Unkamet Brook will be rerouted to its former channel, and the Unkamet Brook landfill will be capped. Sediments in the brook and adjacent wetlands and floodplain areas will be removed to achieve specific standards.
- GE has conveyed to PEDDA the first portion of the 52 acres of the GE Site scheduled for Brownfields redevelopment (25 acres). PEDDA's redevelopment activities will include, at a minimum, grading, seeding and planting. More fundamentally, PEDDA has indicated that it plans substantial modifications to the existing storm water conveyance and discharge systems.

After this remediation and redevelopment work is complete, EPA will have a basis to determine background PCB levels and the impacts (if any) of storm water runoff from the GE Site on ambient water quality conditions. In the meantime, recognizing that GE is continuing to make progress toward eliminating contaminated storm water runoff, EPA properly followed the New Bedford Harbor precedent and imposed monitor-only conditions at GE's storm water outfalls. It would be arbitrary and capricious for EPA to depart from such precedent in the absence of distinguishing reasons to do so. None have been cited or in fact exist at the GE Site.

Response 2:

EPA acknowledges that an ongoing remediation effort can make a determination of future background conditions difficult. EPA, however, does not agree with the assertion that uncertainty generated by ongoing activity affecting a discharge and its impact on the receiving waters necessarily preclude the establishment of numeric water quality-based limits. Consistent with the Interim Permitting Policy, it is within EPA's authority to impose numeric limits whether or not remediation activities have concluded or other complexities have been fully resolved, so long as there is an adequate record basis to do so.

It is commonplace for EPA to exercise its reasoned judgment in the face of significant technical and scientific uncertainty, as well as informational gaps. At this point in the permitting process, however, EPA did not include numeric limits because the informational gaps were simply too substantial, largely as a result of the lack of adequate information regarding the current effluent characteristics due to the previous permit's sampling requirements, *i.e.*, no mandated storm water sampling.⁴ Still, for the reasons set forth above in GE Response B.1, EPA believes the permit as written will ensure compliance with water quality standards. Based on the results of the monitoring program imposed in the final permit, EPA may determine that numeric limits are necessary if the BMPs and other permit conditions are implemented and effluent and instream sampling show that the discharges continue to have the reasonable potential to cause or contribute to exceedances of water quality standards.

Comment 3:More Stringent PCB Limits Would Be Inappropriate At 64G

The PCB limits associated with GE's 64G groundwater treatment facility in the existing Individual Permit are technology-based. *See* Fact Sheet at p. 12. Since those limits already reflect the most stringent level of control technology required by the Clean Water Act, EPA lacks both authority and justification to impose more stringent technology-based limits in the Draft Permit. Even if the limits were water quality-based, it would be premature to impose more

⁴ As with the permits cited by GE, EPA specifically considered the uncertainties associated with ongoing remediation activity when determining whether to establish numeric effluent limits for PCBs in GE's permit at this time:

Although many of the storm water discharges from the GE site have been regulated under previous permits, EPA does not believe it has sufficient information at this time to establish numeric limits on the storm water discharges. Until recently, many of the storm drain discharges covered by the permit also contained industrial process discharges, and monitoring was not required to be conducted during wet weather. Also, site remediation activities conducted under the consent agreement and other improvements have generally reduced PCB concentrations in discharges, and the wet weather data which has been collected has shown a wide variability in effluent PCB concentrations.

See Fact Sheet at 9.

stringent limits at this time. In any event, such limits would run afoul of the CD.

1. The Best Available Technology Is In Place

GE already has achieved the most stringent level of control required of it under the Clean Water Act. Achieving more is infeasible. Requiring more is arbitrary and capricious.

Where, as here, a limit is not required by EPA's national effluent guidelines, then a case-by-case technology-based limit, derived using best professional judgment ("BPJ"), may be imposed only if the permit writer performs the analysis required in 40 C.F.R. § 125.3. As part of that analysis, the permit writer must consider:

- a. the appropriate technology for the category or class of point sources of which the applicant is a member, based upon all available information; and
- b. any unique factors related to the applicant.

The permit writer also must consider the factors in § 125.3(d), which, for the most stringent level of control conceivably applicable to GE ("best available technology economically achievable" or "BAT"), include:

- a. The age of equipment and facilities involved;
- b. the process employed;
- c. the engineering aspects of the application of various types of control techniques;
- d. process changes;
- e. the cost of achieving such effluent reduction; and
- f. non-water quality environmental impact (including energy requirements).⁵

When conducting the required § 125.3 analysis, the permit writer must look at both the industry as a whole and the particular facility.⁶ In other words, before imposing a technology-based PCB limit on GE at 64G, the permit writer would need to conduct a reasoned analysis of control technologies available for PCB removal at groundwater remediation facilities generally, and at the 64G groundwater treatment facility in particular.

⁵ 40 C.F.R. § 125.3(d)(1).

⁶ See *U.S. Steel Corp. v. Train*, 556 F.2d 822, 844 (7th Cir. 1977); *Alabama v. EPA*, 557 F.2d 1101, 1110 (5th Cir. 1977).

Activated carbon has been recognized as the most widely practiced treatment method for PCBs in the aqueous phase. *See, e.g., Guidance on Remedial Actions for Superfund Sites with PCB Contamination* (EPA, 1990); *Granular Activated Carbon and Biological Activated Carbon Treatment of Dissolved and Sorbed Polychlorinated Biphenyls* (Ghosh, U., A. S. Weber, et al., Water Environment Research 71(2): 232-240, 1999); *Hudson River Water PCB Treatability Study* (O'Brien & Gere Engineers, Inc., 1982).

Activated carbon also has been determined to be BAT by EPA. *See Removal of Endocrine Disruptor Chemicals Using Drinking Water Treatment Processes* (EPA-625-R-00-015, 2001) (“[Granular activated carbon] is the BAT for removal of [PCBs]”). Consistent with this determination, EPA has used activated carbon in its own remediation projects.

For example, in New Bedford Harbor, EPA relied on two granular activated carbon units in series, with a design capacity of 350-400 gallons per minute, to achieve a discharge limit of 0.6 µg/L PCBs. Similarly, at this Site, in the ongoing remediation of the 1½ Mile Reach of the Housatonic River, EPA relies on two granular activated carbon units in series, with a design capacity of 400 gallons per minute, to achieve a discharge limit of 0.5 µg/L PCBs.⁷

In the current proceeding, GE already has an activated carbon treatment system in place. GE’s 64G groundwater treatment facility relies on four granular activated carbon units in series, with a design capacity of 700 gallons per minute (nearly twice that of EPA’s two treatment systems referenced above). The performance data for GE’s system over the past ten years (March 1994 to July 2004) indicate that GE can achieve a discharge limit of 0.5 µg/L PCBs (consistent with and, in some cases, even better than the performance at EPA’s own treatment systems).

Based on both general and site-specific information about available control technologies, activated carbon treatment indisputably is BAT. EPA cannot direct GE to go beyond BAT. Nor can EPA impose more stringent PCB limits than BAT is designed to achieve.

2. *Numeric PCB Limits Cannot Be Calculated Until The Remediation Work Is Complete*

Even assuming that the limits at 64G were water quality-based, it would be premature to impose more stringent limits until background water quality conditions have been established (*i.e.*, following completion of remediation and redevelopment). *See* Section V.B above (in particular, with respect to the pending remediation in Unkamet Brook, upstream of 64G).

Even if such conditions could be established, more studies of treatment options would be needed before EPA would have a legitimate basis to impose more stringent water-quality based PCB limits. EPA acknowledges the need for additional studies before water-quality based PCB limits could be determined in the Draft Permit, which calls for GE to complete PCB treatment capability and optimization evaluations of the 64G treatment system. *See* Draft Permit Part I.D.

⁷ It would be arbitrary and capricious for EPA to prescribe a double standard (one for itself and the other for the regulated community) for the same type of activity and the same treatment technology.

3. *More Stringent PCB Limits Would Run Afoul Of The Consent Decree*

GE believes that imposition of more stringent limitations at 64G would trigger additional “response actions” preempted by the Consent Decree. That said, in a number of past circumstances, GE has elected not to exercise all of its potential legal appeal rights and, as a consequence, has undertaken a number of discretionary environmental actions in Pittsfield in order to further site-wide remediation and development objectives. GE will determine whether to appeal specific NPDES requirements after the Agencies issue the final permit.

Response 3:

EPA approaches water quality-based limits for storm water differently than water quality-based limits for dry weather discharges from storm drains. The permit requirements for “wet weather” discharges (storm water) are different than for “dry weather” (non-storm water) discharges. In accordance with EPA’s Interim Permitting Policy, numeric water quality-based limits for storm water discharges are generally not imposed due to infeasibility. Numeric limits for dry weather discharges are not covered by the Interim Permitting Policy, and numeric limits have accordingly been imposed for such discharges on the GE site that have a reasonable potential to cause or contribute to exceedances of water quality standards.⁸

The permittee’s specific argument relative to BAT limits for 64G mistakenly assumes that the 64G effluent limit for PCBs is technology-based. EPA established the PCBs effluent limit for 64G on a water quality basis. The Fact Sheet stated that the discharge contains PCBs exceeding the applicable water quality criteria, and that the representative monitoring point for dry weather discharges from outfall 005 was the discharge from 64G, which was meant to show that there was reasonable potential for the discharge to cause or contribute to an exceedance of water quality standards, necessitating a water quality-based limit.⁹ When writing NPDES permits, the

⁸ “Storm water” means storm water runoff, snow melt runoff, and surface runoff and drainage (see 40 C.F.R. § 122.26 (b)(13)). Therefore, discharges from storm drains that do not include these flow components are not storm water. “Dry weather” discharges consisting solely of groundwater infiltration, illicit connections, industrial processes, or city water are not discharges of storm water and are not subject to regulations or policies pertaining to storm water.

Some storm water NPDES permits authorize the discharge of “non-storm water” discharges with no specific effluent limitations or monitoring requirements, but require that such discharges be uncontaminated (see, for example the Multi-Sector General Permit for Industrial Activities Part 1.2.2.2). GE has dry weather discharges from many of its outfalls during dry weather, including flows from groundwater infiltration, treated groundwater, city water, and unknown flows, but because of the contamination of the GE site, these “non-storm water “ or “dry weather” discharges are contaminated with pollutants.

⁹ The fact sheet states as follows:

Because there is a continuous dry weather discharge from outfall 005 which contains PCBs exceeding the applicable water quality criteria, the **proposed draft permit** includes PCB monitoring requirements and limitations for the dry weather discharge

permit writer must compare the water quality-based effluent limits to any technology-based effluent limits developed for particular pollutants and incorporate the more stringent set of effluent limitations into the permit. CWA § 301(b)(1)(C); 40 C.F.R. § 122.44(d). Because the water quality-based limit for 64G is more stringent than the technology-based limit, EPA has included it in the final permit.

As stated in the fact sheet, the technology-based limits for outfall 005 are from the prior permit and are applied at the discharge from outfall 005 (the outfall of the pipe into which 64G discharges).¹⁰ EPA retained the technology-based limit for discharge 005, which includes discharges from 64G and 64T. EPA applied a water quality-based limit to 64G, which consists of a continuous discharge of treated groundwater. The prior permit includes mass limits for PCBs at outfall 005, calculated for the prior permit using a technology-based monthly average concentration of 1 ug/l and a daily maximum concentration of 3 ug/l, and a flow of 1.08 MGD. In the modification settling the appeal of the prior permit, the flow limit was raised to 2.09 MGD to allow for the tie-in of 64G, pursuant to a state order but limits were not increased.

However, based on information submitted by GE in its comments (see GE Technical Exhibit 1, Discharge Outfall Descriptions), it is clear that there are additional dry weather discharges to outfall 005 from 64T and from groundwater infiltration. Therefore, the monitoring location for the water quality-based PCB effluent limitation has been moved to the end of the 005 discharge pipe, downstream of the discharges from both 64G and 64T, the same location that the technology-based limits apply. The PCB effluent limitation for 64G has been removed. The monitoring requirements for 64G remain in the permit, as does the 64G capability study and the 64G optimization requirement found in Part D of the permit. A capability study has been added for treatment plant 64T to ensure that the dry weather discharge from this facility will not cause a violation of the dry weather discharge PCB limit at outfall 005.

As will be discussed in subsequent responses, in the Draft Permit EPA erred in expressing the

from this outfall. The proposed draft permit includes a quarterly monitoring requirement for whole effluent toxicity, since there is a continuous dry weather discharge located in a drainage basin with heavily contaminated soil, and since there is inconclusive toxicity test results (due to the combined composition of the samples). Since the dry weather flow consists almost entirely of effluent from the 64G treatment plant, the representative monitoring location has been established at the discharge from the 64G treatment plant. The **proposed draft permit** PCB limitation is established at the minimum level of the Modified Method 8082 (i.e., the minimum level, or ML, refers to the level at which the entire analytical system gives a recognizable mass spectra and acceptable calibration points when analyzing for pollutants of concern; this level corresponds to the lowest point at which the calibration curve is determined), and the draft permit contains a compliance schedule for attaining this limit (See: Part I.G. of the draft permit).

¹⁰ The fact sheet for the prior permit states that a water quality-based limit was calculated for outfall 005 but was less stringent than the technology-based requirement. This is because dilution was used (7Q10 = 13.6 cfs and annual flow = 120 cfs).

water quality-based PCB limits as the minimum level (ML) of the analytical test.¹¹ Cost and technological considerations are not permitted under the CWA to be considered by the permit-writer when setting water quality-based effluent limits. Thus, the limit in the Final Permit is based on the aquatic life water quality criteria. The compliance limit will continue to be the ML of the analytical test. In addition, since improvements to test methods are ongoing, EPA has also added a footnote stating that: “If a lower minimum level (ML) becomes available using an EPA-approved method, the enforcement limit will change to the more stringent ML limit.”

The issue in the comment regarding whether numeric PCB limits would run afoul of the Consent Decree is addressed in EPA’s responses above.

Comment 4:

The Conditions And Requirements Related To The Mass Limits For Outfalls 001, 005 And 009 Are Inappropriate And Should Be Revised

The Draft Permit imposes effluent limitations, including discharge conditions and sampling and analytical requirements, for total suspended solids (“TSS”) and oil and grease (“O&G”) at Outfalls 001, 005, and 009 during “wet weather.” As described in more detail in GE Technical Exhibit 5, GE objects to the imposition of the mass limitations, particularly in relation to the discharge conditions and sampling and analytical requirements, and to the justification provided for imposition of the mass limitations. As a general matter, it is inappropriate to subject these discharges of storm water runoff to numeric limits. Assuming, though, that the Agencies retain these mass limits, then the discharge conditions and sampling/analytical requirements related to those limits need to be revised.

Response 4:

EPA has responded to this comment in detail in our response to the comments in GE’s Technical Exhibit 5 (see Comment 7). Our general response is that the numeric mass limits in the Final Permit are not newly imposed but are technology-based limits from the prior permit, issued in 1992. In the Final Permit, EPA has reverted to the sampling conditions in the 1992 permit for determining compliance with the BPJ limitations for TSS, BOD, and oil and grease for outfalls 005 and 009 (again outfall 001 is no longer included in the permit).¹² Specifically, a twenty four hour composite sample is required, with no conditions for rainfall. EPA will expect that GE sample these outfalls according to a routine sampling schedule which will result in sampling

¹¹ The fresh water criterion continuous concentration (CCC) for PCBs is 0.014 ug/l, measured as total PCBs (*i.e.*, chronic criterion). The human health criterion for PCBs is 0.000064 ug/l, measured as total PCBs (*i.e.*, long term human health exposure). The minimum detection level (MDL) for the modified method 8082 is 0.014 ug/l, and the minimum level (ML)/enforcement limit in the permit is 0.065 ug/l.

¹² Outfall 001 is no longer included as an authorized discharge in the permit. Outfall 001 was removed because it was transferred to the Pittsfield Economic Development Agency (PEDA) on May 2, 2005 as part of the land transfer from GE to PEDA.

during whatever weather conditions are occurring on that day, which will ensure that the data are representative.

Comment 5:

The Draft Permit proposes the collection of an initial grab sample within the first 30 to 60 minutes of a storm event, as well as a 3-hour flow weighted composite sample, for TSS monitoring at Outfalls 001, 005 and 009. The requirement for an initial grab sample is inappropriate for TSS levels when a discharge includes dry and wet flow that has been routed through wastewater treatment systems. That grab sample requirement should be deleted. In addition, the use of 3-hour flow weighted composite samples is not appropriate or justified for a continuous discharge from a treatment system, such as those related to these outfalls (*i.e.*, oil-water separators and water treatment facilities). The use of a 24-hour time-weighted composite will capture entire runoff events thus providing more representative data, and will provide data that are consistent with historic data sets.

The Draft Permit recommends that monitoring be conducted at a number of discharge locations for a number of parameters during “wet weather.” In addition, the Draft Permit proposes application of the monthly average mass limits to this specific discharge condition at Outfalls 001, 005 and 009. In the Draft Permit, “wet weather” is defined as “a storm event with at least 0.1 inches of precipitation, providing the interval from the preceding storm is at least 72 hours.” The inclusion of a 72-hour dry period requirement in the definition of wet weather is not justified or appropriate, and this requirement will result in the collection of fewer and less representative data. GE therefore proposes that a 24-hour dry period be used in the definition of wet weather. The use of 24-hour dry period criteria will allow for the opportunity to collect more wet weather data, therefore providing a more representative data set that can routinely support calculation of monthly averages.

Response 5:

The Draft Permit required that wet weather (*i.e.*, storm water) samples be collected as 3-hour flow-weighted composites to reflect sampling requirements found at 40 C.F.R. § 122.21(g)(7)(ii). These regulations specify sampling requirements for permit applications for storm water discharges from existing manufacturing, commercial, mining and silviculture discharges. These regulations specify that samples be collected from a discharge resulting from a storm event that is greater than 0.1 inch and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) event. The regulation further specifies that “a flow weighted composite sample shall be taken for either the entire discharge or for the first three hours of the discharge,” and that the storm water sample “may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of the discharge for the entire discharge or for the first three hours of the discharge, with each aliquot being separated by a minimum period of fifteen minutes.” The regulation allows EPA latitude to establish different sampling protocols, including time duration between the collection of aliquots for flow weighted composite sampling, as well as minimum duration between storms and precipitation required for an appropriate storm event. EPA recognizes that the cited regulation pertains to collection of storm water discharge data for permit applications and does not directly

require the same protocols for monitoring required in an NPDES permit. However, to ensure consistency between data collected for permit applications and data collected pursuant to NPDES permit requirements, EPA believes that the protocols should be as similar as possible for reasons of administrative efficiency.

It is unclear why the commenter believes that 3-hour composites (with a grab sample within 30 minutes) are inappropriate for discharges with continuous flow and treatment systems, and thus EPA cannot respond specifically to the commenter's concern. The sampling protocols found at 40 C.F.R. § 122.21(g)(7)(ii) do not differentiate between treated and untreated discharges, nor do they recommend different protocols for storm drains containing non-storm water flows. EPA believes that early grab samples, or flow weighted composites, are critical to gathering representative storm water data because they will characterize first flush effects, as accumulated pollutants on the surface and settled in the collection system are transported, treated and discharged, and also better characterize the total mass discharged during a storm event.

EPA disagrees with the comment that a 24-hour time weighted composite be used in lieu of the 3-hour composite required in the Draft Permit, and does not regard the commenter's rationale for such a change (it will be more representative of the discharge and will be consistent with past data) as persuasive. As can be seen from the sampling protocol in 40 C.F.R. § 122.21(g)(7), EPA has a strong preference for flow weighted composites for the reasons cited above (also see *NPDES Storm Water Sampling Guidance Document*, July 1992 part 2.7.5, page 25). EPA also disagrees that it is important to make the sampling period consistent with that in the prior permit. The monitoring requirements in the prior permit were not established to characterize storm water discharges from the facility, and a 24-hour monitoring period is not the appropriate sampling period, except for a storm of 24-hour duration or longer. Given that the permittee has expressed a preference for longer sampling periods for composite samples, that flow metering is in place for all major storm water outfalls (making the use of automatic samplers possible), and that such collection periods are acceptable under the sampling protocol in 40 C.F.R. § 122.21(g)(7), EPA has changed the permit requirements for composite "wet weather" samples to require flow weighted composite samples collected for the duration of the storm event.

For those pollutants required to be sampled as grabs, these are still required to be collected during the first 30 minutes of the storm, consistent with the 40 C.F.R. § 122.21(g)(7) sampling protocol.

Regarding the request to change the minimum duration between storms from 72 hours to 24 hours, EPA agrees that shortening the minimum duration will allow the collection of more samples and will probably not significantly change the measured characteristics of the discharge. EPA has therefore reduced the minimum duration between storms from 72 to 24 hours.

A more extensive discussion of these issues may be found in GE Response B7.

Comment 6:

Outfall 001, which receives mostly municipal runoff, is subject under the Draft Permit to requirements that are much more stringent than EPA imposes on discharges from municipal

storm sewers, even though the discharge from 001 is very similar to those municipal discharges. Oil-Water Separator (“OWS”) 31W, which receives municipal runoff and other water going to Outfall 001, can, under certain flow conditions, remove solid materials. However, because this system is not designed specifically to reduce TSS, and does so effectively only under certain conditions, application of technology-based limits, such as those in the Draft Permit, should be limited to situations where the OWS is performing to reduce TSS. GE’s analysis indicates that when 24-hour average flow is above 0.432 million gallons in response to wet weather events, the performance of OWS 31W may not be representative of the conditions on which the monthly average mass limit was based. Therefore, for determining compliance with the monthly average ‘wet weather’ TSS limit, data collected over a 24-hour period should be used if the 24-hour flow is less than or equal to 0.432 million gallons. When the 24-hour flow is greater than 0.432 million gallons, the data and mass result should be reported but not used for compliance assessment.

Response 6:

As discussed previously, outfall 001 is no longer included in the GE permit because it was transferred to PEDAs as part of a land transfer. However, EPA disagrees with GE that the oil/water separator for outfall 001 should not be required to achieve TSS limits under storm conditions because it was not designed to remove TSS. As discussed earlier in this response, the prior permit authorized the discharge of storm water through this outfall, included monthly average and daily maximum limits for TSS, and did not include weather conditions under which sample that were required to be met. Therefore, it is clear that the previous permit limits applied under all conditions, including storm events. If the facilities were unable to achieve the limits during storm events, the permittee should have upgraded the facilities to achieve the limits.

Further, it does not appear that the amount of surface area discharging to the oil water separators (and thus the volume of storm water flow) has increased since issuance of the prior permit.

As was discussed in GE Response B.4 and will be discussed in greater detail in GE Response B.7, the sampling requirements for samples taken to determine compliance with the BPJ limits from the 1992 permit (now included only for outfalls 005 and 09B) have been changed back to the sampling requirements in the 1992 permit.

Comment 7:

B. GE Technical Exhibit 5 (Analysis and Recommendations Regarding Mass Effluent Limits for Outfalls 001, 005 and 009)

GE Recommendation: The conditions and requirements related to the mass limits in the Draft Permit for Outfalls 001, 005 and 009 are inappropriate and should be revised.

Prior to discharge, flows from Outfalls 001, 005 and 009 (as presented and corrected in GE Technical Exhibit 1) are subject to treatment by oil-water separator (“OWS”) 31W (for Outfall 001); the 64T and 64G water treatment facilities (for Outfall 005); and OWS 119W (for Outfall

009). Although there are continuous dry weather sources of water to these wastewater treatment systems, discharges can be dominated by storm water in response to certain rain events. In these cases, the storm water component mixed with the dry weather flow (hereafter referred to as “co-mingled treated discharge”) is treated by the wastewater treatment systems prior to discharge. The Draft Permit refers to these system characteristics as “wet weather” discharge.

The Draft Permit imposes effluent limitations, including discharge conditions and sampling and analytical requirements, for total suspended solids (“TSS”) and oil and grease (“O&G”) at Outfalls 001, 005 and 009 during “wet weather.” The draft fact sheet provides the following explanation for the limitations:

The proposed draft permit retains the same limitations on TSS and oil and grease required in the current permit in accordance with antibacksliding regulations.

For several reasons, GE objects to the imposition of the mass limitations, particularly in relation to the discharge conditions and sampling and analytical requirements, and to the justification provided for imposition of the mass limitations. As a general matter, it is inappropriate to subject discharges of storm water runoff to numeric limits. This is especially true for TSS mass limits.¹³ Assuming, though, that EPA retains mass limits at Outfalls 001, 005 and 009, then the discharge conditions and sampling/analytical requirements related to those limits need to be revised.

It is important to note, as an initial matter, that the mass effluent limitations proposed in the Draft Permit are not the same as, and in fact are more stringent than, those in GE’s existing NPDES permit, because of the way in which they are applied through the discharge conditions and sampling and analytical requirements. Therefore, EPA’s use of antibacksliding as a justification for these limits is incorrect. These new discharge conditions and sampling and analytical requirements are inappropriate, and should be revised to reflect changes in facility operations and conditions and more relevant technology considerations. These comments provide GE’s recommendations on appropriate provisions for these Outfalls. These suggested revisions to the discharge conditions and sampling/analytical requirements are not prohibited by the antibacksliding regulations, and these revisions need to be included in the final permit.

¹³ The reasons why it is generally inappropriate to issue numeric limits for storm water are detailed in Section V.A of the GE comments on the Draft Permit. In addition, it should be noted that the effluent from Outfall 001 is very similar to municipal runoff. EPA has not required numeric limits for municipal runoff for TSS or other parameters. *See* 40 C.F.R. § 122.34(a) (reflecting EPA’s preference for “narrative effluent limitations requiring implementation of best management practices”). Nor has EPA required treatment of all municipal runoff. In fact, the control program for municipal storm sewer discharges is very flexible, focusing on the following types of control measures: public education and outreach, public participation/involvement, illicit discharge detection and elimination, construction site runoff control, post-construction runoff control, and pollution prevention/good housekeeping. *See* 40 C.F.R. § 122.34(b). The control requirements that the Draft Permit imposes regarding the discharge from Outfall 001 are markedly more stringent than those measures that EPA requires municipalities to follow.

I. MASS EFFLUENT LIMITATIONS IN DRAFT PERMIT AS COMPARED TO THOSE IN CURRENT PERMIT

GE Recommendation: The mass limits in the Draft Permit, with associated discharge conditions and sampling/analytical requirements, are more stringent than those in the current permit. As a result, EPA's use of antibacksliding to justify these new limits is incorrect.

The draft fact sheet states that the mass limitations in the Draft Permit are the same as those in the current permit. This is not correct. In fact, as applied the mass limitations are more stringent than the current permit.

Although the numerical values from the current permit also appear in the Draft Permit, the limitations are not the same. Limitations also include the conditions under which sampling is required, the specified weather conditions prior to and during the sampling event; and the sampling and analytical requirements (when to sample, type of sample). When one considers the complete picture, it is quite clear that the limitations in the current permit are distinctly different from the limitations proposed in the Draft Permit.

Table 1 highlights the differences between current and proposed TSS mass limitations based on required sample discharge conditions for Outfalls 001, 005 and 009.¹⁴ For each outfall, the highlighted boxes compare the conditions that apply during wet weather under the current permit and under the Draft Permit.

¹⁴ Please note that similar revisions to the O&G limitations appear in the Draft Permit.

Table 1. Comparison of Current and Proposed Permit Conditions for Total Suspended Solids

Permit	Sample Conditions	Weather Restrictions	Sample Type	Sample Frequency	Monthly Average Limit	Daily Maximum Limit
Outfall 001						
Current Permit	Dry or Wet*	None	24-hr composite	Monthly	138 lbs/day	628 lbs/day
Draft Permit	Dry only	< 0.1 inch rain and no snow melt	24-hr composite	Quarterly	No limit; No report	No limit; report
Draft Permit	Wet only	>0.1" during collection; < 0.1" previous 72 hours	Initial Grab & 3-hr flow-weighted composite	Monthly	138 lbs/day	628 lbs/day
Outfall 005						
Current Permit	Dry or Wet	None	24-hr composite	Monthly	188 lbs/day	270 lbs/day
Draft Permit	Wet only	> 0.1" during collection; < 0.1" previous 72 hours	Initial Grab & 3-hr flow-weighted composite	Monthly	188 lbs/day	270 lbs/day
Outfall 009						
Current Permit	Dry or Wet	None	24-hr composite	Monthly	213 lbs/day	876 lbs/day
Draft Permit	Wet only	> 0.1" during collection; < 0.1" previous 72 hours	Initial Grab & 3-hr flow-weighted composite	Monthly	213 lbs/day	876 lbs/day

Notes:

* Dry weather conditions are < 0.1 inch of rain and no snow melt

* Wet weather is defined in the Draft Permit

Note that the current permit does not distinguish between dry and wet weather conditions – samples can be taken at any time; and the current permit does not specify weather conditions prior to or during the sample collection. In contrast, the Draft Permit clearly distinguishes between dry and wet weather conditions, and applies the mass-based limitations only during wet weather discharges. This is problematic because mass is a function of flow, and the proposed limitations have not been adjusted to reflect first flush flow through the treatment systems and associated outfalls during wet weather conditions.

Furthermore, the wet weather sampling requirements are different between the two permits. The sample type for TSS during wet weather is a flow-weighted composite for each hour up to three hours, which is very different from a 24-hour composite. Furthermore, the Draft Permit states that wet weather sampling must be taken during a storm event with at least 0.1 inch of precipitation which occurs at least 72 hours from the previous storm event of at least 0.1 inch. In contrast, the current permit has no definition of wet weather as applied to reporting or monitoring.

For these reasons, the Draft Permit's mass limitations – which are proposed to apply only during wet weather discharges in accordance with revised monitoring requirements – are actually more stringent than those in the current permit. Therefore, the antibacksliding requirements cannot be

used as support for imposition of the limitations, because the limitations are not the same as those in the current permit. Antibacksliding restrictions can apply (subject to exceptions described below) when the limitations contained in a renewal permit are less stringent than the limitations in the current permit; they certainly do not apply when new limitations are more stringent. Therefore, antibacksliding cannot be used to justify the more stringent limitations in GE's Draft Permit.

The draft fact sheet states that effluent data show that the outfall discharges achieve the current permit limitations. Generally speaking, this is a correct statement. However, it is incorrect to use that logic to establish a BPJ limit and assume that the outfall discharges can achieve the proposed limitations and monitoring requirements in the Draft Permit. For several reasons, the data generated as required by the current permit have no relationship to the database that would be generated under the Draft Permit requirements. A sample of a continuous discharge independent of weather conditions is not equivalent to a sample of a first surge of a continuous discharge under specifically defined wet weather conditions. For TSS, a 24-hour composite is not equal to a 3-hour composite. For O&G, a grab sample taken during the first 30 minutes of a discharge is different from a grab taken at any time during a discharge. As a result, the current database cannot be used to assess compliance with the proposed limitations in the Draft Permit. Without an outfall-specific data set that corresponds to the monitoring requirements established in the Draft Permit, it is not possible to understand or assess the potential ramifications of the proposed monitoring changes in terms of compliance with the discharge limitations. However, it is reasonable to assume that the sampling provisions included in the Draft Permit (*i.e.*, an initial grab sample within the first 30 or 60 minutes of a storm event and a flow-weighted composite sample collected over the next 3 hours) will result in TSS and O&G concentrations that are higher than those obtained as part of the monitoring conducted under GE's current permit (*i.e.*, a 24-hour composite sample). Therefore, there is an increased potential that -- even under existing conditions and without any physical changes in the nature, quantity and quality of flow discharged from Outfalls 001, 005 and 009 -- GE will exceed the discharge limitations established in the Draft Permit. This is inconsistent with EPA's assertion that GE will be able to achieve these discharge limits.

II. RECOMMENDATIONS FOR MONITORING OF CO-MINGLED TREATED DISCHARGES

GE's technical rationale for recommendations to clarify the characterization and monitoring of Outfalls 001, 005 and 009 when the treated discharge is a combination of dry and wet weather include three main issues:

- 1) sampling approach;
- 2) definition of monitoring condition (*i.e.*, wet weather); and
- 3) the applicability of TSS mass limits.

1) **Sampling Approach (Sample Compositing)**

Permit Reference: Footnotes 1 and 2

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GE Recommendation: For those outfalls where the wet weather discharge may also include a dry weather flow component (*i.e.*, Outfalls 001, 005 and 009), EPA should

modify the composite sampling approach described in footnote No. 2 of the Draft Permit. GE proposes to replace the collection of an initial grab sample, as well as a flow-weighted composite sample for the first 3 hours of a storm event, with the collection and compositing of 24-hour time-weighted samples (See Row 19 of GE's Technical Comments Summary Chart).

The Draft Permit proposes the collection of 3-hour flow weighted composites for TSS monitoring at Outfalls 001, 005 and 009, and also requires (in Footnote 2) the collection of an initial grab sample for TSS. As an initial matter, GE notes that the requirement for an initial grab sample is not appropriate. Footnote 2 of the Draft Permit governs parameters where composite samples are required, but also contains a statement requiring an initial grab. No reason is provided. There are other parameters (such as oil and grease) where a grab sample makes sense, and the Draft Permit requires grabs in those situations. In the case of measuring TSS levels of a discharge that includes dry and wet flow that has been routed through treatment systems, there is no basis for requiring an initial grab sample. The reference to grab samples in Footnote 2 should be deleted.

The use of 3-hour flow weighted composite samples is not appropriate or justified for a continuous discharge from a treatment system (OWS or OWS and GWTP). Future compliance sampling for these outfalls should reflect the fact that flow discharge is not solely an intermittent discharge of storm water runoff, but instead is continuous in nature, composed on both dry and wet weather flow components, and subject to treatment prior to discharge by OWS 31W (for Outfall 001); the 64T and 64G water treatment facilities (for Outfall 005); and OWS 119W (for Outfall 009). It is GE's belief that these considerations are the underlying rationale for the site-specific sampling approach that has long been implemented at the Pittsfield facility - *i.e.*, the characterization of these outfall discharges through the collection and analysis of 24-hour, time-weighted composite samples. The use of a 24-hour time-weighted composite will capture entire runoff events, thus providing more representative data, and will provide data that are consistent with historic data sets.

A 24-hour time-weighted composite sample is a single sample comprised of 24 individual sample aliquots collected over the entire runoff event and concurrently with the 24-hour flow. This is a typical method for generating discharge characteristics for the effluent from treatment systems. There are no data or evidence provided in the draft fact sheet, that a 3-hour period captures the representative flow associated with a co-mingled (dry and wet) treated discharge. Typical flow and concentration hydrographs for storm water collected in a storm water conveyance system and then discharged cannot be assumed to apply to a conveyance system that already contains flow that then is routed through wastewater treatment systems. GE contends that sampling over a longer time period of discharge (*e.g.*, a 24-hour duration) provides the best and most appropriate approach for representing the various flow components within each drainage basin, over a representative time period. As such, GE sees no reason to modify the historic/current and site-specific sampling approach for these outfalls, and proposes that the current sampling approach remain intact.

The 24-hour composite sample approach is not only the preferred technical approach to measuring compliance for these outfalls, it also is consistent with EPA's fundamental views regarding wastewater and storm water sampling. From a wastewater perspective, effluent

characteristic assessment for NPDES permit applications, as set forth in 40 C.F.R. § 122.21(7)(g)(i) requires a 24-hour composite sample. If such a sample is required for effluent characteristic assessment with regard to permit applications, the Agency could logically conclude that similar sampling should be required for effluent compliance purposes.

The addition of storm water to the effluent does not affect this conclusion. In its original storm water regulations, EPA discusses appropriate sampling requirements and then sets forth minimum sampling to ensure that industries would be able to develop effective storm water management programs. 55 Fed. Reg. at 48,005 (November 16, 1990). In this discussion, EPA clearly is balancing the benefits derived from flow or time-proportioned sampling throughout the entire hydrograph of a storm event versus the cost and practicality of mandating such sampling as a minimum requirement. EPA recognized the need for flexibility and stated that “industries may vary from [EPA’s] requirements to the extent that their implementation is at least as stringent” as EPA’s regulations. *Id.*

EPA’s focus in developing the storm water program has been on quality of data for decision-making and compliance purposes. The Agency ultimately allows storm water permit applicants to choose between a three hour and an “entire discharge” composite. Fifteen years later, EPA should not now confuse the establishment of the three-hour minimum requirement with a site-specific determination of what is appropriate. In this instance, a 24-hour composite, consistent with the “entire discharge” approach is the appropriate management and compliance tool.

In addition to being technically inappropriate, the Draft Permit condition to use 3-hour flow-weighted composites is not representative of the current compliance monitoring database, which is comprised of 24-hour flows and 24-hour time-weighted composite results. The current database does include discharge characteristics in response to wet weather (rain or snow melt) events. However, the results (flow and concentration) represent the response of the system over 24 hours, not just the first 3 hours. Hence, the current database cannot be used to determine if the outfall discharge will comply with the proposed mass limits. This significant change to compliance assessment is inappropriate and not needed. EPA should retain the 24-hour, time-weighted composite sampling approach that is contained in the current permit.

2) **Monitoring Condition (Wet Weather Definition)**

Permit Reference: Footnotes 1 and 2

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GE Recommendation: In Footnotes No 1 and No. 2 of the Draft Permit, EPA should modify the definition of wet weather conditions (for the purposes of sampling) to specify a preceding dry-period interval of 24 hours instead of 72 hours.

The Draft Permit recommends that monitoring, in the form of reporting requirements and/or numeric limits, be conducted at a number of discharge locations (*i.e.*, 001, 004, 005, 006, 007, 009 and associated overflow/bypass discharges) for a number of parameters (*e.g.*, TSS, O&G, PCBs) during wet weather. In addition, the Draft Permit proposes application of the monthly average mass limits to this specific discharge condition at Outfalls 001, 005 and 009.

In the Draft Permit, “wet weather” is defined as “a storm event with at least 0.1 inches of precipitation, providing the interval from the preceding storm is at least 72 hours.” No technical or other rationale has been provided for the inclusion of a 72-hour “dry period” requirement in the definition of “wet weather”. The inclusion of a 72-hour dry period requirement (which includes both precipitation and snow melt) in the definition of wet weather is not justified or appropriate, and this requirement will result in the collection of fewer and less representative data. In particular, assessment of compliance with daily maximum limits may be problematic due to the lack of monitoring opportunities, and assessment of compliance with monthly average limits may be impossible.

Table 2 (below) presents an analysis of the number of potential wet weather sampling days in 2003 and 2004 based on a 72 hour and 24 hour dry period requirement prior to the start of rainfall. The summary and analysis focuses on the months of April through November as the presence of snow melt conditions from December through March preclude this type of analysis during these months. The raw data have not been provided with these comments as the raw data set is quite large (*e.g.*, there are approximately 35,000 data points per year). GE can provide this data on CD or as zipped electronic files at the request of the Agency.

Using the 72 hour rule, the presence of any significant snow melt or precipitation would preclude the collection of monitoring samples for the following 72 hours. A review of rainfall data for the Pittsfield facility for the past 2 years for April through December indicates that, using the 72 hour criteria, only 1 to 3 days per month (average of 2.9 days per month) in 2003 and 1 to 3 days per month (average of 2.5 days per month) in 2004 would have met the “dry period” criteria for wet weather. It is unlikely that the once per month sampling frequency could be routinely met during these months, or that sufficient data would be routinely available to calculate a monthly average. During the months of January, February and March, the presence of snow melt alone could make it very difficult to conduct the required monitoring sampling. Observable snowmelt is likely in any 3 day window during this timeframe, excluding certain periods of extremely cold weather.

Alternatively, the use of a 24 hour dry period requirement (preceding a wet weather event), would provide for significantly more opportunities to collect required monthly wet weather monitoring samples. A review of rainfall data for the Pittsfield facility for the past 2 years for April through December indicates that, using the 24 hour criteria, 4 to 7 days per month (average of 5.3 days per month) in 2003, and 1 to 7 days per month (average of 4.4 days per month) in 2004 would have met the “dry period” criteria for wet weather sampling. Although relatively few days met the 24 hour criteria on a monthly basis, the use of the 24 hour criteria provides significantly more opportunities (in some cases more than twice the number compared to using the 72 hour criteria) to conduct wet weather sampling.

Table 2. Number of Days Meeting Dry Prior Requirement for Wet Weather Sampling (April to November, 2003 and 2004)

Year	Month	Dry Period Requirement	
		72 hr.	24 hr.
2003	<u>April</u>	<u>2</u>	<u>4</u>
	<u>May</u>	<u>3</u>	<u>5</u>
	<u>June</u>	<u>2</u>	<u>5</u>
	<u>July</u>	<u>3</u>	<u>4</u>
	<u>August</u>	<u>4</u>	<u>7</u>
	<u>September</u>	<u>3</u>	<u>7</u>
	<u>October</u>	<u>3</u>	<u>5</u>
	<u>November</u>	<u>3</u>	<u>5</u>
	Average	2.9	5.3
	2004	<u>April</u>	<u>2</u>
<u>May</u>		<u>3</u>	<u>7</u>
<u>June</u>		<u>3</u>	<u>4</u>
<u>July</u>		<u>3</u>	<u>6</u>
<u>August</u>		<u>2</u>	<u>6</u>
<u>September</u>		<u>3</u>	<u>4</u>
<u>October</u>		<u>1</u>	<u>1</u>
<u>November</u>		<u>3</u>	<u>4</u>
Average		2.5	4.4

The use of a 72 hour dry period requirement may be justified for monitoring at active industrial facilities, where significant deposition of contaminants can occur in a relatively short time frame. We do not believe, nor have we seen any data to support the assumption that the watershed associated with the Pittsfield facility drains an area that receives frequent or significant deposition on an ongoing basis. The use of longer “dry period” criteria will, therefore, not provide more relevant or useful wet weather monitoring data. To the contrary, the use of the 72 hour dry period criteria as part of the definition of wet weather will limit the amount of representative monitoring data collected in the future. We therefore propose that a 24-hour dry period be used in the definition of wet weather. The use of a 24-hour dry period criteria will allow for the opportunity to collect more wet weather data, therefore providing a more representative data set that can routinely support calculation of monthly averages.

EPA’s choice of the 72-hour antecedent period between rain events that triggers sampling is arbitrary. In the original storm water rule, 55 Fed. Reg. at 48018, EPA had proposed a 96-hour period, and again was forced to balance the perceived benefits of antecedent periods, storm event characterizations, and the effort to collect samples. In settling on 72-hours, EPA made clear that the rule was flexible and that “the Director may allow or establish site specific requirements such as the minimum duration between the previous measurable storm event and the storm event sampled.” *Id.* While it never has changed the 72-hour presumption - or its 50 percent variation limitation on storm depth or duration - subsequent experience has shown that the Agency has

openly accepted samples collected that are inconsistent with these limitations if appropriately justified.

States also have modified their programs to eliminate problems associated with the 72-hour rule. Most notably, the State of Washington requires only that the “storm event sampled is preceded by at least 24-hours of no greater than trace precipitation.” Washington Industrial General Permit as modified on December 1, 2004 at 26 of 72. EPA’s Multi-Sector General Permit and many state permits (*e.g.*, Nevada, Wyoming) allow industrial facilities to waive the 72-hour requirement based on local storm event patterns and frequencies.

It is also important to note that in those situations when a 72 hour dry period requirement is applied, the required sampling frequency is typically much lower (*e.g.*, quarterly or semi-annually) than the monthly sampling proposed by EPA in the Draft Permit. The lower sampling frequency mitigates the impact of the 72 hour rule on collection of sufficient wet weather data to meet monitoring requirements. If the application of a 24 hour dry period criteria is not acceptable to EPA, we suggest that the required sampling frequency be changed to a quarterly requirement, to support monitoring that can reasonably be achieved. If that is done, then the applicable limits would also need to be changed from monthly average to quarterly average, to be consistent with the monitoring provisions.

Response 7:

EPA agrees with GE’s characterization of the discharges from outfalls 001, 005, and 009 made in the first paragraph of this comment. These discharges include both continuous dry weather flows and storm water runoff flows (during storm events). The flows are commingled and treated in OWS 31 (outfall 001), 64T and 64G (outfall 005) and OWS 119W (outfall 009). The only clarification EPA would provide is that treatment plant 64G does not accept any storm water runoff. The Draft Permit does define conditions under which the discharges include storm water runoff as “wet weather.” The Draft Permit also required that the technology-based effluent limitations for TSS and O&G for Outfalls 001, 005, and 009 be achieved under wet weather conditions. The Fact Sheet for the Draft Permit cited antibacksliding considerations as the justification.

The commenter mistakenly suggests that it is inappropriate to subject discharges of storm water from Outfalls 001, 005 and 009 to numeric limits. The commenter’s view is presumably based on the Interim Permitting Policy. As discussed previously, the Interim Permitting Policy recommends the use of BMPs in initial rounds of storm water permits in lieu of numeric water quality-based permit limitations, and expanded or better tailored BMPs in subsequent permits. However, the limits in question are not water quality-based limits, but technology-based limitations established using BPJ.

In the Final Permit, EPA has reverted to the sampling conditions in the 1992 permit for determining compliance with the BPJ limitations for TSS, BOD, and oil and grease for outfalls 005 and 009 (again, outfall 001 is no longer included in the permit). Specifically, a 24-hour composite sample is required, with no conditions for rainfall. EPA will expect that GE sample these outfalls according to a routine sampling schedule which will result in sampling during whatever weather conditions are occurring on that day. The 1992 permit’s lack of specificity

regarding the conditions under which samples were to be collected did not obviate the requirement that samples be representative of the discharge, or allow samples to be collected only under dry weather conditions. The 1992 permit required that monitoring be conducted irrespective of weather conditions. Thus, a representative sampling program would result in samples being collected under both wet and dry conditions.

With regard to the specific comments raised in the section titled “1) Sampling Approach (Sample Compositing),” these comments address language in footnotes 1 and 2 of the Draft Permit, which define wet weather conditions and establish composite sampling requirements for wet weather discharges. To the extent that the comments concern the wet weather monitoring required in the Draft Permit to determine compliance with the technology-based limitations for outfalls 001, 005 and 009, these issues have been addressed in earlier responses, and sampling for compliance with these conditions is no longer required to be conducted only in wet weather, and the sample type has been established as a 24-hour composite, the same as in the 1992 permit.

However, GE’s comments in this section also concern the use of 3-hour flow weighted composite samples for wet weather composite sampling and the need for the separate collection and analysis of a grab sample within the first 30 minutes of the discharge. GE contends that the use of a 3-hour sample is inappropriate and unjustified, that the collection of the initial grab sample is inappropriate and recommends the use of 24 hour time-weighted composite samples, conducted during both wet and dry conditions, to characterize the “entire discharge.”

EPA’s general approach in the Draft Permit was to require both wet and dry weather sampling for those discharges with continuous flow (see for example the monitoring requirements for outfall 001) or to prohibit dry weather discharges and require wet weather sampling (see for example the requirements for outfall 004). EPA believes that it is critical that discharges with continuous flow be characterized during both wet and dry weather. This sampling will provide important information regarding the source of pollutants (*i.e.*, contaminated groundwater vs. storm water runoff), the adequacy of treatment facilities under both wet and dry conditions, and the adequacy of BMPs. Such targeted sampling will generate results quickly, as opposed to GE’s recommended random “entire discharge” samples, which would not necessarily result in sampling under wet weather conditions and would not allow the non-storm water and storm water impacts to be discriminated.

Regarding the definition of composite sampling in footnote 2, the 3-hour flow weighted sample definition is taken directly from 40 C.F.R. § 122.21(g)(7)(ii), which concerns sampling protocols for permit applications for storm water discharges. The requirement for analysis of the initial grab is also from 40 C.F.R. § 122.21(g)(7)(ii) and is required for storm water discharges associated with industrial activity. As discussed previously, there is no provision in these regulations that differentiates between sampling of treated storm water effluent or for storm water discharges that include non-storm water flows. Why GE believes that these two factors would make these storm water sampling protocols inappropriate is not clearly explained, but the company appears to believe that the required wet weather sampling was intended to characterize the average performance of the facilities under both wet and dry weather conditions, which it was not.

GE then proposes using 24-hour time weighted samples in lieu of the required 3-hour samples, and cites consistency with the 1992 permit (although the 1992 permit, in Part II Section E.1 actually defines composite sample as a flow proportioned (weighted) sample), EPA regulations at 40 C.F.R. §122.21(g)(7)(i) for permit application sampling for existing manufacturing, commercial, mining, and silviculture dischargers for discharges except storm water, and EPA storm water regulation published in 1990, which indicate that EPA would allow flexibility in establishing sampling requirements.

In general, EPA does not agree that storm water sampling requirements must be consistent with the 1992 permit. This is particularly true since the prior permit required no specific storm water monitoring (EPA does agree that the sampling for determining compliance with the technology-based requirements must be consistent and have already described those changes). EPA also does not believe that there is any reason to use the regulations at 40 C.F.R. § 122.21(g)(7)(i) (which apply only to non-storm water discharges) to define the storm water sampling requirements in the permit, although as described later in this document EPA has required 24-hour composite sample to characterize certain pollutants in dry weather discharges.

Finally, EPA agrees that it has flexibility in establishing storm water sampling requirements in NPDES permits. For example, the regulations at 40 C.F.R. § 122.21(g)(7)(i) allow a continuous composite sample for the entire discharge. In consideration that the discharger has continuous flow measurement at each of its major discharges, which would allow for the use of automatic composite samplers, EPA has changed the wet weather composite sampling definition to be collection of a flow-weighted composite collected over the duration of the storm. EPA has also removed the requirement to collect and analyze an initial grab sample because EPA believes that the required flow weighted sample will adequately characterize any first flush effect.

In the Section titled “Monitoring Condition (Wet Weather Definition),” GE comments on the required 72-hour duration between storms in the definition of wet weather, found in footnote 2 of the permit. GE request that the duration be reduced to 24 hours. GE’s main argument is that the definition severely restricts the number of days available for sampling, given its analysis of rainfall patterns and states that no technical or other rationale has been provided for the inclusion of a 72-hour “dry period” requirement in the definition of “wet weather.” As mentioned previously, the 72-hour duration was taken from the regulations at 40 C.F.R. part 121.21(g)(7)(ii) and could certainly be supported on this basis. However, as a practical matter, EPA agrees with GE that the duration specified in the Draft Permit is overly restrictive, especially in light of the Final Permit now requiring more than one wet weather sample each month. Accordingly, EPA has reduced the duration between storms to 24 hours.

Comment 8:

3) Applicability of TSS Limits (Specific to Outfall 001)

Permit Reference: Part I.A.2

Page #: 3

GE Recommendation: In determining compliance with the TSS discharge limits for Outfall 001 during wet weather, TSS data corresponding to a 24-hour discharge flow

greater than 0.432 million gallons should be excluded from the calculation of the average monthly TSS mass. The mass result in those flow situations should remain subject to reporting requirements only.

OWS 31W, which receives municipal runoff and other water going to Outfall 001, can, under certain flow conditions, remove solid materials. However, because this system is not designed specifically to reduce TSS, and does so effectively only under certain circumstances, application of technology-based limits, such as those in the Draft Permit, should be limited to situations where the OWS is performing to reduce TSS. GE's analysis indicates that when 24-hour average flow is above 0.432 million gallons in response to rain events, the performance of OWS 31W may not be representative of the conditions on which the monthly average mass limit was based. Therefore, for determining compliance with the monthly average 'wet weather' TSS limit, data collected over a 24-hour period should be used if the 24-hour flow is less than or equal to 0.432 million gallons. When the 24-hour flow is greater than 0.432 million gallons, the data and mass result should be reported but not used for compliance assessment.

The draft fact sheet (page 12) provides that the TSS limits¹⁵ for Outfall 005 are technology-based and were established using best professional judgment ("BPJ"). The draft fact sheet does not explicitly present the origin of the limits for Outfalls 001 and 009. However, without statements to the contrary in the draft Fact Sheet, it can also be assumed that the TSS limits¹⁶ for Outfalls 001 and 009 were established based on BPJ, because they are similar in nature to the limit for Outfall 005. Also as stated in the draft fact sheet, the current limitations¹⁷ required for Outfall 001 in the current permit are found in this permit in accordance with antibacksliding regulations. Therefore, it is assumed that the current Outfall 001 TSS monthly average mass limit is based on a BPJ evaluation of treatment technology.

The current monthly average mass limit of 138 lb/d applies independent of weather conditions and to 24-hours of operation as monitored by 24-hours of flow and sample collection. The proposed limits in the Draft Permit are to be monitored under significantly different conditions than the current permit. This alters the applicability of the current numeric mass limits. Instead of being applicable to continuous operations, the limits are to apply to a specific set of conditions for which no specific set of monitoring data exist to assess compliance. However, using BPJ to assess the OWS treatment technology, representative operating conditions, based on the current permit assessment (138 lb/d) of TSS, can be developed for use under the Draft Permit's proposed conditions.

¹⁵ "Limits" meaning the specific numeric mass values, not the associated monitoring conditions, sample type, or sample frequency.

¹⁶ "Limits" meaning the specific numeric mass values, not the associated monitoring conditions, sample type, or sample frequency.

¹⁷ "Limitations" meaning the specific numeric mass values, the associated monitoring conditions, sample type and sample frequency.

The OWSs currently present within the GE facility were originally designed, constructed and operated to support GE's active manufacturing activities, with the primary intent of removing oils and other floatable materials from plant waters prior to discharge. While not specifically designed to remove solids from such water, the OWSs can, under certain flow conditions, remove solid materials. Because OWS systems are not designed specifically to reduce TSS, and do so effectively only under certain circumstances, application of technology-based limits should be limited to situations where the OWS system is performing to reduce TSS. Reduction of TSS using an OWS will be a function of:

- the influent TSS composition, *e.g.*, particle size distribution and density;
- the residence time in the OWS, which is related to both influent flow and volume of OWS bays;
- the depth of water maintained in the OWS bays;
- the complete mix or routing of flow through the OWS, *e.g.* short circuiting; and
- the impact of turbulent flow on settling and scouring.

OWS 31W, which treats waters going to Outfall 001, poses unique challenges with regard to reduction of TSS. Unlike the other OWSs at the site, 31W receives municipal runoff from a large off-site drainage area (about 90 acres). The runoff from that area will contain a variety of solid materials that are not present on-site and which pose treatment difficulties for OWS 31W that are not presented for other site discharges.

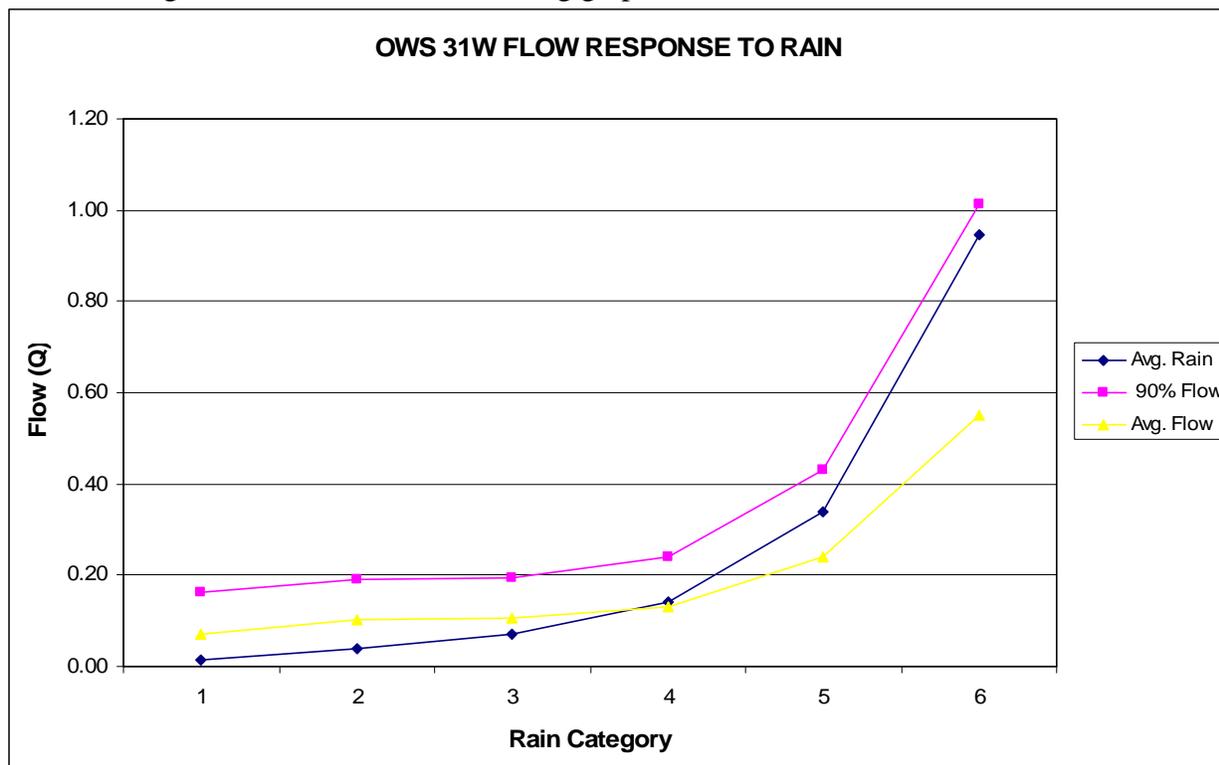
Flow can be used as an indication of the potential ability for the 31W OWS to reduce influent TSS. Using Outfall 001 flow generated from 2002 to current, it is apparent that the OWS conditions during certain rain events are distinctly different from the representative OWS conditions assumed to have been the basis of the technology-based 138 lb/d. For instance, in response to rain events, there where will be a time period¹⁸ when flow through the system surges (increases), thereby reducing residence time for particle settling and causing turbulent flow through the OWS. One method to determine the average 24-hour flow that is representative of the conditions applicable to the 138 lb/d, is to evaluate the relationship between flow and rain events. The focus of this evaluation is to determine when there is a statistically noticeable flow response of the OWS (over a 24-hour period) to rain events. To have a rugged database, a rain event is defined as the sum of all rain or snow melt for the 72 hours prior. As there is a difference between flow during periods of rain (average = 0.17 mgd) and no rain (0.089 mgd), the relationship between increments of rain and the flow corresponding to those increments was used to evaluate the response of the OWS to rain-influenced flow. The increments of rain summarized into rain categories are:

- Category 1 = 0.01" to 0.029"; 85 flow measurements
- Category 2 = 0.03" to 0.059"; 68 flow measurements
- Category 3 = 0.06" to 0.099"; 48 flow measurements

¹⁸ The specific time period is not known, but should occur during the 24-hour monitoring period, but not necessarily during the first 3 hours.

- Category 4 = 0.10" to 0.19"; 82 flow measurements
- Category 5 = 0.20" to 0.49"; 92 flow measurements
- Category 6 = 0.50" and greater; 70 flow measurements

The relationship between the rain categories and statistical summaries of Outfall 001 concurrent with the categories is shown in the following graph:



For specific categories of rain amounts, there is a response in average flow and 90th percentile flow when rain amounts are greater than 0.1 inch (Category 4). When rain exceeds 0.2 inches (Category 5), the 24-hr average 90th percentile flow is statistically related (*i.e.*, similar line slope) to the average rainfall. In addition, the average flow line slope also noticeably changes above Category 5. Therefore, the conclusion can be drawn that the flow through the OWS distinctly changes in response to rain events more than 0.2 inches. The 90th percentile flow for rain events greater than 0.20 inches is 0.432 mgd. The implication of this analysis is that the OWS, for a 24-hour period, will be operating in conditions distinctly different than conditions assumed to be applicable for the TSS mass limit of 138 lb/d (*i.e.*, ability to settle particles, lack of turbulent flow).

The maximum flow in the historic DMR TSS database, when rain occurred (either 72-hr or 24-hr prior to the end of the 24-hr composite period), is 0.554 mgd with a mass result of 221.7 lb/d. This TSS mass result is greater than the proposed monthly average TSS limit of 138 lb/d. The next highest recorded flow, when rain occurred, is 0.226 mgd with a TSS mass result that is below the proposed monthly average TSS mass limit of 138 lb/d.

The results of the analysis presented above suggests that flow conditions within OWS 31W undergo a significant increase due to rain events above 0.2 inches and the 90th percentile flow rate is about 0.432 mgd. At a flow rate of up to approximately 0.432 mgd, there appears to be a relatively consistent flow through the OWS, suggesting a relatively steady-state performance of the OWS. As discussed above, one of the primary factors influencing the effectiveness of the OWS in solids removal is the retention time within the OWS, which in turn is a function of the influent flow rate. So, at a constant flow rate, the performance of the separator will also remain constant. However, as the rainfall/snowmelt-induced flow through the OWS approaches and exceeds approximately 0.432 mgd, the conditions within the separator are much more dynamic, resulting in conditions that would likely reduce its effectiveness in solids removal (relative to the conditions present within the OWS at lower flow rates).

When the 24-hour average flow is above 0.432 million gallons in response to rain events, the performance of OWS 31W may not be representative of the conditions that were used to determine the monthly average mass limit of 138 lb/d TSS. Therefore, for determining compliance with the monthly average 'wet weather' TSS limit, data collected over a 24-hour period should be used if the 24-hour flow is less than or equal to 0.432 million gallons.¹⁹ When the 24-hour flow is greater than 0.432 million gallons, the data and mass result should be reported but not used for compliance assessment.

Response 8:

This comment entirely pertains to effluent limitations for Outfall 001, which is no longer included in the permit, so there is no need to respond to the specific issues raised in the comment. However, the general theme of this comment is that the BPJ effluent limitations included in the 1992 permit should be made less stringent based on concerns that storm water flows greater than approximately 0.4 MGD may cause violation of the limits. It is unclear what relevance GE's record of compliance with the permit limit has to the validity of the permit limit itself. This comment seems to contend that BPJ limits established in the prior permit should be made less stringent if operational data shows that the limits are not being achieved, and that a new limit should be established to reflect actual performance of the existing treatment facilities. This conclusion is incorrect. Exceedances of BPJ limitations are enforceable conditions of NPDES permits. If the BPJ limitations are not being attained by the existing facility, the permittee should provide additional treatment in order to achieve the limits.

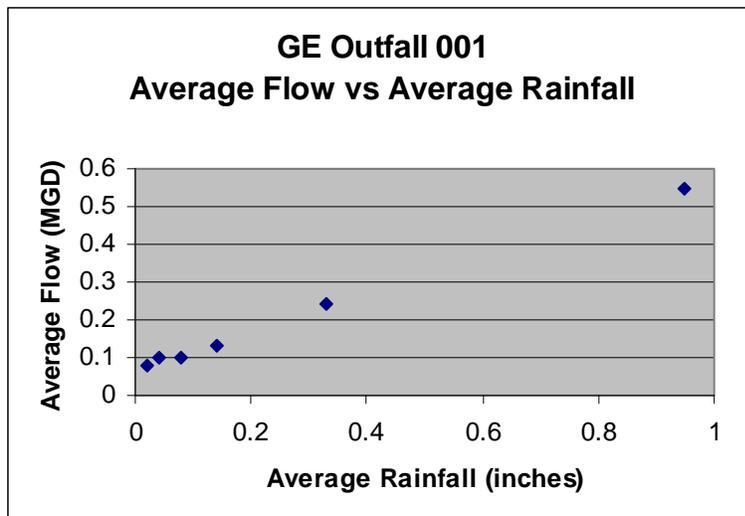
The commenter's assertion that differences in monitoring requirements between the 1992 and current permit alter the applicability of the numeric mass limitations reflects a misunderstanding of the sampling requirements in the 1992 permit. Under the 1992 permit, the permittee was required to achieve the effluent limitations under *all* weather conditions. While that permit did

¹⁹ This analysis assumes that the final permit would require 24-hour composite samples and specify a 24-hour dry-period interval, as suggested in these comments. If those recommended revisions to the Draft Permit's provisions are not made, the appropriate flow threshold would need to be recalculated for the monthly average limits and also would need to be calculated for the daily maximum limits.

not mandate sampling under specific weather conditions, it also did not allow the permittee to sample only on days it believed it would comply with the limits.

EPA disagrees with the implication that the oil water separators were not designed to accept storm water. The 1990 *Stormwater Management Plan*, which is a component of the 1992 permit, clearly shows that the oil water separators were intended to accept storm water. Part I.A.11.a of the 1992 permit authorizes discharges through OWS bypasses only in accordance with the 1990 *Stormwater Management Plan*, which specifies the wet weather flow capacities of the OWS. Therefore, the OWS were expected to receive significant storm water flows before bypasses were authorized. For example, the 1990 *Stormwater Management Plan* lists the flow capacity of OWS 31W as 5000 gpm (7.2MGD), meaning that the permit did not authorize the discharge through outfall 01A (the OWS bypass) until flows reached this amount. (The 7.2 MGD appears to be a peak flow capacity and therefore cannot be directly compared to the maximum daily flow limit in the permit of 2.55 MGD or the monthly average flow of 1.1 MGD.) In the DMR data submitted for the period from January 1998 to April 2005, the monthly average flow from outfall 001 ranged from 0.01 MGD to 0.302 MGD, and the maximum daily flow ranged from 0.15 MGD to 2.483 MGD, indicating that the facility operates well within its design flow, with no violations of the TSS mass limits. If compliance were due to bypasses of the OWS at less than the flows mandated in the 1990 *Stormwater Management Plan* this would be a serious violation of the permit.

Finally, as to the specific information relating the measured flow through outfall 001 as a function of rainfall, GE has shown that as rainfall increases, flow through 001 also increases. This is not surprising, although the rate of increase shown on GE's diagram is exacerbated due to the way GE grouped storms and presented the data. The grouping of storms into "categories" rather than simply presenting the rainfall amounts resulted in a shortening of the scale on the x axis and a showed a more dramatic rate of increase than actually occurs. A presentation of the average rainfall per category versus the average flow per category (scaled off GE's graph, since EPA did not have all of the raw rainfall data) shows the increase to be fairly linear. The fact that the rate of flow increase increases is quite small for very small storms is also not surprising, given that small storms generate little runoff because of depression storage (puddles and storage in pore spaces), infiltration in pervious areas, and evaporation.



Comment 9:

III. APPLICATION OF ANTIBACKSLIDING REQUIREMENTS

GE Recommendation: The revisions of discharge conditions and sampling/analytical requirements that are suggested in these comments are not prohibited by the antibacksliding regulations. These revisions are appropriate and should be included in the final permit.

As discussed above, there are substantial reasons for revising the discharge conditions and sampling and analytical requirements associated with the TSS and O&G mass limitations that apply to the co-mingled treated discharges from Outfalls 001, 005 and 009. It is not clear that such revisions would make the limitations less stringent than those in the current permit, because the limitations will be applied in a very different manner than the limitations are currently applied. However, assuming that the limitations arguably could be interpreted to be less stringent than those in the current permit, the antibacksliding requirements do not prohibit revision of the limitations.

The applicability of antibacksliding is based on the type of effluent limitation. The effluent limitations in the current permit are technology-based, and were established using best professional judgment (BPJ). The applicable antibacksliding provision concerning revision of technology-based BPJ limitations based on updated BPJ considerations is 40 C.F.R. §122.44(1)(1):

Except as provided in paragraph (1)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62.)

This provision allows revisions of limitations if the circumstances on which the previous permit was based have materially and substantially changed. Specifically, 40 C.F.R. §122.62(a)(1) contains the following cause for permit modification:

Alterations. There are material and substantial alterations or additions to the permitted facility or activity (including a change or changes in the permittee's sludge use or disposal practice) which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

Consistent with 40 C.F.R. §122.44(l)(1), the limitations may be revised, because the circumstances on which the current permit was based have materially and substantially changed since the time that permit was issued, and would constitute cause for permit modification or revocation and reissuance §122.62(a)(1).

As discussed above, material and substantial changes have occurred at the Pittsfield facility to justify revision of the discharge conditions and sampling and analytical requirements associated with the TSS and O&G mass limitations. In fact, the fact sheet correctly recognizes the changes in facility operations, as follows:

Page 3 - GE has made many changes to the wastewater discharges since the current individual permit was issued. Major changes include: (1) separation of non-groundwater flows from the storm drain system in cases where GE determined this change was feasible, and (2) discontinuing the discharge of treated process water, contact cooling water, and non-contact cooling water. The current status and flow schematic, showing the flow components through each permitted outfall, is also shown on **Figure 2** of this fact sheet.

Page 10 – Facility operations contributing flow to Outfall 001 have substantially been altered since 1992 as cooling water discharges have been eliminated.

Page 12 – Facility operations contributing flow to Outfall 005 have substantially been altered since 1992 as cooling water and process water discharges have been eliminated.

Page 15 and Page 16 – Facility operations contributing flow to Outfall 009 have substantially been altered since 1992 as there are no dry weather discharges to the collection system and operations discharging from Building 120X have been eliminated.

Response 9:

Under applicable antibacksliding requirements, the alterations to the facility described by the commenter do not justify the application of less stringent effluent limitations than established under previous permit on a BPJ-basis. Antibacksliding provisions are designed to further the statutory goals of the CWA by ensuring that the improvements in water quality that have already been achieved under the CWA are maintained. The composition and amount of flow discharged to the oil/water separators has changed since the current permit was issued, but the changes have simply served to reduce pollutant loadings and flows to the oil/water separators. The changes to the TSS and O&G mass limitations requested by the commenter could result in an increased

loading of such pollutants into the receiving waters beyond what is currently being obtained under the existing BPJ-based permit limits.

Moreover, the potential for further pollutant loadings as a result of weakening the BPJ-based permit limits for TSS and O&G would also be inconsistent with CWA § 402(o) given that the receiving waters are already impaired for PCBs and have no further assimilative capacity. EPA and MassDEP adopt a reasonably conservative approach when establishing PCB limitations because PCBs are persistent, tend to associate with other particles (making them prone to transport—around and off-site—with sediments in storm water and groundwater, and settling in sediments in the receiving water) and are bioaccumulative.

Comment 10:

C. OTHER TECHNICAL COMMENTS:

G.E. also submitted technical comments requesting modifications and clarifications of various aspects of the permit. These included comments on various parts of the draft permit as well as revised permit attachments. These are presented in the table below.

II. TECHNICAL COMMENTS SUMMARY CHART

Permit Reference	Proposed Change	Summary Supporting Rationale	EPA response
1 Part I.A.1	Confirm that “prior to discharging into Silver Lake” means that GE (and, following transfer, PEDDA) will continue to use the current discharge monitoring point located at the effluent end of Oil-Water Separator (“OWS”) 31W	For consistency with GE’s existing permit.	This is a correct interpretation. The Final Permit to PEDDA will include this clarification.
2 Part I.A.1, Part I.A.2, Footnotes *3 and *4	Clarify that footnote *3 applies to dry weather flow and *4 applies to wet weather flow. In Part I.A.1, change reference in effluent characteristic column for flow from footnote *4 to footnote *3. In Part I.A.2, change reference in measurement frequency column for flow from footnote *3 to footnote *4 (consistent with related footnote in effluent characteristic column).	Clarifies flow reporting requirements and corrects typographic errors.	In the Draft Permit, footnote *3 was intended to apply to continuous discharges and * 4 to apply to intermittent wet weather discharges. In the Final Permit, there are now three footnotes related to reporting of flow on the DMR. Footnote *1 applies to continuous discharges and requires that average monthly and maximum daily flow be reported. Footnote *3 applies to intermittent discharges and requires that the monthly average and daily maximum flow be reported, with monthly average defined as the average flow per day of discharge. Footnote *4 applies to the specific sampling requirements for each outfall and requires that the average and maximum flow for each sample taken to satisfy the sampling

3	Permit Attachment A	Revise description of outfalls and discharges consistent with corrected Attachment A (See GE Technical Exhibit 1).	Revisions are consistent with recent site changes and the discharges reported by GE in its NPDES permit application materials.	requirements be reported. Note that these footnotes all pertain to DMR reporting. The Final Permit also requires a summary of all daily data for each discharge.
4	Parts I.A.1 through I.A.13	<p>Option 1: Remove narrative discharge descriptions and, in their place, cross-reference Attachment A, which provides accurate discharge descriptions for each covered outfall.</p> <p>Option 2: Revise narrative discharge descriptions so that they are consistent with Attachment A.</p> <p>Option 3: Maintain proposed narrative discharge</p>	For consistency with Attachment A discharge descriptions.	<p>EPA has made the requested revisions, with the exception of authorizing dry weather discharges from relief overflows (see item number 5 below). However, with these revisions, which authorize dry weather discharges from outfalls 006 and 009, which were not previously authorized to discharge in dry weather, EPA has included dry weather monitoring requirements and effluent limitations.</p> <p>EPA has revised the narrative descriptions to be consistent with Attachment A of the Final Permit.</p>

descriptions but add at the bottom of each page: “See Attachment A for a comprehensive description of discharges from outfall(s).”

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|----------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 | Parts I.A.3, I.A.7, I.A.8, I.A.9 and I.A.10 | Remove dry weather flow prohibition at outfalls 01A, 05A, 05B, 006, 06A and SR05. | For consistency with Attachment A, which accurately identifies dry weather flow source(s) at these outfalls. | The prohibition is intended to prohibit the discharge from these outfalls under dry weather conditions, rather than to prohibit the discharges from including “dry weather” flow components (e.g., groundwater infiltration). EPA has clarified the dry weather prohibition language in the permit to read “Discharges during dry weather are prohibited.” |
| 6 | Part I.A.2 | Add footnote to TSS discharge limitations that reads as follows: "In determining compliance with the wet weather TSS limits for Outfall 001, TSS data for periods with 24-hour discharge flow from Outfall 001 above 0.432 million gallons shall not be included in calculating average monthly mass." | OWS 31W treats waters going to Outfall 001. Above a 24-hour discharge flow of 0.432 million gallons, the performance of OWS 31W is not representative of the conditions on which the mass limits were based. <u>See</u> Section V.D and GE Technical Exhibit 5. | As described earlier, this outfall is no longer included in the permit. However, as discussed in GE Comment B.8, the TSS limit proposed in the draft permit is the same as was in the 1992 permit and was based on a design flow of 1.1 MGD. EPA would not have revised a limit merely to ensure that there were no violations of the limit. |
| 7 | Part I.A.5 | Change references in measurement frequency column for VOCs and SVOCs from footnote *5 to footnote *15. | Corrects typographic error. | EPA has made the requested correction. However, footnote comment *15 is now footnote *20. |
| 8 | Part I.A.5 | Clarify that the sampling point | For consistency with water balance | The sampling point for the 64G |

	excludes flow from the recharge pond used by GE in connection with its CD-related groundwater treatment requirements, as well as process backwash.	diagram and Consent Decree.	discharge (Part I.A.5 in the draft permit and I.A.1 in the final permit) may exclude flow from the recharge pond, but must include process backwash. Any pollutants discharging from the recharge pond would be included in samples taken at outfall 005.	
9	Part I.A.6	Clarify that when the 005 discharge pipe is flooded, GE will be entitled to collect flow-weighted composite samples of the effluent from 64T and 64G, consistent with GE's existing NPDES permit.	Under flooding conditions, sampling "at the end of the 005 discharge pipe" is infeasible.	This clarification has been added to the Final Permit. The Final Permit also requires that the days the outfall is flooded be reported to EPA on the monthly summary of all samples collected.
10	Part I.A.7	Clarify that sampling is not required when Outfall 05A is flooded.	The required sampling point at Outfall 05A is frequently flooded. Sampling is infeasible during flooding events.	This clarification has been added to the Final Permit. The Final Permit also requires that the days the outfall is flooded be reported to EPA on the monthly summary of all samples collected.
11	Part I.A.7	Delete "and untreated" before effluent.	All discharges from Outfall 05A first pass through OWS 64W.	EPA has made the requested change.
12	Part I.A.8	Delete "at a point that includes all flow components."	Requirements apply to four separate outfalls (05B, SR02, SR03 and SR04). As a result, there is no single point for sample collection.	The permit requirement was intended to ensure that the monitoring at each of the outfalls included all flow components discharging through that outfall. EPA has removed the language since it was extraneous. Sampling done at the outfalls under the prescribed flow condition would necessarily include all flow

13	Part I.A.10	Replace “(overflows from the 006 drainage system)” with “(flows that exceed the capacity of OWS 64X and its related piping system).”	For consistency with water balance diagram.	components EPA has made changed the language to read “flows from the 006 drainage system that exceed the capacity of OWS 64X and its related piping capacity.”
14	Part I.A.11	Replace “to the Housatonic River” with “to the City of Pittsfield storm sewer system.”	For consistency with NPDES application materials.	The authorization for Outfall 007 has been removed, because GE reported it was permanently blocked in March of 2007.
15	Parts I.A.12 and I.A.13	Move discharge limitations from Part I.A.13 to Part I.A.12.	As depicted on the flow diagram for OWS 119W (See GE Technical Exhibit 2), 009 is the combined flow of the 09B discharge and the OWS 119W bypass. For consistency with EPA’s approach to other outfalls with and without oil-water separators, the discharge limitations should apply to 09B in Part I.A.12, not 009 in Part I.A.13.	Based on the 1992 permit and the 1990 Stormwater Management Plan, the technology-based limits in the 1992 Permit were placed on Outfall 009, which included the discharge of flows from OWS119W (09B), untreated bypass of OWS 119W and non-contact cooling water (9A). The approach was inconsistent with the approach taken for the technology-based limits for outfalls 001 and 005, which are for treated discharges, without bypass flows, so EPA believes the specified sampling point was in error. EPA has therefore changed the sampling point for compliance with the technology-based limits to outfall 09B.
16	Part I.A.14	Add YD14 to list of outfalls, and replace dry weather discharge prohibition with list of allowable non-storm water discharges set	For completeness and consistency with EPA’s regulatory approach in the Multi-Sector General Permit.	For all yard drains, EPA has required inspections for the first year of the permit to determine whether the drains discharge during

forth in § 1.2.2.2 of EPA’s Multi-Sector General Permit.

dry weather. Dry weather discharges are required to be sampled for pH, TSS, and PCBs. (see Part I.A.13). Based on the results, EPA may either extend the monitoring period if the monitoring data is inconclusive via certified letter, or modify the permit to remove the dry weather sampling requirements (if the flows are shown to be uncontaminated, or add limits if the discharge(s) are shown to have the reasonable potential to cause or contribute to exceedances of water quality standards).

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| 17 | Part I.A.21 | Revise footnote to read: “Except for treatment chemicals used at the 64G groundwater treatment plant, the 64T treatment plant and the Lyman Street groundwater recovery system, the permittee will not add chemicals to any of the discharges at this facility.” | GE is required to add treatment chemicals for proper operation of these plants and systems. | Part I.A.20 has been revised to read: “Except as part of treatment operations at the 64G and 64T treatment plants, the permittee will not add chemicals to any of the discharges at the facility.” Changes to chemical additions at the treatment plants will be subject to the notification requirements in Part I.A.19 and Part II.D.1. of the permit. |
| 18 | Part I.D.1 | Change the deadline for completing a PCB treatment capability study of the 64G treatment system from 9 months to 12 months following the effective date of the permit. | To account for uncertainty associated with the timing of issuance of the final permit and to ensure that representative data are collected, GE requests 12 months to collect seasonal (<i>i.e.</i> , spring and fall) performance data. | EPA believes that the schedule is reasonable and appropriate because the 9 month timeframe is sufficient time to collect representative sampling data. |
| 19 | Footnotes *1 | Combine footnotes to read as | The 24-hour wet weather interval is | EPA has revised the definition of |

and *2

follows: “For purposes of sampling and reporting, wet weather is defined as any day on which more than 0.1 inch of total precipitation falls or on which snow melt occurs, provided that the interval from the previous wet weather event is at least 24 hours. The 24-hour wet weather interval is waived when the preceding wet weather event did not yield a measurable discharge, or if the permittee is able to document that less than a 24-hour interval is representative of local wet weather events during the sampling period. The permittee will collect a time-weighted 24-hour composite when a composite sample is required.”

Apply combined footnote to all discharge limitations and monitoring requirements applicable to wet weather conditions.

20 Footnote *5

Strike footnote *5, which would apply independently to multiple outfalls, and replace it with a new reporting condition in Part I.E that reads as follows: “The permittee will collect wet weather data and temperature using a heated rain gauge and temperature sensor that

more appropriate for the site-specific situation than the 72-hour interval in the Draft Permit, and it will result in a more representative data set with which to measure compliance. The 24-hour composite requirement is technically appropriate for the site's commingled dry/wet flow discharge, and it will provide more representative data than the Draft Permit's requirement for an initial grab sample and a 3-hour composite. See Section V.D and GE Technical Exhibit 5.

For consistency with definition of wet weather, and to clarify collection and reporting requirements.

wet weather (now in Footnote *7) to include a 24-hour precedent dry period. (See Response to GE Comment B.7)

The permit footnotes have been revised to require that GE collect precipitation data as described in its comment (see footnote *11 of the Final Permit). GE is required to report this data for each day and in addition is required to provide specific precipitation data from this

- is maintained for one on-site location, or use the National Weather Service data for Pittsfield, MA. The permittee will report wet weather (volume) and temperature for the site for each calendar day
- 21** Footnote *9 GE is willing to use Modified Method 8082, with associated minimum detection level target and reporting protocols, at all outfalls subject to footnote *9 in the Draft Permit.
- 22** Footnote *13 Add at end of footnote: “After two years, if all IC25 results are 100%, then the monitoring requirement will cease. GE will notify the Director and the State 14 days prior to the cessation of monitoring.”
- 23** Footnote *13 In the chart, change “Submit Results By” dates to “May 30, August 31, November 30 and February 28.”
- 24** Footnote *15 Add at end of footnote: “After two years, if all results are ND, then the
- For consistency in implementation, more precise results, and, in light of the added costs and rigor, for balance with the relief requested by GE elsewhere in these comments.
- Absent measurable toxicity, GE should not be required to monitor for chronic toxicity. As reported in its application materials, GE has a large monthly toxicity testing database that demonstrates full compliance with toxicity permit limits for over 12 years (93 data sets).
- For consistency with GE’s existing permit and to accommodate data processing and report preparation by the laboratory.
- GE has VOC/SVOC data that do not demonstrate a history of
- record on its DMRs. In order to better correlate peak flows with rainfall events, the reporting of the rainfall duration and the peak rainfall intensity has also been required.
- EPA agrees with GE’s comment and required all required PCB analyses to be done using Modified Method 8082. The requirements to use this method are now found in footnotes *13 and *14.
- A provision has been added to the Final Permit allowing GE to propose elimination of the WET testing requirement if after two years of testing all IC25 results are 100%. Upon approval from EPA in the form of a certified letter, the requirement will end. See footnote *18.
- The reporting schedule in the draft permit is a standard requirement in NPDES permits issued in Massachusetts and, in EPA’s experience, has not posed an unacceptable burden on permittees. The submittal dates have not been changed for administrative convenience and to streamline EPA’s data collection efforts. There is extensive contamination of volatile and semi-volatiles within

		monitoring requirement will cease. GE will notify the Director and the State 14 days prior to the cessation of monitoring	detected and quantifiable concentrations of VOCs/SVOCs in the discharge in question. Absent such a history, GE should not be required to monitor for these parameters.	the 005 and 006 drainage basins. The data collected to date indicate effective removal of these pollutants by the treatment plant. To ensure continued removal, sampling for these compounds will be retained in place for the duration of the permit.
25	Footnote *16	Revise footnote to read: “The pH of the effluent will not be less than 6.5 or greater than 9.0 at any time, unless due to natural causes.”	Addresses out-of-range readings (both high and low).	EPA has changed the word “nor” to “or.” See footnote*21.
26	Permit Attachment B	Strike references to and requirements associated with fathead minnow (<u>Pimephales promelas</u>).	For consistency with footnote *13.	Attachment B is the standard protocol for the test. (Please note that an updated version of the protocol has been substituted for the version attached to the Draft Permit.) The specific testing requirements of the Final Permit supersede the standard language in the attachment.
27	Permit Attachment C	In BMP 3.A, insert “subject to PEDA approval” before “abandon existing storm sewer piping and related manholes and catch basins located in Drainage Basin 004.”	As proposed by EPA, BMP 3.A is inconsistent with the NPDES transfer agreement between GE and PEDA.	Outfall 004 is no longer in the GE permit because it was transferred to PEDA. Also, GE has reported that outfall 004 was sealed in May of 2005.
28	Fact Sheet Attachments D, F, G, M, N and Q	Replace data sets with those provided by GE (<u>See</u> GE Technical Exhibit 3).	Data sets identified in the Fact Sheet Attachments are not the most current data sets proved by GE and are inadequate to support reasonable potential determinations.	EPA does not modify fact sheets at the time of final permit issuance because the fact sheet is written to support the draft permit. EPA has reviewed the data submitted by GE and determined that they do not change EPA’s decisions regarding

29	Fact Sheet Attachment O	Add footnote: “Since operations discharging from Building 120X were eliminated in 2001, this discharge monitoring location has been removed from the permit.”	For consistency with site changes.	reasonable potential because the more recent monitoring data are very similar to past data, and therefore supports the Draft Permit decisions. The data are part of the administrative record. EPA does not modify fact sheets at the time of final permit issuance because the fact sheet is written to support the draft permit. The submitted information is part of the administrative record and does not require any changes to the permit.
30	Fact Sheet Attachment R	Add time period for data and explanatory footnote that GE previously provided to EPA (<u>See</u> GE Technical Exhibit 4).	For accuracy and consistency with GE’s application materials.	EPA does not modify fact sheets at the time of final permit issuance because the fact sheet is written to support the draft permit. The submitted information is part of the administrative record and does not require any changes to the permit.
31	Fact Sheet	Delete reference to “small Lexan sheet operation.”	This operation was shutdown in May 2003.	EPA does not modify fact sheets at the time of final permit issuance because the fact sheet is written to support the draft permit. The submitted information is part of the administrative record and does not require any changes to the permit.
32	Fact Sheet	Delete references to SR01.	SR01 was removed as part of GE’s ½-mile removal action.	EPA does not modify fact sheets at the time of final permit issuance because the fact sheet is written to support the draft permit. The submitted information is part of the administrative record and does not

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| 33 | Fact Sheet | Delete references to outfall 011. | Outfall 011 was removed from GE's multi-outfall sampling program by minor modification dated November 21, 1996. | require any changes to the permit. EPA does not modify fact sheets at the time of final permit issuance because the fact sheet is written to support the draft permit. The submitted information is part of the administrative record and does not require any changes to the permit. |
| 34 | Permit and Fact Sheet | Remove references, conditions and limitations applicable to YD4, YD5, YD15, SR02, SR03, 007, OF-P1, OF-T2 and OF-T3. | Conveyances have been eliminated. | Discharges YD4, YD5, YD15, SR02, SR03, OF-P1, OF-T2, and OF-T3 have been removed from the permit pursuant to this comment. GE has reported that Outfall 007 was blocked with concrete in March 2005. |

GE Technical Exhibits 1, 2 and 3

EPA note: The following exhibits were attached to GE's comments to support specific comments made in the body of its submittal and are attached for reference purposes.

A. GE Technical Exhibit 1 (Discharge Outfall Descriptions)

Attachment A
Discharge Outfalls
NPDES Permit No. MA0003891
General Electric Company
Pittsfield, MA

<u>Outfall:</u>	<u>Description of Discharge:</u>	<u>Location (Latitude/Longitude):</u>	<u>Receiving Water:</u>
001	wet and dry weather discharge including: groundwater (infiltration); city water (used for fire protection testing); unknown dry weather flow from city storm drain system; facility and city storm water	42 27' 09"/ 73 14' 16"	Silver Lake
01A	overflow from 001 drainage system: wet weather discharge including groundwater (infiltration); city water (used for fire protection testing); unknown dry weather flow from city storm drain system; facility and city storm water	42 27' 10"/ 73 14' 18"	Silver Lake
004	wet weather discharge of storm water	—	Silver Lake
005	wet and dry weather treated discharge including: groundwater, OPCA leachate and other EPA approved influent to (64G);	42 26' 59"/ 73 13' 53"	Housatonic River

groundwater (infiltration); city water
(used for fire protection testing); unknown dry weather
flow from city storm drain; facility and city storm water

05A

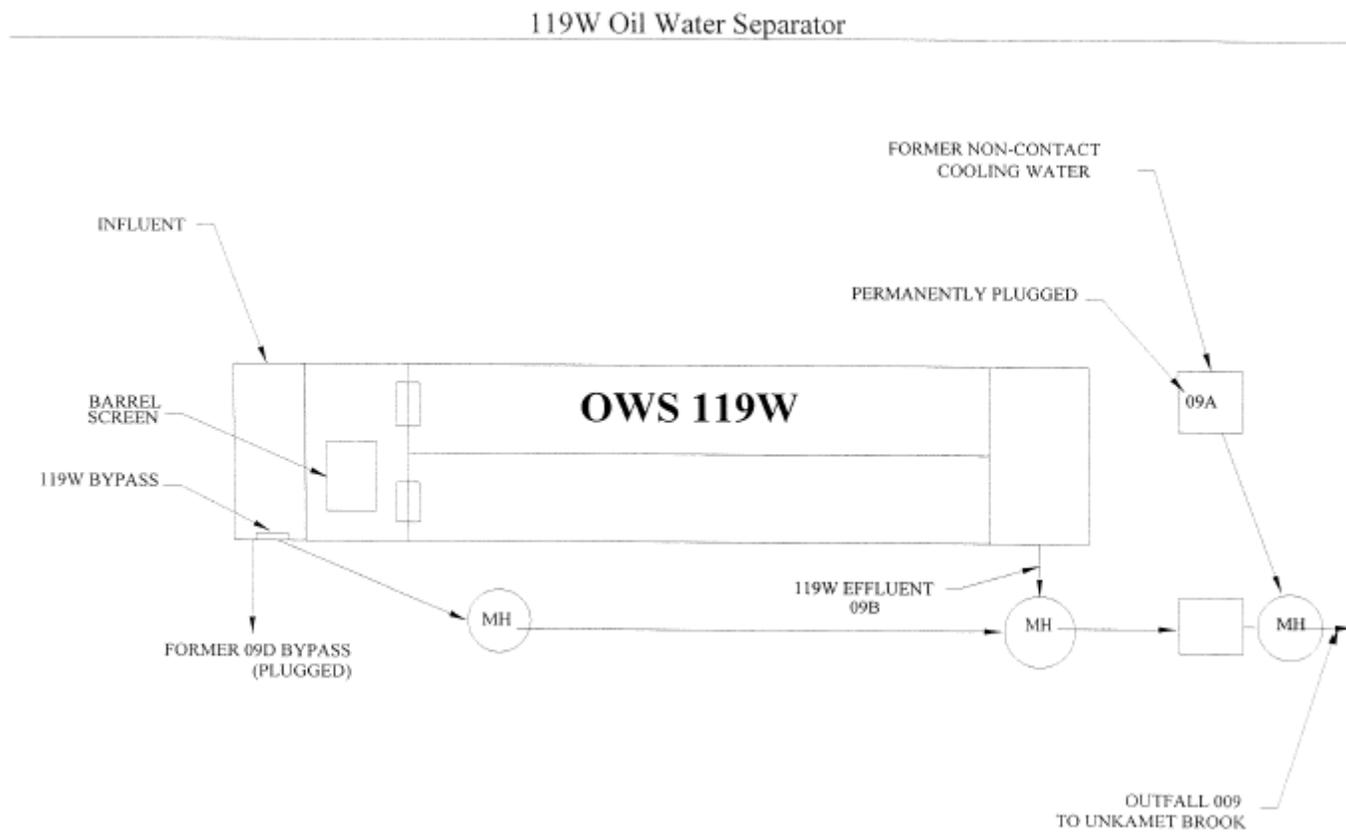
overflow from outfall 005 drainage system: wet and dry
weather discharge of groundwater (infiltration); city water
(used for fire protection testing); unknown dry weather
flow from city storm drain; facility and city storm water.

42 26' 59"/ 73 13' 53"

Housatonic River

<u>Outfall:</u>	<u>Description of Discharge:</u>	<u>Location (Latitude/Longitude):</u>	<u>Receiving Water:</u>
05B	overflow from outfall 005 drainage system: wet weather discharge of groundwater (infiltration); city water (used for fire protection testing); unknown dry weather flow from city storm drain; facility and city storm water	42 26' 59"/ 73 13' 53"	Housatonic River
SRO4	overflows from 005 drainage system: wet weather Discharge of facility storm water	—	Housatonic River
006	wet and dry weather discharge including: groundwater (infiltration); city water (used for fire protection testing); unknown dry weather flow from city storm drain; facility and city storm water	42 27' 04" / 73 13' 44"	Housatonic River
06A	overflow from 006 drainage area: wet weather discharge of groundwater (infiltration); city water (used for fire protection testing); unknown dry weather flow from city storm drain; facility and city storm water	42 27' 04"/ 73 13' 44"	Housatonic River
SRO5	overflow from 006 drainage area: wet weather discharge of groundwater (infiltration); city water (used for fire protection testing); unknown dry weather flow from city storm drain; facility and city storm water	—	Housatonic River
09B	wet and dry weather discharge including: ground water (infiltration); city water (used for fire protection testing); facility storm water	42 27' 42"/ 73 12' 30"	Unkamet Brook
009	wet and dry weather discharge including: ground water (infiltration); city water (used for fire protection testing); facility storm water	42 27' 42"/ 73 12' 30"	Unkamet Brook

<u>Outfall:</u>	<u>Description of Discharge:</u>	<u>Location (Latitude/Longitude):</u>	<u>Receiving Water:</u>
YD3	facility storm water	—	Silver Lake
YD10	facility and city storm water	—	Unkamet Brook
YD11	facility storm water	—	Unkamet Brook
YD12,	facility storm water	—	Unkamet Brook
YD6, YD7	facility storm water	—	Housatonic River
YD8, YD9	facility storm water	—	Housatonic River
YD13, YD14	facility storm water	—	Housatonic River
YD16	facility storm water	—	Housatonic River

B. GE Technical Exhibit 2 (OWS 119W Flow Diagram)

C. GE Technical Exhibit 3 (Fact Sheet Attachments D, F, G, M, N and Q Data Sets)

Attachments D, F, G, M, N, and Q – See GE Technical Comments Summary Chart #28

The effluent data for metals as generated in support of the Whole Effluent Toxicity (WET) monitoring should be revised:

- to reflect the time period representative of facility conditions that are more similar to future facility conditions; and
- to correspond with the data set used to evaluate effluent variability in Attachment R and for the Outfalls 009 and 005 during dry weather conditions.

The DMR time period considered representative of facility conditions in the future is from January 2001 to June 2004. The metals data are generated from a flow-proportional 24-hr composite sampled collected from Outfalls 001, 004, 005, 007, and 009. However, Outfalls 004 and 007 only discharge in response to wet weather events. Hence, two distinct sets of data are generated, one applicable to dry weather conditions and the other more representative of wet weather conditions. Finally, there are conditions when Outfall 001 and 009 dominate the dry weather flow-proportional 24-hr composites, and other conditions when Outfall 005 dominates the composite. Therefore, the metals data can be further fine-tuned to be representative of facility conditions.

Both total and dissolved metals are analyzed, however dissolved metals is the indication of the quality of the effluent for comparison to in-stream aquatic life criteria.

The dissolved metals data representative of Outfall 001 (Attachment D) and Outfall 009 (Attachment N) during dry weather conditions for cadmium and lead are all non-detect with detection limits of 0.001 mg/L and for chromium, nickel, and silver are all non-detect with detection limits of 0.0025 mg/L. The data for dissolved aluminum, copper, and zinc are:

Al (mg/L)	Cu (mg/L)	Zn (mg/L)
<0.100	0.014	0.05
0.072	0.0052	0.0096
<0.100	0.015	0.03
<0.100	<0.005	0.034
<0.100	<0.005	0.016
<0.100	0.0075	0.0025
<0.100	0.0055	0.046
<0.100	<0.005	0.026
<0.100	<0.005	0.025
<0.100	<0.005	0.017

<0.100	0.0027	0.034
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The dissolved metals data representative of Outfall 005 (Attachment G) during dry weather conditions for cadmium are all non-detect with a detection limit of 0.001 mg/L and for chromium, nickel, and silver are all non-detect with detection limits of 0.0025 mg/L. The data for dissolved aluminum, copper, lead, and zinc are:

Al (mg/L)	Cu (mg/L)	Pb (mg/L)	Zn (mg/L)
<0.100	0.014	<0.005	0.018
0.25	0.0079	<0.0025	0.03
0.035	0.0025	<0.0025	0.01
<0.100	<0.005	<0.005	0.023
0.047	<0.005	<0.005	0.035
0.049	<0.005	<0.005	0.024
<0.100	0.0049	<0.005	0.075
<0.100	<0.005	<0.005	0.025
0.07	<0.005	<0.005	0.047
<0.100	0.0048	<0.005	0.051
<0.100	<0.005	<0.005	0.016
<0.100	<0.005	<0.005	0.032
<0.100	0.011	<0.005	0.033
<0.100	<0.005	<0.005	0.03
<0.100	0.0052	<0.005	0.0077
<0.100	<0.005	<0.005	0.01
<0.100	<0.005	<0.005	<0.02
<0.100	<0.005	<0.005	<0.02
0.084	0.0071	0.0031	0.024
0.075	0.0078	<0.005	0.056
<0.100	0.0056	0.0044	0.046
<0.100	0.0062	<0.005	0.035
<0.100	0.0047	<0.005	0.018
<0.100	0.003	<0.005	0.017
<0.100	0.0078	<0.005	0.014
<0.100	0.0068	<0.005	0.017
<0.100	0.0023	<0.005	0.011
<0.100	0.0057	<0.005	0.016

The dissolved metals data representative of wet weather conditions, including Outfall 004 (Attachment F) and Outfall 007 (Attachment M) from January 2001 to June 2004 for cadmium, chromium, nickel, and silver are non-detect except for one detection for each chemical. The detection limit is 0.001 mg/L for cadmium and 0.0025 mg/L for chromium, nickel, and silver. The data for dissolved aluminum, copper, lead, and zinc are:

Al (mg/L)	Cu (mg/L)	Pb (mg/L)	Zn (mg/L)
0.084	0.0130	<0.005	0.071
<0.100	0.0059	<0.005	0.024
<0.100	0.0087	<0.005	0.040
<0.100	0.010	<0.005	0.090
<0.100	0.0072	<0.005	0.110
<0.100	<0.005	<0.005	0.089
<0.100	0.0048	<0.005	0.024
<0.100	0.012	<0.005	0.034
<0.100	0.0083	0.0055	0.017
0.082	0.0094	<0.005	0.060
0.088	0.0073	<0.005	0.037
0.057	0.0092	<0.005	0.034
0.078	0.011	<0.005	0.043
0.072	0.0092	<0.005	0.052
0.17	0.0075	<0.005	0.048
0.056	0.0064	<0.005	0.053
<0.100	0.0082	<0.005	0.032
<0.100	0.0038	<0.005	0.020
<0.100	<0.005	<0.005	0.020
<0.100	0.0058	<0.005	0.030
<0.100	0.0078	<0.005	0.0180

D. GE Technical Exhibit 4 (Fact Sheet Attachment R Revisions)

Attachment R – See GE Technical Comments Summary Chart #30

The table presenting the variability of copper in the flow-proportional 24-hr composite sample dominated by the discharge of Outfalls 001 and 009 (and not Outfall 005) and the comparison to the preliminary effluent limit based on the limiting aquatic criterion should be revised to as follows:

Pollutant	N	Maximum (mg/L)	Coefficient of Variation	Projected Effluent Quality (PEQ) (mg/L)	Daily Maximum Projected Effluent Limit (PEL) (mg/L)	Monthly Average Projected Effluent Limit (PEL) (mg/L)	Most Restrictive Controlling Criteria	RPE TEST PEQ > PEL _{DM} ?	RPE TEST PEQ > PEL _{MA} ?
Copper, dissolved	11	0.015	0.82	0.0285	0.017	0.012	Chronic	yes	yes

1. Metals chemistry associated with monthly composite samples collected from January 2001 to June 2004 for the purposes of toxicity testing.
2. Effluent composite samples were collected from sampling locations 001, 005-64T, 005-64G, 09A, 09B and dominated by Outfall 001 + 009 flow.
3. Multiplying factor to generate PEQ based on 95th/95th table in the EPA TSD.

IV. MA RIVERWAYS COMMENTS

MA Riverways submitted 15 pages of comments expressing numerous concerns. The comment letter is presented in its entirety. EPA identified 26 separate comments and has presented its response to each one,

Comment 1:

The GE Pittsfield site and its polychlorinated biphenyls (PCB) contamination is complicated and divisive issue in the City of Pittsfield and the region. The long-term release of PCBs and other pollutants at the GE site and surrounding areas left a complex legacy pertinent to the review and reissuance of the NPDES permit for this site's discharges. The receiving waters are currently impaired waterways, failing to meet water quality standards due not only to the presence of PCBs (priority organics) but also because of other unknown toxicity/causes and pathogens. Substantial public and private resources have been expended in the ongoing assessment and clean up of the Housatonic River. Most of the initial remediation areas are downstream of the Permittee's outfalls and this has direct bearing on the NPDES permit. Data collected during the assessments have shown the PCBs originating from the GE facility have traveled well downstream of Pittsfield and in many instances concentrations of PCBs in the river system are increasing. Some of the fish tissue analysis have shown an increase in PCBs in fish, (average in 1994 was 76mg/kg/ww while the average in 1995 went up -30% to 112 mg/kg/ww as reported on page 8 of the Fact Sheet). The renewed permit for this site must strive to fulfill the intent of the NPDES program to achieve, "the restoration and maintenance of the chemical, physical, and biological integrity of the Nation's waters". The prevention of further releases of PCBs and other pollutants to the Housatonic River, Unkamet Brook and Silver Lake certainly fits this mandate. It is our belief the draft permit as presented falls short of this mandated goal.

The Fact Sheet and other materials, made available by the EPA, provided valuable insight into site history, past and on-going assessments and studies of the Housatonic River, PCB contamination, the storm water infrastructure, and the compliance record of the Permittee. The addition of a flow schematic, (the web based, clear, in-color version was especially appreciated), and site maps helped in the review of the draft permit.

Response 1:

EPA concurs with the assessments that PCBs from the GE site have entered the receiving water and have traveled downstream from the site; that the Housatonic River is in nonattainment of water quality standards due to PCBs; that historic discharges from the site are the cause of this nonattainment; and that ongoing discharges of PCBs from the site and resuspension of PCBs from sediments in the Housatonic River are sources of concern.

For the reasons set forth in the Fact Sheet and above, EPA has determined that the Final Permit includes effluent limitations and conditions consistent with the Clean Water Act and EPA regulations and policies, including the Interim Permitting Policy.

Comment 2:

PCBs

Of the information and data presented, the most unsettling information was the concentration of PCBs and other pollutants still discharging from the many GE outfalls. The NPDES permitted outfalls are discharging into receiving waters already impaired by PCBs and unknown toxics and upriver of the initial remediated river reach. As the EPA web page on the GE clean up states, "These risk evaluations, which were peer reviewed and endorsed by EPA Headquarters, support EPA's position that the entire two-mile section of river may present an imminent and substantial endangerment to human health and the environment. These evaluations justify removal actions for the Upper Reach section of the river. The actions also are based on data showing that previously cleaned-up floodplain areas are being recontaminated by PCBs from the river during routine flooding". (Human Health Evaluation and Ecological Risk Assessment Regarding PCB Contamination in Pittsfield, MA) Though this statement is from a 1998 fact sheet, it strongly suggests newly remediated areas are threatened with recontamination during routine flooding- a time when storm water discharges would be contributing significant flows containing PCBs to the receiving waters.

The EPA Fact Sheet did not identify the likely recontaminant source(s) and the web page does not indicate there has been subsequent monitoring to identify the source(s) or to ascertain if the recontamination has stopped or slowed since the 1990s. Barring additional study, the level of PCBs found in the permitted outfalls and the reported loads from outfall 005 make a case that these NPDES permitted outfalls contribute to recontamination and increased contamination with a continued influx of PCBs both on a daily basis, from 'treatment system outfall' 005, and during wet weather or melt water events from most of the other outfalls.

The paucity of data on the loads being released into the river from the existing GE Pittsfield outfalls speaks to a need for more information on the probable loads. An addition to the permit is requested requiring the Permittee to estimate the load of PCBs entering into the three receiving waters quarterly and annually from each individual outfall. These estimates would also allow the estimation of the combined PCB load being released annually from all the outfalls. This information would inform the public of the on-going threat of recontamination to remediated areas, the further contamination of downstream reaches from PCBs, inform an inquiry of the costs of future clean ups juxtaposed with the potential for recontamination and additional remediation, human and aquatic health threats, and the efficacy of treatment methods.

In order to gather sufficient data to make a reasonable estimate of loadings from the individual outfall pipes, changes are needed in the monitoring and reporting requirements in the draft permit. As noted in the Fact Sheet and evident in the discharge monitoring data supplied in the attachments, there is variability in the PCB concentrations found in each outfall. This variability would make estimating loads over time problematic if monitoring continues in the same manner and frequency required in the existing and draft permits. Currently most of the outfalls require only quarterly monitoring for PCBs with a grab sample taken within the first 90 minutes of the discharge event.

Sampling outfalls only within the first 30 minutes certainly contributes to an inaccurate picture of the overall concentration and loading of pollutants during a discreet wet weather discharge event. This may be especially true of the GE site given the sources of influent into the storm water system. Of particular concern is the groundwater infiltration portion of the influent into the storm water system. During times of low groundwater levels, the delay before the groundwater rises to a point where it is infiltrating the storm water infrastructure may exceed 30 minutes so the single grab sample would fail to capture effluent with the groundwater infiltration component known to be contributing to discharges in outfalls 0 1A, 05A, 05B, 006, and 009. This is a serious omission since the groundwater at the GE site is known to be contaminated thus an expected source of PCBs found in the effluent. Sampling must be adjusted to guarantee the sampling of the outfalls captures the full character and all the sources of influent into the storm water infrastructure.

The data gathering methods proposed in the draft permit and in the existing permit are likely contributing to the variability and inaccurate portrait of PCB loads, and possibly other pollutants, in the outfall discharges. More frequent monitoring and a flow proportional composite samples of the individual discharges would produce data more illustrative of PCB concentrations in relation to a specific discharge event and outfall thus more adequately capturing and characterizing the effluent. Better data will allow for a more accurate assessment of the PCB loads entering into the Housatonic River and its tributaries Unkamet Brook and Silver Lake and produce the information needed to help inform a host of other management and regulatory decisions. A flow proportional composite sample taken throughout wet weather events for each individual outfall is the preferable alternative to grab sampling. Composite sampling will partially ameliorate the variability in the concentration of pollutants. The more comprehensive and accurate data generated by more comprehensive sampling will help in identifying the extent of recontamination and environmental degradation due to the outfall effluent. This sampling augmentation coupled with continuous flow monitoring would allow loads entering the receiving waters to be calculated on a per outfall, event and annual basis.

The need for additional and more effective monitoring is apparent when reviewing the Fact Sheet. The inadequacy of the available PCB data for the outfalls is a major factor in the reluctance to assign permit limits to the storm water outfalls- despite many years of monitoring

showing elevated concentrations of PCBs and other pollutants. If a paucity of data is an impediment than this further supports the need to amend the quarterly monitoring requirement and grab sample methodology since a continuation of this insufficient testing will not provide any additional information over the existing, inadequate level of data collection.

Response 2:

EPA has considered the comments above regarding the adequacy of the existing monitoring regime and has decided to make several changes in response. The monitoring and reporting requirements in this case are intended to identify if problems are present, either in the receiving water or in the discharge; to characterize the cause(s) of such problems (including the sources of recontamination); and to assess the effectiveness of storm water controls in reducing contaminants and making improvements in water quality. Responses to the specific issues raised in this comment are given below.

Recontamination:

The permit now requires that the permittee develop and implement an instream monitoring plan adequate to assess the impact of its point source discharges on receiving water quality. Monitoring conducted under this plan will help to address the recontamination issue.

Report quarterly and annual loading of PCB from each outfall:

EPA concurs that loading will be a useful measure in assessing the trend of PCB loadings from each outfall entering the Housatonic River. For those outfalls with required routine PCB sampling, reporting of PCB load has been required. Such loadings can be calculated using the concentrations and flow data already required by the Draft Permit and so does not incur additional sampling or analytical costs. Such reporting has been included in the Final Permit.

Flow composite PCB samples:

Flow composites are generally considered more representative of a discharge which may have varying concentrations. Certainly, this is true for storm water runoff for which pollutant concentrations can vary widely based on a number of factors including pollutant build-up and storm characteristics. Therefore, flow proportioned composite PCB samples have been required. Also see Response to GE Comment 7.

Increase frequency of sampling:

The Interim Permitting Policy stresses that “each storm water permit should include a coordinated and cost-effective monitoring program to gather necessary information to determine

the extent to which the permit provides for the attainment of applicable water quality standards and to determine appropriate conditions or limitations for subsequent permits.” Accordingly, EPA has re-evaluated the frequency of sampling and has generally required increased sampling PCB monitoring frequency for continuous discharges have been increased from once per month to twice per month and for intermittent wet weather discharges has been increased from quarterly to once per month. In addition, the yard drains are now to be inspected once per month during dry weather and sampled if discharging. Sampling of yard drains during wet weather has been increased from once per year in the second and fifth year of the permit to once per year every year of the permit.

As described elsewhere in this response, EPA has also required a summary of all data collected during each month, including the submittal of detailed rainfall and flow records. With these data EPA will be better able to assess the characteristics of the discharges and identify those areas of the site needing additional conditions or limitations to achieve water quality standards.

Comment 3:

An increase in monitoring frequency and a change in methodology is not sufficient to prevent further degradation to these impaired waters. The DMR data provided in the attachments and on the EPA's web accessible PCS database clearly show PCB concentrations in the discharges of the outfalls have exceeded aquatic criterion and pose more than a reasonable potential to continue to exceed water quality criteria. An egregious example is the 5600 ug/l PCB concentration found in outfall 006 in June of 2000. The Fact Sheet puts these concerns in more compelling terms, "Instream sampling data for the Housatonic River and Unkamet Brook indicate periodic exceedances of Instream PCB water quality criteria for aquatic and human health protection downstream of GE's discharges. Instream sampling data for Silver Lake indicates consistent exceedances..." (Fact Sheet, p. 8)

Given these documented exceedances of PCB water quality criteria, a reasonable potential for future exceedances, the toxicity and persistence of PCBs in aquatic systems and the considerable efforts already expended on remediation including the expenditure of public funds, all of the outfalls should have a numerical concentration and load limit based on water quality criteria with the aim of meeting human health criteria. The concentration should be set at the fresh water criterion continuous concentration for PCBs of 0.014 ug/l. The load limits should be such that the cumulative load of PCBs discharged from all of the outfalls and yard drains will not be in a quantity with the reasonable potential to recontaminate the receiving waters over time or result in chronic or acute toxicity in the aquatic or terrestrial environment.

A rough estimate of PCB loading using data from outfalls 01a, 001,004, 005, 05A, 05B, 006, 006A, 007, 009 and SR04 for the grab sampling from September 2004 further illustrates the need for load and concentration limits on each of the outfalls based on water quality considerations.

The DMR data provides only a brief 'snap shot' of the conditions during the sampled event. The limited data allows for only generalized calculation so with this caveat in mind, this one storm would have contributed around 0.146 lbs of PCBs to the receiving waters. Consider the number of discharge events plus the continuous release of PCBs from outfall 005 and there could well be many pounds of persistent PCBs released each year, just upstream of the remediated section of the river.

Response 3:

The Final Permit includes water quality-based numeric PCB limits of 0.014 mg/l for all dry weather (non-storm water) discharges, which now includes outfalls 64G, 005, 006 and 009, and water quality-based BMP limits on all storm water discharges.

As described in Riverways Response 2, EPA has also required reporting of discharge mass of PCBs from outfalls 64G, 005, 05A, 05B, 006, 06A, 09B and 009 (as discussed at length in response to GE's comments). Outfalls 001, 01A, 004 have been transferred to PEDDA and are no longer included in the permit. SRO4 and outfall 007 have been eliminated and are no longer authorized by the permit.

EPA has determined that the monitoring programs required by the Final Permit will be sufficient to determine the adequacy of the required storm water controls. If such controls should prove inadequate, additional conditions or limitations shall be required.

Comment 4:

The draft permit contains a compliance schedule to allow the Permittee to work toward the draft permit's proposed PCB limit for outfall 005. Presumably a compliance schedule would be instituted for the other outfalls to ramp up to meet PCB limits. It is unfortunate there will be further postponement in getting PCB limits in place after an 8 year delay in a revisiting and reissuance of the permit. The schedule outlined in the draft permit adds to the frustration in getting some rigorous PCB limits in place. The Permittee is tasked with developing an expeditious plan and implementation schedule to meet only a 0.065 ug/l concentration limit should the current system be found inadequate after a capability study. Who will determine the expeditiousness of the plan and schedule? Next the Permittee will work on an optimization study to try and reach a concentration limit of 0.014 ug/l. It appears costs will be a factor in deciding whether to implement these optimizations. The enhancements will not be decided solely by the regulators but be a joint agreement between EPA, DEP and GE. Does this mean there could be an enhancement scenario that fails to reach the 0.014 ug/l goals because an agreement could not be reached with GE or cost concerns eliminated certain options thus delaying reaching the bare minimum of water quality goals and potentially continuing the risk of aquatic toxicity and recontamination?

Only the outfall for the groundwater treatment unit, 005, has PCB limitations proposed in the draft permit. The permit limits for outfall 005 differ between wet and dry weather but the rationale for how limitations were calculated is not fully explained in the Fact Sheet. How was the total load for wet weather determined? Is the assigned load limit based on water quality criteria? Does the load limit take into consideration the combined loadings from all the outfalls and the cumulative affect on water quality, potential for increased contamination and the contribution to recontamination? Can a once a month grab sample adequately reflect the PCB concentration and load discharged into the river from this single outfall? Why is the dry weather limitation for outfall 005 an average monthly concentration limit only and not a load limit and daily maximum as well?

The average monthly range provided in the Fact Sheet shows this treatment facility can easily contribute more than a pound of PCBs annually from dry weather flows at the current flow rate and based on the infrequent monitoring level. What affect will this pound or two of PCBs have on cleaned areas downstream? The lack of load limits is particularly unfortunate since the Fact Sheet indicates the volume of treated groundwater may increase in order to meet remediation benchmarks and Consent Decree requirements. An increase in volume would lead to increased loadings as it seems unlikely there would be increased PCB removal rates with increased volumes.

The dry weather concentration limit for outfall 005 is technology based and relies on the sensitivity and reliability of the treatment methods used to test for PCBs. The draft permit proposes the use of Method 8082 for PCB analysis and Modified Method 8082 because of its lower detection limit. While we support the use of the testing method that provides reliable results and the lowest minimum detection limit; the detection limit should not be the de facto pollutant limit when there is accepted water quality criterion. Regardless of the monitoring method and detection limit, the PCB limit should reflect water quality needs, specifically the freshwater criterion continuous concentration of 0.014 ug/l. While there may not be a methodology available currently with a detection limit of 0.014 ug/l or lower this should not overrule known water quality limits. There are many instances of disparity in NPDES permits between detection limits and calculated acute or chronic toxicity limits but in these instances the toxicity limits are used in the permit, (TRC and copper are two such parameters). The EPA and MassDEP made the judicious decision not to use dilution in establishing PCB limitations. This decision and the established chronic criterion and the need to meet the Class B standards of suitability for fish and other aquatic life, primary and secondary contact, and suitability for agricultural use mandates the water quality limitation override the technology based default of the detection limit. The permit can be reworked to recognize the detection limit constraints as is often done in NPDES permits for some metals, TRC and other pollutants whose established testing methods do not provide a sufficiently low detection limit.

Response 4:

Regarding the compliance schedule in Part D of the Draft Permit, the plan to achieve a monthly average limit of 0.065 ug/l is not subject to cost considerations and the ultimate decision regarding the implementation schedule is with EPA and MassDEP. These requirements have not been changed. Regarding the plan and schedule for attaining the limit of 0.014 ug/l, EPA agrees that the language was too open ended (*i.e.*, the compliance date was not specified and the decision to comply appeared to rest with GE). Under 40 C.F.R. § 122.47, the schedule must lead to compliance with the CWA and regulations. EPA has adopted the same language for this plan as for the plan to meet the 0.065 ug/l limit, which will ensure that EPA and MassDEP clearly have the ability to select alternatives and schedules they believe are reasonable. EPA requires that costs be submitted to allow EPA to evaluate the cost implications of the various treatment alternatives, including treatment to an effluent concentration of 0.014 ug/l. At this time, the effluent concentration of 0.014 ug/l is lower than the current ML and is not being used for purposes of complying with the permit. EPA, however, believes the permittee undertake reasonable steps towards investigating, identifying and implementing technologies capable of achieving the limit..

As discussed extensively in the response to GE Comment B.7, technology-based limits for outfall 005 are applied at the 005 outfall, consistent with the 1992 permit. In the Draft Permit a water quality-based PCB limit was applied at the 64G discharge under the belief that the 64G discharge represented all of the dry weather flow through outfall 005. Because EPA now understands that the 64T treatment plant also discharges during dry weather, EPA has established water quality-based limit of 0.014 ug/l for the dry weather flow from outfall 005 at the 005 outfall.

The water quality-based PCB limit was established at the fresh water chronic criteria of 0.014 ug/l. There is no acute water quality criterion for PCBs. Chronic criteria are intended to protect against longer-term effects. Water quality-based limits to protect against chronic effects are typically written as monthly average limits and limits to protect against acute effects are typically written as maximum daily limits.

Water quality-based mass limits were not included in the permit because there are no water quality criteria related to mass discharge (*i.e.*, no sediment criteria). The water quality criterion for PCBs is established as a concentration, so the concentration in the discharge and the resulting concentration in the receiving water are the measures which determine compliance with water quality criteria. It is not clear what effect the mass discharges will have on sediment quality, without knowing how the PCB loads will partition in the water column (*i.e.*, will they remained suspended and transported downstream or will they settle in the immediate vicinity of the outfalls). EPA expects that instream monitoring conducted under this permit and the consent decree will answer those questions.

Comment 5:

The Fact Sheet supplies information about the response actions required in the Consent Decree (CD) for this site. GE must "....address PCBs and other hazardous constituents in soils, sediments and groundwater." The CD does not specifically mention storm water, unfortunately, but by inference storm water is incorporated since the sources of PCBs in the storm water discharges must be from soils and/or groundwater. The Fact Sheet and diagrams indicate a great deal of suspected or confirmed groundwater infiltration into the storm water system discharging through several outfalls though the Fact Sheet and its attachments does not provide maps showing groundwater contamination areas and PCB hot spots in relation to the drainage basins. The site history provided implies the entire GE site has both contaminated soils and groundwater, clean up is on-going and part of the remediation efforts includes a groundwater treatment system discharging through outfall 005 extracting and treating contaminated groundwater.

This contaminated groundwater has been a longstanding problem at the site and a concern of many who worry the tainted groundwater can migrate into nearby waterways. Despite the ongoing need for groundwater treatment to remove PCBs, the draft permit will allow this untreated contaminated groundwater to infiltrate into the storm sewer system discharging to Silver Lake, Unkamet Brook and the Housatonic River. Groundwater infiltration is also permitted under the existing permit though the Fact Sheet does not indicate that the volume of groundwater and the extent of the infiltration problem has been assessed to determine if groundwater is responsible for all or part of the PCBs measured in the storm water discharges. When will the infiltration problem be assessed and the level of infiltration for each of the drainage areas be determined? How was the presence or absence of groundwater infiltration to a given drainage system determined? If there is groundwater infiltration it seems likely there could be dry weather flows during periods of high groundwater. Are there dry weather flows associated with infiltration? Without specific information and data proving otherwise, it seems reasonable to presume the contaminated groundwater beneath the GE site infiltrating into the storm water drainage system contains PCBs and other pollutants. If there is dry weather flows due to groundwater infiltration than these discharges must be permitted, limits assigned and adequate monitoring instituted.

Despite the known groundwater contamination and its infiltration into the storm water system, the draft permit specifically grants permission for outfalls 001, 0 1A, 05A, 05B, 006, and 009 to discharge groundwater infiltrate. If the goal of the NPDES permitting program is the restoration and maintenance of the integrity of our nation's waters, wittingly allowing contaminated waters to enter receiving waters is in clear violation of Clean Water Act goals. The Permittee should be required to eliminate all untreated groundwater from its discharges. Why aren't all pipelines slip lined given the pervasive groundwater contamination? Until groundwater is fully eliminated, the

outfalls containing groundwater infiltrate need to be monitored more frequently as argued previously, the monitoring requirement refined to better characterize the total amount of PCBs being release over the length of the wet weather discharge, and a maximum load and concentration reflecting the multiple outfalls discharging to the receiving water, the existing degradation of the receiving water and the need to prevent recontamination or further degradation.

Most recently released draft NPDES permits for Massachusetts point discharges have specific requirements concerning infiltration and inflow (I&I) assessment and elimination. These I&I related additions are a welcome augmentation to the permits as is the effort to address I&I. The GE Pittsfield draft permit contains related efforts regarding the implementation of best management practice but not I&I assessment and removal requirements. The requirements under BMPs needs to be expanded to include work to assess infiltration and inflow, develop a management plan to eliminate I&I, produce a work schedule for implementing the plan and begin the work. The plan for eliminating infiltration should be drafted for approval with in a specified time frame, preferably within six months to a year of the permit becoming final, and include an expedited work schedule for I&I removal.

Tangentially related to the Infiltration and Inflow is the elimination work the Permittee has undertaken to separate non-groundwater from the storm drain system where feasible. It is unclear what constitutes non-groundwater but presumably it covers effluent such as industrial process, cooling and noncontact cooling water.

SR04, (within outfall 005 drainage) has high PCB concentrations and was still operating as of 10/04. The discharge monitoring information for SR04 shows a PCB concentration on 9/04 of 15.5 ug/l but because there are no permit concentration or load limits in the existing permit, and none proposed in the draft permit, this outfalls discharge complies with the NPDES permit despite the significant PCB concentration. The Fact Sheet indicates there will be remedial work done in this basin to reduce flows. Modifying, abandoning and replacing existing sewer infrastructure needs to be done carefully and in a manner that will not result in continued and even increased discharge of PCBs into the receiving waters in the short term.

Increased monitoring needs to be undertaken during this work with provisions to stop work if the monitoring shows a spike in pollutant levels associated with the rehabilitation work until measures can be instituted to address the problem.

Response 5:

As the commenter has stated, there is contaminated groundwater on this site and infiltration of this groundwater to the collection system can result in the discharge of these pollutants to receiving waters. The permittee has previously slip lined portions of its collection system that go

through contaminated areas. BMPs proposed in the Draft Permit in Attachment C, BMP 1.C (bullets 2 and 3) were intended to confirm that these areas continue to have little or no infiltration. As described in the Fact Sheet, GE has removed many sources of extraneous flows from the collection system on its own initiative. As discussed in the response to the GE comments, EPA has included monitoring and effluent limitations on all dry weather discharges from the site. This dry weather monitoring is intended to quantify the pollutant loads from non-storm water sources, including groundwater infiltration. The limitations will require that the permittee address those outfalls violating permit limits.

Regarding the commenter's proposal to require an infiltration/inflow (I/I) control programs similar to that required of owners of separate sanitary sewer systems (*i.e.*, sewers designed for the conveyance of domestic wastewater to a wastewater treatment plant) is inapt. Separate systems are not sized to convey significant quantities of inflow (extraneous water entering a collection system from a discrete connection, usually from the surface) or infiltration (extraneous water entering the collection system from the ground, usually through defective pipes or connections). See 40 C.F.R. § 35.905 for more precise definitions of infiltration and inflow.

The I/I reduction programs required in POTW permits are for the removal of both infiltration and inflow to the extent necessary to prevent overflows from the collection system and effluent violations at the treatment works, and therefore are designed to reduce the overall quantity of flow conveyed by the system rather than to reduce the quantity of pollutants conveyed by the system. EPA believes that the approach followed in the Final Permit, which will result in the identification of specific problem areas and spur activities to remove or treat these discharges is a better approach than achieving an overall reduction flow, or simply requiring slip lining of the entire collection system regardless of the level of contamination of the discharge.

Sewer system work, especially cleaning, needs to be done carefully to ensure that PCBs settled in the system are not inadvertently discharged. Footnote 2 of the Best Management Practices Plan requires that solid and liquid wastes from cleaning operations receive proper treatment and disposal.

Regarding SR04, the discharge has been plugged, so the outfall has been removed from the permit.

Regarding the comment that the Draft Permit specifically grants permission for outfalls 001, 01A, 05A, 05B, 006, and 009 to discharge groundwater infiltrate. This authorization merely acknowledges that infiltration will be a component of the flow through these outfalls. As stated previously, if the groundwater is contaminated and results in violation of effluent limitations, the permittee will be required to either eliminate the infiltration or provide treatment sufficient to achieve the limits.

Comment 6:**BMPs**

The addition of best management requirements are a logical addition to a permit covering a complex and vast site. What is most noteworthy about the BMPs required in the draft permit is the heavy reliance on routine operation, inspection and maintenance of the drainage system. The information in the permit leads one to assume basic 'good housekeeping' activities such as catch basin cleanouts, removal of accumulated oil and water separator solids and manhole and system inspections have not been routine at this contaminated industrial site. This shortfall is presumably why these elementary BMPs are specifically included in the draft NPDES permit though the BMP section of the draft permit is both brief and vague. Few benchmarks, goals or innovation required. Presumably the facility has had a storm water pollution prevention plan in place for some time and activities such as catch basin inspection and clean outs, in addition to other good housekeeping, operation and maintenance endeavors, are typical components of an SWPPP. If proper maintenance of the storm water system was not a part of the Permittee's SWPPP, what pollution prevention methods are contained in the Permittee's current SWPPP? Why hasn't basic 'good housekeeping' been done at this facility all along?

The Fact Sheet states, "This permitting approach also emphasizes that each storm water permit should include a coordinated and cost-effective monitoring program to determine the extent to which the permit provides for attainment of applicable water quality standards." (pg 8) The intent is to attain water quality goals and this will be done through effective, not just cost-effective, monitoring. The approach regarding the infeasibility of numeric effluent limitations is also faulty as is substitution of BMPs as the default to meet water quality standards over numeric limitations. By what reasoning was this conclusion reached concerning the infeasibility of numeric permit limitations? For most of the pollutants of concern, PCBs, Oil & Grease, metals and TSS, there are national criteria and limits calculated using dilution and other receiving water characteristics. The permit and Fact Sheet indicate a great deal of optimism about the ability of the best management practices to reduce PCB concentrations in the outfalls. The Fact Sheet does not indicate there has been any study of the source of PCBs in the discharges or that BMP pilot projects have been undertaken that illustrate and support expectations that the required BMPs will significantly reduce PCBs entering the receiving waters via outfalls. In fact no compelling data or arguments were put forward to support the assumption PCBs and other pollutants sources are primarily from runoff related components as opposed to some other source relatively unaffected by the required BMPs- such as groundwater infiltration. The BMP requirements do not negate the need for the already stated argument advocating the need for permit concentration and load limits and augmented monitoring.

Response 6:

As discussed at length in the response to GE Comment B.1, EPA believes that it was appropriate to rely on the Interim Permitting Policy when designing the water quality-based effluent limitations for storm water for this permit and to impose reasonable BMP-based limits at this time. Use of the policy for this permit does not preclude future numeric limits if shown to be necessary to achieve water quality standards and if sufficient information is developed on which to rationally base those limits.

Regarding the source of PCBs (*i.e.*, infiltration versus storm water), EPA has determined that the dry weather monitoring requirements and limits will control of PCBs contained in the infiltration to sufficiently low levels, and the required BMPs will adequately address pollutants in storm water. The relative contribution of the two sources can be better established once the monitoring required by this permit is effective and data are collected.

EPA disagrees with the commenter's conclusions regarding the BMPs required by the permit. The permittee does indeed have storm water management plans in place, as required by the prior permit and the MSGP permit. The 1992 permit required that GE develop a plan summarizing its existing storm water management practices (See: GE's May 21, 1992 Final NPDES Permit Modification MA0003891, Part I. A.11.c., page 16). This permit also required that GE implement a periodic (at least quarterly) inspection program of all flow diversion devices (e.g., flow control valves) to determine these devices function in accordance with existing storm water management practices. The Storm Water Management Plan for National Pollutant Discharge Elimination System (NPDES) Permit MA0003891 (SWMP) was originally prepared in December 1988 and then revised in July 1990. Since 1990, a number of operational modifications have been implemented within the GE facility. As a result, GE's SWMP was revised in December 2000 to incorporate the modifications and provide an updated summary of the current storm water management practices.

The quarterly inspections of the storm water management facilities (and associated flow control valves and settings) have been performed by GE to ensure that the facilities are functioning properly and that deviations to the settings have not occurred. Quarterly inspections have been performed on the following control structures: OWS 31 influent and chambers; East Street Diversion Structure; 64Z Diversion Structure; OWS 64Z influent and chambers; SSPS bar screen; OWS 64W influent and chambers; OWS 64X influent and chambers; OWS 64X influent and chambers; and OWS 119W chambers. The control devices pertaining to each control structure and the settings established for the control gates or valves are shown in the December 2000 SWMP, in Attachment A. Each storm water management facility inspection is documented using a GE facility form, and includes the following information: (1) whether or not each valve is operated through a full range of motion, (2) whether or not each valve is in the desired setting,

(3) observations and maintenance activities, (4) the date of the inspection, (5) the time of the inspection, and (6) the name of the inspectors.

In 1995, GE submitted a Notice of Intent (NOI) for coverage under the Multi-Sector General Permit. The Multi-Sector General Permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPP Plan). The SWPP Plan is divided into seven sections: (1) Introduction (background information), (2) Certifications, (3) Pollution Prevention Team (and duties), (4) Potential Pollutant Sources, (5) Measures and Controls to Prevent Storm Water Pollution, (6) Annual Site Compliance Evaluation, and (7) Storm Water Monitoring Requirements. Each facility covered by the Multi-Sector General Permit must develop a SWPP Plan with the goal of eliminating, minimizing or reducing the amount of pollution in storm water discharges from the facility.

The focus of this response is from Section 5 of the SWPP Plan, Measures and Controls to Prevent Storm Water Pollution. This section is divided into three main parts. The first part presents nonstructural controls (best management practices) that are common to control pollutant sources identified in all drainage areas. The second part of Section 5 is structural controls, which are divided into three activities: material handling and storage, management of storm water runoff, and sediment and erosion control. The third part of Section 5 describes the special BMPs required for facilities subject to EPCRA Section 313 reporting requirements with regard to Water Priority Chemicals.

The nonstructural controls are: good housekeeping, preventative maintenance, spill prevention, spill response, inspections, employee training, record keeping, and incident reporting. The following good housekeeping practices are required by the SWPP Plan: (1) schedule regular pickup and disposal of garbage and waste materials at the facility, (2) routinely inspect for leaks and observe conditions of drums, tanks, and containers, (3) promptly perform cleanup of spilled materials, (4) ensure that cleanup procedures are understood by employees, (5) keep an up-to-date inventory of all materials present at the facility, clearly labeling containers, and (6) maintain clean ground surfaces with regular sweeping.

GE has been implementing all of the above good housekeeping practices in all drainage areas. Refuse removal and disposal is performed in all areas of the plant by solid waste contractors. Areas around the waste collection vessels are inspected in accordance with Section 5.1.3. These inspections also include all significant material storage and handling areas, and are designed to uncover leak or spill conditions that could potentially lead to a discharge of pollutants with storm water. Spills are cleaned up in accordance with Section 5.1.6. of the SWPP Plan. In paved and other impervious areas, sweeping is performed periodically to reduce pollutants in storm water discharges.

Past manufacturing operations have resulted in soil contamination in some areas of the GE site. Under certain conditions, PCBs may be carried by storm water runoff. The SWPP Plan, however, does not attempt to identify or list such areas or design applicable “BMPs.” The final NPDES individual permit for the GE facility includes a BMP Plan that encompasses the steps that will be taken to identify the contaminated areas, and lists the applicable BMPs that will address the contamination.

It was EPA’s intent in the Draft Permit to authorize dry weather discharges through those outfalls that included such discharges, subject to PCB effluent limitations and monitoring requirements, and to not authorize dry weather discharges for outfalls that did not currently have such discharges. This will in turn lead to either the elimination of infiltration, or the treatment of contaminated infiltration to achieve water quality standards. In reviewing the Draft Permit, EPA realized that it erred in this approach concerning outfall 001 by authorizing dry weather discharges without including numeric water quality-based limits. Also, GE has notified EPA of several outfalls that have dry weather discharges that EPA did not authorize to discharge during dry weather (outfalls 006 and 009). Accordingly, the Final Permit now includes water quality-based PCB limitations for all discharges authorized to discharge during dry weather. As described earlier, outfall 001 has been removed from the permit as it is no longer owned by GE.

Comment 7:

Given the inference in the draft permit that overland flows are a source of PCBs then it is counterproductive to support increased sheet flow, a stipulation in the draft permit, if runoff is going to pick up PCB and other pollutants from former building floor slabs, paved areas, soils and stockpiled materials. An increase in sheet flow would result in more untreated releases of PCBs into the receiving waters. The draft permit should eliminate support for an increase in sheet flow if it is likely to contribute PCBs to the receiving waters. Allowing yard drains to go unmonitored and tested is equally unproductive. Without monitoring the identification and reduction of PCBs entering receiving waters will be hampered by a lack of information on this potential source. At a minimum, quarterly, flow proportional composite monitoring of yard drains for PCBs, TSS, Oil and Grease and flow should be added to the permit. Also, if annual cleaning of select storm drains and manholes has the potential to reduce PCBs then there should be stricter limits on TSS and Oil & Grease plus frequent sweeping and vacuuming of the GE site and annual cleanouts for all storm drains and yard drains since these measures would likely reduce PCBs in runoff.

Response 7:

Reducing impervious area and reducing storm water runoff flows is generally considered a desired outcome of any storm water management plan because doing so will decrease the discharge of storm water, including untreated discharges through relief overflows, and will also

increase the treatment efficiency of the treatment units, thereby reducing the discharge of pollutants through the facility's outfalls. EPA expects that the quality of runoff from the site will improve as a result of storm water BMPs such as street sweeping and with soil remediation, building demolition, and landscaping activities being conducted under the requirements of the CD.

EPA has made revisions to the permit based on the commenter's concern that provisions in the permit would in this case encourage discharge of pollutants through non-point sources such as sheet flow. EPA has modified the language in BMP.3.A to clarify that the intent was to facilitate infiltration. If flow is channelized and discharged to a receiving water it would be considered a point source and subject to NPDES permitting. EPA also made modest changes to the language in BMP.3.A to clarify that the intent of this provision was to minimize storm water bypasses.

See Response to Winn, Gray and Herkimer Comment 11 regarding the site survey to identify any additional point sources not currently authorized by the permit.

As discussed in an earlier response, monitoring of yard drains has been significantly increased and now includes monitoring under both dry and wet weather conditions.

Comment 8:

The BMP plan in the draft permit will require cleaning and inspections in only select drainage basins. Why only a subset of drainages when all of the outfalls have shown significant concentrations and loads of pollutants in the past? Why are outfalls in the 001, 004 and 009 drainage basins not included in this aspect of the BMP plan? The discharge monitoring data available for these outfalls shows a history of elevated PCB and other pollutants released from these outfalls. The draft permit presents a timeline for the inspection of the target basins but when will the non-target drainage areas and non-target drainage system components be inspected? The history of this site, the current and planned demolition and redevelopment, the on-going problems with pollutants in the effluent, and the apparent paucity of information on the storm water collection infrastructure offers a compelling and judicious argument to require initial inspection of all catch basins, man holes and storm sewer system infrastructure initially to determine: if there are any existing problems, if there are findings that warrant increased monitoring of a particular structure or area, infrastructure integrity and functionality, the sources of unknown flows and unequivocally if there is groundwater infiltration in any of the storm water drainages. The need for initial inspection should include both the storm water outfall systems and the yard drains. Priority should be given to those systems with known groundwater infiltration or in areas with redevelopment or remediation activities or know 'hot spots' of PCBs or other pollutants.

Response 8:

The outfall 005 and 006 drainage areas were basins targeted for the cleaning and inspection BMP based on the historic use of the site and known areas of contamination. EPA determined that it was rational to initially focus cleaning and inspection efforts on these areas. As discussed in other responses, the Final Permit requires increased monitoring of both wet and dry weather discharges at all outfalls and includes PCB effluent limitations for all known dry weather discharges. If this effluent monitoring shows high levels in other basins reveal that additional BMP or other conditions are required the permit requirements can be modified to address these concerns.

EPA believes that focused BMP projects, with future projects based on effluent monitoring data and permit limitation violations, is preferable to more generic BMPs.

Comment 9:

The permit requirement for biennial clean outs of the oil and water separators is a concern if the OWS accumulated waste material is found to contain PCBs or other pollutants. There does not appear to be any information on the probability of resuspension and subsequent discharge into a receiving water or decreased effectiveness of the treatment system or BMP associated with these accumulated waste materials. Has there been any investigation into the toxicity of the accumulated material in the OW separators and sumps? An investigation into the likelihood of resuspension and the efficacy of treatment systems with differing amounts of material build up?

How was the 'clean-out benchmark' of six inches of accumulated sediment in the catch basins determined and did this thickness take into consideration the possibility of PCBs or other pollutants being present in the sediment? Are the removed sediments treated as hazardous waste or tested for PCBs? How are the materials handled, stored and disposed of? Do any of the areas where stockpiled waste materials, waste material handling and loading areas have the potential to come in contact with runoff and storm water and eventually enter the storm water drainage system?

Response 9:

The “clean out benchmark” of 6 inches was selected as a minimal, yet measurable, accumulation. The permit requires that “Solid debris may be placed at GE’s On-Plant Consolidation Area(s) subject to space limitations, or must be disposed of properly off-site; water will be treated at GE’s 64G Groundwater Treatment Facility (64G GWTF).” See footnote 2 of the Best Management Practice Plan.

Comment 10:

The Draft Permit requires increased water storage volumes where feasible but does not define feasibility. The concept and definition of feasibility in regard to the installation of flow monitoring equipment is also not provided. Feasibility is an important concept to define. Will the feasibility of a storage method or a flow monitoring device be based on cost? On technologic limitations? Will environmental and information needs be the omnipotent factor in the feasibility determination? While cost and technology are valid considerations, they are more minor factors in this instance and the data needs and protecting the integrity and quality of the receiving waters should remain the preeminent factor in deciding feasibility.

Response 10:

Requirements to “increase water storage volume where feasible” and “install (where feasible) continuous flow monitoring” are found in BMP2.A, and pertain to the short term OWS enhancements. Feasibility is therefore defined by the schedule found in Part B of the BMP plan, which anticipates that these short-term improvements will be completed within 4 to 6 months.

Longer-Term OWS-Related Activities are found in BMP2.B and include studies evaluating further enhancements for solids removal, as well as PCB sampling to assess the effectiveness of the improved solids removal. Upon review of this section, EPA realized that it had not required the installation of continuous flow meters for those OWS where it was determined infeasible in the short term. EPA has added this requirement to the Final Permit, and now requires that all OWS be provided with continuous flow meters within eighteen months of the effective date. Continuous and accurate flow measurements are necessary to establish the load of pollutants discharged from the facilities, determine the effectiveness of runoff reduction efforts, and determining whether the treatment facilities are effective and appropriately sized.

Ongoing routine dry weather monitoring of the discharges from these facilities will show whether the PCB effluent limitation are attained. If the OWS optimization requirements are shown to be inadequate to achieve the limitations, further conditions can be added to the permit through a permit modification, including requiring additional storage volume if necessary to achieve water quality standards.

Comment 11:

We support the requirement for the Permittee to look at baseline effectiveness of each oil and water separator. The draft permit requires the Permittee to analyze samples for total PCBs and TSS after OWS enhancements but the permit does not specify and detail how to sample the discharge. A single grab sample per discharge event would be insufficient and not provide a

good measure of effectiveness. A flow weighted composite sample would be the preferred method of sampling pre and post OWS enhancement.

Response 11:

EPA agrees with the comment and has required the samples to be flow proportioned 24-hour composites.

Comment 12:

The updated storm water pollution prevention plan will need to include PCB, zinc and flow monitoring during the second and fifth year of the permit for the 17 storm water point sources currently under the general permit. The monitoring needs to include TSS, priority pollutants and oil & grease as well since these are probable constituents in runoff from an industrial site. Please consider more frequent monitoring initially since there will be increased activity at the site including building demolition (and the potential to release PCBs) and redevelopment and BMP installation.

Response 12:

The Final Permit requires inspection of yard drains once per month during dry weather for the first year of the permit and sampling for any drain found to be discharging during dry weather (see Part I.A.13). The Final Permit also requires annual sampling of the yard drains in wet weather (see Part I.C.2.b). TSS and oil and grease have been added to sampling requirements. EPA does not believe that complete priority pollutant scans are necessary, based on the result or priority pollutant scans collected by EPA at outfalls 01A, 05A, 005, 006, 009, which showed that all pollutants were below detection levels except for acetone at 13 ug/l in the 006 discharge, which was found only in a trace amount. Three other VOCs, were detected, but they were caused by lab contamination. EPA also collected metals and PCB analysis on 01A, 05A, 005, 006 and 009 during wet weather. The measured metals concentrations met water quality criteria.

Comment 13:

The BMP plan for this site requires the hydraulic pressure washing of the interior surfaces of approximately 67,500 LF of existing storm sewer piping. (Fact Sheet pg 18) The discharge of this hydraulic wash water is a great concern as it may release a large quantity of total suspended solids, PCBs and other pollutants into the receiving waters. Has there been any analysis of this method of reducing debris materials from storm water pipes in a highly contaminated drainage area? Will the wastes be allowed to run into the receiving waters without any additional treatment.

Response 13:

Cleanings generated by pressure washing will be captured and transported for proper disposal. See footnote 2 of BMP section.

Comment 14:

The Permittee is asked to sample any infiltration waters in drainage systems for outfall 005/006 and test for VOCs but not PCBs. The groundwater is highly contaminated with PCBs, knowing if there is PCBs in the infiltrate is valuable information to obtain and PCB testing of these waters needs to be done.

Response 14:

The piping network connected to outfall 005 goes through a massive LNAPL plume, and the piping network connected to outfall 006 goes through property formally used as a manufactured gas plant (which left behind significant PAHs) and goes through a massive LNAPL plume as well as various other NAPL plumes. VOCs before and after pipe cleaning activities will show whether the BMPs are sufficiently reducing or eliminating infiltration of pollutants. VOC measurements can be used as an indicator for possible PCB contamination, although the routine dry weather measurements of PCBs taken at outfalls 005 and 006 will provide more direct measurements of PCBs in groundwater infiltration

Comment 15:***Permit pollutant monitoring and limits***

The Fact Sheet explained that many of the storm water outfalls also carried industrial process waters in addition to storm water. These additional influent flows resulted in discharge data not indicative of current conditions so the probability of water quality criteria exceedances can not be determined for this draft permit because of insufficient data on current (no process water) conditions. What outfalls had process waters? When were the various industrial process flows discontinued? It seems most of the process water was discontinued years ago. For example, the temperature data for outfall 007 appears to show the non-contact cooling water component stopped years ago since the water temperatures from 1998 on appear to be ambient temperatures. If there are several years of data for each outfall since the curtailment of industrial process water influent, why wouldn't this be sufficient information to determine if there is a probability for water quality criteria exceedances? Even if a few outfalls had process water until recently, those outfalls which had the process water removed since 2002 or 2003 should have enough information available from discharge monitoring to ascertain the probability of exceedances for a given pollutant.

Response 15:

The 1992 permit describes the authorized flow components for each outfall. EPA does not know the exact dates that flow components were removed, nor does EPA think this would be especially helpful in interpreting the discharge data. The primary difficulties in determining interpreting the data are that neither the weather conditions during the sampling events, nor the discharge flow at the time of the sampling event are known, so the effluent quality as a function of flow cannot be determined. EPA has endeavored to correct this problem in this permit by requiring sampling under both wet and dry weather, by requiring continuous discharge flow measurement from the treated discharges, and by the collection and reporting of detailed rainfall data.

Comment 16:***Copper***

The past monitoring has shown elevated copper levels in the wet weather effluent. The commingling of the samples from several outfalls prevents ascertaining which outfall or outfalls might have elevated copper concentrations. The Fact Sheet (p. 10) explained toxicity, metal and flow limitations were removed from the permit because cooling water is no longer discharged.

Has testing been undertaken since the cooling water was eliminated or source identification done to show the only potential source of metals was from the cooling water? To ascertain which outfall(s) were the significant source(s) of copper? If individual outfall testing was not performed than the possibility of any given outfall having elevated copper can not be dismissed and all outfalls should be required to monitor for copper. This request is supported by recent discharge monitoring data from testing on the combined effluent from the outfalls which no longer carry any industrial process water. In May, 2004 the copper concentration was 0.46 mg/l. The calculated daily maximum (acute) copper limit cited in Attachment R is 0.016 mg/l and the monthly (chronic) average is 0.011 mg/l. None of copper results from monitoring in 2004 would have fallen below the monthly average of 0.011 mg/l and only a third would have been in compliance with the daily maximum. This recent DMR data shows there is definitely still reasonable potential for copper exceedances and monthly monitoring of each individual outfall, at the least, should be required and limitations added should any of the combined concentrations of outfalls into the same waterbody exceed calculated acute and chronic copper limits. Combining samples from the individual outfalls for testing should not continue. While it is more costly to sample and test each outfall individually, the copper problem highlights the inadequacy of batch testing. Without information on each individual outfall it is not possible to determine which outfall(s) may be the source of noncompliant levels of a pollutant. Without this information solutions to address the problem can not be expedited.

The information in the Fact Sheet and the requirements in the draft permit for outfall 001 indicate a belief that outfall 001 was the primary contributor of copper. Attachment R appears to

indicate six samples informed the Reasonable Potential Evaluation Assessment for outfall 001 but it is not clear if the six samples were independent of the combined testing of outfalls 001, 004, 005, 007, 009 and 011. Was sampling and testing done specifically on the flow from outfall 001? If there was separate testing of each individual outfall to determine the source(s) of copper than this data should have been provided in the Fact Sheet. Attachment R indicates there is reasonable potential for the discharge from outfall 001 to exceed chronic and even acute copper limits but the draft permit does not contain copper limits for this outfall. The permit does indicate BMPs and other improvements are being made to the outfall 001 infrastructure but there does not appear to be any measures specifically targeted at copper removal. Attachment R indicates the effluent has the probability to be more than twice the water quality criteria. Would increasing the ability of the oil and water separator to handle flows result in appreciable copper or any other metals removal? Given the calculated reasonable potential provided in the Fact Sheet and no justification provided to show the propose improvements in the basin will have a substantial affect on copper; acute and chronic copper limits need to be added to the permit.

Response 16:

As noted elsewhere, Outfall 001 has been removed from the permit as it is no longer owned by GE. However, based on reasonable potential analysis shown in Attachment R of the Fact Sheet, and the analysis GE submitted in their comments, there is a reasonable potential to exceed the copper criterion in the Outfall 001 discharge. The effluent samples were collected from sampling locations 001, 005-64T, 005-64G, 09A, 09B and dominated by Outfall 001 and 009 flows. This reasonable potential finding is based on calculating the Outfall 004 and 007 percent makeup flow of the composite sample was 0% and the Outfall 001 and 009 percent makeup flow was 50%. Therefore, it appears that a copper limit should have been included on the dry weather discharge from 001 and EPA anticipates such a limit when EPA reissues the PEDA permit. Also, based on the reasonable potential analysis shown in Attachment R of the Fact Sheet, there is no reasonable potential to exceed the copper criterion in the discharge from the remaining outfalls.

Comment 17:

WET

Attachment Q shows some problems with whole effluent toxicity compliance in the tests performed on the combined outfall flows- especially under dry conditions (worst case was 6.25 % survival NOCEL in July, 1999). Recent tests show improvement but the testing was done on a combined sample. If the lack of information is the rationale cited for not establishing pollutant limits for the outfalls than this argument is equally valid concerning the elimination of criterion. Consideration should be given to requiring WET testing for those outfalls with dry weather flows.

The whole effluent toxicity testing for outfall 007 has been eliminated in this draft permit. The reason for the elimination is the curtailment of process and cooling water discharges to the

system. The removal of this requirement should be reconsidered. Attachment M indicates this outfall is impacted by GE's application of pesticides, herbicides and soil conditioners in this drainage basin. The presence of these turf management chemicals pose a reasonable threat to the aquatic life in the receiving water and testing is pertinent and should be retained since the water toxicity is unknown/unproven.

The WET testing should remain in place for outfall 001, and all other outfalls with dry weather flow, until the "unknown origin dry weather" flow is shown to have no acute or chronic toxicity. Many permits now contain language allowing for Permittee to petition for a reduction in WET testing after two years of compliance with permit limits. This approach would be valid in this instance.

WET testing- how was daphnid chosen as test organism? Was WET testing performed on other organisms (*Pimpales*, etc) to determine the most sensitive organism.

Response 17:

The data in Attachment Q shows that there has only been one LC50 less than 100 percent (93 percent) in all of the tests since 1998 (collected during both wet and dry weather). Since 2002 there has only been one NOEC less than 100 percent (75 percent). NOEC samples were also collected during both wet and dry weather.

WET testing is not typically required of storm water discharges because of the variability of the storm water effluent and the difficulty of identifying individual toxic components in the effluent. Data collected to date do not support a finding of reasonable potential for outfall 007. WET testing is more appropriately applied to continuous discharges where the characteristics of the effluent are better known or more easily predicted. Note that outfall 007 has been plugged and is no longer included in the permit.

Although the toxicity tests results at this site does not establish a more sensitive test organism, *Ceriodaphnia dubia* was selected because it is the more sensitive test organism for the vast majority of discharges in New England.

Comment 18:

TSS

Many of the outfalls do not currently have total suspended solids (TSS) monitoring requirements but of the outfalls with this requirement, the data show large quantities of total suspended solids are discharged into the receiving waters. The addition of total suspended solid concentration and load limits for the outfalls should be considered. Storm water can carry large quantities of TSS

and the planned demolition of many of the structures at this site and the presence of contaminated soils raises concerns about the potential impacts high concentration and loads of TSS could have on the receiving waters.

The discharge monitoring data supports the need for TSS limitations. Recent discharge monitoring data illustrates pervasive TSS problems at Outfall 001I which had a TSS loading of 104.5 pounds in March, 2004. Outfall 009 had lower, but still significant, loadings with 35.9 lbs in May, 2004 and 21.4lbs in March, 2004 while outfall 005 reached 9.4lbs in May, 2004 and 16.5 lbs in March, 2003. Data is not available for other outfalls but given the similarities between the outfalls' drainages and contributing flows, it seems likely there are TSS concerns and reasonable potential for elevated TSS concentrations and loadings.

TSS load and concentration monitoring requirements based on water quality needs are very much needed for all the storm water outfalls and yard drains. Load and concentration limits should be seriously considered for all outfalls based on water quality issues and the cumulative impact of the multiple discharges into the receiving waters. For the smaller Unkamet Brook and for Silver Lake, large loads of suspended solids from multiple discharges have the potential to be quite detrimental to the aquatic ecosystems of these systems with lower assimilative capacities. The addition of a reporting requirement will help to develop more information but the existing data indicates it is reasonable to assume cumulative TSS loads from the multiple outfalls are capable of degrading receiving waters. The data also shows many of the highest readings occur in the spring which suggests basic storm water pollution prevention activities such as street sweeping and storm sewer maintenance are not occurring or are inadequate. TSS monitoring should be increased to a minimum of monthly sampling but it would be preferable to require composite sampling for each discharge event so the total load of TSS entering the receiving waters from the GE site can be calculated and assessed and the effectiveness of the BMPs to be instituted can be determined.

Outfall 001 has only a wet weather TSS load limit. The limits are 628 lbs/day maximum daily and a monthly average maximum load of 138 lbs/day with monthly monitoring required. Several aspects of the outfall 001 TSS permit requirements raise issues. First is how the daily maximum and monthly average loads were determined? Silver Lake is a highly degraded, 303(d) listed impaired water offering little dilution and depositional conditions inherent in a lake. The lake also has additional point source discharges. Was water quality and cumulative impacts considered in establishing this load limit? Is it known if the TSS contain PCBs in measurable quantities?

Outfall 009 also has load limits with an allowable daily maximum load limit of 876 lbs/day. This is a significant quantity of TSS going into the relatively small Unkamet Brook. The Fact Sheet also does not contain information on how the load for this outfall was calculated. What discharge volume and concentration was the load based upon? Are these load limits based on water quality

concerns? The load limits are considerably larger than the actual loads measured and reported in DMRs, range of 0-82 lbs/day (Attachment N). This suggests the loads are not technology based or conservative. Note the TSS load has been increasing at this outfall from the earlier sampling period '98-'00 to '01-'03 so the problem is worsening though the relatively generous load limit does not produce incentive to keep the loads from increasing over time.

Why do storm water outfalls 001 and 009 have both a load limit and a monthly monitoring requirement, (with a composite sample) while other storm water outfalls have only quarterly, report only monitoring despite all being storm water outfalls except 005? The receiving waters have multiple discharges so the cumulative loads need to be considered and controlled. Has the impacts to the aquatic system for these potential loads into the brook, (or lake or river) been considered thoroughly? Is there a probability or potential for the TSS loads to impact water quality, habitat and aquatic life? Is there enough data about all the discharges from multiple source- GE and City- to confidently determine what is a acceptable load of TSS or any other pollutant? With multiple discharges, even the outfalls with smaller storm flows warrant more intensive monitoring and a proportional load limit based on the water quality concerns of the receiving waters.

Response 18:

With the revision to the monitoring requirements in the Final Permit, all authorized outfalls to receiving waters now have TSS monitoring requirements.

The TSS effluent limits included in the permit are technology-based limits carried over from the 1992 permit. The mass limitations were based on the permitted monthly average flows through the outfalls. The concentrations that were the basis for these limits can be back-calculated (see table below) and show that they are more stringent than technology-based limitations typically assigned to wet weather discharges (see Region 1 oil terminal permits, which include a monthly average TSS limit of 30 mg/l and a maximum day limit of 100 mg/l, the MSGP, which has a benchmark TSS value of 100 mg/l, and the storm water construction permit, which has a 50mg/l monthly average limit and a 100 mg/l maximum day).

The following table presents the TSS, BOD, PCB, oil and grease (O&G) mass limits and the associated flow limits from the 1992 permit, and the flow limits for each of the discharges and shows that the limits for TSS and O&G are based on similar effluent concentrations for each discharge, showing that similar BPJ concentration limits formed the basis for the mass limitations.

	Outfall 001	Outfall 004	Outfall 005**	Outfall 009
Mo. Avg Flow MGD	1.1	0.38	2.09	---
Max Day Flow MGD	2.55	2.09	2.09	---
Mo. Avg TSS lbs/day (mg/l)	138 (15*)		188 (21*)	213 (20****)
Max Day TSS lbs/day (mg/l)	628 (30*)		270 (30*)	876 (30****)
Mo. Avg PCB lbs/day (ug/l)	---		0.01 (1*)	---
Max Day PCB lbs/day (ug/l)	---		0.03 (3*)	---
Mo. Avg BOD lbs/day (mg/l)	---		90 (10*)	106 (10****)
Max Day BOD lbs/day (mg/l)	---		135 (15*)	438 (15****)
Max Day O&G lbs/day	319 (15)	261 (15)	135 (15)	438 (15)
Max day O&G mg/l	15	15	15	15

* Not a limitation – calculated from mass limit and flow limit

** Mass limits for outfall 005 were originally calculated based on a flow limit of 1.08 MGD. The flow limit was later increased pursuant to a permit modification to allow the tie in of the groundwater treatment system, but the mass limits were not increased. For purposes of comparing the calculated concentrations for outfall 005 to those of other outfalls, the originally permitted flow of 1.08 MGD was used in the calculation.

*** Mass limits for outfall 009 were originally calculated based on a monthly average flow limit of 1.28 MGD and a daily maximum flow limit of 3.5 MGD. The flow limits was later removed from the permit pursuant to a permit modification, but the mass limits were not changed. For purposes of comparing the calculated concentrations for this outfall to those of other outfalls, the originally permitted flow limits were used.

As can be seen, the technology-based mass limitations for TSS correspond to 15-20 mg/l for monthly average limits and 30 mg/l for daily maximum limits. The Oil and Grease limitations correspond to maximum daily limits of 15 mg/l and the BOD limitations correspond to 10 mg/l for a monthly average and 15 mg/l for a daily maximum.

There are no numeric water quality criteria for TSS, but if monitoring data shows TSS to be a reliable indicator of PCB concentrations, the Region may develop water quality-based limitations for TSS.

Comment 19:

Oil and grease

Most of the questions raised concerning TSS loads, limits and absence of limits also apply to oil and grease. Adding load limits for oil and grease improves over a straight concentration limit since loads can be sensitive to the water quality needs of the receiving water. How load limits for select outfalls were determined and which outfalls need O&G load limits was not covered in the Fact Sheet. The draft permit assigns an oil and grease limit of 438 lbs/day daily maximum for outfall 009. Outfall 009 discharges to the relatively small Unkamet Brook. The daily maximum flow recorded between 11/01 and 10/03 was 1.068 mgd (Attachment N). Typically the O&G concentration limit is 15 mg/l. If one calculates the load using these figures the resulting load, 133.7 lbs/day, is significantly less than the load limit in the draft permit unless the 1.068 mgd discharge has an oil and grease concentration of about 50 mg/l. The draft permit's loading limit is more reflective of a flow 3x the maximum discharged from this outfall and presumably the required BMPs will further reduce the maximum flows making this large permitted loading even more unsuitable. This is a large load for a small brook and one that is apparently well in excess of what would be expected. How was this load limit derived and is it protective of water quality especially in concert with the O&G loads coming from the other point sources, whether from GE or other sources, into these connected receiving waters? The permitted loading needs to be based on water quality issues and take into account the current or expected flow conditions from this outfall.

The elevated load for outfall 009 illustrates the bigger picture issue with the permit limit variations between the outfalls. There are multiple outfalls from this site carrying storm water runoff from an industrial site and discharging into interconnected waterways. The flow characteristics should be comparable. The Fact Sheet does not explain why one outfall has a load limit while another has a concentration limit and others only reporting requirements. Some outfalls require monthly monitoring while others are quarterly and grab samples are the sampling method required. Given the large number of outfalls, the variability of flow, and the infrequency of the sampling, how large a load of oil and grease is entering the Housatonic River from direct outfalls and from tributaries Silver Lake and Unkamet Brook is likely unknown and this is an unfortunate condition given the goal of protecting and restoring our waterways. All of the outfalls with O&G data show a reasonable potential to exceed a 15 mg/l concentration limit but the concentration does not tell the entire story because there are multiple outfalls in the receiving waters and many outfalls, notably the storm and yards drains, do not have O&G data. Having better data, from composite sampling and more frequent sampling, load limits that reflect water

quality needs and consistent requirements for all discharges, including storm and yards drains, would provide protection to the receiving waters.

Response 19:

Similar to the TSS limits discussed above, the oil and grease limitations in the Draft Permit for outfalls 001, 005, and 009 (in the final permit, the limitations for 009 are now applied at outfall 09B), are technology-based and have been carried forward from the 1992 permit. Unlike TSS however, the permit limits for these outfalls included both concentration and mass limits. As shown on the table above, the load limits were calculated using the design flow of the facility and a concentration of 15 mg/l.

In addition, the Draft and Final Permits include concentration limits of 15 mg/l for outfalls 05A, 05B, and 06A. This concentration is generally accepted as protective of the narrative Class B water quality criteria requiring these waters to be free from oil, grease, petrochemicals that produce a visible film on the surface of the water, impart an oily taste to the water, or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life. These limits were included because EPA believed there was reasonable potential for the discharge of oil and grease to exceed the narrative criteria. As discussed previously outfalls 001, 01A and 004 were removed from the permit because they were transferred to PEDDA.

The Final Permit also requires oil and grease monitoring of outfalls 64G and 009 (09B in the Draft Permit). With the addition of oil and grease monitoring for the outfalls listed in Part I.A.14 all outfalls have oil and grease monitoring requirements. If the data submitted for these outfalls show the reasonable potential for oil and grease concentrations to exceed water quality standards, or if it is shown that oil and grease concentration is a good indicator of PCB concentration, a water quality-based limitation can be added through a permit modification.

Comment 20:

pH

The receiving waters of these outfalls are classified as Class B waterways by the State. The water quality pH range for Class B waters is 6.5-8.3 s.u. The draft permit appears to have only limitations in place for pH for outfall 005 dry weather and the limitation proposed fails to conform to the State's Class B standard since the draft permit allows an upper pH limit of 9.0 s.u. The other outfalls do not appear to have pH limitations at all just report only status despite some remarkably high and low pH values (3.5 s.u. in outfall 01 A and 11.17 s.u. in outfall 004). Why are there no pH permit limitations required for the storm water outfalls given there is a high probability for exceedances of Class B Water Quality Standards? All discharges, both dry and

wet weather flows, need to meet Class B water quality standards for pH unless natural conditions result in values outside the Class B range.

The monitoring schedule for pH should also be reconsidered. The EPA's PCS data base has pH readings for almost every outfall for each month yet the draft permit has quarterly monitoring schedules for some of the outfalls showing monthly readings. Is the facility currently required to monitor some outfalls monthly that will be monitored quarterly under the draft permit or did the Permittee monitor more frequently than required? Given the relative ease and low cost of pH testing, the past pH record for this site, the apparent history of monthly monitoring, and the need for more complete data to better understand the potential affect of the discharges on the receiving waters, monthly monitoring and even monitoring of each discharge event is warranted.

Response 20:

The details for the pH data results mentioned by the commenter are as follows: 01A had a pH value of 3.5 S.U. and this sample was collected on 9/30/98. Outfall 004 had a pH value of 11.17 S.U. on 2/28/03. There are several values that are fairly low, which appear to be due to low pH rainfall. The high value of 11.17 looks like an anomaly, or may have been from an industrial process since this occurred 5 ½ years ago. The pH range at 004 was 4.28 – 8.6 S.U., excluding the 11.17 value, from 1/31/03 – 3/31/05.

Effluent pH values reported in GE's DMR:

Outfall:	Sample Dates:	pH Range:
001	1/31/04 – 3/31/05	6.0 – 8.7
01A	1/31/04 – 3/31/05	6.0 – 8.5
004	1/31/04 – 10/22/04	6.0 – 8.5 (outfall 004 was sealed in May 2005)
05A	3/31/04 – 3/31/05	6.0 – 8.7
05B	3/31/04 – 12/25/07	6.0 – 8.6
006	3/31/04 – 1/25/07	6.0 – 8.5
06A	3/31/04 – 1/25/07	6.0 – 8.5
007	1/31/04 – 4/21/05	6.0 – 8.5 (outfall 007 was sealed in March 2005)
009	1/31/04 – 3/23/07	6.0 – 8.7
09A, 09B, 09D	no pH data	(outfall 09A was sealed in March 2005)
64G	1/31/04 – 3/21/07	6.5 – 8.0
64T	1/31/04 – 3/23/07	6.4 – 8.6
SRO4	3/31/04 – 4/21/05	7.1 – 8.97 (outfall SRO4 was sealed in March 2005)

The pH in the East branch of the Housatonic River upstream of the GE discharges is in the range of 6.12 – 7.92 S.U. according to the toxicity test results from 1/6/04 – 9/14/07. The MA Water Quality Assessment Report for the Housatonic River Watershed, 2002 reported no pH problems

or impairments for the East Branch of the Housatonic River. It therefore appears that there is no reasonable potential for any of the existing discharges to cause or contribute to exceedances of pH water quality criteria.

Comment 21:

Other matters

All outfalls receiving groundwater infiltrate or overflows/surcharge from the 064T or 064G should have monitoring requirements on par with outfall 005 which discharges groundwater treated to remove PCBs and other pollutants. If these pollutants have the potential to be in the effluent of the groundwater treatment system, it is logical to assume they could be present in any outfall containing groundwater or outfall 005 surcharges. Monitoring for volatile and semivolatile organic compounds needs to be added to all outfalls receiving groundwater infiltrate. This is also further argument to include WET testing for these outfalls.

Response 21:

Because the commenter mentions volatile and semi-volatile monitoring, which is only required at outfall 64G, EPA assumes the commenter is requesting that all outfalls have monitoring requirements the same as 64G, not 005.

EPA does not believe that all outfalls require the same monitoring requirements as 64G, as it is treating highly contaminated groundwater. However, to ensure that EPA has required monitoring that will provide an indication of groundwater contamination from areas known to have contaminated groundwater EPA has required that volatiles and semi-volatiles be monitored for outfalls in the 005 and 006, the only other outfalls with dry weather discharges in the 005 and 006 drainage areas.

As discussed previously, all outfalls discharging during dry weather now include limitations and monitoring for PCBs, and all other outfalls require PCB, TSS, and oil and grease monitoring. EPA has determined that this monitoring will be sufficient to identify any additional problem areas.

Comment 22:

The Permittee has undertaken priority pollutant analysis associated with toxicity testing using a composite sample of outfall discharges. This testing does not appear to be required under the new permit. This site is complex, undergoing a significant number of changes related to remediation, institution of BMPs, and redevelopment. The site still has significant groundwater and other remediation efforts to carry out. Continuing the priority pollutant testing through these

massive site disturbances would provide a measure of confidence concerning the continued reasonable effluent concentrations of priority pollutants.

Response 22:

The composite sampling requirements were intended to show whether there was an overall concern with WET and other toxics. The tests have shown that there is not. EPA believes that The permit focuses on PCBs, which is the main pollutant of concern on this site.

Comment 23:

Information in the Fact Sheet indicates 9 outfalls were determined to be nonpoint source discharges and not point sources. More clarification on how an outfall, presumably some sort of discreet conveyance into a receiving water if it is labeled a outfall, is a nonpoint source discharge not subject to coverage under the NPDES program would be appreciated. The 9 non point outfalls were not apparent on the attached Drainage Area and Outfall Locations Map. Clarification on the location of these particular non-outfalls and information on the land uses within the drainage areas of these nonpoint outfalls would be welcome. Also if there are any best management practices associated with these nonpoint outfalls.

Response 23:

EPA determined that these discharges were nonpoint sources. EPA has included a requirement that GE conduct a site survey to determine whether there are additional point sources on their facility. The BMPs required under the permit are intended to address both point and nonpoint source pollutant discharges from the site.

Comment 24:

The draft permit does not allow dry weather flows from several outfalls currently discharging during dry weather, outfalls 01A, SR05, 06A. The draft permit does not indicate there is an interim period of time between the permit finalization and when the dry weather flows must stop. The lack of a schedule for compliance suggests the curtailment of dry weather flows must coincide with the final permit. Is this the intention or will the Permittee be given additional time to address these unknown dry weather flows? If the dry weather flows will be phased out over time, the permit should provide a detailed timeline for the elimination of these dry weather flows and a temporary monitoring schedule to test the dry weather flows until they are eliminated.

Response 24:

As described previously, it was EPA's intent in the Draft Permit to authorize dry weather discharges through those outfalls that included such discharges, subject to PCB effluent limitations and monitoring requirements, and to not authorize dry weather discharges for outfalls for outfall that did not currently have such discharges. Based on differences between the flow balance diagrams submitted by GE and other application materials, this was not consistently done in the Draft Permit and has been corrected in the Final Permit. Therefore, there is no need for schedules for the elimination of such discharges.

The Draft Permit did not authorize outfalls 01A, SR05, 06A to discharge during dry weather. It is understandable however that the descriptions of the outfall flow components on the respective effluent limitations pages would cause some confusion and we have changed the language to make it clear that discharges during dry weather are prohibited.. As noted previously, outfall 01A is no longer included in the permit. The flow component descriptions for outfall SR05 and 06A on their respective limitations pages and in Attachment A have been modified to make it clear that these outfalls are not authorized to discharge during dry weather.

Comment 25:

A clarification please. The Fact Sheet explained that storm water runoff from 64T is discharged to outfall 005. Does this mean area around the building, just the roof or actual areas where treatment occurs and may drain through floor drains or other means into the outfall.

Response 25:

Building 64T contains a storm water treatment system consisting of pH adjustment, polymer addition to promote flocculation of solids, mixing, inclined plate clarification and multimedia filtration.

The 64T treatment facility accepts groundwater infiltration and storm water from drainage basin 005, which has a total area of 52 acres (43 impervious acres) and discharges this flow to outfall 005 during both wet and dry conditions.

As discussed previously, in recognition of the dry weather contribution of flow from 64T, the dry weather monitoring location for outfall 005 has been moved from 64G to outfall 005, downstream of the discharges from 64G and 64T.

Comment 26:

SR02, SR 03 and SR04 are overflows from the 005 drainage system, a system with treated and untreated groundwater flows in addition to storm water. The data is quite limited for these outfalls yet the Fact Sheet clearly shows SR04 has PCBs higher than applicable water quality criterion. Given the source of influent to these drains, the reasonable potential to exceed water quality criteria or aquatic health criterion, and the known elevated PCB concentrations at the one drain monitored for PCBs, the permit should require monitoring for TSS, oil and grease, PCBs and pH in addition to flow.

Response 26:

SROs (sewer relief overflows) SR02, SR03 and SR04 have been eliminated and are no longer authorized by the permit.

Comment 27:

This draft permit does not include some of the standard criteria and conditions found in other NPDES permits such as:

“The discharge shall not cause or have the reasonable potential to cause or contribute to a violation of a water quality standard.”

“The results of sampling for any parameter above its required frequency must also be reported, in accordance with 40 C.F.R. § 122.41 (I) (4)(ii).”

“This permit shall be modified, or revoked and reissued to comply with any applicable effluent standard of limitation issued or approved under Sections 301 (b)(2)(C) and (D), 304(b)(2), and 307(a)(32) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

(1) contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or

(2) controls and pollutants not limited by this permit.

If the permit is modified or reissued, it shall be revised to reflect all currently applicable requirements of the Act.”

Why haven't these 'boiler plate' conditions been included in this draft permit? The conditions are most applicable to this situation and would offer additional protection to the environment and more flexibility.

Response 27:

The permit modification condition cited to by the commenter is broader in scope than provided EPA under applicable regulatory authority governing the NPDES permit procedures. Existing authority under 40 C.F.R. § 122.62 provides EPA with sufficient flexibility to modify the permit to impose protective provisions that account for new information not available to the Agency at the time of permit issuance.

EPA has not included the condition that “The discharge shall not cause or have the reasonable potential to cause or contribute to a violation of a water quality standard,” because it is potentially confusing and is unnecessary. It is not the obligation of the permittee, but rather EPA, to determine whether a discharge has the reasonable potential to cause or contribute to a violation of water quality standards. EPA has conducted a reasonable potential analysis for all pollutants in the discharges from the GE site and has included effluent limitations on pollutants as necessary to ensure compliance with water quality standards. Thus, the permit itself will ensure that the discharge will not cause or have the reasonable potential to cause or contribute to a violation of water quality standards.

The condition pertaining to reporting of sampling results is contained in the Part II conditions.

VI. COMMENTS FROM ENVIRONMENTAL STEWARDSHIP CONCEPTS, ON BEHALF OF THE HOUSATONIC RIVER INITIATIVE (originally submitted on March 3, 2005 and revised on March 25, 2005; revised version is presented):

Introduction

Since the late 1970's, numerous studies have recorded extensive PCB contamination in the Housatonic River. Contamination has been documented all the way to the termination of the river in Long Island Sound. In a 2000 court hearing, the GE plant in Pittsfield, MA was identified as the sole responsible party for the PCB contamination that extends to the last dam at the mouth of the river and a Consent Decree was signed. Investigation into the extend (sic) contamination and cleanup methods continues to this day, and the Housatonic River remains severely impaired.

The following comments are in response to GE's application to renew its National Pollutant Discharge Elimination System (NPDES) Storm water Permit for the Pittsfield facility.

Comment 1:

General Comments

Considering that the current fragile state of the Housatonic River has been caused almost exclusively by the past actions of the Pittsfield GE facility, the facility should be held to the absolute highest standard for discharges. The current permit does not meet this requirement and fails to account for the Housatonic's impaired state. Because of this facility's past actions, and because PCBs from the facility have been identified as posing extensive risks to both humans and wildlife up and down the Housatonic River, the permit for the Pittsfield facility should not allow the discharge of **any** PCBs into the Housatonic River. GE has had more than a decade to eliminate the creation and release of PCBs during its processes, and current technology allows for this goal to be met.

The current permit allows for unsatisfactory quantities of PCBs to be discharged from the facility and does not provide for adequate monitoring. Outfall 001 discharging into Silver Lake during dry weather is only required to be monitored for PCBs quarterly, and outfalls discharging during wet weather into the Housatonic, Silver Lake, and Unkamet Brook are only required to be monitored for PCBs once a month. Outfall 001 should be monitored on a monthly basis, especially if the source of some of the water flow is not known as stated in Attachment A of the permit. Because these water bodies contribute to the volume of the Housatonic River, it is vital that PCBs be prevented from entering them. Outfalls discharging during wet weather should be monitored for PCBs on a per event basis.

The permit needs to require that GE find the sources of PCB's. GE must undertake trackback procedures to determine the original source or sources of PCB's. The sources may be storm water sumps, buried drums at the sources (e.g. parking lots), barrels, sumps, transformers within the plant, etc. The trackback procedures are needed to find these sources so GE can clean up the PCBs. Permit attachment A says that some PCB sources are unknown; GE must identify the original source.

The current methods for the measurement of whole effluent toxicity are inadequate. LC₅₀ and IC₂₅ tests are not effective assessments of the risks posed by PCBs. The effects of PCBs are long term, and affect the second generation of exposed organisms much more significantly. The use of only one test organism (daphnids) is also unacceptable. Including tadpoles and a species of fish is recommended to better assess the risks posed by the facility's effluent.

Response 1:

The CWA requires that water quality-based effluent limits be imposed where the discharge of a pollutant has the reasonable to cause or contribute to an exceedance of a water quality standard. As discussed above, the water quality based limits do not have to be numeric.

As discussed above, EPA has added monitoring requirements to outfalls discharging during dry weather that will serve to identify outfalls discharging PCBs contained in groundwater infiltration and other dry weather sources that will help with "track back" of contaminants to their sources.

EPA concurs that WET testing is not the most effective assessment tool. The major focus of additional testing in the permit has been to obtain better quantification of PCBs in the discharges. EPA has also required that all testing be done using modified method 8082 to enhance the detection and quantification of PCBs in all discharges.

Comment 2:

(EPA note: The numbering at the beginning of each of the following comments identifies the particular section of the Draft Permit.)

Part IA

#1: Total PCBs should be monitored from Outfall 001 on a monthly basis rather than quarterly.

Response 2:

Outfall 001 no longer included in the permit as it is a PEDDA discharge. In general, EPA agrees that more frequent sampling is appropriate and has generally increased monitoring frequency in the Final Permit.

Comment 3:

#2: The discharge of 319 lbs/day of oil and grease during wet weather from outfall 001 is unacceptable. Counting snow melts, the maximum amount of oil and grease is discharged even on an infrequent basis could result in the release of several tons of oil and grease each year under current standards.

Response 3:

Outfall 001 is no longer in the permit because it has been transferred to PEDDA. However, the Draft Permit included both concentration and mass limits for the outfall. An effluent concentration of 15 mg/l (the Draft Permit limit) is generally accepted as a reasonable water quality-base limit for ensuring compliance with narrative state water quality standards for oil and grease. While the permitted mass may seem excessive to the commenter, the mass limit is consistent with achieving 15 mg/l concentration limit at design flow.

Comment 4:

#5: The average monthly discharge of PCBs from the 64G is much too high. At the specified level, several grams of PCBs could be released into the already contaminated Housatonic River even before the nine month time limit is reached for additional controls to be put in place. In the section below titled "Treatment Options to Obtain a Zero PCB Discharge" treatment technologies are outlined that may help reduce effluent concentration to non-detectable values.

Response 4:

The monthly average effluent limitation for outfall 64G has been changed to 0.014 ug/l, the chronic water quality criteria. A dry weather discharge limit of 0.014 ug/l for outfall 005 has also been added to the Final Permit. The compliance limit for the discharge will continue to be based on the minimum level of the test method.

Comment 5:

#13: A discharge of 438/lbs/day of oil and during wet weather from outfall 009 is too high for the reasons described for Part IA, #2.

Response 5:

Similar to the previous comment regarding outfall 001, the Draft Permit included both concentration and mass limits that EPA believes are protective of water quality standards. Please note that the oil and grease limitations for outfall 009 in the Draft Permit have been applied to outfall 09B in the Final Permit. However, an oil and grease limit of 15 mg/l has been included

for outfall 009 as a water quality-based limit to ensure attainment of the Class B criteria for oil and grease (see 314 C.M.R. 4.05(3)(b)7).

Comment 6:

Footnote 7: If there are any detections of copper during the course of this permit then copper monitoring should continue in the future.

Response 6:

Outfall 001 was the only outfall in the Draft Permit for which copper monitoring was required and the outfall is not in the Final Permit. However, the decision whether to continue copper monitoring would have been based on the reasonable potential of the discharge to cause or contribute to an exceedance of water quality criteria. Given that there is no dilution provided by Silver Lake, the decision would have been based on whether the copper concentration was less than the receiving water criteria.

Comment 7:

Footnote 8: Considering that the Housatonic River is already highly contaminated, all PCB discharges should be included in monitoring reports, even those below the ML. Reporting levels below the 0.065 µg/L should under no circumstances be recorded as 0, especially when detection limits are so much lower (0.014 µg/L). Because of GE's past discharges of PCBs created the contamination resulting in GE's Consent Decree regarding the Housatonic, all discharges should be recorded and made readily available for regulatory agencies to review. Such a requirement would put no additional burden on GE as the testing is already being conducted and would be of immense benefit to regulatory agencies and the public to review planning and monitoring the cleanup of the Housatonic.

Response 7:

The compliance reporting is based on the minimum level (ML), which is the level at which the entire analytical system gives recognizable mass spectra and acceptable calibration points, and corresponds to the lowest point at which the calibration curve is determined. This value is typically used by EPA for compliance purposes. Footnotes *13 and *14 of the Final Permit require that the results of all samples, including those less than the ML, be reported in an attachment to the discharge monitoring report.

Comment 8:

Footnote 13: Bioassays should be more complete. One species will not accurately represent risks to all organisms. Please refer to the General Comments section for more information regarding bioassays.

Response 8:

As discussed in the response to your general comments, EPA does not believe that bioassays would be a particularly effective tool in determining environmental risk, particularly when the major pollutant of concern is known and there are numeric water quality criteria for that pollutant (PCBs).

Comment 9:

20 (a-3): Applicants should be required to report any discharge that exceeds the maximum concentration value. Tremendous environmental harm may be caused by one discharge at five times the limit. At a minimum PCB discharges should be handled in this fashion.

Response 9:

Part I.A.20.a.(3) of the Draft Permit pertains to discharges 5 times the maximum concentration reported in the permit application and is from 40 C.F.R. § 122.42 (a)(1)(iii). This is standard language that must be included for existing manufacturing, commercial, mining and silvicultural discharges. EPA does not believe it is appropriate to modify this language.

EPA points the commenter to Part II D.1.e of the permit, which requires 24-hour notice of any non-compliance which may endanger health or the environment, including any anticipated bypass which exceeds any effluent limitation, and any upset which exceeds any effluent limitation, and violation. See 40 C.F.R. § 122.41(1)(6).

Comment 10:**Part D**

#1: Nine months is too long of a timeframe for GE to develop a PCB treatment capability study. Considering the length of time that the Pittsfield facility has been aware of the PCB issues regarding the Housatonic and that has been identified as the Responsible Party for those problems, there is no reason why a comprehensive plan to completely eliminate PCBs has not already been developed. At the most, GE should be given 6 months to develop a PCB plan. This plan should result in a zero PCB discharge rate for the entire facility.

Response 10:

GE has provided a high degree of treatment for the 64G discharge, and EPA believes that nine months is a reasonable time for completing the technical evaluation because it will provide EPA with adequately representative sampling data over several seasons.

EPA has established monthly average effluent limitations equal to the chronic water quality criteria for all dry weather discharges from the facility, and have required the application of BMPs for storm water discharges, as recommended by the Interim Permitting Policy. The permit requires monitoring of discharges sufficient to determine whether the BMPs are sufficient to achieve water quality standards.

Comment 11:

#2: We urge EPA to require that GE undertake options outlined in the following section as treatment possibilities.

Response 11:

EPA believes that this comment refers to a section of the comments titled Treatment Options to Achieve a Zero PCB Discharge, which is included below. EPA has responded to this comment in the response following that section

Comment 12:

Attachment B

Section IV: EPA should *require*, rather than strongly urge, that screening be performed prior to a full definitive toxicity test.

Response 12:

The Toxicity Test Protocol in Attachment B states that “It may prove beneficial to have the dilution water source screened for suitability prior to toxicity testing. EPA strongly urges that screening be done prior to set up of a full definitive toxicity test any time there is question about the dilution water's ability to support acceptable performance as outlined in the 'test acceptability' section of the protocol. See Section 7 of EPA/600/4-89/001 for further information.”

WE have not changed the screening requirement. The decision to screen or not should be decided on a case-by-case basis by the permittee and their lab. If the dilution water does not meet the necessary criteria, it will still be tested for certain parameters but will not be allowed for the full definitive toxicity test.

Comment 13:

Attachment C

Notes #2: Solid debris should be evaluated for toxicity before placement into GE's consolidation area. Porous and absorbent objects can contain significant amounts of PCBs.

Response 13:

The On-Plant Consolidation Areas (OPCAs) are designed to accept PCB-contaminated wastes.

Comment 14:**Treatment Options to Achieve a Zero PCB Discharge**

Several treatment technologies are currently available that result in the complete dechlorination of PCBs. Many have already been implemented at various facilities across the country with great success.

One of the most common and effective methods used is through radiolytic and photolytic means. Jones et al (2003) established a process in which complete dechlorination of PCBs was achieved in 120 hours of electron beam irradiation after the addition of triethylamine. UV radiation was also utilized with great success in the same study. Mincher (2000) and others (Chaychian, 1999; Schmelling, 1998) have demonstrated the effective use of irradiation as a method to dechlorinate PCBs. Recently, the state of California has begun steps to implement UV sterilization as a method to remove organic compounds in its water recycling program. The process is currently still undergoing validation.

Because the chlorine atoms of all PCB compounds are exocyclic (on the outside of the benzene ring), they can be dechlorinated easily via catalytic hydrogenation. Brinkman (1991) has designed a full scale hydrotreatment facility to refine and remove PCBs from used oils. The design has been successfully tested with the treatment of 225,000 gallons of used oil at concentrations of 40 ppm or below (Brinkman, 1995). Phillips has actually commercialized a design similar to this called the Phillips Re-refined Oil Process (PROP). As of 1995, three such facilities were operational and the process achieves similar results (Linnard, 1979). OUP Inc. has also developed a similar technology, achieving > 99.9% PCB removal (Johnson et al, 1987). While these systems have been designed specifically to treat oils, it is feasible that the process could be converted to waste streams containing primarily water.

Subcritical water dechlorination using metal additives has also been identified as a possible means of PCB removal from waste streams (Kubátová, 2003). Heating water to over 250° C in the presence of zerovalent metals such as aluminum and zinc resulted in dechlorination rates ranging 80-99% depending on the PCB congener. Many of the metals described in the study as having a positive effect on dechlorination also have toxic effects of their own. Therefore, any attempts to utilize this technology must address this problem.

Numerous other technologies have also proven to be effective in the removal of PCBs from waste streams. The methods are diverse and include novel approaches such as electro-chemical

peroxidation and sonochemistry. An excellent summary of technologies and references can be found in Meunier (1997).

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Response 14:

NPDES permits do not typically require the consideration or application of particular control technologies, but rather include limitations and conditions that will result in the achievement of appropriate technology-based and water quality-based requirements. EPA believes that the permit includes appropriate limitations and conditions. If it is shown that additional treatment is needed, it may be necessary to consider one or more of the technologies described in the comment.

VII. COMMENTS FROM:**JANE WINN, BERKSHIRE ENVIRONMENTAL ACTION TEAM****TIM GRAY, HOUSATONIC RIVER INITIATIVE****JUDY HERKIMER, HOUSATONIC ENVIRONMENTAL ACTION LEAGUE*****Comment 1:***

The Environmental Protection Agency (EPA) settlement/consent decree set the stage for the cleanup of two miles of the Housatonic River. Decisions were made without any affected citizens allowed into the negotiations. EPA made promises at public meetings that they would protect the citizens' interests. In motions to intervene in the consent decree, arguments were made that the EPA did not sufficiently address the pathways of migration of polychlorinated biphenyls (PCBs) from the General Electric Company (GE) facility, making recontamination of the river a likely possibility. EPA dismissed the citizens' claims and told the community that reopeners in the consent decree could be utilized and enforcement actions could be taken if new information became available. These would protect the public and the river from more PCB releases.

The data presented in the National Pollution Discharge Elimination System (NPDES) Draft Permit shows that EPA knew that these releases were taking place, did not act on them and let these PCBs continue to leak into the river. The EPA negotiated that a large part of the cleanup would be paid by the public but failed to keep their promises to the community. In 2001 at the monthly Citizen Coordinating Committee (CCC) meeting, EPA was asked directly if they have storm water data. The EPA responded that no such data exists.

Response 1:

Storm water data has been collected, but, as discussed previously, such data are not sufficient to characterize the storm water currently discharged from the site. The Final Permit requires these data, including rainfall, pollutant concentration, flows, and receiving water monitoring.

Comment 2:

In 2001 a call came in from Al Bertelli, Housatonic River Initiative (HRI) vice president and Lakewood river steward, that an oil slick could be seen on the river during a torrential rainstorm. By the time HRI organized the sampling event, the oil slick was no longer visible. HRI then sampled the storm drain during the storm event and a certified lab in Connecticut confirmed the existence of 18 ppb PCB in the water. EPA immediately dismissed the idea that the storm water was contaminated and blamed it on an uncovered pile of contaminated soil washing into the river. Data in the Draft Permit indicates that EPA was wrong and indeed PCBs are flowing into

the river during storm events.

Response 2:

EPA acknowledges that PCBs are being discharged into the river during storm events. In EPA's view, the reissued permit contains effluent limitations that will reduce PCB discharges into the receiving waters going forward, as well as monitoring conditions that will allow the Agency and citizens EPA to closely track violations, if any, of the reissued permit.

Comment 3:

The GE NPDES Draft Permit is insufficient to protect the East Branch of the Housatonic River from being recontaminated with PCBs. According to GE's own data, every outfall that they have been testing is exceeding EPA's PCB water quality criteria. GE and EPA are not even monitoring several discharge pipes that also go into the East Branch of the Housatonic River. These are releases of toxic materials from a hybrid RCRA/Superfund site (EPA's words) governed by the consent decree. Test results from 2001-2003 show PCB levels of more than 900 times the chronic water quality criterion level and 200,000 times the human health water quality criterion levels being released into the Housatonic River. All of these discharges are upriver of the river remediation. PCBs are being detected in the sediments of the remediated portion of the river. The remediation of the river is in jeopardy.

Response 3:

Please see Attachment A, which consists of two graphs showing the results of instream monitoring performed by GE and EPA in the East Branch of the Housatonic River from 1995 to 2006 during both wet and dry weather. These data show violations of water quality criteria, and there is no clear trend showing a reduction in PCB concentration over time. As described previously, the Final Permit requires that GE submit and implement an ambient monitoring plan designed to assess the contribution of its discharges to the river during wet and dry weather.

EPA did not produce similar graphs of outfall concentrations over time given the lack of data for some outfalls and the lack of specific wet versus dry weather data for other outfalls. The Final Permit requires specific wet and dry weather sampling at all outfalls so such data will be available in the future.

Comment 4:

EPA needs enough data to be able to set numerical limits. Even though PCB standards are being exceeded, EPA included few numerical limits in the new Draft Permit. The EPA claims that the Housatonic is one of the most sampled rivers in the country. EPA did not require enough sampling in the previous permit to be able to characterize the amounts of PCBs being discharged. They also have not done enough sampling to characterize the PCB load from the GE facility.

This should have been done as part of the CERCLA enforcement action. Why is the EPA reducing the frequency of sampling instead of increasing it?

Response 4:

The monitoring frequencies in the Final Permit have been increased, an ambient monitoring plan has been required, and numeric PCB limits have been included for all known dry weather discharges.

Please see previous responses regarding the relationship between the NPDES permit and the CERCLA enforcement action.

Comment 5:

Antibacksliding should be enforced especially with the amount of contamination and complexity of the GE facility. This permit should require an immediate assessment of these storm drains and require that remedies to stop the migration of PCBs from the site be implemented as soon as possible.

Response 5:

It is unclear to EPA in which respect the commenter believes EPA has failed to enforce the CWAs antibacksliding requirements. EPA believes that it has properly applied antibacksliding requirements to the permit.

Comment 6:

The monitoring for PCBs of the pipes with continuous flows should be daily. The monitoring for PCBs of the pipes that only carry water during storm events should be four times per hour on storm events starting at first flow and continuing until there is no more flow. For pipes that only carry water during storm events, the flow and the PCB levels will change throughout the event. The water may start with no PCBs, increase steadily up to a given point, then decrease. Or, it may have a strong blip in the graph if there is an area that has lots of PCBs that flushes through at a given time. The only way to know is to sample frequently during a rain event. Taking one grab sample can be grossly misleading. Once a number of storms have been monitored for each pipe, the events can be characterized to figure out when the pollutant load comes through each pipe. The data should be compiled and PCB loading should be stated in weekly, monthly and yearly loading. Projections of future PCB loadings should be analyzed to present estimates of further PCB contamination of the remediated river.

Response 6:

EPA has established PCB composite sampling requirements for all dry weather discharges from the site. EPA does not believe that daily sampling of continuous discharges is necessary to properly characterize the discharges because the dry weather flow at this site is not expected to be highly variable from day to day and can be characterized with less frequent testing. EPA has increased the frequency of sampling of dry weather discharges and routine wet weather discharges to twice per month. Bypasses are required to be sampled once per month.

EPA has also altered the sampling requirements to require 24-hour flow weighted composite samples for dry weather sampling and storm duration composite samples for wet weather sampling. See response to GE comment under the Technical Comments Summary Chart, number 19.

Comment 7:

GE should determine the amount of PCBs entering the receiving waters from all the sources combined per year. This should include data from Yard Drains (YD), Overland Flow (OF) and Non-Point sources (NP). This entire site is contaminated and thus could be considered in and of itself a point source. The data from outfall 005 alone shows that we can measure yearly loads of PCBs in pounds instead of parts per billion. When all discharges from storm drains are added together the numbers surely indicate a compromised cleanup.

Response 7:

The mass of PCBs discharges from point sources will be able to be approximated from the collected data, but mass is not the most important PCB measurement for purpose of determining compliance with water quality standards. The water quality criterion for PCBs is established as a concentration, so the concentration in the discharge and the resulting concentration in the receiving water are the measures which determine compliance with water quality criteria.

EPA believes that through the effluent and ambient monitoring requirements of this permit, that any significant nonpoint source of PCB can be ascertained and addressed through the appropriate regulatory mechanisms.

Comment 8:

Sampling of the outfalls within 30 minutes of the storm event is totally inadequate and cannot possibly provide an accurate assessment of PCB loading during the entire storm event at the 256-acre facility. Storm events can be quick or take several days. At times of low groundwater level, it may take considerably longer than 30 minutes for groundwater to rise to a level where it is discharged through the storm water system. PCB's at various depths, soil types, cracks in the

bedrock, and storm flow and velocity all contribute to changing PCB loading. This monitoring should take place immediately and even in the absence of a new permit.

Response 8:

As described previously, EPA has changed the PCB sample type for wet weather samples to a storm duration flow proportioned composite sample. However, EPA does not necessarily agree that single storm events will have the immediate and dramatic effect on groundwater infiltration envisioned by the commenter. EPA believes that high groundwater effects on effluent quality will be sufficiently characterized by dry weather samples taken during spring months, when snow melt and high average rainfall raise groundwater tables.

Comment 9:

GE should account for and provide fully engineering drawings and maps of all pipes under their property. GE should provide current and historical maps of pipes. In particular, the “perforated sub drain lines” that ran throughout the site shown on a map located in Pittsfield Engineering and hand-labeled “GE Drain Mains Main Plant-Plant Drainage System” in the lower right corner. Many of the existing pipes travel through areas of extreme contamination such as underground plumes, highly contaminated soils, and Hill 78...the highly toxic PCB landfill. Underground pipes, even those that are no longer used and have been capped, can act as “preferential pathways” for contaminants to find their way to a water body. Water will flow more easily along the pipe and therefore the pipes act as preferential pathways for the water. Pipes should be tested at their outfalls, but not just the water coming out of the pipe, but also any water that may have followed the pipe as a preferential pathway.

Response 9:

EPA has specifically required that system mapping be included in the SWPPP and that the SWPPP be updated annually. EPA has also required routine inspections of active and plugged outfalls to ensure the integrity of the seals on plugged outfalls to ensure that storm drains not authorized to discharge during dry weather are not discharging under those conditions, and to ensure that there is no breakout of groundwater in the vicinity of the outfalls.

Comment 10:

Accounting for what GE has done with underground structures on their site, GE should give a complete description of how all abandoned pipes, floor drains, liquid waste storage areas, underground storage tanks, tunnels, etc. were demolished, filled, removed, or left in place. GE should videotape all pipes that run through the site that have an outfall into one of the water bodies to show the condition of the pipe and that there are no unknown connections on the site. This includes city storm water pipes where they run through GE property.

Response 10:

EPA added a requirement that the SWPPP include up to date mapping of the storm water collection system, including connections to the system.

The BMPs in the permit are targeted at known areas of groundwater contamination. Videotaping is required for piping which goes through areas of known contamination (see BMP No.1.C). EPA has added a requirement to Section B of Attachment C (the implementation schedule for BMPs) that pipeline defects discovered in the required cleaning and inspection generally be corrected within 120 days of discovery.

Dry weather sampling required of outfalls that discharge during dry weather will demonstrate the extent to which these BMPs are effective and will also identify any other areas requiring additional controls.

Comment 11:

Any ditches from the site should be considered as outflows from the facility.

Response 11:

Under the federal regulations at 40 C.F.R. § 122.2, a point source is defined as “any discernable, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit...from which pollutants may be discharged.” Therefore, since a ditch is a point source by definition, they were considered for their potential to discharge pollutants into the receiving waters at this site.

Although EPA believes the permit covers all point source discharges from the facility to U.S. waters, significant modifications to the site have occurred as a result of the ongoing remediation efforts, which may potentially have led to the alteration of existing point source discharges or the creation of new point source discharges, including from ditches, of which EPA is not currently aware. To ensure that all point source discharges of pollutants owned or operated by the permittee are authorized, the Final Permit includes a requirement that the permittee complete a survey of its site to confirm that there are no point source discharges of pollutants from its site that are not included in the permit. This survey shall evaluate whether there are any pipes, ditches, swales, or other discrete conveyances that discharge pollutants either directly to waters of the United States or to conveyance systems owned and operated by others that discharge to waters of the United States. A report of the survey, including a map showing any additional discharges, including flow components (e.g. storm water, groundwater infiltration), estimated flows, and sampling for TSS and PCBs shall be submitted to MassDEP and EPA within 120 days of the effective date of the permit. Based on this information, the permit shall be modified to include point sources not covered (if any) by the Final Permit.

Comment 12:

Inflow and infiltration (I&I) requirements have been included in recent NPDES permits. This permit does not require that I&I be assessed and reduced to meet current goals. This permit should address this and require a timely workplan to eliminate I&I.

Response 12:

See Response to Riverways Comment 5.

Comment 13:

It is usually a good idea to promote sheetflow and infiltration, but in this case they may also carry PCB and other contaminant loading from the facility into the river. GE needs to be able to measure the contaminants carried by the sheet flow and infiltration at the locations where they know it is getting into the river. If GE wants to disconnect a pipe and instead use sheet flow or infiltration, they should first have to prove that this will result in less contaminants being carried into the river.

Response 13:

See Response to Riverways Comment 7.

Comment 14:

Limits for storm drains and yard drains should be implemented for Total Suspended Solids (TSS) as data indicates large quantities are entering the river. It is well known that PCBs will attach to soil particles and could be transported with the TSS into the river.

Response 14:

Please see Response to Riverways Comment 18.

Comment 15:

There are several other pipes that GE should be monitoring. GE should monitor the pipe that has its outfall into the ditch next to Bobby Hudpucker's Restaurant both for flow and for contaminants. This pipe runs through GE's property and had several connections from the GE plant. It also carried storm water runoff from the GE site. It also carries water from an area that at least one worker claims was used to dump GE waste water off Benedict Road. The potential for this pipe to carry PCB contamination is very high. The only way to know what is getting into the river is to monitor at the outfall. This pipe should be monitored continuously for flow and four times per hour during storm event flows to determine the amount of contamination. If this

pipe flows continuously it should be monitored daily IN ADDITION to the monitoring during a storm event.

Response 15:

To the extent that this comment concerns outfall 007, GE has notified EPA that this connection to the city storm drain has been sealed.

See Response to Winn, Gray and Herkimer Comment 11 above regarding the site survey to identify any additional point sources not currently authorized by the permit.

Comment 16:

According to the Source Characterization Study, surface water and sediment contamination in the swales from Hill 78 are discharging into the river, as is groundwater contamination from Hill 78 area. Again, this should be quantified and stopped. This swale leads into a 42" pipe that has its outfall just north of East Street opposite Commercial Street both for flow and for contaminants. The outflow from this pipe then flows into a pipe under East Street, under part of Commercial Street and empties into the East Branch of the Housatonic River. From the research we have done, it appears GE put in this pipe. In that this pipe also carries the storm water runoff from Hill 78's swale, the potential for this pipe to carry PCB contamination is very high. The only way to know what is getting into the river is to monitor at the outfall. This pipe should be monitored continuously for flow and four times per hour during storm event flows to determine the amount of contamination.

Response 16:

See Response to Winn, Gray and Herkimer Comment 11 regarding the site survey to identify any additional point sources not currently authorized by the permit.

Comment 17:

According to the Source Characterization Study, page 1-6, Unkamet Brook bisects the old GE landfill and flows directly to the Housatonic River. Also, according to that Study, Table 5-1, groundwater contamination and contaminated sediment in Unkamet Brook are flowing into the river above the remediated section of the river. When Unkamet Brook leaves the GE site, it flows under Merrill Road through a pipe. This pipe should be monitored for both flow and contaminants. This would show what is getting off the GE site through this pipe, and presumably getting into the East Branch of the Housatonic River. This should be done immediately even though the whole Unkamet Brook area is being studied. We know there are PCBs there. We need to know how much is getting into the river now!

Response 17:

The ambient monitoring plan required by the permit will include monitoring of Unkamet Brook. The pipe is a culvert that conveys the brook for short distances underground. Sampling the culvert pipe is the same as sampling the brook.

Comment 18:

According to the Source Characterization Study, outfall water and sediment contamination from Silver Lake as well as groundwater contamination is flowing into the river. The Silver Lake outfall goes through a pipe under East Street. This pipe should be monitored both for flow and for contaminants. Again, this would show what is getting into the East Branch of the Housatonic River above the remediation area. This is absolutely necessary given the proposed remediation of Silver Lake. It is inexcusable that this outflow has not been monitored for either flow or contaminants. When asked at a public meeting, the claim was that they could not monitor the flow from Silver Lake because of the design of the outfall. That is absurd. Monitoring the pipe will make it easy.

Response 18:

This comment is not relevant to the permit. The outfall in question is the outfall *from* Silver Lake to the Housatonic River. The Lake and pipe are not owned by GE. In fact, GE now has no discharges to Silver Lake. Also, the outfall from Silver Lake is downstream of all GE outfalls so sampling upstream and downstream of the outfall as part of the NPDES permit to GE is not necessary.

Comment 19:

pH levels should have limits set. Monitoring data showed pH levels in some of the outfalls are excessive in both directions. This should not be allowed.

Response 19:

Please see Response to Riverways Comment 20.

Comment 20:

What are the by products of the GE plastics operations and what are they being tested for?

Response 20:

The plastics operation has no discharges, so no monitoring is necessary.

Comment 21:

GE should monitor the wells at Pittsfield Generating Co. All of these wells should be monitored monthly. Data should include “flow” (the quantity of water used) as well as PCB and other contaminant levels.

Response 21:

NPDES permits do not regulate the withdrawal of groundwater, and we are not aware that the Pittsfield Generating Company discharges through any GE outfalls.

Comment 22:

All monitoring data must be made public. This eliminates the possibility of monitoring several times in one day and only submitting the one(s) that shows the least contamination.

Response 22:

The permit requires that a monthly summary of all data collected for each outfall be submitted with the DMR. These data are public information and may be obtained by contacting EPA or MassDEP.

Comment 23:

According to a former GE worker, contaminated water was pumped to a reservoir off Benedict Road. Obviously this water body should be tested, but also water from that area runs through pipes that cross the current GE property. This water should be tested NOW by GE, but when the city storm water is separated from the GE site, this water must still be tested to determine where the PCBs actually come from.

Response 23:

It is EPA’s understanding that the “reservoir” is a concrete vault/tank formerly used in the 1930s for fire protection and is now dry. EPA further understands that this vault is located on property owned by the City and is not directly relevant to the permit at issue here. See Response to Winn, Gray and Herkimer Comment 11 regarding the site survey to identify any additional point sources not currently authorized by the permit.

Comment 24:

Injection wells were used to dispose of contaminated liquids possibly hundreds of feet below ground in the Unkamet Brook area. There should be deep monitoring wells to test for contaminants in this area.

Response 24:

Such testing is beyond the scope of an NPDES permit since pollutants disposed in deep wells are not discharges to waters of the United States. A requirement for such monitoring may be pursued with MassDEP.

Comment 25:

GE's previous NPDES permit expired in February 1997. The fact that this permit has lapsed for eight years so far, when this is a RCRA/Superfund hybrid site puts human health and the environment at risk. It is clear that this permit cannot address all of the issues associated with releases of PCBs from the General Electric Facility. EPA has stated that this permit only tries to assess and control releases from the GE storm water system. This permit fails to meet this goal. Releases of PCBs from sheetflow, city drains, and contaminated business properties are not addressed. EPA has not addressed these issues even though they have committed huge amounts of taxpayer money to clean the river to a performance standard of 1 ppm PCB. The data suggests that soon the recontamination will exceed these levels. EPA needs to address these issue in a holistic fashion to insure all PCB sources are cutoff to the river. Citizen groups previously argued that the entire facility, contaminated businesses and oxbows need to be cut off from interacting with the river. A slurry ditch was suggested to insure all migrating groundwater and plumes were effectively cutoff from the river. EPA dismissed this and instead did nothing to address this.

Response 25:

EPA agrees that it is important that the discharge of PCBs from the site be controlled in order to achieve state water quality standards. The permit regulates those GE discharges that EPA has the authority to regulate under the Clean Water Act.

See Response to Winn, Gray and Herkimer Comment 11 regarding the site survey to identify any additional point sources not currently authorized by the permit.

EPA is working on a Draft Permit to regulate the PEDAs sources and understands that closer scrutiny needs to be given to City storm drains, and plan to do that in future permit actions, or through a Section 308 information request.

Comment 26:

EPA has issued its draft National Pollution Discharge Elimination System Draft Permit eight years after the previous permit expired. During this time, testing shows that GE has still been discharging PCBs into the receiving waters in amounts that sometimes exceed chronic water quality criterion by over 900 times and human health water quality criterion by 200,000 times. The renewed permit for this site must strive to fulfill the intent of the NPDES program to

achieve, “the restoration and maintenance of the chemical, physical, and biological integrity of the Nation’s waters”. The prevention of further releases of PCBs and other pollutants to the Housatonic River, Unkamet Brook and Silver Lake certainly fits this mandate.

Additional treatment capacity must be required immediately not just for the outfalls currently covered in this draft permit, but also to treat the water from Unkamet Brook and Silver Lake. The outfalls of both these water bodies are known to have PCBs, but they are neither being monitored nor treated. These outfalls should be monitored while new treatment facilities are immediately built.

As it is now confirmed that PCBs are migrating off of the facility, EPA needs to take immediate action to reverse this situation. The NPDES permit alone cannot address this problem. While millions continue to be spent on cleaning the downriver portion, EPA has failed to address this severe problem. Reopeners to the consent decree or enforcement action due to new information seem to be empty promises to the community. Without strong action, the river will again be compromised and this consent decree and the EPA enforcement actions will go down in history as a waste of taxpayer money and inability of the EPA to meet the mandates of the Clean Water Act.

Response 26:

EPA agrees that reissuance of the Final Permit is overdue. The new permit represents a significant improvement from the standpoint of water quality over the 1992 permit. EPA has concluded that the Final Permit includes limitations and conditions that will lead to compliance with water quality standards.

Attachments:

I. Boston Globe article; March 3, 2005

Recontamination feared for river getting cleanup

by Beth Daley

2. Declaration of Independence from PCBs

<http://www.pcbcongress.net!>

3. Comments of Inter-Industry Analytical Group and WET Coalition on 2004 Draft Report to Congress on the Costs and Benefits of Federal Regulation 69 Fed. Reg. 7987

(February 20, 2004); May 20, 2004

<http://www.whitehouse.ov/omb/infoereg/2004cb/14.pdf>

4. Water Quality Criterion Chart; March 25, 2005; compiled by BEAT

5. GE Drain Mains Main Plant - Plant Drainage System Map (perforated subdrain line); ? March 1, 1985

VIII. COMMENTS FROM THE CT DEPARTMENT OF ENVIRONMENTAL PROTECTION

Comment 1:

Thank you for the opportunity to provide comments on the draft National Pollutant Discharge Elimination System (NPDES) permit for the General Electric Company facility in Pittsfield, Massachusetts. The Connecticut Department of Environmental Protection (CT DEP) supports the efforts of the US Environmental Protection Agency and the Department of Environmental Protection of the Commonwealth of Massachusetts to regulate discharges from the General Electric facility. However, CT DEP is concerned that the draft permit, as proposed, will be insufficient to insure that the discharges from the facility will achieve water quality standards established under Section 303 of the Clean Water Act, as required by 40 C.F.R. 122.44(d). Given that the Housatonic River in both Massachusetts and Connecticut has been substantially impacted by past and present releases from this facility, it is our position that the NPDES permit for this facility must impose stringent limitations and requirements to allow attainment of water quality standards and goals within Massachusetts and Connecticut.

As proposed, the draft permit establishes discharge limitations for Polychlorinated Biphenyls (PCBs) on only one of the fourteen outfalls identified for the facility, Outfall 005. However, monitoring data indicates that all discharges and associated receiving waters contain levels of PCBs that exceed water quality criteria. While the remaining discharges are primarily composed of storm water, Outfall 001 does have dry weather flows including groundwater, city water and unknown components. CT DEP recommends that EPA establish water quality based limitations for PCBs for the dry weather component of this discharge.

Response 1:

In the Final Permit, EPA has imposed a water quality-based numeric PCB limits on all dry weather discharges from the facility. As described in the responses to other comments, outfall 001 is no longer included in the permit.

Comment 2:

The remaining discharges are primarily comprised of storm water. Monitoring of PCBs is included in the draft permit, not permit limitations, along with the imposition of Best Management Practices (BMPs). The BMPs include the cleaning and inspection of existing storm sewer components, enhancements to the oil/water separators, and some physical modifications to the storm water system. PCBs have been measured in these discharges in concentrations that exceed water quality criteria. Storm water represents a significant pathway for the mass transfer of PCBs from the facility to the river. CT DEP recommends that the monitoring frequency for these discharges be increased from quarterly to monthly. Additionally, water quality based

limitations should be considered for these discharges. Finally, requirements to identify and eliminate the source of PCBs in the storm water must be established within the permit.

Response 2:

EPA has increased the wet weather monitoring frequency to twice per month for 005, 006, 009, once per month for discharges 05A, 05B, 06A, and SR05, and once per year for yard drains.

As discussed in previous responses EPA has concluded that BMPs, in lieu of water quality-based numeric limits, as recommended in the Interim Permitting Strategy, are appropriate at this time.

It is premature to establish further storm water requirements beyond the required BMPs. EPA prefers to use the results of the required wet weather sampling to establish further PCB abatement requirements. If discharge and ambient sampling shows reasonable potential for the discharge of PCBs to cause or contribute to exceedances of WQS, then enhanced BMPs and/or the imposition of numeric limits will be necessary.

EPA has imposed a combination of numeric and non-numeric effluent limitations that EPA has concluded will be sufficient to ensure compliance with applicable water quality standards. Implementation of the certain BMPs will result in pollutant source reductions. EPA has also required the permittee to conduct an ambient monitoring program to test the efficacy of the permit's pollutant controls. In addition, EPA has also added a permit re-opener linked to this monitoring program.

Comment 3:

One final issue to be raised concerning the draft permit is the choice of analytical methods used to monitor the level of PCBs in the discharge. Two analytical methods have been identified in the permit: Method 8082 with a Minimum Level of 0.5 ug/l and modified Method 8082 with a Minimum Level of 0.065 ug/l. With the exception of the discharge from the 64G treatment system, an internal compliance point for the 005 outfall, all discharges are monitored using the less sensitive analytical method, Method 8082. The Minimum Levels for both methods are greater than the applicable water quality criteria and so will not allow measurement of PCBs in the discharges sufficient to determine compliance with water quality standards. CT DEP recommends that the more sensitive method, modified Method 8082, be used for monitoring all the discharges.

Response 3:

The Final Permit requires that modified Method 8082 with a Minimum Level of 0.065 ug/l be used for all PCB monitoring.

Comment 4:

Given the persistence of PCBs within the environment and the impairment of the Housatonic River watershed, both within Massachusetts and Connecticut, CT DEP supports a greater level of regulatory control on the discharges emanating from the GE facility. Consistent with the substantial efforts undertaken by EPA, Massachusetts and the General Electric Company to remediate the historical PCB contamination, on-going impacts to water quality that affect both the Commonwealth of Massachusetts as well as Connecticut must be eliminated.

Response 4:

The Final Permit requires includes PCB monitoring and effluent limits for all dry weather discharges, increased monitoring of wet weather discharges, and also requires an ambient monitoring program. The Final Permit reflects the appropriate amount of regulatory control and will provides sufficient information gathering to support future decisions.

IX. COMMENTS FROM MASS AUDUBON

Comment 1:

On behalf of Mass Audubon, we submit the following comments on the draft NPDES permit for the General Electric Facility (GE) in Pittsfield to discharge storm water under Sections 301 and 402 of the federal Clean Water Act. Mass Audubon is also copying these comments to the Massachusetts Department of Environmental Protection (DEP) for DEP's consideration in relation to State Certification of compliance with the State Water Quality Standards pursuant to Section 401 of the Clean Water Act.

This permit applies to 17 point source discharges of storm water to the East Branch of the Housatonic River, Unkamet Brook, and Silver Lake. Mass Audubon requests that the EPA include the strongest possible conditions in this permit to ensure that PCB contamination does not flow from the site into the river in amounts that are toxic to humans, aquatic life, or wildlife. As so much effort is going in to cleaning up the river, it is essential that strong safeguards be in place to prevent recontamination of the river from storm water flowing off the GE property. Because PCBs do not readily degrade in the environment and bioaccumulate, even small new discharges to the river may result in unacceptable long term impacts.

Mass Audubon owns and operates the 262-acre Canoe Meadows Wildlife Sanctuary, located in Pittsfield within reach 5A, not far downstream from the confluence of the East and West branches. The sanctuary, which fronts the Housatonic River for approximately one-half mile, is home to seven state-listed species of animals and plants, including American Bittern (state endangered) and Wood Turtle (special concern). A considerable amount of the sanctuary's acreage is within the 10-year floodplain directly affected by PCB contamination. The sanctuary, since its establishment in 1975, has been dedicated to natural resource conservation and education. As such, the negative impacts on wildlife as a result of PCB contamination weigh even more heavily upon the sanctuary than upon parcels dedicated to other uses.

The Massachusetts State Surface Water Quality Standards include both narrative and numeric criteria to control toxic pollutants. The narrative criterion states: *All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.* EPA acknowledges in the fact sheet for this permit that toxicity testing is needed to determine whether the standards are being met. However, the draft permit provides for only a single monthly grab sample from most stations. This is insufficient to document actual discharge concentrations over variable weather conditions throughout the year. We recommend that more stringent testing requirements be imposed, including specifications for collecting samples more frequently and during a variety of weather conditions.

Response 1:

EPA understands the commenter's concerns regarding the impact of the GE discharges on its wildlife sanctuary and assumes that its comments regarding toxicity testing pertains specifically to PCB testing. As described in earlier responses, EPA has significantly increased sampling frequency under both wet and dry conditions.

Comment 2:

The draft permit also indicates that EPA does not have sufficient information on existing concentrations of PCBs in discharges, therefore numeric effluent limitations are not proposed for most of the discharges. Instead, Best Management Practices (BMPs) are required. This aspect of the draft permit is inadequate for two reasons. First, we request that numeric standards be set for all discharges, at levels sufficient to protect human health, aquatic life, and wildlife from adverse toxic impacts. Secondly, BMPs should be installed where they can help reduce the potential for releases of PCBs or other contaminants into waterways, but the permit needs to be more specific about exactly what BMPs are required and must set clear deadlines for installation. For example, the draft permit calls for increased water storage volumes and solid settling capabilities within each Oil Water Separator, through changes to the physical configuration (e.g., weir plates, baffles, etc.). This requirement is qualified by the phrase "where feasible." The final permit needs to be more specific about exactly what changes are required in order to avoid disputes and arguments between EPA and GE about what is feasible vs. cost-prohibitive.

Response 2:

Numeric effluent limitations for PCBs have been included for all outfalls discharging during dry weather. As explained elsewhere in this response to comments, EPA has determined that, consistent with the Interim Permitting Policy, that it is appropriate to include BMPs, rather than numeric effluent limitations for storm water discharges.

EPA has concluded that in most cases, the BMPs in the Draft Permit were described in sufficient detail and the deadlines in the schedule were clear. As described previously, EPA has made several changes to the BMPs, including mandatory installation of flow measuring devices at the OWS discharges, and a schedule for repairing pipeline defects noted in the cleaning and inspection program.

Regarding the specific comment regarding the phrase "where feasible," EPA agrees with the commenter that the term is unnecessarily vague, and has instead required the permittee to undertake "reasonable best efforts" to implement the contemplated pollution controls. This change will provide EPA with additional assurance that the improvements will actually occur in accordance with CWA § 301(b)(1)(C).

Comment 3:

All discharge points should be monitored and required to meet specific limits. Pipes that have been blocked off but that remain underground may create differential flow points allowing contaminated groundwater to reach waterways. This should be avoided by requiring inspection and/or removal of all pipes and floor drains. Some point discharges may be eliminated through redirecting water to overland flow or infiltration. In most situations, this would be considered a positive improvement. On this site, however, EPA needs to exercise extra care to ensure that these overland flows or infiltration will not pick up PCBs from the site and carry them to waterways in a dispersed manner. All pipes carrying storm water emanating from the site should be included in the permit even if some of the discharge points are located on City land. This will ensure that GE is responsible for preventing PCB contamination from all potential sources on its site.

Response 3:

EPA has determined that the monitoring requirements and effluent limitations are adequate to ensure that the technology- and water quality-based requirements of the CWA are met, as discussed in the responses to previous comments.

EPA has added a condition to the Final Permit that the permittee routinely inspect blocked outfalls to confirm the integrity of the seal and to ascertain whether there is evidence of exfiltration or groundwater breakout in the vicinity of the outfall.

GE has reported that Outfall 007 has been sealed.

EPA is not aware of any other GE discharges that are conveyed to receiving waters through the City's storm drain system. See Response to Winn, Gray and Herkimer Comment 11 regarding the site survey to identify any additional point sources not currently authorized by the permit.

X. COMMENTS FROM THE HOUSATONIC VALLEY ASSOCIATION:

Comment 1:

On behalf of the Housatonic Valley Association (HVA), I would like to thank you for the opportunity to provide our comments on this proposed NPDES permit. We feel that this permit is of particular importance not only due to the public scrutiny associated with the ongoing PCB remediation efforts, but to the severity of the potential impacts that storm water run off will have on the East Branch of the Housatonic River.

HVA has been conducting water quality monitoring programs since 2001. The most important aspect that we have learned regarding water quality impact is that runoff is a major contributor to water quality impairment. Especially during wet weather sampling, the parameters that we measure show a dramatic spike in their concentration in our water samples. This evidence demonstrates that this spike is directly related to the fact that water runoff from riparian areas transport contaminated sediments directly into the river.

As we all know, there has been considerable time, money, and effort in mandating and fulfilling the required clean-up associated with the Consent Decree which was implemented to 'restore' the water quality of the Housatonic River. One of the unfortunate aspects of this compromise agreement has allowed 'residue of acceptable limits' to remain at the site. This residue that is present is our major concern regarding this NPDES permit. We feel that due to the nature of water runoff, this residue, without proper treatment, will find its way back into the river.

Since the EPA and the Massachusetts Department of Environmental Protection (DEP), recognize the impact that runoff has on water quality degradation; it would seem logical to not allow known PCB contaminated areas to be flushed into the river. Even though the residue that is on site is at Consent Decree 'acceptable limits', since it will be accumulating and concentrating in the river, we find any runoff that contains PCB concentrations to be unacceptable. Recent river bottom soil testings have shown that PCB residue already exists in the once clean soil that was placed down after the contaminated soil was removed. While the source of contamination may not yet be proven, the possibility that it could be caused by existing runoff needs to be taken into consideration.

The purpose of the NPDES permit is for the elimination of toxic discharge into our waterways. There are presently existing storm drains that have been found to exceed present EPA PCB limits, which is .014 ppb for aquatic life. I would like to raise the issue that the 'acceptable levels' of remaining PCBs that is stated in the Consent Decree, does not apply to setting discharge criteria from the storm drains. The Consent Decree and the NPDES permit process are separate legal documents. The NPDES is for the elimination, not for finding and establishing acceptable levels of contamination.

Response 1:

EPA agrees that storm water runoff contributes to water quality impairments. EPA agrees that the site remediation conducted pursuant to the Consent Decree may not reduce PCB contamination sufficiently to ensure that point source discharges from the site do not cause or contribute to exceedances of water quality standards and that EPA's authority under the Clean Water Act is separate and independent of its authorities under CERCLA and RCRA.

EPA has concluded that the requirements in the Final Permit will lead to attainment of water quality standards, but that if more stringent limits are necessary to ensure compliance with water quality criteria, the permit will be reopened and modified to include such requirements.

As described previously, the Final Permit includes water quality-based numeric limits for all dry weather discharges from the authorized outfalls. The permit requires BMPs for storm water discharges which EPA has concluded are sufficient to achieve water quality standards and also includes wet weather monitoring requirements of both effluent and receiving water to ensure that water quality criteria are achieved.

Federal regulations require that water quality-based effluent limitations be sufficiently stringent to ensure that the discharge of any pollutant does not cause or contribute to the exceedance of any water quality standard for that pollutant. Complete elimination of the pollutant is not necessarily required under the Act.

Comment 2:

It was stated at a public meeting regarding this application that at present, when a GE contaminated building is demolished; the drainage from that building site is plugged. When a drainage pipe to the river is only from that building, then the pipe is also plugged at the river. However, when a pipe from a contaminated site is connected to a storm drain system, the pipe to the river is not plugged. I would like to stress that any pipe from a contaminated building site should not be allowed to be connected to any existing pipe system that flows into the river.

Response 2:

It is EPA's understanding that drainage pipes from demolished buildings are routinely plugged regardless of whether the discharge goes to an active or inactive storm drain system. The sewer system mapping required by the SWPPP will confirm any remaining discharges.

Comment 3:

This permit plan calls for some storm drains to be eliminated and that the runoff will be allowed to flow off the surface of the affected areas. While we recognize the difficulties of obtaining accurate water quality measurements of this 'sheet' flow, it is understood however that this flow

has the same type of negative impact as storm drain outflow. They are both transporting sediments, which particularly in this case, have a percentage of PCB concentration. This sheet flow needs to be incorporated into EPA approved Best Management Practices, not at just a few locations, but at any site that allows flow to migrate into the river. Plus, if the sheet flow is channeled into one specific location, that location should be regulated as a specific discharge area.

Response 3:

It was not EPA's intent to create new point sources by promoting sheet flow. EPA has modified the language in BMP.3.A to clarify that the intent was to facilitate infiltration. If flow is channelized and discharged to a receiving water it would be considered a point source and subject to NPDES permitting. EPA also made modest changes to the language in BMP.3.A to clarify that the intent of this provision was to minimize storm water bypasses.

See Response to Winn, Gray and Herkimer Comment 11 regarding the site survey to identify any additional point sources not currently authorized by the permit.

See Response to Riverways Comment 7.

Comment 4:

The city of Pittsfield has apparently connected their storm drain system into the GE storm drain system. The applied for permit is for the GE site. Plus to make this issue even more complex, the land that is being transferred to PEDDA, will be city owned and could be discharging contaminated PCB runoff. The ownership of these pipes needs to be established, and city pipes and GE pipes need to be separated from the GE NPDES permit.

Response 4:

Outfalls 001, 01A, and 004 have been transferred from GE to PEDDA. PEDDA is now responsible for the discharges from those outfalls pursuant to the transferred permit. EPA understands that there have been discussions between the City and PEDDA regarding a project to remove the City flow from the PEDDA drainage systems. Such a project would reduce wet and dry weather flows from the PEDDA outfalls.

EPA is less familiar with plans to remove City flows from the remaining GE outfalls. GE is ultimately responsible for pollutants discharged through outfalls it owns and operates. However, the City has an independent obligation to manage its contributing storm drains pursuant to its coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges From Small Municipal Separate Storm Sewer Systems.

Comment 5:

While it is recognized that the original NPDES permit did not cover storm water, this permit due to the presence of PCBs in the soil, and the confirmation of their affect on the environment, needs to eliminate any known discharge of PCBs into the river. To help to eliminate this discharge, the drainage from contaminated GE sites should not be allowed to flow directly into the river. At a minimum the runoff should be filtered either through the GE WWTP or have an effective filtering system installed in the system of drainage pipes.

To emphasis the point, there should be no allowable PCB concentration allowed from storm water runoff to flow into the Housatonic River. Also, any storm drains, whether they are owned by GE, PEDDA or the city of Pittsfield, which includes Silver Lake and the former oxbows, if they flow though areas that have PCB concentrations, should not be allowed to discharge PCBs into the Housatonic River.

Response 5:

Regarding the comment that the permit should require that filtering systems be applied to storm water runoff, NPDES permits do not typically specify treatment technologies that must be applied to achieve effluent limitations and conditions. If effluent limitations are not achieved with current facilities and the required BMPs, GE will be required to take additional actions to achieve the permit requirements.

Regarding the comment that no discharge of PCBs should be authorized, EPA is required to ensure that the discharge of PCBs meet the applicable technology and water quality-based requirements of the Act. This does not necessitate complete elimination of all PCB discharges from the GE site.

XI. COMMENTS FROM THE PITTSFIELD DEVELOPMENT AUTHORITY:***Comment 1:***

The Pittsfield Economic Development Authority (PEDA) appreciates the opportunity to comment on the subject draft National Pollutant Discharge Elimination System (NPDES) permit for the General Electric Company (GE) property in Pittsfield, Massachusetts. As described in the attached comments, PEDA is encouraged by the U.S. Environmental Protection Agency and Massachusetts Department of Environmental Protection requirements for storm water runoff Best Management Practices (BMPs) implementation at the GE facility. We expect that these BMPs will further protect the water quality in the Housatonic River and Silver Lake. The draft permit also recognizes the changes at the facility that are ongoing and planned for the future, including the transfer to and redevelopment by PEDA of a 52-acre parcel at the west end of the current GE facility. We provide further detail about those plans in the attached comments.

We are, however, concerned about the potential implications of certain proposed changes to the current wet weather sampling protocol for Outfalls 001 and 004, which are expected to be transferred to PEDA. As described further in the attached comments, the consequences of the proposed changes are largely unknown and control of the current storm water quality in Outfall 001 is strongly influenced by storm water from 91 acres in the City of Pittsfield that is not under GE or PEDA control. If PEDA were to inherit this revised sample collection protocol, we are concerned about the potential impact on PEDA's NPDES compliance status during the property redevelopment process.

The US Environmental Protection Agency (USEPA) and Massachusetts Department of Environmental Protection (MassDEP) issued a draft NPDES permit MA0003891 to the General Electric Company (GE) to replace the current expired permit currently covering GE's discharges to Silver Lake, Unkamet Brook, and the Housatonic River. PEDA is pleased to see that the draft permit appears to take into account several changes and improvements that GE has made to its storm water discharge system over the past several years, improvements resulting from GE's ongoing environmental remediation of its property, and the planned redevelopment of a portion of the current GE property by PEDA. In these comments, we provide further information about PEDA's plans for the development of this property, focusing on the storm water management infrastructure, and raise some concerns about certain of the draft permit provisions as they may affect PEDA.

In the fact sheet for the draft permit, USEPA and MassDEP have recognized the plans to transfer 52 acres of the GE property to PEDA, which will be developed as the William Stanley Business Park (the "Park"). The fact sheet also states that outfalls 001, 01A, 004, and YD3 are associated with this property. Our understanding is that permit responsibility for these outfalls will transfer to PEDA upon transfer of the property. An agreement between GE and PEDA regarding details

of that transfer and associated responsibilities has been submitted to USEPA. As part of the PEDDA property redevelopment, which could take up to 10 years to complete and could reduce the amount of impervious surface on the property by up to 10 acres, PEDDA expects to develop a new storm water infrastructure. The specific elements of the new storm water management infrastructure are still being evaluated by PEDDA but the general approach to storm water management has been developed and is described below.

First, working with GE and the City of Pittsfield, storm water discharges from land owned by GE, except for one small parking lot, and from portions of Pittsfield not owned by PEDDA will be separated from storm water discharges originating on the PEDDA property. This separation will likely be accomplished over the next several years through diverting storm water runoff from these other properties upstream of the Park or through the construction of parallel storm water systems, if diversion is not feasible. At the end of this process, PEDDA expects to have a separate 52-acre watershed, corresponding to the limits of the Park that drain almost entirely into Silver Lake.

Within the Park, PEDDA, in conjunction with future tenants, will create a new storm water infrastructure and, for the most part, abandon the existing system in place. The new storm water management system would rely primarily on BMPs to treat storm water runoff. These BMPs would likely include a combination of techniques including constructed wetlands/extended detention ponds, parking lot detention ponds, deep sumps and hooded catch basins, street sweeping, water quality swales, and dry wells for roof drains. The new storm water infrastructure would likely tie into the existing outfalls 001 and 004 immediately upgradient of Silver Lake Boulevard to avoid the impacts associated with constructing new outfalls within Silver Lake. BMP 3.A in the proposed draft permit calls for the closure of Outfall 004, but retention of the outfall pipe underneath Silver Lake Road for possible future use by PEDDA. PEDDA intends that the new storm drainage infrastructure on the PEDDA property will comply with all applicable state and federal storm water quality management regulations and guidelines.

Construction of the new storm water improvements will coincide with the transfer schedule between GE and PEDDA for the 52 acres. This will occur over the next several years, with the specific schedule depending upon market conditions for attracting and securing new tenants for the Park. The first transfer, which is expected in the spring of 2005, will include approximately 25 acres south of the existing CSX rail line that bisects the 52 acres that will ultimately be transferred from GE to PEDDA. Another 7 +/- acres (40's complex) located north of the railroad tracks and west of Woodlawn Avenue will follow in the next couple of years and another 20 +/- acres north of the railroad tracks and east of Woodlawn Avenue (19 complex) will follow after that.

PEDDA has one specific area of concern with respect to the draft permit, the new wet weather sample collection protocol that would apply to the outfalls associated with the land transfer to PEDDA. As described in Item 5 in the Fact Sheet associated with the draft permit, the drainage basin associated with Outfall 001, one of the outfalls that will be transferred to PEDDA, includes

drainage from 91 acres in Pittsfield that is not currently owned by GE and will not be owned by PEDDA. Historic data for Outfall 001 under the current permit sampling protocols (24-hour composite samples) indicates that GE has maintained compliance with the current and proposed total suspended solids (TSS) and oil & grease (O&G) criteria, despite the lack of control over flow contributions from properties not owned by GE. We are not aware, however, of any data collected under the proposed wet weather sampling protocol described in footnote *2 of the draft permit (grab sample during the first 30 minutes of discharge from a storm event and a flow weighted composite over the first three hours of discharge). It is not feasible, therefore, to predict the potential impact of the new sampling protocol on the compliance status of Outfall 001, or the other outfalls that discharge storm water, under the draft permit terms. Nor is it possible for GE or PEDDA to manage the storm water quality from the 91 acres of land outside of GE or PEDDA control that drains through Outfall 001.

The Pittsfield storm drain system serving these 91 acres does not include modern best management practices (BMPs) that would be associated with a more recently installed system, and thus may contribute a higher TSS and oil & grease (O&G) load than an otherwise comparable system with modern BMPs. Although there is intent to eventually separate the municipal storm drain system from the GE storm drain system, as described above, until that occurs, higher TSS and O&G loads associated with this older system are likely to be discharged through Outfall 001. PEDDA therefore expresses concern about the potential impact of the proposed sampling protocol on PEDDA's currently planned cost effective approach to upgrading the storm water management system in the land area to be transferred to PEDDA. PEDDA intends to fully comply with federal and state regulations and guidance with regard to storm water discharge quality management as the PEDDA parcel is redeveloped. It could, however, take several years to complete the property redevelopment and diversion of the municipal storm water. We recommend that a storm water sample collection protocol consistent with that in the current permit be retained in the new permit.

With regard to the overall site storm water management under the proposed permit, we are encouraged that the USEPA and MassDEP are requiring GE to retrofit a series of Best Management Practices ("BMP5") to its storm drainage system despite the fact that most of the area is undergoing building demolition and closure, not redevelopment. These BMPs, which include cleaning and inspection of significant portions of the storm drainage system and upgrades to the storm water treatment facilities, are expected to improve the quality of storm water discharges to the Housatonic River and Silver Lake, discharges that are already meeting the current permit requirements.

Response 1:

As discussed previously, 27 acres of land, outfall 001, 01A, 004, and YD3 were transferred from GE to PEDDA in May of 2005, shortly after the public comment period closed. Accordingly, GE's Final Permit does not include those outfalls. The applicable conditions and limitation for those outfalls are from the September 30, 1988 permit, as modified in 1992. EPA intends to

issue a new permit to PEDDA in the near future, subject to required permit issuance procedures. EPA is therefore not providing responses to the specific concerns raised regarding the sampling requirements for outfalls 001, 01A, 004 and YD3 as future requirements for those outfalls (with the exception of outfall 004 which has been eliminated) will be included in the new PEDDA permit and will be subject to public notice and comment.

Regarding the comments pertaining to the anticipated construction project that will create a new storm sewer infrastructure on the PEDDA site, the project as described would appear to provide significant water quality benefits and be consistent with EPA guidance.

XII. COMMENTS FROM THE CONSERVATION LAW FOUNDATION (footnotes omitted)

Comment 1:

The Conservation Law Foundation (“CLF”) submits the following comments on the draft National Pollutant Discharge Elimination System (“NPDES”) permit for the General Electric Company (“GE”) plant in Pittsfield, Massachusetts. We appreciate the opportunity to comment on this draft permit.

Since the August 1988 RCRA Facility Assessment by the Environmental Protection Agency (“EPA”), local residents have lived with uncertainty regarding the level of polychlorinated biphenyl (“PCB”) contamination, the effects of PCBs on humans, and how long the contamination will persist in Pittsfield and the watershed. The proposed permit offers little comfort or certainty. In light of the documented continuing PCB-contaminated storm water discharges, EPA’s refusal to impose numeric effluent limitations in the new NPDES permit, require adequate monitoring, or adequately track discharge sources is inexplicable. As it stands, the draft permit will clearly undermine the cleanup effort into which EPA already has invested five years and over \$45 million in taxpayer funds. Although EPA noted in a report written before the 2000 Consent Decree that “previously cleaned- up floodplain areas are being recontaminated by PCBs from the river during routine flooding,” the draft permit fails to address these concerns.

The discharge of PCBs from the Pittsfield GE plant has long been of grave concern. As noted in Attachment T of the fact sheet accompanying the draft permit, PCBs are known to cause cancer in animals and are classified as a “probable human carcinogen” by the EPA, the Agency for Toxic Substances and Disease Registry, and the World Health Organization. Moreover, since PCBs are known to bioaccumulate, thereby increasing in concentration as they travel up the food chain, special concerns arise with human consumption of fish and waterfowl from PCB-contaminated water sources.³ Indeed, the Massachusetts Department of Public Health (“MADPH”) issued a fish consumption advisory for a section of the Housatonic River from Dalton, MA to the Connecticut border in 1982 as a result of PCB contamination, and also issued a waterfowl consumption advisory from Pittsfield to Great Barrington in 1999 due to PCB concentrations observed in wood ducks and mallards collected by the EPA.

The documented concentrations of PCBs in Housatonic fish and waterfowl tissue evidence extensive PCB contamination. A 1995 study found average fish tissue concentrations at the GE site of 112 mg/kg/ww (milligram per kilogram per wet weight). These concentrations are notably high when compared to “EPA reported maximum total PCB fish tissue concentrations nationally” of 6.7 mg/kg/ww in 1984, as cited in the fact sheet. In a later risk evaluation, EPA collected fish in the Housatonic River with PCB concentrations of up to 206 ppm, which are among the highest levels in the United States and “100 times higher than limits set by the U.S. Food and Drug Administration.” Looking to the concentrations of PCBs in duck tissue, a 1999 sampling of mallards and wood ducks on the Housatonic River found average concentration of PCBs in breast tissue to be 648 ppm when adjusted for fat.⁸ This is over 200 times higher than

the national tolerance level of 3 ppm fat content, as set by the U.S. Food and Drug Administration. This sampling caused MADPH to issue the 1999 waterfowl consumption advisory mentioned above.

The implications for public health stemming from continued PCB contamination are of grave concern. In a 1998 risk evaluation, EPA made striking findings regarding the risks that PCBs in the Housatonic River Watershed pose to the health of different age groups of residents. For instance, young children playing “for just one summer” in the lower section of the river face noncancer risks 200 times higher than “the hazard-index level EPA considers safe.” These risks include reproductive and development abnormalities (such as lower IQs), liver damage, and nervous system damage. If a nine-year-old child consumes a meal of fish from the river each week for just one summer, these noncancer risks rise to 900 times higher than the hazard-index level EPA considers safe. In terms of cancer risks, teenagers who grow up alongside the river “in the vicinity of the Newell Street and Elm Street Bridges” face a one in 1,000 cancer risk “due to their exposure to riverbank soils..” Overall, EPA takes the position that “the entire two-mile section of river may present an imminent and substantial endangerment to human health and the environment.”

Given the extensive existing contamination as well as the known dangers posed by PCBs, identification as well as comprehensive and frequent monitoring of all PCB discharges should be required. It is imperative that EPA develop an accurate understanding of all existing sources of PCB discharges, and require effective measures to address them. EPA should amend the draft permit to require numeric effluent limitations for PCBs at all outfalls rather than best management practices (“BMPs”), which are currently required by the draft permit. BMPs may be appropriate in certain situations, such as limited discharges of less harmful pollutants, but given the demonstrated toxicity of PCBs to humans and animals, numeric effluent limitations are clearly necessary in the present case.

Though the fact sheet accompanying the draft permit explains that EPA’s reasoning for choosing BMPs over effluent limitations is in part based upon insufficient information, we believe that the same facts actually dictate the opposite conclusion. As stated above, the toxicity of discharged PCBs calls for the application of numeric effluent limitations. The Code of Massachusetts Regulations elaborates upon this point, stating that a lack of knowledge concerning the “relationship between the pollutants being discharged and their impact on water quality” requires a reasonable margin of safety in establishing effluent limitations. Another provision in the Code expands this premise further, noting that an “*additional margin of safety*” is required in establishing effluent limits for pollutants that “are toxic to humans or aquatic life,” or that “result in unacceptable concentrations in edible portions of marketable fish or shellfish or for the recreational use of fish, shellfish, other aquatic life or wildlife for human consumption.” PCBs clearly fit this definition. Accordingly, the fact that PCBs are at issue should compel EPA to set numeric effluent limits with an additional margin of safety, as required by Massachusetts water quality regulations.

This permitting process represents a critical opportunity for EPA to address PCB contamination in the Housatonic. The choices that EPA makes in implementing this permit will affect the quality and efficacy of the cleanup effort, the ability of the Housatonic and its surrounding waters to recover, and the future quality of life and good will of local residents. Given the known dangers of PCBs, as well as the uncertainty regarding the long-term effects of PCBs on human health, a much more protective approach is clearly warranted. Accordingly, we urge EPA to strengthen the draft permit by requiring the identification and comprehensive monitoring of all PCB discharges, as well as numeric effluent limitations for PCB discharges from each outfall.

Response 1:

EPA's decision to move forward with non-numeric limits on industrial storm water discharges was clearly contemplated by the CWA section 402(p), by implementing NPDES regulations and the Interim Permitting Policy, and EPA believes reliance on these legal and policy rationales for so doing is reasonable. Effluent limitations may be expressed as best management practices if it is infeasible to express effluent limitations numerically. (It should be noted that the feasibility of numeric effluent limitations is determined not by whether compliance with those limits would be technologically or economically impracticable, but rather whether it is infeasible to derive them in the first place.) While not precluding the possibility of numeric effluent limitation in a future permit, EPA has concluded that calculation of a numeric effluent limitation for PCBs is neither technically feasible, nor necessary, at this time.

Neither EPA nor MassDEP believe it is appropriate or necessary to construe the Massachusetts Water Quality Standards provision in the manner suggested by the commenter. The "margin of safety" required by the Massachusetts Water Quality Standards need not result in the imposition of a numerical limit, regardless of the pollutant of concern. The notion of the dealing with uncertainty by providing an even more stringent numeric limit runs counter to clear intent of the Interim Permitting Policy, which is to avoid the imposition of unnecessarily stringent limits, and is also counter to the discretion afforded to EPA by the CWA, implementing regulations and guidance to utilize BMPs in the storm water context.¹ Based on the record before it, EPA has

¹ "Deriving numeric water quality-based effluent limitations for any NPDES permit without an adequate effluent characterization, or an adequate receiving water exposure assessment (which could include the use of dynamic modeling or continuous simulations) may result in the imposition of inappropriate numeric limitations on a discharge. Examples of this include the imposition of numeric water quality criteria as end-of-pipe limitations without properly accounting for the receiving water assimilation of the pollutant or failure to account for a mixing zone (if allowed by applicable State or Tribal WQS). This could lead to overly stringent permit requirements, and excessive and expensive controls on storm water discharges, not necessary to provide for attainment of WQS. Conversely, an inadequate effluent characterization could lead to water quality-based effluent limitations that are not stringent enough to provide for attainment of WQS. This could result because effluent characterization and exposure assessments for discharges with high variability of pollutant concentrations, loadings, and flow are more difficult

concluded that the permit as written will ensure compliance with water quality standards. EPA has enhanced the required BMPs; added dry weather effluent limits; improved monitoring and reporting requirements; and imposed a permit re-opener linked to the ambient monitoring program that will allow EPA to assess the efficacy of storm water pollution controls on the site. The margin of safety will be addressed by the permit's re-opener provision, as well as the enhanced monitoring program.

than with process wastewater discharges at low flows.” *See Questions and Answers Regarding Implementation of an Interim Permitting Q and A.*

XIII. COMMENTS FROM THE HOUSATONIC RIVER COMMISSION:***Comment 1:***

The Housatonic River Commission (HRC) is a regional governmental body representing the seven Northwestern Connecticut towns that line the Housatonic River from the Connecticut-Massachusetts state line to the north and Boardman Bridge in New Milford to the south. As the regional voice of the towns of Northwestern Connecticut most directly impacted by the PCB contamination of the Housatonic we have been generally pleased by the progress made in cleaning up the river in Pittsfield.

Unfortunately, it has come to our attention that a critical aspect of that cleanup — the prevention of recontamination of the river — is in jeopardy. The runoff through storm drains and other sources of residual PCBs found in the GE property are a potential source of recontamination that must be examined thoroughly and effectively prevented. The monitoring of these drains is not an easy task, as flow through storm drains is intermittent and possibly difficult to control. Acknowledging this, it is essential that significant steps be taken to prevent contaminated material from reentering the river through storm drain run off. Not to do so risks recontamination of the rehabilitated Housatonic River as well as areas downstream.

We trust that the EPA will take all necessary steps to understand the nature of this potential source of recontamination. Upon further understanding of the situation it is also imperative that steps be taken to prevent recontamination through these drains into Silver Lake and the Housatonic River. To do otherwise undermines the extensive efforts the rehabilitate the river already taken and jeopardizes the true value of the entire river cleanup.

Response 1:

EPA appreciates the concerns raised in the comment regarding the source of potential recontamination. As discussed in the responses to previous comments, EPA has significantly increased the monitoring of all discharges from the site, required reporting of all data, have included water quality-based PCB effluent limitations on all dry weather discharges, included ambient monitoring requirements, and enhanced storm water BMPs. EPA has concluded that the permit limitations and conditions will lead to the attainment of water quality standards.

XIV. COMMENTS FROM MA STATE SENATOR NUCIFORO:

Comment 1:

I am writing to express serious concerns regarding the EPA's proposed National Pollutant Discharge Elimination System (NPDES) permit for the GE plant in Pittsfield.

Over the past five years; enormous strides have been made to cleanse the Housatonic River of PCBs. Hundreds of millions of dollars have been invested to preserve the health of this river and the vitality of its surrounding community. Yet, much work remains before the Housatonic watershed can truly move forward. This proposed permit, while not derailing the cleanup effort altogether, is a step in the wrong direction.

As you know, the viscous nature of PCBs causes it to cling to soil and sediment particles. Hence, any additional release of PCBs into the environment will further complicate on-going clean-up efforts. This problem, like PCBs themselves, will continue to resonate in both the environment and the consciousness of the surrounding community until the problem is completely resolved. The proposed NPDES permit will delay the closure that many people in the community so desire.

The proposed permit may also infringe upon the original Remediation and Restoration Agreement. According to the EPA, "Environmental Restrictions and Easements are to be placed on all GE-owned properties ... to protect the integrity of the cleanup" (October 7, 1999). As discussed above, this permit risks jeopardizing the collaborative efforts of numerous local, state, and federal agencies. Like many of my constituents, I remain committed to effective implementation of both the letter and the spirit of the Consent Decree.

Response 1:

EPA appreciates the concerns raised in the comment regarding the persistence of PCBs in the environment. As discussed in the responses to previous comments, EPA has significantly increased the monitoring of all discharges from the site, required reporting of all data, have included water quality-based PCB effluent limitations on all dry weather discharges, included ambient monitoring requirements, and enhanced storm water BMPs. EPA has concluded that the permit limitations and conditions will lead to the attainment of water quality standards.

The relationship between the NPDES permit and the Consent Decree is outlined in a previous response. The relevance of the partial quotation above to EPA's issuance of the Final Permit, or to any particular permit condition, is unclear.

XV. COMMENTS FROM THE U.S. FISH AND WILDLIFE SERVICE:

Comment 1:

Fact Sheet Page 7:

“due to the persistence and high rate of bioaccumulation of PCBs in the environment, and to provide a reasonable margin of safety EPA and MassDEP did not consider the use of dilution in establishing PCB limitations and conditions.” We strongly agree that this is the proper protocol to follow.

Response 1:

The comment is noted for the record.

Comment 2:

“Although Method 8082 (and Modified Method 8082) is not, at this time, an EPA NPDES-approved method, it can be required by the Region in accordance with C.F.R. 136.3 (c) as necessarily for a more complete quantification of PCBs”. Because Method 8082 has a significantly lower detection level than Method 608, we concur with the requirement to use Method 8082.

Response 2:

The comment is noted for the record. As discussed in previous responses, the permit now requires that all PBC samples be analyzed using Modified Method 8082, which has a lower detection limit than Method 8082.

Comment 3:

Fact Sheet Page 9 and draft permit PCB limits for outfalls 001, 01A, 004, 05A, 05B, 006, 06A, 007, and 009: *“Although many of the storm water discharges from the GE site have been regulated under previous permits, EPA does not believe it has sufficient information at this time to establish numeric limits on the storm water discharges... Therefore, EPA has not included numeric effluent limitations for PCBs in storm water discharges, but has required BMPs in order to meet water quality standards.”* The FWS must strongly disagree with this approach as it relates to PCB limits. Although we concur that past site remediation activities have generally reduced PCB concentrations, remediation is ongoing and there are areas of the site that have yet to be addressed. The wide variability of wet weather PCB concentrations reinforces our point and should not be used as a justification to preclude numeric limits. The fact that some of the storm drain discharges no longer contain industrial process discharges is not relevant to the discussion of PCB limits. Effluent data from Outfalls 001, 01A, 004, 05A, 05B, 006, 06A, 007,

and 009 (and their associated storm water overflows) have exceeded applicable water quality criteria, and yet the draft permit contains only a reporting requirement. While we understand, and generally agree, with the approach of using BMPs in first-round storm water permits with subsequent improvements, the circumstances of the draft permit do not appear to fit this approach in that this is neither a first-round permit nor is there a lack of information on which to base numeric effluent limits. At a minimum, there should be an interim compliance limit with evaluation of the efficacy of BMPs much like proposed for the 64G discharge.

Response 3:

EPA appreciates the concerns raised in the comment regarding the adequacy of BMPs in lieu of numeric limits. Nevertheless, the commenter does not directly address the question of whether accurately calculating numeric limits is feasible at this time, indicating neither what a numeric water quality-based number would be, nor how it should be derived. As discussed in the responses to previous comments, EPA has determined that the use of BMPs is appropriate. EPA has enhanced the required BMPs; added dry weather effluent limits; improved monitoring and reporting requirements; and imposed a permit re-opener linked to the ambient monitoring program that will allow EPA to assess the efficacy of storm water pollution controls on the site.

The notion that EPA is limited to using BMPs for first generation permits is incorrect. BMP's should be employed so long as they are effective and so long as derivation of appropriate numeric limits are infeasible due to information constraints. EPA has determined that the use of enhanced BMPs in this permit is consistent with the Interim Permitting Policy, which contemplates BMPs for as long as they are effective and appropriate, which could be several permitting cycles. *See* Interim Permitting Policy Q and A ("The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.").

EPA also disagrees with the commenter's conclusion that there currently exists sufficient information in the record to calculate appropriate numeric limits. For the reasons set forth above, EPA has concluded that numeric limits are infeasible and inappropriate at this time. However, one objective of the permit is to generate data that may be used to set numeric limits in the future if the BMPs imposed in this permit fail to achieve water quality objectives. *See* Interim Permitting Policy Q and A ("Each storm water permit should include coordinated and cost-effective monitoring program to gather necessary information to determine the extent to which the permit provides for attainment of applicable water quality standards and to determine the appropriate conditions or limitations for subsequent permits. Such a monitoring program may include, ambient monitoring, receiving water assessment, discharge monitoring (as needed), or a combination of monitoring procedures designed to gather necessary information."). In addition, EPA has concluded that the permit, through the imposition of improved BMPs, enhanced monitoring and a water quality-based reopener, will be sufficiently protective to ensure compliance with water quality standards.

The variability of wet weather PCB concentrations will be better defined with the wet weather-specific sampling requirements in the permit. If wet weather data shows that PCB concentrations in storm water discharges are high enough to cause or contribute to exceedances of standards, even after the required BMPs are implemented, EPA will impose additional BMPs to address these shortcomings or will impose numeric limitations

EPA agrees that the fact that some of the storm drain discharges no longer contain industrial process discharges is not particularly relevant to the discussion of PCB limits, but it is relevant to the data that has been historically collected by the facility. Many of the permitted discharges included discharges from industrial processes and discharged significant dry weather flows. The permit did not require wet weather-specific sampling, so the PCB data collected in accordance with the permit includes PCB data collected during both wet weather and dry weather, making it extremely difficult to establish the storm water discharge characteristics. Without knowing these characteristics, the receiving water flow, and the wet weather receiving water PCB concentrations, it is infeasible at this time to establish numeric limits.

Comment 4:

64G interim compliance limit (page 20-2 1 of draft permit):

The draft permit states *“If the 64G treatment facility does not demonstrate a 100% compliance capability..., then the interim compliance limit will remain at 0.15 ug/l until GE upgrades the 64G facility.... The upgrade shall be completed in accordance with the schedule proposed in the treatment capability study”*. We are uncomfortable with such an open-ended compliance schedule. While we appreciate the provision in the draft permit that gives EPA and MassDEP the ability to prescribe an alternate compliance schedule, we believe that a more structured schedule would better serve both the applicant and the regulators by providing tangible benchmarks that the applicant could achieve with incentives to achieve the final limit of 0.065 ugh within a specified timeframe.

Response 4:

EPA agrees that the schedule, as proposed in the Draft Permit, is too open-ended for the reasons stated by the commenter above. EPA has changed the requirement to provide clearer interim milestones leading to compliance with the limit and to otherwise conform to the requirements of 40 C.F.R. § 122.47.

Comment 5:

General Comments:

We appreciate the complexity of this draft permit and recognize the significant amount of effort expended by EPA and MassDEP staff. Our comments are based both on the current draft permit

and subsequent activities to be performed as part of the Natural Resource Damage Assessment and Restoration activities. Significant financial and personnel resources will be expended by the Natural Resource Trustees in the coming months and years to implement restoration projects to compensate the public for injuries incurred as a result of PCB contamination. It is imperative that we all insure that sites like Silver Lake do not become recontaminated by the outfalls once they have been restored.

Response 5:

As discussed in the response to previous comments the discharges to Silver Lake (outfalls 001, 01A, 004, and YD3) were transferred to PEDDA and are no longer in the permit. Limits and conditions for these outfalls will be addressed in the future reissuance of PEDDA's NPDES permit.

XVI. COMMENTS FROM THE BERKSHIRE ENVIRONMENTAL ACTION TEAM:***Comment 1:***

The GE NPDES draft permit is insufficient to protect the East Branch of the Housatonic River from being recontaminated with PCBs. According to GE's own data, every outfall that they have been monitoring is exceeding EPA PCB water quality standards. In addition, there are several discharge pipes that also go into the East Branch of the Housatonic River that are monitored. All these pipes are or could be releasing toxic materials from a site into the Housatonic River. All of these discharges are upstream of the river remediation area. All ready PCBs are being detected in the sediments of the remediated portion of the river. The river is being recontaminated and if these discharges are not eliminated the remediation will be in jeopardy.

1) EPA needs enough data to be able to set numerical limits.

Even though PCB standards are being exceeded, EPA included few numerical limits in the new permit. I believe this is because EPA did not require enough sampling in the previous permit to be able to characterize the amounts of PCBs being discharged.

Response 1:

EPA agrees that PCB sampling of storm water discharges required in the previous permit was not sufficient. As described in earlier responses, EPA has increased the monitoring of PCBs, included numeric limits on all dry weather (non-storm water) discharges, and required an ambient monitoring program. Specific wet and dry weather sampling is required in order to better characterize storm water discharges.

Comment 2:**2) Flow monitoring**

This permit should require continuous flow monitoring of all pipes. This can be done mechanically and is not an undue burden. It is essential to being able to calculate how much PCB is getting into the river.

Response 2:

Continuous flow monitoring has been required for receiving water outfalls 005, 05A, 05B, 006, 06A, and 009, and also for internal outfalls 64G and 09B. Only outfalls SR05 and the yard drains are not required have continuous flow meters. SR05 is expected to overflow very intermittently and the yard drains drain very small areas. In light of this, EPA has determined that flow estimates are sufficient for these discharges.

Comment 3:**3) Contaminant monitoring protocols**

The monitoring for PCBs of the pipes with continuous flows should be daily. The monitoring for PCBs of the pipes that only carry water during storm events should be four times per hour on storm events starting at first flow and continuing until there is no more flow. For pipes that only carry water during storm events, the flow and the PCB levels will change through out the event. The water may start with no PCBs, increase steadily up to a given point, then decrease; or it may have a strong blip in the graph if there is an area that has lots of PCBs that flushes through at a given time. The only way to know is to sample frequently during a rain event. Taking one grab can be grossly misleading. Once a number of storms have been monitored for each pipe, the events can be characterized to figure out when the pollutant load comes through each pipe and monitoring can be scaled back to capture the most likely load times for each pipe.

Response 3:

Daily sampling for PCB in continuous discharges is more frequent than necessary to characterize those discharges, because EPA does not expect there to be significant variability in the effluent from day to day. The Final Permit requires that 24-hour, flow-proportioned dry weather sample be collected twice per month for each discharge.

EPA concurs that pollutant concentrations in storm water discharges may vary over the course of a discharge event. The Final Permit requires that storm water samples be flow proportioned composite samples collected over the duration of the storm.

Comment 4:**4) Additional pipes to be monitored.**

There are several other pipes that I know of that GE should be monitoring.

1. GE should monitor the pipe that has its outfall into the ditch next to Bobby Hudpucker's Restaurant both for flow and for contaminants. This pipe runs through GE's property and had several connections from the GE plant. It also carried storm water runoff from the GE site. It also carries water from an area that at least one worker claims was used to dump GE waste water off Benedict Road. The potential for this pipe to carry PCB contamination is very high. The only way to know what is getting into the river is to monitor at the outfall. This pipe should be monitored continuously for flow and four times per hour during storm event flows to determine the amount of contamination. If this pipe flows continuously it should be monitored daily IN ADDITION to the monitoring during a storm event.
2. According to the Source Characterization Study, surface water and sediment contamination in the swales from Hill 78 are discharging into the river, as is groundwater

contamination from Hill 78 Area. Again, this should be quantified and stopped. I believe, this swale leads into a 42" pipe that has its outfall just north of East Street opposite Commercial Street. The outflow from this pipe then flows into a pipe under East Street, under part of Commercial Street, and empties into the East Branch of the Housatonic River. From the research I have done, it appears GE put in this pipe. In that this pipe also carries the storm water runoff from Hill 78's swale, the potential for this pipe to carry PCB contamination is very high. The only way to know what is getting into the river is to monitor at the outfall. This pipe should be monitored continuously for flow and four times per hour during storm event flows to determine the amount of contamination.

3. According to the Source Characterization Study, page 1-6, Unkamet Brook bisects the old GE landfill and flows directly to the Housatonic River. Also according to that Study, Table 5-1, groundwater contamination and contaminated sediment in Unkamet Brook are flowing into the river above the remediated section of the river. When Unkamet Brook leaves the GE site, it flows under Merrill Road through a pipe. This pipe should be monitored for both flow and contaminants. This would show what is getting off the GE site through this pipe, and presumably getting into the East Branch of the Housatonic River. This should be done immediately even though the whole Unkamet Brook area is being studied. We know there are PCBs there. We need to know how much is getting into the river now!
4. According to the Source Characterization Study, outfall water and sediment contamination from Silver Lake as well as groundwater contamination is flowing into the river. The Silver Lake outfall goes through a pipe under East Street. This pipe should be monitored both for flow and for contaminants. Again, this would show what is getting into the East Branch of the Housatonic River above the remediation area. This is absolutely necessary given the proposed remediation of Silver Lake. It is inexcusable that this outflow has not been monitored for either flow or contaminants. When asked at a public meeting, the claim was that they could not monitor the flow from Silver Lake because of the design of the outfall. That is absurd. Monitoring the pipe will make it easy.

Response 4:

Please see Responses to Winn, Gray and Herkimer Comments Numbers 15-18.

Comment 5:

5) Preferential pathways.

Underground pipes, even those that are no longer used and have been capped, can act as preferential pathways for contaminants to find their way to a waterbody. Water will flow more easily along the pipe and therefore the pipes act as "preferential pathways" for the water. Pipes should be tested at their outfalls, but not just the water coming out of the pipe, but also any water that may have followed the pipe as a "preferential pathway".

Response 5:

The Final Permit requires routine inspections of plugged discharge pipes during wet weather to confirm the integrity of the seal and to observe whether there is breakout flow at the outer periphery of the outfall pipe or in the area immediately around the pipe.

Comment 6:**6) Accounting of current and historical pipes.**

GE should account for and map all pipes under their property. GE should provide current and historical maps of pipes and account for all of them. In particular - the “perforated sub drain lines” that ran throughout the site shown on a map located in Pittsfield Engineering and hand labeled “GE DRAINS MAINS MAIN PLANT” and titled “PLANT DRAINAGE SYSTEM” in the lower right corner.

Response 6:

The Final Permit requires that storm drain maps be part of the SWPPP and that the maps be updated yearly.

Comment 7:**7) Determining the condition and connections of all pipes.**

GE should videotape all pipes that run through the site that have an outfall into one of the waterbodies to show the condition of the pipe and that there are no unknown connections on the site. This includes city storm water pipes where they run through GE property.

Response 7:

The permit requires videotaping of certain storm water drains that are known to be in contaminated areas (see BMP I.C). The dry weather sampling and dry weather effluent limits required in the final permit will show any outfalls discharging contaminated infiltration. Violation of the limits will necessarily lead to investigations to locate contaminated areas, which may require additional videotaping.

Comment 8:

8) Accounting for what GE has done with underground structures on their site. GE should give a complete description of how all abandoned pipes, floor drains, liquid waste storage areas, underground storage tanks, tunnels, etc. were demolished, filled, removed, or left in place.

Response 8:

EPA added a requirement that the SWPPP include up to date mapping of the storm water collection system, including connections to the system.

Rather than require a detailed description of all remediation activities on the site, EPA has increased monitoring frequency, required wet weather and dry weather-specific sampling and included PCB limits on dry weather discharges. EPA believes that these measures will ensure that remaining problem areas are identified and addressed.

Comment 9:**9) Ditches**

Any ditches from the site should be considered as outflows from the facility.

Response 9:

EPA has included discharges from ditches that it believes are point sources. See Response to Winn, Gray and Herkimer Comment 11 regarding the site survey to identify any additional point sources not currently authorized by the permit.

Comment 10:**10) Sheetflow & Infiltration**

It is usually a good idea to promote sheetflow and infiltration, but in this case they may also carry PCB and other contaminant loading from the facility into the river. GE needs to be able to measure the contaminants carried by the sheet flow and infiltration at the locations they know it is getting into the river. If GE wants to disconnect a pipe and instead use sheet flow or infiltration, they should first have to prove that this will result in less contaminants being carried into the river.

Response 10:

See Response to Riverways Comment 7.

Comment 11:**11) Total PCBs entering the river.**

GE should determine the amount of PCBs entering the receiving waters from all the sources combined per year. This should include data from Yard drains (YD), Overland Flow (OF), and Non-Point source (NP). This entire site is contaminated and thus could be considered in and of itself a point source.

Response 11:

The definition of point source (see 40 C.F.R. § 122.2) is confined to discrete conveyances, such as pipes and ditches. The GE site contains numerous point source discharges, but the entire site cannot be considered a point source. Using the point source monitoring and the ambient monitoring required by the Final Permit, non-point sources can be estimated.

Comment 12:**12) pH levels should have limits set.**

Monitoring data showed pH levels in some of the outfalls are excessive in both directions. This should not be allowed.

Response 12:

Please see Response to Riverways Comment 20.

Comment 13:**13) What are the by products of the GE plastics operations and are they being tested for?*****Response 13:***

The plastics operation at GE was sold approximately a year ago, but does not include any wastewater discharges to waters of the United States, so there is no authorization to discharge and no monitoring requirements.

Comment 14:**14) GE should monitor the wells at Pittsfield Generating Co.**

All these wells should be monitored monthly. Data should include “flow” (the quantity of water used) as well as PCB and other contaminant levels.

Response 14:

NPDES permits do not regulate the withdrawal of groundwater, and EPA is not aware that the Pittsfield Generating Company discharges through any GE outfalls.

Comment 15:**5) All monitoring data must be made public.**

This eliminates the possibility of monitoring several times in one day and only submitting the

one that shows the least contamination.

Response 15:

All monitoring data collected in accordance with the permit requirements must be reported (Part I.D.1.d.2 of the final permit). All reported effluent data is public data and will be released by EPA upon request.

Comment 16:

16) Reservoir off Benedict Road

According to a former GE worker, contaminated water was pumped to a reservoir off Benedict Road. Obviously this waterbody should be tested, but also water from that area runs through pipes that cross the current GE property. This water should be tested NOW by GE, but when the city storm water is separated from the GE site, this water must still be tested to determine where the PCBs actually come from.

Response 16:

See Response to Winn, Gray and Herkimer Comment 23.

Comment 17:

17) Injection wells under Unkamet Brook area

Injection wells were used to dispose of contaminated liquids possibly hundreds of feet below ground in the Unkamet Brook area. There should be deep monitoring wells to test for contaminants in this area.

Response 17:

Such testing is beyond the scope of an NPDES permit since pollutants disposed in deep wells are not discharges to waters of the United States. A requirement for such monitoring may be pursued with MassDEP.

Comment 18:

18) Permit expiration and the Consent Decree

GE's previous NPDES permit expired in February 1997. The fact that this permit has lapsed for eight years so far, when this is a highly contaminated site, puts health and the environment at risk. This entire permit should be a reopener to the Consent Decree so that all the contamination entering the Housatonic River above the current remediation area is dealt with NOW, not eight years from now.

Response 18:

The Consent Decree and permit are separate legal documents. EPA agrees that a permit re-opener in the NPDES permit is warranted for the reasons stated in Response Winn, Gray and Herkimer Response 25 above. The justification for the permit re-opener is to ensure that the limits and conditions in the NPDES permit are sufficiently stringent to ensure compliance with the CWA and is unrelated to the CD.

XVII. COMMENTS FROM THE BERKSHIRE REGIONAL PLANNING COMMISSION

The General Electric Company is applying for re-issuance of its National Pollutant Discharge Elimination System (NPDES) permit to discharge to Silver Lake, Unkamet Brook, and the East Branch of the Housatonic River. The current permit expired on February 7, 1997, and is still in effect. Once effective, the permit will stand for five years.

The Federal Clean Water Act requires a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of pollutants to the waters of the United States. The Clean Water Act requires that NPDES permits place limits on pollutants that are currently discharged at a level that has caused, has the potential to cause or contributes to water quality degradation. The US Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) have cooperated in the development of this permit. The effluent limits and permit conditions have been drafted to assure that the State Water Quality Standards and provisions of the Clean Water Act will be met. Discharges must satisfy both minimum technology and water quality requirements.

The draft NPDES permit covers 14 current permitted storm water outfalls and an additional 17 point source discharges that previously were covered by a nationwide general permit. Nine nonpoint discharges are not covered by the new permit. The area covered by the storm water system includes the PEDDA site; the land south of East Street, and the rest of the GE site all the way to the Housatonic Railroad spur in Coltsville. The outfalls discharge into Silver Lake, Unkamet Brook and the East Branch of the Housatonic River. The draft establishes limitations and monitoring/sampling requirements for toxicity.

CONSIDERATIONS AND POTENTIAL ISSUES:

GE has made many changes to the wastewater discharges since the existing permit was issued. Major changes included (1) separation of non-groundwater flows from the storm drain system in cases where GE determined this change was feasible, and (2) discontinuing the discharge of treated process water, contact cooling water, and non-contact cooling water. Also, in 1993, permit responsibility, coverage and liability for one outfall was transferred from GE to Martin Marietta (and subsequently Lockheed-Martin and then General Dynamics). Permit decisions for that outfall will be handled independently from the GE Permit.

Silver Lake, Unkamet Brook, and the East Branch are classified as Class B warm water fisheries by the State. Thus they have the following designated uses: habitat for fish and wildlife, contact recreation, source of public water supply, suitable for irrigation and industrial cooling and process uses, and shall have consistently good aesthetic value. The segment of the East Branch into which all these discharges ultimately flow is identified as not meeting these standards due to priority organics, unknown toxicity, and pathogens. PCBs are a known pollutant in this segment as well and are considered a toxic. PCBs accumulate in the food chain and therefore consumption of fish from the river is a primary concern.

Due to the nature of storm water discharges, not just for the GE site but nationwide, EPA has generally utilized a permitting approach using best management practices (BMPs) as opposed to setting numeric limits for specific pollutants. As permits are considered for renewal, expanded or better tailored BMPs are required to provide for attainment of water quality standards. This also requires that each permit include a coordinated and cost-effective monitoring program to determine the extent to which the permit provides for attainment of the water quality standards. Due to fairly recent major changes in the activities occurring on the GE site and the lack of information on which to base numeric limits on pollutants, EPA proposes to continue to utilize a BMP approach for this permit renewal.

The permitting is made more complicated by the fact that in some cases, storm water from Pittsfield neighborhoods flow into the GE storm water system, and in other cases, GE outfalls flow into the City system. However, the “systems” are permitted separately. City storm water flows particularly affect the outfalls from GE that drain into Silver Lake. The Silver Lake outfalls serve the PEDDA site. PEDDA plans, as part of the site redevelopment, to replace the collection system and significantly reduce runoff through construction of detention basins. PEDDA also expects that the City storm water system will be separated from the PEDDA site system during the redevelopment of the site. This is expected to at least be under construction by 2009. In addition, the portion of the City system that comes from East Street, Newell Street and Lombard Street, which currently flows into the GE system and is treated, may be separated from the GE system. These changes should significantly decrease flows into the overall GE system, specifically in the area of the redevelopment site.

For all outfalls, a consistent comment contained in the draft permit is the discharge achieves the permit limits but contains concentrations of PCB which exceed water quality criteria. . . .“ The draft permit sets a lower limit than the old permit for PCB discharges and notes that a number of provisions in the site clean-up/demolition work will reduce PCB discharges as well.

Due to the elimination of use of water for contact and non-contact cooling and for processing throughout the site, most of previous heavy metal limits contained in the old permit have been eliminated as no longer being necessary. This does not mean there are no limits on their discharge, they simply are no longer allowed.

COMMENTS AND RECOMMENDATIONS:

Given the complexity and size of the storm water system and the permitting requirements for the GE Site, BRPC feels that it does not have adequate technical knowledge to provide specific comments on the draft permit limits. Thus, we are limiting our comments to more general ones regarding the site.

Comment 1:

1. In redeveloping the PEDDA site and the land that is cleared on the south side of East Street, every effort should be made to utilize the most effective best management practices possible. Detention basins are but one component of a total BMP system. The use of additional infiltration methods, particularly implemented as a component of the site landscaping design, should be strongly encouraged, including the use of Low Impact Development techniques. Low Impact Development (LID) is an innovative storm water management approach with a basic principle that is modeled after nature: manage rainfall at the source using uniformly distributed decentralized micro-scale controls. LID's goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source. Techniques are based on the premise that storm water management should not be seen as storm water disposal. Instead of conveying and managing/treating storm water in large, costly end-of-pipe facilities located at the bottom of drainage areas, LID addresses storm water through small, cost-effective landscape features located at the lot level. These landscape features, known as Integrated Management Practices (IMPs), are the building blocks of LID. Almost all components of the urban environment have the potential to serve as an IMP. This includes not only open space, but also rooftops, streetscapes, parking lots, sidewalks, and medians. LID is a versatile approach that can be applied equally well to new development, urban retrofits, and redevelopment / revitalization projects. More information can be found at <http://www.lid-storm water.net/>. The master plan for the William Stanley Business Park (the PEDDA site) calls for extensive use of LID techniques.

Response 1:

As described previously, the outfalls now owned by PEDDA have been transferred to PEDDA and removed from the final GE permit. The commenter's recommendations regarding storm water management are similar to the preliminary plans described by PEDDA in its comments, and appear to be consistent with EPA guidance regarding storm water management. EPA anticipates further discussion on storm water management for PEDDA-owned discharges when reissuing that permit.

Comment 2:

2. It would seem to be preferable to have total storm water management plans for the affected drainage basins, including the large City-owned portion of the system serving portions of the Morningside neighborhood, and to develop basin-wide BMPs, including both operational and structural improvements or to separate the systems. The plans for the PEDDA site include separation of the storm water system serving the PEDDA site from that serving the Morningside neighborhood.

Response 2:

The City is required to have a storm water management program for its storm sewers pursuant to its coverage under the NPDES General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems. The City should be coordinating with the permittee for those portions its storm drain system contributing flow to the permittee's collection system. As we understand it, outfall 001 is the only outfall receiving significant flows from the City. The outfall is now owned by PEDDA, which has reported plans to remove the connection between its collection system and the City's.

Comment 3:

3. The obvious current PCB concentrations being discharged from the system, all of which are noted as exceeding water quality standards, is a major concern. If these are not eliminated, or at least significantly reduced to a level that does not exceed standards, the current very expensive cleansing of the river may ultimately be for naught and the river may not return to meeting Class B water quality standards. The expectation for the required BMPs is that they will serve to reduce the PCB levels currently being experienced in all outfalls. BRPC believes that these levels, after clearance activities or implementation of BMPs occurs, should be closely monitored. If levels do not show decreases to levels that would meet water quality standards for a low dry-weather flow river like the Housatonic, then additional measures should be required that will achieve water quality standards. These should be required immediately but no later than at the time of permit renewal, in five years. For the PEDDA redevelopment site, the improvements should be staged in accordance with the schedule for overall redevelopment of the site.

Response 3:

EPA concurs with these observations and comments. EPA intends to closely monitor discharge quality. Consistent with the Interim Permitting Strategy, additional BMPs or numeric water quality limits will be imposed if information generated under the requirements of this permit shows that these measures are necessary to achieve water quality standards.

Comment 4:

4. We are also concerned about the nine outfalls which were determined to be non-point source discharges and therefore not included in this draft permit. These were covered by the old Multi-Sector General Storm Water Permit for Industrial Activities. Given the ongoing PCB discharges from the site, it might be preferable on this specific site to minimize use of non-point source discharges and to direct as much flow as practicable into the storm water treatment system which exists on the site. This is probably highly dependent upon whether water infiltration is occurring which facilitates further PCB flows into the river or whether

rainfall is simply flowing across a vegetated area and the vegetation acts as a filter, which is the more traditional use of vegetated buffers for storm water quality management.

Response 4:

Elimination of point source storm water runoff by directing runoff to pervious areas is typically a recommended management practice.

See Response to Riverways Comment 7 and Response to Winn, Gray and Herkimer Comment 11 regarding the site survey to identify any additional point sources not currently authorized by the permit.

Comment 5:

5. GE should be required to determine the amount of PCBs entering the receiving waters from all the outfalls combined per year. This should include estimating the amounts entering during unmonitored storm events. The data should not be pre-remediation. This should be an effective monitoring program testing each individual outflow, not batch testing. Flow measurements from pipes should be monitored continuously 24 hours a day, 365 days per year if at all practical.

Response 5:

Continuous flow monitoring has been required for receiving water outfalls 005, 05A, 05B, 006, 06A, and 009, and also for internal outfalls 64G and 09B. Only outfall SR05, and the yard drains are not required have continuous flow meters. SR05 is expected to overflow very intermittently and the yard drains serve very small areas. EPA believes that flow estimates are sufficient for these discharges.

Comment 6:

6. If GE chooses to replace pipe discharges with sheet flow, then PCBs should be measured in the sheet flow to ensure that this technique is an improvement.

Response 6:

It is not practical to measure pollutants in sheet flow, and EPA does not have authority under the NPDES program to regulate discharges from nonpoint sources. EPA has included monitoring condition from all outfalls meeting the definition of point source as defined by the CWA and federal regulations, including several ditches and swales.

Please see the Response to Riverways Comment 7 for further discussion regarding sheet flow.

Comment 7:

7. As part of the review process, GE should provide all maps and plans of the storm water collection and discharge system and underground storage tanks known to be on its property.

Response 7:

Rather than require a detailed description of all remediation activities on the site, EPA has added a requirement that the SWPPP include up to date mapping of the storm water collection system, including connections to the system. EPA has also increased monitoring frequency, required wet weather and dry weather-specific sampling and included PCB limits on dry weather discharges. EPA believes that these measures will ensure that remaining problem areas are identified and addressed.

Comment 8:

8. GE should videotape all pipes that run through the site that have an outfall into a water body to show the condition of the pipe and that there are no unknown connections on the site. This should include city storm water pipes where they run through the GE property.

Response 8:

The permit requires videotaping of certain storm water drains that are known to be in contaminated areas (see BMP I.C). The dry weather sampling and dry weather effluent limits required in the Final Permit will show any outfalls discharging contaminated infiltration. Violation of the limits will necessarily lead to investigations to locate contaminated areas, which may require additional videotaping.