

United States Environmental Protection Agency
EPA New England
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December 17, 2001

Mr. Andrew T. Silfer, P.E.
Corporate Environmental Programs
General Electric Company
100 Woodlawn Avenue
Pittsfield, Massachusetts 01201

**RE: Interim Conditional Approval of GE's submittal entitled *Results of Cell J1 DNAPL Investigation and Proposal to Address Presence of DNAPL in Cell J1*
Upper ½-Mile Reach Removal Action
General Electric-Housatonic River Site, Pittsfield, Massachusetts**

Dear Mr. Silfer:

On November 28, 2001, GE submitted a document entitled *Results of Cell J1 DNAPL Investigation and Proposal to Address Presence of DNAPL in Cell J1*. This document is subject to the terms and conditions specified in the Consent Decree that was entered in District Court on October 27, 2000 (the "Consent Decree"). Pursuant to the Upper ½-Mile Reach Removal Action Work Plan and Paragraph 73.b of the Consent Decree, EPA, after consulting with the Massachusetts DEP, is providing interim conditional approval for the above-referenced submittal subject to conditions outlined below. This interim approval will allow GE to install the Waterloo Sheetpile in Cell J1 while they further investigate the area. Review and approval of the proposed additional excavation and groundwater monitoring activities will be made following the completion of the additional investigative activities and subsequent submittals as described below.

Sheetpile Installation

The installation of the Waterloo sheetpile is approved subject to the following conditions:

1. The embedment depth must be sufficient to allow for the safe excavation of NAPL-impacted sediments and lower bank soils. Otherwise tie-backs or bracing may be required. Note that the submittal only evaluates the long-term stability (i.e., under restored conditions) of the sheetpile wall, not the short-term stability concerns that arise during excavation activities.

2. Upon completion of the sheetpile installation, if the sheetpile lifting holes are in place below elevation 975 feet AMSL, then they shall be permanently sealed.
3. The area between the proposed Waterloo sheetpile and the sewer siphon line will be filled with concrete or grout as discussed in an on-site visit on December 13, 2001. The purpose of this requirement is to minimize, to the extent practical, the migration of NAPL from bank soils, through the gap between the Waterloo sheetpile and the sewer siphon line, and into the river.
4. If any NAPL-impacted bank soils are encountered outside the limits of the Waterloo sheetpile wall, then additional response actions may be required.

Investigation activities, proposed additional excavation and groundwater monitoring activities

The investigative activities summarized in the submittal are insufficient to allow for the review and approval of the proposed additional excavation activities. The deficiencies with the investigative activities are summarized below.

1. The investigative activities do not satisfactorily delineate the vertical extent of DNAPL-impacted sediments and the fine sand layer that appears to be acting as a confining layer with respect to NAPL. Specifically, this delineation is insufficient at borings J1-SB-10 and J1-SB-12. Since the vertical extent of the DNAPL-impacted sediments has not been delineated, a determination on the need to brace the sheetpile cannot be made at this time.
2. In several of the borings, the recovery was less than 50%. This is inconsistent with standard operating procedures recommended by EPA for the overall GE-Pittsfield/Housatonic River Site (see "GE Housatonic River Site, Removal Actions Outside the River, Field Rules of Thumb" January 19, 2001). For all future borings installed in the Upper ½-Mile Reach, EPA recommends that GE re-advance borings with insufficient (<50%) recovery in order to meet the data quality objectives of the sampling activity. In no case should the investigative activities be terminated until it is clear that sufficient (>50%) recovery has been obtained for all intervals or until at least three attempts have been made to obtain sufficient recovery.
3. For all future NAPL analyses performed pursuant to the Upper ½-Mile Reach, GE shall analyze the samples for the following physical parameters (assuming sufficient sample size): specific gravity, viscosity and interfacial tension. This information helps determine the potential mobility of the NAPLs detected. GE shall also perform chemical analyses of the NAPL in order to attempt to identify the source of the NAPL detected during the Upper ½-Mile Reach to other NAPL sources GMA #1.

Required additional investigative activities

1. In order to better estimate the vertical extent of NAPL and the elevation of the fine sand layer, GE shall install in-river borings in a minimum of three locations upstream and in a minimum of three locations downstream of the sewer siphon line. The boring locations shall be within approximately 40 feet of the sewer siphon line, as this is the area where there is insufficient characterization. The borings at locations J1-SB-10 and J1-SB-12 did not meet the data quality objectives and need to be redone. EPA recommends that GE follow the procedures for the advancement of borings referenced above to ensure that data quality objectives are met.
2. GE shall provide EPA (or Weston) appropriate notice prior to the initiation of field activities to allow for proper oversight.
3. GE shall survey the elevation of the top of the restored river channel in Cell I1 directly adjacent to the centerline sheetpile where additional excavation activities are to be performed. The surveying shall be performed at a maximum spacing of 25 feet. This is necessary to eventually match final grades along the centerline sheetpile and to ensure that a minimum of four feet of excavation (and subsequent backfill) can safely be performed in Cell J1 along the centerline sheetpile. GE shall subsequently survey the bottom of the excavation and the restored area in Cell J1 along the centerline sheets in locations directly adjacent to the surveyed locations in Cell I1.

Subsequent Submittals

1. Upon completion of the additional in-river borings, GE shall submit a contour map delineating the approximate elevation of the fine sand layer in Cell J1 and the observed vertical extent of DNAPL. GE shall also determine if the existing sheetpile, combined with the proposed Waterloo sheetpile, are installed to sufficient depths to allow for: a) excavation to the depths shown on Figure 4 to be met without bracing, tie-backs etc.; and b) additional excavation below the elevations shown on Figure 4 to be met without bracing, tie-backs, etc., if the additional investigative activities indicate the presence of DNAPL and/or that the top elevation of the fine sand layer is below the proposed maximum excavation depths.
2. GE shall submit a revised survey table and Figure for Cell J1 showing the new control points along the centerline sheetpile and existing elevations (as measured in Cell I1). If necessary, GE shall revise Figure 4 of the Cell J1 DNAPL submittal.

The above-listed requirements are the minimum requirements that GE shall meet. However, this conditional approval letter does not waive or modify any of the Performance Standards specified in the Upper ½-Mile Reach Removal Action Work Plan or the Consent Decree, or any requirements associated with such performance standards. As you know, Section 4.2 -- Non-

Aqueous Phase Liquid Standards of Technical Attachment H of Appendix E to the Consent Decree includes the following Performance Standards:

- "Containment, defined as no discharge of NAPL to surface water and/or sediments, which shall include no sheens on surface water and no bank seeps of NAPL."
- "For areas near surface waters in which there is no physical containment barrier between the wells and the surface water, elimination of measurable NAPL (i.e., detectable with an oil/water interface probe) in wells near the surface water bank that could potentially discharge NAPL into the surface water, in order to prevent such discharge and assist in achieving groundwater quality Performance Standards."
- "For areas adjacent to physical contamination barriers, prevention of any measurable LNAPL migration around the ends of the physical containment barriers."

Furthermore, EPA's conditional approval of this submittal does not preclude EPA from requiring additional investigations and response activities pursuant to the Consent Decree, the Upper ½-Mile Reach Removal Action Work Plan and/or the *Statement of Work for Removal Actions Outside the River* (Appendix E to the Consent Decree) in the future. Furthermore, this conditional approval letter does not modify any of the Performance Standards contained in the Upper ½-Mile Reach Removal Action Work Plan, the Consent Decree and/or the *Statement of Work for Removal Actions Outside the River* (Appendix E to the Consent Decree).

If you have any questions, please contact me at (617) 918-1282.

Sincerely,


Dean Tagliaferro

cc: Tim Conway, EPA
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Site File