



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

07-0025

October 6, 1998

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

RE: Conditional Approval of the *Source Control Work Plan - Upper Reach of Housatonic River (First 1/2 Mile)*, September 1998, prepared by Blasland, Bouck & Lee, Inc. (BBL) for the General Electric Company (GE)

On September 11, the United States Environmental Protection Agency (EPA) received the above-referenced document from GE. GE submitted this document in response to EPA's August 14, 1998 conditional approval of the *Conceptual Work Plan - Upper Reach of Housatonic River (First 1/2-mile)*, July 1998, prepared by BBL for GE.

On September 29, 1998, representatives of EPA, Massachusetts Department of Environmental Protection (DEP), GE and BBL met to discuss GE's *Source Control Work Plan*. Based on EPA's and Massachusetts DEP review, and on the discussions held during the September 29, 1998 meeting, EPA conditionally approves GE's *Source Control Work Plan* subject to the following modifications:

General

1. GE shall initiate the borings/wells at the East Street Area II portion of the Site prior to or concurrent to performing the geophysics.
2. GE shall perform the geophysics beginning at the Lyman Street/Newell Street II study areas to allow for the information to be evaluated prior to finalizing the location of the proposed soil borings/monitoring wells in these study areas. Based on the results of the geophysics and the profiles/cross sections generated, the locations of the proposed monitoring wells/borings for these study areas may be adjusted.
3. GE shall install additional borings/wells based on field observations and expedited laboratory results to accomplish the objectives of the *Source Control Work Plan* without demobilizing/remobilizing drill rigs to and from a certain area, to the extent practical.

4. Subsequent to the geophysics, the monitoring well/soil boring installation, bank and sediment sampling, EPA may require the installation of additional borings in the river to determine the presence of non-aqueous phase liquid (NAPL). (See paragraph 1.d of EPA's August 14, 1998 conditional approval letter).
5. EPA recommends delaying the submittal of the Lyman Street containment barrier design until the additional investigative activities are completed. The East Street Area II containment barrier design shall continue on the expedited schedule proposed by GE.
6. GE shall provide analytical data for polychlorinated biphenyls (PCBs) to EPA within two days of GE's receipt of the data from their laboratory.
7. If requested, GE shall provide the geophysical raw data/information to EPA.
8. In addition to the sampling and analytical procedures specified on page 2-2 of the *Source Control Work Plan*, GE shall collect a discrete sample at the confining layer and analyze the sample for PCBs even if field-based methods do not indicate the presence of NAPL.
9. GE shall collect discrete soil samples and analyze the samples for the hazardous substances listed in Appendix IX of 40 CFR 264, excluding herbicides and pesticides, but including three additional constituents -- benzidine, 2-chloroethyvinyl ether, and 1,2-diphenylhydrazine (Appendix IX + 3) in areas where dense non-aqueous phase liquid (DNAPL) is encountered as proposed on page 2-2 of the *Source Control Work Plan*. GE does not need to collect discrete soil samples for Appendix IX + 3 parameters where lighter-than-water NAPL (LNAPL) is encountered in areas where LNAPL has been previously characterized.
10. EPA recommends that in East Street Area II, GE collect composite samples from 0 to 1 foot, 1 to 6 foot, and 6 to 15 foot intervals and analyze the composite samples for PCBs. In addition, EPA recommends one of the three composite samples be analyzed for Appendix IX+ 3 compounds (except for volatile organic compounds). The composite sample to be analyzed for the Appendix IX + 3 parameters should be selected based on visual staining and photo-ionization detector (PID) levels. One discrete sample should be collected for volatile organic compound analysis. This sample should be selected based on elevated PID levels. Due to the large interval over which these composite samples are to be collected, EPA recommends that GE propose revisions to the Sampling and Analysis Plan/Data Collection and Analysis Quality Assurance Plan to detail how these samples will be collected.
11. GE shall propose a composite sampling procedure to EPA prior to advancing borings at the Newell Street or Lyman Street areas of the Site.

East Street Area 2

1. GE shall install an additional shallow soil boring (e.g., at least two feet below the water table) east of well 54, approximately half way between proposed locations E2SC-3 and E2SC-4, to confirm the eastern extent of LNAPL along the riverbank. LNAPL staining was detected in soil boring SB-20, east of well 54, during the riverbank study.
2. Unless LNAPL is detected, GE shall extend proposed soil boring E2SC-10 to the top of the till unit to provide additional geotechnical data for the sheetpile design. If LNAPL is detected, a separate intermediate boring will be installed in this area.
3. EPA recommends that at a minimum, standard penetration test data and geotechnical soil samples be collected at locations E2SC-3, E2SC-4, and E2SC-10. Geotechnical soil samples should be collected from all major lithology changes (especially a sample of the till unit) and analyzed for grain size and Atterburg Limits (fine materials only).
4. Soil boring E2SC-2 shall be converted to a deep/top of till monitoring well regardless of the field observation results during drilling. The location is directly between DNAPL locations 64V and ES2-6, within a low area of the till surface (based on well log and seismic data interpretation).
5. EPA's assumption is that the soil between the sheetpile and river will be excavated down into the water table. Therefore, EPA recommends the containment barrier be extended into the till. This will allow for structural stability, for the excavation of soils between the sheetpile and the river, as well as providing additional control for any DNAPL or dissolved phase contaminant migration that may be present at this till layer.

Lyman Street Site

1. The GE Source Control Work Plan does not discuss the possibility that the silt confining unit is not continuous across the Site and no additional work is proposed to fill this data gap. The only silt confining unit thickness data at the Site is from LS-25, where the unit extends from 18 to 33 feet below ground surface. The extent and thickness of the silt confining unit needs to be determined at other locations on the Site. GE only refers to contamination located above the silt confining unit. PCBs in groundwater have been documented in the one site well (LS-25) screened below this unit. It is also possible that in order to meet structural requirements, sheetpile would have to penetrate this unit. More data from within and below this unit are needed to better determine the extent of contamination and potential DNAPL movement, and to provide geotechnical information. Therefore, GE shall install two borings through the silt confining layer to bedrock or a maximum depth of 60 feet. One boring should be located near each end of the proposed sheetpile. If NAPL is not encountered, then borings LSSC-8 and LSSC-2 can be extended to meet this objective.

2. EPA assumes that the deep well proposed for installation near LS-10 for the Lyman Street Area under the RCRA/State ACO process will be installed. If this is incorrect, then GE shall install a deep well (i.e., through the silt layer) as part of this Source Control Work Plan.

Newell Street Area II

GE shall install one additional boring between NS-15 and the river. Regardless of actual conditions, this boring and proposed boring N2SC-6 shall be converted into monitoring wells to provide additional monitoring points adjacent to the river.

Geophysical Work Scope

General

1. After a review of the data generated by GE's proposed land-based seismic methods, EPA may require GE to use a sub-bottom seismic profiler unit to run transects in the river itself. Sub-bottom profiling transects would be run down the center of the river for the entire one-half mile, and perpendicular to the river to connect with GE's proposed land-based seismic transects. The sub-bottom profiling data can be used to characterize the geologic structure directly below the river and can be integrated with the land-based seismic data.

2. All the geophysics data should be compared in detail to adjacent boring logs as part of the data analysis.

Specific to GE's Proposed Seismic Survey

EPA labeled GE's seismic lines from 1 to 11 at the September 29, 1998 meeting with GE to provide reference for the comments below. EPA acknowledges that the items below may need modified based on access restrictions.

1. Seismic line 5 shall be extended approximately 200 feet further north to intersect the north-northwest portion of the suspected trough.

2. One additional seismic tie-line (12) is required south of the river and proposed seismic line 9 (intersecting the suspected trough), in order to better define the east-west limits of the trough. Line 12 would provide additional points to tie in lines 1, 2, 4, and 5 along with the previous seismic survey data.

3. One additional tie-line (13) is required north of Lyman Street Parking Lot and Oxbow Area D to further define the limits of the till underlying this area.

4. Line 2 shall be extended approximately 150 feet north to "tie in" seismic line 13. This will provide a quality assurance check for the new survey data. Line 2 should also be extended approximately 200 feet south to better define the southern limits of the trough.

5. GE shall construct a minimum of six cross-sections perpendicular to the river at the following locations: Lyman Street, Newell Street DNAPL area, Building 68, the western edge of Former Oxbow H, and east and west of the eastern end of Former Oxbow H. GE should also consider the construction of a fence diagram integrating the data from each of the cross-sections.

NAPL Containment/Recovery Activities

GE shall provide details on how the evaluation was performed to assess potential DNAPL recovery volumes/rates at the Newell Street Area II Site. This should include pumping/bailing frequencies and evaluation criteria for determining an appropriate DNAPL removal program. Objectives for the initial evaluation should include measurement of time required for DNAPL recovery following bail down and estimation of a sustainable recovery rate.

NAPL Sampling

If additional NAPL is detected, EPA requires that density and viscosity analysis be conducted in addition to the analyses proposed by GE.

Schedule

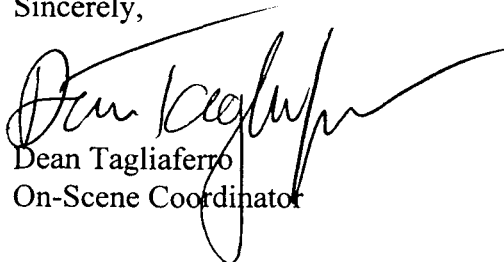
GE shall provide a revised schedule of proposed activities every two weeks.

Additional Work

The EPA reserves the right to require additional sampling or analysis if new information indicates that such sampling is necessary to comply with CERCLA, the National Contingency Plan or is otherwise appropriate.

If you have any questions, please contact me at (617) 223-5596.

Sincerely,



Dean Tagliaferro
On-Scene Coordinator

cc: Lyn Cutler, Massachusetts DEP
Ken Finkelstein, NOAA

Ken Carr, US Fish and Wildlife
John Kilborn, EPA
Margaret Meehan, EPA
Joel Lindsay, R.F. Weston, Inc.
Mayor Gerald S. Doyle, City of Pittsfield
Pittsfield Conservation Commission