GE
159 Plastics Avenue
Pittsfield, MA 01201
USA

Transmitted via Electronic Mail and Overnight Courier

October 31, 2005

Mr. William P. Lovely, Jr.
U.S. Environmental Protection Agency
EPA New England
One Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

Re: GE-Pittsfield/Housatonic River Site
Newell Street Area II (GECD450)
Proposal for Test Trenching Activities

Dear Mr. Lovely:

A. Introduction

In a September 6, 2005 letter to the U.S. Environmental Protection Agency (EPA), the General Electric Company (GE) proposed to conduct a geophysical survey at portions of the Newell Street Area II Removal Action Area (RAA) located in Pittsfield, Massachusetts. GE's proposal was prompted by the discovery of buried drums during soil remediation activities at this RAA, and was developed to assess other areas where drums may potentially be present below the ground surface. The proposed activities included the use of three different geophysical techniques within the area where the drums were initially encountered (i.e., Parcel J9-23-8, owned by the Western Massachusetts Electric Company) – namely, magnetometer and electromagnetic (EM) methods and ground-penetrating radar (GPR). EPA conditionally approved GE's proposal in a letter dated September 14, 2005, and required, among other things, that the area to be subject to the survey be extended to include those areas west of Parcel J9-23-8 (other than Parcel I9-7-1) where soil excavation activities were planned.

Following EPA approval of GE's proposal, geophysical survey activities were initiated and were completed on October 11, 2005. Consistent with EPA's conditional approval letter, GE consulted with EPA at various times during the survey to discuss the status of on-site activities, preliminary findings, and the scope of subsequent survey activities.

One of the anticipated outcomes of the geophysical survey was the need to conduct intrusive investigation activities within the surveyed area to further assess the nature of detected subsurface anomalies. Specifically, as proposed by GE and reiterated in EPA's conditional approval letter, if the results of the geophysical survey indicated the presence of subsurface anomalies that could potentially constitute buried drums, GE would discuss with EPA the need for and scope of subsequent intrusive investigations beyond the soil remediation activities already approved by EPA. As has been previously communicated to EPA, and as summarized in this letter, the results of the geophysical survey indicate that non-native, metallic objects (i.e., anomalies) are present in the subsurface, possibly including buried drums. As such, GE has discussed with EPA the performance of an intrusive test trenching program to further assess the nature of the detected anomalies.

This letter provides GE's proposed scope of test trenching activities for EPA review and approval. In support of this proposal, this letter also provides a brief overview of the completed geophysical survey activities; a more detailed summary of these activities will be provided in a future submittal, as discussed in Part D of this letter.

Although GE does not believe that the activities proposed herein are required by the Consent Decree (CD) for the GE-Pittsfield/Housatonic River Site, GE proposes to conduct these activities pursuant to the CD. In doing so, GE reserves the right to contend that any additional response actions at this RAA that go beyond those specified in the *Statement of Work for Removal Actions Outside the River* and in the work plans that EPA approved for this RAA prior to the commencement of the remediation are not required by the CD, and to contest any future directive to conduct such response actions.

B. Summary of Geophysical Survey Activities

This section presents an overview of the geophysical surveys that were conducted at Newell Street Area II between September 15 and October 11, 2005. In the interests of expediting the preparation of this proposal, only a brief summary of the completed survey activities is presented herein, including a general description of the survey techniques that were used, with references to the appropriate figure that illustrates the general scope and findings of each of the surveys. GE will provide a more detailed summary of the completed geophysical surveys, as well as a summary of the test trenching program proposed herein, in a *Subsurface Investigation Summary Report*, as discussed in Part D of this letter.

The recent survey activities conducted at Newell Street Area II used multiple geophysical techniques in an effort to identify areas where buried drums and/or other objects/subsurface features may be present. This multi-instrument survey approach produced several lines of evidence that can account for potential sources of interferences (e.g., power lines, fences, etc.) and limitations associated with the individual techniques. The geophysical methods included a combination of EM-61 and magnetometer surveys to assess the potential presence of metallic objects in the subsurface, and GPR to provide radar images of the subsurface anomalies identified by the EM-61 and magnetometer surveys. Additional discussion of each of these techniques is provided below.

- **Electromagnetic Survey** - The EM survey was performed to detect subsurface metallic objects without significant interference from surface features (e.g., buildings, power lines, and fences). The operation of this instrument is based on the emission, or pulse, of a time-varying magnetic field generated from an alternating current at the transmitter. After each pulse, secondary electromagnetic fields are induced briefly into the earth. Between each pulse, the equipment pauses until the response from the earth dissipates, and then measures the prolonged response received from buried metallic objects. The EM survey was completed from September 15 to September 19, 2005, and was performed using a Geonics EM-61 MK2 equipped with a digital data logger and a Trimble AG-132 Global Positioning System (GPS). Data were collected using both manual and survey wheel modes of collection due to the uneven areas at the site resulting from the active soil excavation work. Figure 1 illustrates the findings of this EM survey.

- **Magnetometer Survey** - The magnetometer survey was performed to detect buried ferromagnetic objects. The magnetometer operates on the principle of measuring the earth's magnetic field and deviations in this field caused by the presence of ferromagnetic objects. The intensity and variation caused by such objects are related to the depth and mass of the buried object and to a lesser degree the orientation of the object. The magnetometer survey was performed on September 20, 2005, using a Geometrics G-858 portable cesium magnetometer equipped with a Trimble AG-132 GPS. Magnetometer readings were collected at one second intervals along the survey lines established for the site survey. Figure 2 illustrates the findings of this magnetometer survey.

- **Ground Penetrating Radar** - Based on the results of the EM and magnetometer surveys, GE identified four target areas within the overall survey areas as appropriate for the performance of the GPR survey to further assess anomalies identified during the EM and magnetometer surveys. Those specific target areas for the GPR survey were presented to EPA and are shown on Figures 1 through 3. The GPR equipment transmits high frequency electromagnetic waves into the ground and detects the energy reflected back to the surface. Energy is reflected along subsurface interfaces that possess different electrical properties. Reflections typically occur at lithologic contacts or when the electromagnetic waves encounter subsurface materials having high electrical contrasts, including metal objects such as underground storage tanks (USTs), drums, and utility pipes. These reflections are detected by the antenna and processed into an electrical signal, which can be used to image the subsurface feature. The GPR survey was performed from October 6 to October 11, 2005, using a Geophysical Survey Systems, Inc., SIR-2000 system and a 200 megahertz antenna. The four target areas were surveyed, and GPR data were collected continuously along each survey line. Figure 3 illustrates the findings of this GPR survey.

C. Proposed Test Trenching Program

Based on the results of the geophysical surveys, as well as recent input provided by EPA, GE has developed an intrusive test trenching program for EPA review and approval. The overall purposes of the proposed program are to better understand the nature of the detected subsurface anomalies identified by the surveys and to determine whether such anomalies are indicative of buried drums. Upon completion of this program, further evaluations will be conducted by GE and discussed with EPA and the Massachusetts Department of Environmental Protection (MDEP) to determine what further actions, if any, are appropriate. This section describes the proposed locations for test trenching activities and the procedures that GE will implement during the performance of this program.

Figures 1, 2, and 3 (which illustrate the results of the EM, magnetometer, and GPR surveys, respectively) identify, on each figure, the proposed test trench locations. In total, the proposed test trenching program includes approximately 800 linear feet of test trench. The location of each completed trench will be surveyed.

The performance of the test trenching activities will be conducted in accordance with the procedures described below. Should it be necessary to significantly modify those procedures, GE will consult with EPA.

- The work will be performed by GE's existing Remediation Contractor. All existing site monitoring and control activities performed by GE or its contractors will be maintained, including site security, health and safety provisions, air monitoring, erosion control, equipment cleaning, provisions for handling drums, etc.

- The width and depth of each test trench will vary depending on the specific conditions that are encountered/observed. The depth of the trench will consider equipment access/capabilities, the presence of the water table, and side-slope stability considerations. Based on these factors, a maximum trench depth of 6 to 10 feet is anticipated. The width of the trench will, to the extent possible, correspond to the width of the excavation equipment.

- The subsurface conditions associated with each trench will be assessed through visual observation of the excavated materials and (to the extent possible) direct observation of the trench sidewalls and end walls. The test trench excavations will occur in depth increments of approximately 2 to 3 feet in thickness. This will facilitate the observation of the trench sidewalls and end walls, allow time for recordkeeping and on-site review/discussion as needed, and the controlled handling of excavated soils, as discussed below.

- For each test trench, several visual observations and field measurements will be collected and recorded. These observations and measurements will be made from outside the trench, as no personnel will be permitted to access the trench. The observations and measurements to be made and recorded will consist of the following:

  - Date, start/stop time, trench ID, equipment used, etc.;
  - Physical dimensions of completed trench, e.g., overall length, width(s), depth(s), etc.;
  - Presence of groundwater, if encountered;
  - Visual observations of the native and non-native materials that are excavated from each trench, including type, approximate in-situ location/depth, and related observations;
  - To the extent that it is possible and safe to do so from outside the trench, visual observations of the sidewalls and end walls (representing the in-situ materials);
  - Observations of any drums, capacitors, or other similar electrical equipment encountered, including condition, specific location within the trench (which will be documented), depth (relative to ground surface or other benchmark), quantity (as appropriate), etc.; and
  - Observations of other objects or features (including locations and depths) that could contribute to and/or explain the nature of the anomalies identified during the geophysical surveys.

- As the test trench activities proceed, the Remediation Contractor will excavate and handle the trench materials based on the type of materials that are encountered. As part of this activity, one or more controlled staging areas will be established to facilitate the test trench operations. The locations of the staging areas will be determined in the field.

- If any intact drums or capacitors, drum/capacitor fragments, or other large metallic debris are encountered within the test trenches depicted on Figures 1 through 3, these items will be removed. Consistent with the procedures already in place at this RAA, these materials will be separately staged for disposition either at the Building 71 On-Plant Consolidation Area (OPCA) or at an off-site disposal facility. Intact drums potentially containing liquids will be placed directly into overpack drums for subsequent characterization testing, while the other types of material will be staged on polyethylene sheeting for additional processing and handling.

- To minimize the potential for odors and dust and for site safety reasons, completed sections of the test trench will be backfilled as soon as practicable after excavation of the trench, performance of the necessary visual observations, and removal of the items noted above, if any. With the exception of intact drums and capacitors, drum/capacitor fragments, and other unsuitable materials (e.g., large metallic debris, appliances, etc.), the soil and other fill materials excavated from the test trenches will be used as trench backfill material. In removing and replacing these materials, the Remediation Contractor will excavate, handle, stage, and backfill the materials in such a manner that the excavated materials are returned to the same depth increments from which they were removed (i.e., last-out/first-in approach for excavating/backfilling materials).

- As needed and to possibly compensate for materials that are not suitable for use as backfill, clean backfill materials will be placed to achieve a stable grade at the top of each trench location.

D. Schedule and Reporting

Following EPA approval of the proposed test trenching activities, GE will coordinate with EPA, MDEP, and GE's Remediation Contractor to schedule and implement the proposed activities. The anticipated duration of the trenching program is unknown. However, during the course of the test trenching, GE anticipates that EPA will actively monitor the progression of the trenching efforts. Consistent with EPA's September 14, 2005 conditional approval of GE's proposed geophysical survey, GE will discuss with EPA in an expedited manner the results of the test trenching program, as well as subsequent activities (if any) in this area.

In addition, as previously indicated, GE proposes to prepare a *Subsurface Investigation Summary Report* following the completion of the test trenching program. That report will include a summary of the completed geophysical surveys and test trenching program, including the supporting materials and data that were generated by these activities (e.g., instrument data, test trench logs, figures, etc.). GE proposes to submit that report within 30 days following completion of the test trenching program.

Please contact me if you have questions or comments concerning GE's proposed test trenching program.

Sincerely,

Andrew T. Silfer, P.E.
GE Project Coordinator

Attachments
V:\GE_Pittsfield_CD_Newell_St_Area_II\Correspondence\65052196.DOC

cc: Dean Tagliaferro, EPA
Tim Conway, EPA
Holly Inglis, EPA
Rose Howell, EPA*
K.C. Mitkevicius, USACE
Linda Palmieri, Weston
Anna Symington, MDEP*
Robert Bell, MDEP*
Susan Steenstrup, MDEP (2 copies)
Thomas Angus, MDEP*
Mayor James Ruberto, City of Pittsfield
Pittsfield Commissioner of Public Health
Nancy E. Harper, MA AG*
Dale Young, MA EOEA*
Paul Dowd, Western Mass. Electric Co.
Michael Carroll, GE
Richard Gates, GE
Rod McLaren, GE
James Nuss, BBL
James Bieke, Goodwin Procter
Samuel Gutter, Sidley Austin Brown & Wood
John Ciampa, SPECTRA
Public Information Repositories
GE Internal Repositories

(without attachment)*

APPROXIMATE LIMIT OF COMPLETED EXCAVATION AS OF 10/14/05 (TYP)

RIP RAP SWALE

HIGH TENSION TOWERS

OUTFLOW FROM DITCH

ANOMALY DUE TO SANITARY SEWER LINE

LIMIT OF TOPO TOP OF RIP RAP

J9-23-1

J9-23-2

J9-23-3

J9-23-4

J9-23-5

J9-23-6

J9-23-7

J9-23-8

STANDING WATER

CITY OF PITTSFIELD PROPERTY

SACKETT ST.

WOODED

ANOMALY DUE TO SANITARY SEWER LINE

TRAILER

METER

GATE

GATE

SHEDS

HIGH TENSION TOWERS

BIT. PAVEMENT

N2SC-01I
N2SC-01S
N2SC-02
N2SC-03I
N2SC-03S
N2SC-04
N2SC-05
N2SC-06
N2SC-07
N2SC-07S
N2SC-08
N2SC-09
N2SC-10
N2SC-11
N2SC-12
N2SC-13I
N2SC-13S
N2SC-14
N2SC-15
N2SC-16
N2SC-17
N2SC-18
N2SC-19
N2SC-20

NS-1 NS-9 NS-10 NS-11 NS-15 NS-16 NS-18 NS-19 NS-20 NS-21 NS-30 NS-31 NS-32 NS-33 NS-34 NS-36

GMA1-1 GMA1-8

MW-1S MW-1D

RESPONSE (MILLIVOLTS)

900
700
500
300
100
0
-100
-300
-500
-700
-900
-1100

LEGEND:

- APPROXIMATE RAA BOUNDARY
- PARCEL BOUNDARY
- EASEMENT
- J9-23-8 PARCEL ID
- CHAIN LINK FENCE
- OVERHEAD WIRES
- SANITARY SEWER
- STORM DRAIN
- ABANDONED SANITARY SEWER
- TOP OF BANK
- GUARD RAIL
- 980 INDEX ELEVATION CONTOUR
- 982 INTERMEDIATE ELEVATION CONTOUR
- SANITARY MANHOLE
- UTILITY POLE
- PAVED (ASPHALT/CONCRETE)
- AREA ADDRESSED AS PART OF THE UPPER 1/2-MILE REACH
- AREA SUBJECT TO INSTALLATION OF VEGETATIVE ENGINEERED BARRIER IN ACCORDANCE WITH THE CONSENT DECREE AND STATEMENT OF WORK
- NS-18 MONITORING WELL LOCATION AND CORRESPONDING ID
- GPR INVESTIGATION AREA
- GENERAL LOCATION PROPOSED FOR TEST TRENCHING. SPECIFIC LOCATIONS TO BE FIELD DETERMINED.

NOTES:

1. BASE MAP MODIFIED FROM SURVEY BY HILL ENGINEERS, ARCHITECTS & PLANNERS, DATED 12/9/03. LIMITS OF HOUSATONIC RIVER ARE APPROXIMATE.
2. UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND ALL UTILITIES MAY NOT BE SHOWN.
3. EM61 SURVEY ACTIVITIES PERFORMED BETWEEN SEPTEMBER 15 AND SEPTEMBER 19, 2005.

0 30' 60'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

NEWELL STREET AREA II

EM61 SURVEY - CHANNEL D RESPONSE (DIFFERENTIAL)

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 1

X: 20705X01.DWG, 20705X01.TIF
L: ON=*, OFF=REF*
P: PAGESET/SYR-DL
10/31/05 SYR-85-DMW DMW BGP
N/20705003/AREA-II/20705C02.DWG

APPROXIMATE LIMIT OF COMPLETED EXCAVATION AS OF 10/14/05 (TYP)

RIP RAP SWALE

ANOMALY DUE TO HIGH TENSION TOWERS

HIGH TENSION TOWERS

Housatonic River

Branch

East

OUTFLOW FROM DITCH

ANOMALY DUE TO SANITARY SEWER LINE

LIMIT OF TOPO

TOP OF RIP RAP

J9-23-1

J9-23-2

J9-23-3

J9-23-4

J9-23-5

J9-23-6

J9-23-7

J9-23-8

STANDING WATER

CITY OF PITTSFIELD PROPERTY

SACKETT ST.

WOODED

ANOMALY DUE TO SANITARY SEWER LINE

SHEDS

TRAILER

METER

ANOMALY DUE TO EQUIPMENT

GATE

ANOMALY DUE TO FENCE AND GUARDRAIL

BIT. PAVEMENT

HIGH TENSION TOWERS

GMA1-1

GMA1-8

N2SC-01

N2SC-01I

N2SC-01S

N2SC-02

N2SC-03I

N2SC-03S

N2SC-04

N2SC-05

N2SC-06

N2SC-07

N2SC-075

N2SC-08

N2SC-09I

N2SC-09S

N2SC-11

N2SC-12

N2SC-13I

N2SC-13S

N2SC-14

N2SC-15

N2SC-16

N2SC-17

N2SC-18

MW-1S

MW-1D

NS-1

NS-9

NS-10

NS-11

NS-15

NS-16

NS-18

NS-19

NS-20

NS-21

NS-30

NS-31

NS-32

NS-33

NS-34

NS-35

NS-36

TOTAL FIELD VALUE (nT)

58500
57500
56500
56000
55500
54500
54000
53500
52500
51500
50500
49500
48500
47500
46500

LEGEND:

- APPROXIMATE RAA BOUNDARY
- PARCEL BOUNDARY
- EASEMENT
- J9-23-8 PARCEL ID
- CHAIN LINK FENCE
- OH OVERHEAD WIRES
- S SANITARY SEWER
- D STORM DRAIN
- S ABANDONED SANITARY SEWER
- TOP OF BANK
- GUARD RAIL
- 980 INDEX ELEVATION CONTOUR
- 982 INTERMEDIATE ELEVATION CONTOUR
- S SANITARY MANHOLE
- UTILITY POLE
- PAVED (ASPHALT/CONCRETE)
- AREA ADDRESSED AS PART OF THE UPPER 1/2-MILE REACH
- AREA SUBJECT TO INSTALLATION OF VEGETATIVE ENGINEERED BARRIER IN ACCORDANCE WITH THE CONSENT DECREE AND STATEMENT OF WORK
- NS-18 MONITORING WELL LOCATION AND CORRESPONDING ID
- GPR INVESTIGATION AREA
- GENERAL LOCATION PROPOSED FOR TEST TRENCHING. SPECIFIC LOCATIONS TO BE FIELD DETERMINED.

NOTES:

1. BASE MAP MODIFIED FROM SURVEY BY HILL ENGINEERS, ARCHITECTS & PLANNERS, DATED 12/9/03. LIMITS OF HOUSATONIC RIVER ARE APPROXIMATE.
2. UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND ALL UTILITIES MAY NOT BE SHOWN.
3. MAGNETOMETER SURVEY ACTIVITIES PERFORMED ON SEPTEMBER 20, 2005.

0 30' 60'
GRAPHIC SCALE

X: 20705X01.DWG, 20705X01.TIF
L: ON=*, OFF=REF*
P: PAGESET/SYR-DL2B1
10/31/05 SYR-85-DMW DMW BGP
N/20705003/AREA-II/20705C01.DWG

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

NEWELL STREET AREA II

MAGNETOMETER SURVEY - TOTAL FIELD CONTOUR MAP

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 2

APPROXIMATE LIMIT OF COMPLETED EXCAVATION AS OF 10/14/05 (TYP)

RIP RAP SWALE

Housatomic River

Branch

East

HIGH TENSION TOWERS

OUTFLOW FROM DITCH

LIMIT OF TOPO
TOP OF RIP RAP

J9-23-1

J9-23-2

J9-23-3

J9-23-4

J9-23-5

J9-23-6

J9-23-7

J9-23-8

STANDING WATER

WOODED

SHEDS

TRAILER

METER

GATE

GATE

CITY OF PITTSFIELD PROPERTY

SACKETT ST.

BIT. PAVEMENT

HIGH TENSION TOWERS

ELEV. 975

ELEV. 977

ELEV. 976

ELEV. 971

ELEV. 970

ELEV. 974

ELEV. 978

ELEV. 980

ELEV. 982 N2SC-09I

N2SC-09S

ELEV. 979'

ELEV. 981

N2SC-01I

N2SC-01S

N2SC-02

N2SC-03I

N2SC-03S

N2SC-04

N2SC-05

N2SC-06

N2SC-07

N2SC-08

N2SC-09I

N2SC-09S

N2SC-10

N2SC-11

N2SC-12

N2SC-13I

N2SC-13S

N2SC-14

N2SC-15

N2SC-17

N2SC-075

NS-1

NS-9

NS-10

NS-11

NS-15

NS-16

NS-18

NS-19

NS-20I

NS-21

NS-30

NS-31

NS-32

NS-33

NS-34

NS-35

NS-36

GMA1-1

GMA1-8

MW-1S

MW-1D

LEGEND:

- APPROXIMATE RAA BOUNDARY
- PARCEL BOUNDARY
- EASEMENT
- J9-23-8 PARCEL ID
- CHAIN LINK FENCE
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- 980 INDEX ELEVATION CONTOUR
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- UTILITY POLE
- AREA ADDRESSED AS PART OF THE UPPER 1/2-MILE REACH
- AREA SUBJECT TO INSTALLATION OF VEGETATIVE ENGINEERED BARRIER IN ACCORDANCE WITH THE CONSENT DECREE AND STATEMENT OF WORK
- METAL DEBRIS WITH TARGETS AND APPROXIMATE DEPTH RANGE (2'-7'bgs)
- METAL DEBRIS ONLY AND APPROXIMATE DEPTH RANGE (1'-8'bgs)
- AREA OF POOR GPR DATA OR INACCESSIBLE FOR GPR EQUIPMENT
- NS-18 MONITORING WELL LOCATION AND CORRESPONDING ID
- GPR INVESTIGATION AREA
- GENERAL LOCATION PROPOSED FOR TEST TRENCHING. SPECIFIC LOCATIONS TO BE FIELD DETERMINED.

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0 30' 60'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

NEWELL STREET AREA II

GPR SURVEY RESULTS

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 3

X: 20705X01.DWG, 20705X01.TIF
L: ON=*, OFF=REF*
P: PAGESET/SYR-DL
10/31/05 SYR-85-DMW DMW BGP
N/20705003/AREA-II/20705C03.DWG