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EPA #

BUILDING 68 AREA
GENERAL ELECTRIC
PITTSFIELD, MA

SUPPLEMENTAL CHARACTERIZATION ACTIVITIES STATUS REPORT
AND
PROPOSED REMEDIAL ACTION

HSI GEOTRANS
6 LANCASTER COUNTY ROAD
HARVARD, MA 01451

MAY 22,1998

Corporate Environmental Programs
Genera/ Electric Company
100 Woodlawn Avenue, Pittsfield, MA 01201

May 21, 1998

Mr. Dean Tagliaferro
Site Evaluation and Response Section (HBR)
U.S. Environmental Protection Agency
J.F. Kennedy Federal Building
Boston, MA 02203-2211

Ms. Anna G. Symington
Acting Section Chief, Special Projects
Bureau of Waste Site Cleanup
Department of Environmental Protection
Springfield, MA 01103

Re: Removal Action - Building 68 Area
EPA Region I CERCLA Docket #I-97-1003 / DEP File #1-1047P

Dear Mr. Tagliaferro and Ms. Symington:

In accordance with Mr. Tagliaferro's April 6, 1998 letter, as amended by the letter of May 15, 1998, please find enclosed a report entitled *Building 68 Area Supplemental Characterization Activities Status Report and Proposed Remedial Action* prepared by HSI GeoTrans on behalf of GE.

Please call with any questions or comments.

Yours truly,

Andrew T. Silfer, P.E.
Remediation Project Manager

Enclosure

cc: R. Bell, DEP*
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*enclosure

BULDING 68 AREA
GENERAL ELECTRIC
PITTSFIELD, MA

SUPPLEMENTAL CHARACTERIZATION ACTIVITIES STATUS REPORT
AND
PROPOSED REMEDIAL ACTION

PREPARED FOR:

GENERAL ELECTRIC COMPANY
CORPORATE ENVIRONMENTAL PROGRAMS

PREPARED BY:

HSI GEOTRANS
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HSI GEOTRANS PROJECT NO. N714-001 MAY 22, 1998

HSI GEOTRANS

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1 INTRODUCTION

This report is a summary/status report of the Building 68 Area Supplemental Characterization Activities, requested in the April 6, 1998 Environmental Protection Agency (EPA) letter, to General Electric (GE). In addition to requesting a summary/status report concerning the dense non-aqueous phase liquid (DNAPL) investigation, the EPA requested tbat GE submit a proposal to prevent potential DNAPL migration.

Removal actions associated with the Building 68 Area began in June 1997 in accordance with the Building 68 Area Removal Action Work Plan (BBL, 1997a). DNAPL was observed during the removal activities. In the Building 68 Removal Action-Assessment of Observed Oil and Proposed Activities Report (BBL, 1997b), GE proposed supplemental characterization investigations to evaluate the source of the DNAPL observed during the removal.

In accordance with the proposal included in the removal action report and the October 22, 1997 EPA approval letter, six borings/wells were installed along the top of the river bank west of Building 68. Following completion of the monitoring wells, a water level and DNAPL monitoring program was initiated. During these investigations, DNAPL was detected in monitoring well 3-6C-EB-25. The findings of these supplemental investigations and proposed additional investigations were presented in the Report on Supplemental Characterization Activities - Building 68 Area that was submitted in February 1998 (BBL, 1998).

To further evaluate the extent of DNAPL in the area near monitoring well 3-6C-EB-25, three additional borings (3-6C-EB-28 through 3-6C-EB-30) were drilled and monitoring wells were installed in accordance with the proposal in the February 1998 Report on Supplemental Characterization Activities - Building 68 Area (BBL, 1998). The findings from these investigations were reported in the March 25, 1998 status report regarding the

Building 68 Area Supplemental Characterization Activities (GE, 1998). These supplemental investigations detected DNAPL in one of the new monitoring wells (3-6C-EB-28) The March 25 status report included a proposal for a deep boring/well to determine the thickness of the silt/clay underlying the Building 68 Area. The data from the deep boring are presented in this status report.

The deep boring/well 3-6C-EB-3 1 was completed on April 15, 1998. Data collected from the new deep boring/well and proposed actions to prevent the potential of DNAPL migration are presented in the following sections of this report.

3 PROPOSED REMEDIAL ACTIONS

Based on the observation of free phase DNAPL at wells 3-6C-EB-25 and 3-6C-EB-28, DNAPL should be contained and collected, to the extent practicable. The proposed remedial action is designed to prevent lateral migration of the DNAPL and provide for collection of DNAPL. The proposed remedial measures for the DNAPL detected at wells 3-6C-EB-25 and 3-6C-EB-28 consist of a physical barrier and an extraction well to collect and remove the DNAPL that accumulates.

3.1 PHYSICAL BARRIER

The proposed physical barrier will consist of a sheet pile wall with sealed joints. The sheet pile wall will be installed on the north side of the existing sheet pile wall. It will extend from between wells 3-6C-EB-29 and 3-6C-EB-25 to the existing sheet pile wall along the river. From there it will parallel the river for about 50 feet and then angle toward a location between wells 3-6C-EB-28 and 3-6C-EB-26. The proposed alignment is shown on Figure 3-l.

The sheet piling system that is proposed for the wall was developed at the University of Waterloo. It is fabricated to allow the placement of bentonite grout along each joint to seal the wall. The sheet piling will be driven five feet into the till to ensure that a complete seal exists in the upper portion of the till. Slots will be cut into the upper sections of the sheet piles within the zone of the seasonal water table fluctuation. This will allow groundwater to flow without producing a groundwater mound behind the sheet pile barrier. This sheet pile system has been demonstrated to be an effective barrier to DNAPL migration (Starr, et al., 1992).

3.2 DNAPL COLLECTION

An extraction well will be installed on the north side of the new sheet pile wall as close to the wall as practicable. The approximate location of the well is shown on Figure 3-1. The proposed extraction well will be constructed of 12-inch casing and screen. The bore hole for the well will be 24-inches in diameter and drilled three feet into the till. A three-foot long 12-inch

diameter well screen will be placed such that the top one foot of the till and the bottom two feet of the overlying sand are screened. A two-foot long sump will be placed below the screen. The annular space from the top of the sump to the bottom of the bore hole will be backfilled with bentonite grout. An appropriately sized filter pack will be placed from the bottom of the screen to the water table. The remainder of the annular space will be filled with cement grout. The 12-inch casing will be extended above the seasonal high water level of the river. The well will be equipped with a water tight cover to prevent flooding of the well. Figure 3-2 is a detailed diagram of the proposed extraction well.

The rate of DNAPL accumulation in the well will be monitored daily for the first week after the well is completed. After this, the well will be monitored weekly. Initially DNAPL will be removed manually from the well after one foot of DNAPL has accumulated in the sump. The DNAPL level will not be allowed to rise into the screened interval of the well. If the rate of DNAPL accumulation is large enough, an automated DNAPL pumping system will be installed. In addition to monitoring the extraction well, monitoring wells 3-6C-EB-25 and 3-6C-EB-28 will continue to be monitored weekly. DNAPL will be removed from the monitoring wells if it accumulates to greater than one-foot in thickness in the well. It is estimated that the installation of the proposed sheet pile wall and extraction well can be completed within 60 days following approval by EPA.