

REPORT



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*Immediate Response
Action Completion Report
Oxbow Area C*



General Electric Company
Pittsfield, Massachusetts

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BBL
BLASLAND, BOLICK & LEE, INC.
engineers & scientists

Table of Contents

Section 1. Introduction I-1

 1.1 General..... 1 - 1

 1.2 Site Description I-1

Section 2. Description of Work Completed 2-1

2.1 General.....2- 1

 2.2 Description of Initial IRA Activities 2-1

 2.3 Description of IRA Removal Action and Planting Activities 2-2

 2.3.1 Mobilization and Site Preparation 2-3

 2.3.2 Soil Removal 2-4

 2.3.3 Air Monitoring 2-4

 2.3.4 Site Restoration 2-4

Section 3. Findings and Conclusions 3-1

Section 4. Management of Remediation Wastes 4-1

Section 5. Future Activities 5-1

Figures

- 1 IRA Plan and Soil PCB Analytical Results

Attachment

- 1 Photographic Log
- 2 TCLP Waste Profile Results
- 3 Air Monitoring Report
- 4 As-Built Topographic Survey
- 5 Waste Manifests and Certificates of Disposal

1. Introduction

1.1 General

This Immediate Response Action (IRA) Completion Report provides a summary of completed IRA activities at the Oxbow Area C in Pittsfield, Massachusetts in accordance with 310 CMR 40.0427. This summary describes the work performed by the General Electric Company (GE) between October 1995 and October 1997. Section 1 of this IRA Completion report provides an introduction and site description, Section 2 provides a description of the IRA activities, and Section 3 provides a discussion of potential future activities.

On October 31, 1997, Maxymillian Technologies, Inc. (MTI) completed an IRA on behalf of the General Electric Company (GE) for Oxbow Area C (RTN 1-11095) in Pittsfield, Massachusetts. The Oxbow Area C site is depicted on Figure 1. (While the figure also shows adjacent properties, this report is limited to the Oxbow Area C site; the adjacent properties are being addressed separately.)

Based on the detection of polychlorinated biphenyls (PCBs) in surficial soils at concentrations greater than 10 ppm and within 500 feet of a residence, a potential imminent hazard was identified at this site under 310 CMR 40.0321(2)(b) of the Massachusetts Contingency Plan (MCP). GE notified the Massachusetts Department of Environmental Protection (MDEP) in October 1995 regarding this potential imminent hazard. This notification resulted in the performance of a series of IRA-related activities at the site. These activities included additional soil sampling and analysis to delineate the presence of PCBs in surficial soils, the installation of perimeter fencing around the affected area of the site, and the posting of warning signs at the site. These activities comprised the initial IRA activities proposed by GE for the site. However, in a letter from the MDEP dated April 30, 1997, the MDEP identified several additional IRAs to be performed involving a combination of soil removal and revegetation/enhanced vegetation. A supplemental IRA Plan was subsequently developed and submitted to the MDEP on May 27, 1997. The supplemental IRA Plan proposed various IRA activities including removal of surficial soil exceeding 30 parts per million (ppm) PCBs from open grassy portions of the site, removal of surficial soil exceeding 50 ppm PCBs from vegetated portions of the site, and planting enhanced vegetation in vegetated areas of the site that exceed 30 ppm PCBs. (As this site falls into a recreational use scenario, GE evaluated this site for IRA purposes using the MDEP's previously established Short-Term Measure (STM) trigger levels of 30 ppm for recreational use areas; however, GE does not accept that level as indicative of an actual imminent hazard.) In addition, the supplemental IRA Plan identified various data gaps and information needs including: performance of additional soil sampling, development of a planting plan, and performance of a wetlands evaluation. These additional activities were performed in June and July 1997, and the finalized scope of IRA removal action and planting activities was submitted to the MDEP as part of the Notice of Intent (NOI) submittal prepared pursuant to the Wetlands Protection Act (310 CMR 10.00). Figure 1 provides a summary of the analytical data collected at this site, as well as the finalized scope of IRA removal action and planting activities. Verbal approval to perform the activities proposed in the NOI was received from the MDEP in July 1997. GE performed the IRA removal action and planting activities between September 22, 1997 and October 31, 1997.

1.2 Site Description

The Oxbow Area C site is located at the terminus of Day Street adjacent to a residential area along the Housatonic River (Figure 1). The site generally slopes toward the river and is composed of an open, grassed area an area vegetated with thick brush and trees. The Housatonic River is located to the north of the site, various residences on Hathaway Street and Day Street are located to the east and south of the site (within 500 feet from the site), a wooded area including walking trails and an intermittent tributary to the Housatonic River is located to the west of the site.

The site is wholly located within the 100-year floodplain of the Housatonic River as well as within the 100-foot buffer zone. A wetland assessment performed for the site (and submitted with the NOI) indicated that the portion of the site subject to removal actions, was a typical floodplain and did not contain jurisdictional wetland areas.

The Tax Parcel ID for the site is 18-23-6, and the property is owned by a private citizen (Ermino S. Barbalunga, **Jr.**). An access agreement was granted by Mr. Barbalunga for GE to access the property for the purpose of undertaking the IRAs.

2. Description of Work Completed

2.1 General

This section presents a description of IRA activities performed at the site between October 1995 and October 1997. Section 2.2 presents a description of initial IRA activities conducted between October 1995 and July 1997 that included performing soil sampling, posting warning signs, and installing a perimeter fence. Section 2.3 presents a description of the IRA activities conducted in September and October, 1997 that included removing certain surficial soils and planting enhanced vegetation. Figure 1 provides a summary of results from the PCB sampling efforts, the location of the perimeter fence, and an identification of the areas subject to surficial soil removal and enhanced vegetation planting. A photographic log of project activities is provided in Attachment 1.

2.2 Description of Initial IRA Activities

On October 16, 1995 GE provided notification to the MDEP of a potential imminent hazard at Oxbow C due to the presence of PCBs in surficial soils at concentrations greater than 10 ppm and within 500 feet of a residence. On October 24, 1995 GE received a Notice of Responsibility (NOR) letter from MDEP that required various IRAs and assigned a Release Tracking Number (RTN) to the Oxbow C location. The IRAs required by MDEP included posting signs, collection of additional surficial samples (0- to 6-inch depth), fencing the area, mailing "PCB Question and Answer" documents, and the provision of property ownership details to MDEP.

On October 27, 1995 written permission was received from the owner to install warning signs for 90 days. The eight additional surficial samples were taken by Blasland, Bouck & Lee (BBL) on November 9, 1995. On November 29, 1995 GE submitted a Release Notification Form (RNF) and the required property owner information to MDEP. In a December 11, 1995 letter GE requested a meeting with the owner to discuss installation of the fencing.

On December 14, 1995 representatives of GE met with the property owner and discussed fencing and surficial soil removal as IRA alternatives. The property owner indicated that he was not interested in fencing or surficial removal and rather would prefer that his property be remediated so that it could be used for light industrial development. On January 12, 1996 GE sent an IRA Status Report to MDEP and also sent a letter to the owner requesting another meeting to discuss possible alternatives for his property under the Massachusetts Contingency Plan (MCP). In this letter an indefinite extension for the maintenance of signs was also requested. There was no response from the owner to these requests.

On or about March 15, 1996 MDEP requested that GE prepare and submit an IRA plan for the site. That document was prepared and sent to MDEP on March 20, 1996. In April and May of 1996 GE attempted to contact the owner on several occasions to discuss the required IRAs. As a result of discussions between GE and MDEP, MDEP indicated that additional sampling would be required to further delineate potential contamination before any removal/capping activities could be undertaken. In response, GE submitted a new sampling plan (surficial samples) on June 7, 1996, and it was verbally approved by MDEP on June 14, 1996. A meeting was held with representatives of GE and the property owner on June 18, 1996 to discuss the need for additional sampling and capping of the Oxbow C area. On June 21, 1996 GE received a letter from the owner granting GE access to the Oxbow C area for additional sampling and excavation/removal of surficial soils.

On June 28, 1996 BBL collected 10 additional soil samples. Based on the results of this sampling, GE sent a proposal to the MDEP on August 1, 1996 for additional sampling (14 surficial samples). On August 13, 1996 GE received verbal approval from MDEP to proceed with the proposed sampling. This next round of samples was collected by BBL on August 26, 1996.

Based on the results of the August 26, 1997 sampling, GE met with MDEP on October 17, 1996 at the Oxbow C site to review additional sampling alternatives. On October 22, 1996, a proposal for additional sampling was sent to MDEP (22 surficial samples). On October 31, 1996 MDEP verbally requested changes to the sampling proposal. Appropriate changes (sample locations) were made to the sampling proposal and it was again sent to MDEP on November 1, 1996. On November 7, 1996 verbal approval was received from MDEP to proceed with the sampling as proposed. On November 27, 1996 BBL collected 22 additional surficial samples.

On January 2, 1997 MDEP verbally requested that GE submit an additional sampling plan and an IRA proposal for installation of a fence. The sampling plan (10 locations) and proposed fence location were submitted with the January 13, 1997 status report. The sampling plan was conditionally approved by the MDEP in a letter dated March 7, 1997 that requested the collection of eight additional surficial soil samples. This sampling (18 samples total) was performed by BBL on March 28 and April 4, 1997.

In accordance with an April 30, 1997 MDEP letter providing conditional approval of GE's January 13, 1997 IRA Plan, GE incorporated MDEP comments and prepared a revised IRA Plan, involving (depending on the concentration of PCBs) several measures to remove and/or restrict access to the existing surficial soils. Additional details regarding the proposed scope of activities is contained in GE's revised IRA Plan dated May 27, 1997. One component of that IRA Plan involved the collection of additional soil samples to better delineate and characterize the areas potentially subject to the remedial measures. Such sampling was performed on June 13, 1997 and included the collection of 31 additional surficial soil samples with analysis for PCBs. These sample locations, generally collected within a 25-foot grid pattern, were selected to address several remaining data needs and to facilitate design and implementation of the subsequent IRA. Following this sampling activity, three additional delineation surficial soil samples were collected and analyzed for PCBs on June 23, 1997. In addition, one composite sample (consisting of grab samples from five locations) was collected and analyzed for toxicity characteristics using the Toxicity Characteristic Leachate Procedure (TCLP). This composite sample was collected to assist in determining appropriate disposition options for the materials expected to be removed from the site as part of the IRA. The results of the TCLP sampling (Attachment 2) indicated that the soil was subject to Toxic Substances Control Act (TSCA) disposal requirements only.

Finally, during the week of May 12, 1997, GE installed approximately 700 feet of chain link fence around the portion of the site shown on Figure 1. This activity, which also involved the posting of warning signs, was completed as part of GE's original IRA Plan proposal. The location of this fence was based on the results of surface soil sampling and analysis and was designed to restrict access to surficial soils within the site containing PCBs at concentrations greater than 30 ppm.

2.3 Description of IRA Removal Action and Planting Activities

The proposed IRA removal action and planting activities were described in the May 27, 1997 IRA Plan and were subsequently modified and submitted to the MDEP as part of the NOI. The IRA Plan was verbally approved by the MDEP in July 1997, and the Pittsfield Conservation Commission (PCC) issued an Order of Conditions to be followed during implementation of the project. The overall components of this portion of IRA are shown on Figure 1 and involved activities to further minimize the potential for contact with PCBs present in the surficial soils.

As shown on Figure 1, surficial soils (i.e., top 6 inches) were identified for removal from the grassy portions within the newly fenced area. Approximately 130 cubic yards of soil from an area of approximately 7,200 square feet were identified for removal from this area.

In addition, those surface soils exceeding approximately 50 ppm and located in other (i.e., vegetated) portions of the fenced area were identified for removal. Figure 1 identifies the approximate areas and limits of surficial soils subject to removal. Approximately 160 cubic yards of soil from an area of approximately 8,400 square feet was identified for removal from this area.

Those areas that were not subject to soil removal but contained PCBs in surficial soils at concentrations exceeding the trigger level of 30 ppm were subject to the planting of additional vegetation. As shown on Figure 1, GE identified four areas within which the existing surface vegetation would be enhanced through the planting of various brush, shrubs, trees, etc. The areas targeted for enhanced vegetation were based on the available surficial soil PCB data, with the general intent of enhancing the vegetative cover already present in those areas where PCB concentrations in surficial soils exceeded 30 ppm PCBs.

The IRA removal action and planting activities are further described below and include, mobilization and site preparation, surficial soil removal, air monitoring, and site restoration.

2.3.1 Mobilization and Site Preparation

Prior to implementing the IRA, as required, GE provided 48-hour notice to the MDEP and PCC. In addition, the PCC was provided with written verification certifying that all material to be removed from the site would be disposed in a legal manner and that the disposal location would be the Chemical Waste Management (CWM) facility located in Model City, New York.

Initial site activities were performed on September 22, 1997 and involved the establishment of appropriate erosion control measures consisting of the installation of silt fencing and hay bales along the west, north, and east sides of the fenced area, to limit the potential for off-site migration of PCB-containing materials. In addition, silt fencing and hay bales were installed along the west side of the access road location. The erosion control materials were maintained and repaired as required for the duration of the project.

The access road was then installed on September 26, 1997, from the end of Day Street to the fenced area. The access road was installed to limit the potential for disturbance of the underlying soils as well as to provide a clean and stable surface for transportation vehicles. The access road was constructed by placing a geotextile followed by 4 to 6 inches of 1 1/2 inch stone.

Prior to the performance of site clearing, an identification of the tree and shrub vegetation species and density was performed in the areas to be cleared. However, GE does not intend to replant the trees and shrubs at this time, in order to accommodate the potential for future work at this site. The PCC Order of Conditions is valid for a period of three years, if additional response actions are not performed within this three-year period, the trees and bushes will be replanted.

Site clearing activities were initiated on September 29, 1997. Site clearing involved the removal of brush and small-diameter trees. Several large-diameter trees (>10-inch diameter) located within excavation areas were not removed. To the extent possible, clearing of vegetation was limited to the areas subject to soil removal; however, some minimal clearing was also performed to provide access for excavation equipment to the northern and western portions of the site. The cleared brush and trees were chipped on site and the wood chips were spread within the open grassed area that was to be excavated. The wood chips were spread in this location to provide a clean surface for the transportation vehicles to be staged while loading. The wood chips were subsequently removed and transported off site for disposal with the soils from that area.

2.3.2 Soil Removal

Soil removal activities were initiated on October 3, 1997 and were completed on October 15, 1997. Excavation was performed using backhoes and a front-end loader. Hand excavation was also performed as necessary around large trees that remained in the excavation area. In addition, several large pieces of concrete debris that were present at the surface were picked up, brushed off, and replaced onto the surface following placement of backfill. Approximately 6 inches of soil was removed from the open, grassed area (approximately 7,200 sq ft) and approximately 6 inches of soil was removed from the vegetated area (approximately 8,400 sq ft). In total, 330 cy of soil was removed and disposed. This amount was slightly more than the estimated amount to be removed (290 cy) due to the need to over-excavate in certain areas where concrete debris was encountered.

During excavation activities, care was taken to prevent the contamination of areas not subject to excavation. This was accomplished by working the excavation from the perimeter fence toward the center, and not allowing equipment to track through disturbed areas onto undisturbed areas. Initially, the excavated materials were stockpiled within the open, grassed area in a location that was subject to excavation. The soil stockpile was covered with plastic when not actively being used. The soil stockpile was subsequently loaded into transportation vehicles for off-site disposal. The soil materials beneath the stockpile and in the truck loading area were then direct-loaded into the transportation vehicles.

2.3.3 Air Monitoring

Air monitoring was performed during excavation and backfill activities to evaluate and control (if necessary) the potential for worker and community exposure to the constituents of interests. Air monitoring was performed using an MIE data RAM particulate monitor for six sampling events. Average concentrations ranged from 0.019 mg/m³ to 0.065 mg/m³. The average particulate level did not exceed the notification of 0.070 mg/m³ on any of the sampling days. An unusually high particulate level was recorded on the first day of monitoring; however, it was determined that the remediation contractor had operated equipment in close proximity to the monitor causing it to malfunction. This problem was corrected and valid readings were obtained for the remainder of the project. Attachment 3 provides the air monitoring report for this project.

2.3.4 Site Restoration

In accordance with the IRA Plan, the areas subject to excavation were backfilled with clean, off-site borrow. A geotextile was initially placed at the base of the excavation, then the backfill was placed and a bulldozer was used for grading. Backfilling and attendant grading were performed to restore the excavation area to the pre-excavation elevation. An as-built topographic survey was performed to verify the restored elevation (Attachment 4). As shown by this survey, the excavated areas were restored to the pre-excavation elevations; therefore, there is no change in the flood storage capacity. Backfilling activities were completed on October 16, 1997

The off-site borrow consisted of an equal mixture of clean sand and topsoil that was free of roots, plants, debris, and similar deleterious materials. The backfill source was a MTI stockpile, located at Tamarack Road in Pittsfield, Massachusetts. This backfill source has been tested previously for use on other GE projects and has been demonstrated to be clean.

The backfilled areas were hydro seeded on October 16, 1997. On October 24, 1997 the four areas to receive enhanced vegetation were planted. Per the IRA Plan, the four areas (1,100 sq ft area) were planted with a total of 80, 1-gallon-size plants (40 *rosa rugosa* and 40 *rosa multiflora*). Final site restoration activities were performed on October 29-31, 1997. These activities included:

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- . removal of the access road materials;
 - . seeding and mulching of the access road area;
 - . removal of erosion control materials (with the exception of silt fence located along the west, north, and east sides of the site that will remain in-place until vegetation has sufficiently re-established; and
 - . removal of the perimeter fence.

3. Findings and Conclusions

This IRA Completion Report describes the work performed by GE between October 1995 and October 1997 at the oxbow C area site (RTN 1-11095) located in Pittsfield, Massachusetts. The IRA activities involved establishing access restrictions, posting warning signs, performing several sampling events to delineate the extent of impacted surface materials, removing impacted surficial soils, and planting enhanced vegetation. From the performance of this IRA, GE has achieved the overall objective of reducing the MDEP-asserted imminent hazard and the potential for human exposure to PCBs present in surface (0- to 6-inch depth) soils. A summary of the findings and conclusions for each portion of the IRA is presented below.

Access Restrictions

In an effort to limit the potential for off-site receptors to contact the PCB-containing soils at the site, a perimeter fence was installed surrounding the site and warning signs were installed. These measures were effective in their intended use. The perimeter fence and warning signs were maintained throughout the duration of IRA activities and upon the completion of these activities were removed.

IRA Sampling

IRA sampling activities related to delineating the extent of soil containing PCBs at concentrations greater than 30 and 50 ppm. These activities involved an iterative sampling and analysis approach. Sampling of surficial soils were performed on seven occasions between November 1995 and June 1997, resulting in the collection of 106 surficial soil samples for PCB analysis. The results of these sampling activities were used to develop the finalized IRA Plan, as submitted with the NOI.

IRA Removal Action and Planting Activities

The results of the surficial sampling results were used to estimate the extent of open, grassed area with PCBs greater than 30 ppm, and the extent of vegetated area with PCBs greater than 50 ppm. Utilizing this information approximately 6 inches of soil with PCBs greater than 30 ppm was removed from the open, grassed area (approximately 7,200 sq ft), and approximately 6 inches of soil with PCBs greater than 50 ppm was removed from the vegetated area (approximately 8,400 sq ft). In total, 330 cy of surficial soil was removed.

The results of the surficial sampling were also used to estimate the extent of vegetated areas with PCBs greater than 30 ppm. Utilizing this information, approximately 1,100 sq. ft. of area was planted with 80 rose bushes to further enhance the vegetative barrier already present in that area.

The combination of the above measures have provided a reduction in the potential for human exposure to PCBs present in the soils at the site.

4. Management of Remediation Wastes

The excavated materials were loaded into end-dump truck trailers for over-the-road transportation to the disposal facility. During the loading process, plastic sheeting was placed in the loading area to prevent contamination of the loading area. All truck trailers were lined with polyethylene sheeting prior to loading and tarped prior to departure from the site. A total of 17 trucks were loaded with a total of 378 tons of material for disposal as TSCA material at the CWM facility located in Model City, New York. Used personal protective equipment (PPE), polyethylene sheeting, and waste materials generated during the removal activities were also disposed with the soil. Attachment 5 provides copies of the executed waste manifests and the completed certificates of disposal for the soil.

The soil that was removed during the planting of enhanced vegetation, was placed into two 55-gallon drums and transported to the GE facility for disposal as non-hazardous PCB-containing material at an appropriate disposal facility.

Excavation equipment that had contacted PCB-containing material was subject to a cleaning consisting of a high-pressure water wash and visual inspection, prior to handling of clean backfill and prior to leaving the site. The cleaning liquids were added to the soil stockpile and disposed with the soil. The final cleaning of the excavator bucket was performed at the GE Building 12Y cleaning facility.

As the stone used for the access road did not contact PCB-containing material, the stone was transported to the GE Building 9B area, and stockpiled to be re-used by GE. The geotextile for the access road was removed and transported to GE's Building 12 facility and placed into a roll-off for disposal as non-hazardous PCB-containing material, at an appropriate disposal facility.

The hay bales used for erosion control were spread around the site as mulch. The silt fence located along the access road was removed and transported to GE's Building 12 facility and placed into a roll-off for disposal as non-hazardous PCB-containing material, at an appropriate disposal facility.

The fence posts for the perimeter fence were cut off at grade and then driven below grade. The posts were then transported to GE's Building 12 facility and placed into a roll-off for salvage as scrap metal. The fence fabric, toprail, and gate were transported to the GE Building 9B area to be salvaged for re-use.

5. Future Activities

With respect to future MCP-related activities at the site, GE intends to comply with the appropriate provisions of the MCP and the need for further evaluation and/or remedial response actions.

Additionally, GE will perform quarterly inspections of the site until such time that the vegetation has adequately re-established. Any repairs due to erosion or plant mortality will be performed immediately upon identification. The results of the quarterly inspections, as well as a description of any repairs, will be provided to the MDEP within two weeks from completion of the inspections. Finally, as noted previously, GE does not at this time intend to replant the trees and shrubs that were cleared to facilitate excavation, in order to accommodate the potential for future work at this site. However, if additional response actions are not performed within the three-year period which the PCC Order of Conditions is valid, the trees and bushes will be replanted.