MEMORANDUM

DATE: May 20, 2009

SUBJ: Request for a Change in the Scope of Response, Ceiling Increase, and a 12-Month and $2 Million Exemption for the Removal Action for the Removal Action at the O'Sullivan’s Island Site, Derby, New Haven County, Connecticut - Action Memorandum Addendum

FROM: Wing Chau, On-Scene Coordinator
Emergency Response and Removal Section II

THRU: Steven R. Novick, Chief
Emergency Response and Removal Section II

Arthur V. Johnson III, Chief
Emergency Planning & Response Branch

James T. Owens III, Director
Office of Site Remediation and Restoration

I. PURPOSE

The purpose of this Action Memorandum Addendum is to request and document approval for a Change in Scope of Response and a $1,860,000 ceiling increase, and a 12-Month and $2 Million Exemption to continue the on-going removal action at the O’Sullivan’s Island Site (the Site), which is located at the confluence of the Housatonic and Naugatuck Rivers in Derby, New Haven County, Connecticut. Hazardous substances present in soils at the Site, if not addressed by implementing the proposed response actions of this Action Memorandum and previously approved Action Memoranda dated August 21, 2008 and November 18, 2008, will continue to pose a threat to human health and the environment. Approval of this Action Memorandum will increase the total project ceiling from $2,160,000 to $4,020,000. There are no nationally significant or precedent-setting issues associated with this Site, and there has been no use of the OSC's $200,000 warrant authority.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID# : CTD980667992
SITE ID# : 0144
CATEGORY : Time-Critical
A. **Background**

Information presented below is new or changed information about the site. For previously established information about the Site background, removal site evaluation, and state and local authorities’ roles, please refer to the attached initial Action Memorandum dated August 21, 2008 and the Action Memorandum Addendum dated November 18, 2008, which changed the scope of the response and provided for the exemptions to the 12-month and $2 million statutory limits.

B. **Current Situation**

EPA, the Emergency Rapid Response Services (ERRS) contractor, and EPA’s Superfund Technical Assessment and Response Team (START) contractor mobilized to the Site on October 13, 2008 to initiate removal activities. As of April 30, 2009, the ERRS contractor has completed the transportation and disposal (T&D) of approximately 6,000 tons of polychlorinated biphenyl (PCB) contaminated soil. In addition, EPA has extracted approximately fifty 55-gallon drums containing PCB-contaminated wastes during soil excavation activities. Based upon prior sampling results, EPA estimates there are approximately 8,000 tons of contaminated soil remaining that need to be addressed in order to mitigate the immediate contact threat. Besides PCBs in the soil, EPA has recently detected elevated levels of lead, with concentrations as high as 1,400 parts per million (ppm), in certain areas of the former disposal area along with the PCB contamination. Furthermore, while excavating PCB-contaminated soil adjacent to the former fire academy training-pits, stained soil with a high odor was encountered. The soil was field screened with a photo-ionization detector (PID), which identified the presence of volatile organic compounds (VOCs). This soil has been sampled, along with the aqueous solution within the pits. These samples have been sent to the EPA’s New England Regional Laboratory for analysis. At this time, EPA is currently awaiting analytical results for these samples. If the soil and aqueous solution are determined to contain hazardous substances, the scope of this removal action has been expanded to address these areas as well.

C. **State and Local Authorities’ Roles**

The City of Derby continues to provide assistance to EPA when possible. Recently, the City of Derby coordinated with the regional water supply agency on establishing a water source for site activities, such as dust control and equipment decontamination. In addition, the City of Derby has offered to remove non-contaminated scrap metal from the Site to further facilitate EPA’s cleanup efforts.

III. **THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES**

*Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants; [§300.415(b)(2)(i)];*
According to 2000 Census data, approximately 15,322 people live within a 1 mile radius of the Site. The Site and its adjacent areas are heavily used for recreational purposes, which include fishing along the riverbank, walking and jogging trails, and a boat launch area. The surface soil contaminated with PCBs poses a contact threat to those who may enter the Site.

*Actual or potential contamination of drinking water supplies or sensitive ecosystems* ($\S 300.415(b)(2)(ii)$);

The Site is located at the confluence of the Housatonic and Naugatuck Rivers. The contaminated soil could potentially migrate into the rivers via erosion and surface water runoff.

*Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release* ($\S 300.415(b)(2)(iii)$);

During soil excavation and test-pitting activities, approximately fifty 55-gallon drums were exhumed and determined to contain PCB-contaminated wastes.

*High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate* ($\S 300.415(b)(2)(iv)$);

The surface soil contaminated with PCBs and lead poses a contact threat to the public. Analytical data shows PCB and lead concentrations are as high as 3,300 ppm and 1400 ppm, respectively. The State of Connecticut cleanup standard for PCBs and lead in residential areas are 1 ppm and 500 ppm, respectively.

*Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released* ($\S 300.415(b)(2)(v)$);

Under adverse weather conditions, the contaminated soil could potentially migrate into the Housatonic and Naugatuck Rivers via erosion and surface water runoff.

**PCBs** - The most commonly observed health effects in people exposed to large amounts of PCBs are skin conditions such as acne and rashes. Studies in exposed workers have shown changes in blood and urine that may indicate liver damage. Most studies of health effects of PCBs in the general population examined children of mothers who were exposed to PCBs. *(ATSDR ToxFAQ Fact Sheet, February 2001)*

Animals that ate food containing large amounts of PCBs for short periods of time had mild liver damage and some died. Animals that ate smaller amounts of PCBs in food over several weeks or months developed various kinds of health effects, including anemia; acne-like skin conditions; and liver, stomach, and thyroid gland injuries. Other effects of PCBs in animals include changes in the immune system, behavioral alterations, and impaired reproduction. PCBs are not known to cause birth defects. *(ATSDR ToxFAQ Fact Sheet, February 2001)*
A few studies of workers indicate that PCBs were associated with certain kinds of cancer in humans, such as cancer of the liver and biliary tract. Rats that ate food containing high levels of PCBs for two years developed liver cancer. The Department of Health and Human Services (DHHS) has concluded that PCBs may reasonably be anticipated to be carcinogens. The EPA and the International Agency for Research on Cancer (IARC) have determined that PCBs are probably carcinogenic to humans.\(^1\)

**LEAD-** Exposure to lead through either ingestion or inhalation can damage the nervous systems, kidneys, and immune systems. Unborn children can be exposed to lead through their mothers. Harmful effects to children include premature births, smaller babies, decreased mental ability, learning difficulties, and reduced growth in young children. In adults, exposure to lead may possibly affect the memory. Lead exposure may cause abortion and damage the male reproductive system. Certain forms of lead have been determined to cause cancer in laboratory animals.\(^2\)

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.\(^3\)

V. EXEMPTION FROM STATUTORY LIMITS

CERCLA § 104(c) states that removal actions can exceed the 12-month and $2 million statutory limits if conditions meet either the “emergency exemption” criteria or the “consistency exemption criteria. The consistency exemption requires that the proposed removal action be appropriate and consistent with the remedial action to be taken. As described below, conditions at the Site meet the criteria for the emergency exemption.

A. Emergency Exemption

---


\(^3\) In accordance with OSWER Directive 9360.0-34, an endangerment determination is made based on relevant action levels, cleanup standards, risk management guidance, or other relevant information published and relied upon by the State of Connecticut.
EPA OSWER directive 9360.0-12 states that an action is appropriate if the activity is necessary for the following reasons:

1. There is an immediate risk to public health or welfare or the environment;
2. Continued response actions are immediately required to prevent, limit, or mitigate an emergency; and
3. Assistance will not otherwise be provided on a timely basis.

Additional sampling has identified PCB and lead contamination in surface soils throughout the peninsula. In addition, approximately fifty 55-gallon drums containing PCB contaminated materials were discovered during excavation activities. As noted previously, the surface soil contaminated with PCBs poses a contact threat to the public. Analytical data shows PCB and lead concentrations are as high as 3,300 ppm and 1,400 ppm, respectively. The State of Connecticut cleanup standards for PCBs and lead in residential areas are 1 ppm and 500 ppm, respectively. With the exposed contaminated surface soil, an immediate risk to public health and the environment exists at the Site.

Based upon 2000 Census data, approximately 15,322 people live within a 1-mile radius of the Site. In addition, while conducting response actions authorized under the original action memorandum, EPA have escorted several fishermen off the site who in the past have utilize the area as a popular fishing spot. Many nearby residents use the nearby walking trails that abut the contaminated property on a daily basis. To protect the public health of nearby residents and the general public that use the area for recreational purposes, continued response actions are immediately required to prevent, limit, or mitigate this substantial contact threat.

The City of Derby has indicated that it has very limit resources and is unable to undertake response actions at this time. CTDEP has provided technical assistance for this removal action; however, CTDEP is also unable to undertake response actions due to limited resources.

Given the current site conditions, the proposed actions outlined below is necessary because the actions will reduce/eliminate the contact threat and migration of PCB contamination. The response actions will also address additional buried drums if discovered during the proposed test-pitting activities.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description
The actions required to mitigate the threats outlined herein, are given below. At this time, indications are that the potentially responsible party (PRP) will not perform this work. The proposed actions will protect public health, welfare, and the environment by removing the hazardous substances from accessible areas of the Site that pose a contact threat.

1) Continue to secure the Site to prevent unauthorized access.

2) Continue surface soil sampling and conduct test pitting activities to further delineate the extent of contamination.

3) Continue excavation of PCB and/or lead-contaminated surface soils. Remove and dispose of contaminated surface soil determined necessary by EPA.

4) 55-gallon drums and other containers with hazardous substances that may be discovered during test pit and excavation activities will be removed and disposed off-site.

5) Cleanup-generated waste streams will be documented and shipped off-site for disposal at EPA-approved facilities. Wastes will be staged in a secure area on-site while awaiting shipment to CERCLA compliant off-site disposal facilities. Depending on anticipated storage duration prior to shipment for ultimate disposal, the OSC will determine whether waste will be staged on-site or shipped to a properly permitted temporary storage facility. Waste staging options will be evaluated based on cost and safety considerations. Where practicable, final disposal of waste from the Site will utilize an alternative technology to landfiling. The specific treatment and disposal technology will depend on factors such as the quantity and hazardous characteristics, as well as the availability of alternate technologies.

6) Address former fire training pit areas if determined appropriate by EPA.

7) Capping in-place of contaminated soils (if any) which may remain at depth or which cannot otherwise be excavated.

8) Repair response related damages, including grading and backfilling as needed.

9) Demobilize all personnel and equipment from the Site.

2. Community relations

Upon approval of the Action Memorandum, the OSC will continue to coordinate with the EPA Community Involvement Office to disseminate information regarding the project to the City and the impacted residents.

3. Contribution to remedial performance
The cleanup proposed in this Action Memorandum is designed to mitigate the threats to human health and the environment posed by the Site. The actions taken at the Site would be consistent with and will not impede any future responses.

4. Description of alternative technologies

The use of alternative technologies with regard to disposal options will be further examined as the site work progresses. On-site field screening and analytical techniques may be utilized during the removal action.

5. Applicable or relevant and appropriate requirements (ARARs)

Federal ARARs:

40 CFR Part 262 Standards Applicable to Generators of Hazardous Waste:

Subpart B - The Manifest
262.20: General requirements for manifesting
262.21: Acquisition of manifests
262.22: Number of copies of manifests
262.23: Use of the manifest

Subpart C - Pre-Transport Requirements
262.30: Packaging
262.31: Labeling
262.32: Marking

Subpart D - Recordkeeping and Reporting
262.40: Recordkeeping

40 CFR Part 264 Standards for Owners and Operators of Hazardous waste Treatment, Storage, and Disposal Facilities:

Subpart I - Use and Management of Containers
264.171: Condition of containers
264.172: Compatibility of waste with containers
264.173: Management of containers
264.174: Inspections
264.175: Containment
264.176: Special requirements for ignitable or reactive waste
264.177: Special requirements for incompatible wastes

40 CFR Part 264 Hazardous Waste Regulations - RCRA Subtitle C:
268-270: Hazardous and Solid Waste Amendments Land Disposal Restrictions Rule

40 CFR Part 300.440 Procedures for Planning and Implementing Off-Site Response Actions (Off-Site Rule)

40 CFR Part 761.60 and Parts 761.202-218: TSCA requirements for disposal of PCBs

State ARARs:
The OSC will continue to coordinate with State officials to identify additional State ARARs, if any. In accordance with the National Contingency Plan and EPA Guidance Documents, the OSC will determine the applicability and practicability of complying with each ARAR which is identified in a timely manner.

6. Project schedule

The removal action is currently on-going. EPA anticipates completing on-site activities within 18-months of its original start date.

B. Estimated Costs

<table>
<thead>
<tr>
<th>COST CATEGORY</th>
<th>CURRENT CEILING</th>
<th>COSTS TO DATE</th>
<th>PROPOSED CEILING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REGIONAL REMOVAL ALLOWANCE COSTS:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ERRS Contractor</td>
<td>$1,500,000.00</td>
<td>$1,500,000.00</td>
<td>$3,000,000.00</td>
</tr>
<tr>
<td>Interagency Agreement</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>OTHER EXTRAMURAL COSTS NOT FUNDED FROM THE REGIONAL ALLOWANCE:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>START Contractor</td>
<td>$300,000.00</td>
<td>$145,637.00</td>
<td>$350,000.00</td>
</tr>
<tr>
<td>Extramural Subtotal</td>
<td>$1,800,000.00</td>
<td>$1,645,637.00</td>
<td>$3,350,000.00</td>
</tr>
<tr>
<td>Extramural Contingency (20%)</td>
<td>$360,000.00</td>
<td>$100,000.00</td>
<td>$670,000.00</td>
</tr>
<tr>
<td><strong>TOTAL, REMOVAL ACTION CEILING</strong></td>
<td>$2,160,000.00</td>
<td>$1,745,637.00</td>
<td>$4,020,000.00</td>
</tr>
</tbody>
</table>

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

A delayed removal action or the absence of a removal action described herein will cause conditions at the Site to remain unaddressed, and threats associated with the presence of hazardous substances will continue to pose a threat to human health and the environment.

VIII. OUTSTANDING POLICY ISSUES

There are no precedent-setting policy issues associated with this site.
IX. ENFORCEMENT … For Internal Distribution Only

See attached Enforcement Strategy.

The total EPA costs for this removal action based on full-time accounting practices that will be eligible for cost recovery are estimated to be $4,020,000 (extramural costs) + $350,000 (EPA intramural costs) = $4,370,000 X 1.33 (regional indirect rate) = $5,812,100 ⁴.

X. RECOMMENDATION

This decision document represents the selected removal action for the O’Sullivan’s Island Site in Derby, Connecticut, developed in accordance with CERCLA, as amended, and is not inconsistent with the National Contingency Plan. The basis for this decision will be documented in the administrative record to be established for the Site.

Conditions at the Site meet the NCP Section 300.415 (b) (2) criteria for a removal action due to the following:

*Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants [§300.415(b)(2)(i)];*

*Actual or potential contamination of drinking water supplies or sensitive ecosystems [§300.415(b)(2)(ii)];*

*Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release [§300.415(b)(2)(iii)];*

*High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate [§300.415(b)(2)(iv)];*

*Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released [§300.415(b)(2)(v)];*

---

⁴ Direct Costs include direct extramural costs $4,020,000 and direct intramural costs $350,000. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site specific costs 33% x $5,812,100, consistent with the full accounting methodology effective October 2, 2000. These estimates do not include pre-judgement interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States’ right to cost recovery.
I recommend that you approve the proposed removal action. The total removal action project ceiling if approved will be $4,020,000.

APPROVAL: [Signature]
DATE: 5-22-09

DISAPPROVAL: ____________________________
DATE: __________________