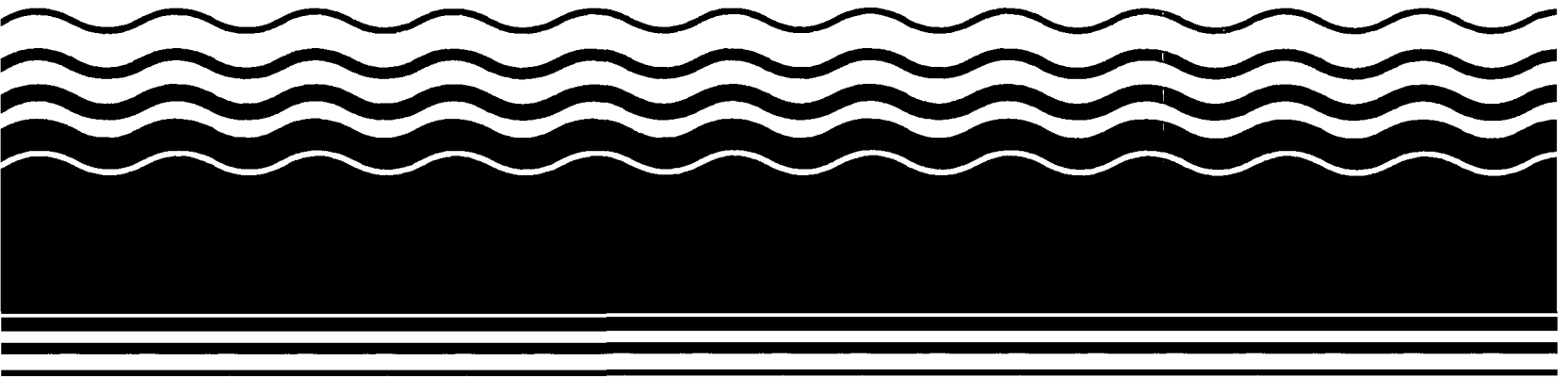


**PB95-963155  
EPA/AMD/R05-95/284  
February 1996**

**EPA Superfund  
Record of Decision Amendment:**

**Carter Industrials Site,  
Detroit, MI  
2/28/1995**



DECLARATION FOR AMENDED RECORD OF DECISION

SITE NAME AND LOCATION

Carter Industrials Site  
Detroit, Michigan

STATEMENT OF BASIS AND PURPOSE

This decision document changes a decision made on September 18, 1991 in which the United States Environmental Protection Agency (U.S. EPA) chose low-temperature thermal desorption as the remedy for PCB contamination at the Carter Industrials Site in Detroit, Michigan. U.S. EPA is hereby amending the 1991 Record of Decision to select off-site disposal as the remedy. The new remedy was selected in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. §§ 9601-9675 (CERLCA), and to the extent practicable, the National Contingency Plan (NCP). This decision is based upon information and documents contained in the administrative record described in the index attached.

The State of Michigan Department of Natural Resources concurs with this decision.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this decision document, may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF THE AMENDED REMEDY

This response action addresses remediation of PCB-contaminated soil, debris and buildings at the Carter Industrials Site. The principal threats posed by conditions at the Site include inhalation of volatilized PCBs and fugitive dust, and dermal contact with contaminated materials. The amended remedy will eliminate these threats.

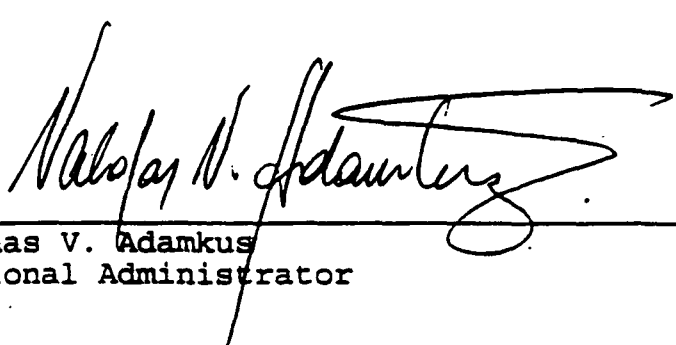
The major components of the amended remedy include:

- 1) Excavation of soil on the Carter Site and from designated properties in the neighborhood near the Site containing one ppm or more of PCBs.
- 2) Demolition of contaminated buildings on the Site.
- 3) Disposal of contaminated soil and debris at an approved, permitted, off-site landfill.

- 4) Stabilization of material containing high concentrations of lead prior to disposal.
- 5) Air monitoring and dust suppression during remedial activities.
- 6) Removal of an underground storage tank and its contents from the Carter Site in accordance with Michigan regulations.
- 7) Restoration of areas where demolition or excavation take place.
- 8) Maintenance of all existing site safety measures, including fence, security guards, operation and maintenance of surface water runoff collection and treatment system during remedial activities.

**STATUTORY DETERMINATIONS**

The amended remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. In this case, U.S. EPA found that treatment of PCBs was not practicable. Therefore, even though the amended remedy does not employ treatment of the principal threat, U.S. EPA is justified in determining it utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable. Since the amended remedy will not result in hazardous substances, pollutants, or contaminants remaining at the Carter Site above levels that allow for unlimited use and restricted exposure, periodic review of the remedial action in accordance with Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), shall not be necessary.

  
\_\_\_\_\_  
Valdas V. Adamkus  
Regional Administrator

2/28/95  
\_\_\_\_\_  
Date

## DECISION SUMMARY

### Introduction

#### Reasons for a Change in Remedy

On September 18, 1991, the United States Environmental Protection Agency (EPA) signed a Record of Decision (ROD) selecting low-temperature thermal desorption (LTTD) as the remedy for PCB contamination at the Carter Industrials Superfund Site in Detroit, Michigan. The ROD called for an LTTD unit to be constructed on-site through which contaminated soil would have been treated and contamination removed. Treated soil that did not meet stipulated cleanup levels was to have been placed in a landfill constructed on the Carter property. In September 1992, 14 potentially responsible parties ("the Carter Group") signed a consent decree under which they agreed to implement the remedy EPA selected.

On July 1, 1994, the Carter Group submitted a petition to EPA asking that the Agency amend the 1991 ROD to change the remedy. The Carter Group brought to EPA's attention new information that substantially supports the need to significantly alter the remedy. This information is summarized below:

1. The cost of off-site disposal has dropped dramatically.

At least one other landfill has become available, and another may soon join it, capable of accepting PCB-contaminated material from the Site at a much lower cost than EPA estimated in the 1991 ROD. In 1991, EPA did consider disposing of contaminated soil and debris from the Site in a landfill. At that time, the only landfill permitted to take PCB wastes was located in Emelle, Alabama. EPA cited as one reason for rejecting this alternative the possibility that landfill capacity might not be available when the remedy was to begin. In addition, disposal fees in 1991 were substantially higher than now. EPA estimated that transportation and disposal costs would be \$300 per ton and calculated that the total cost of disposing of contaminated material from the Site, including the cost of transportation to Alabama, would be approximately \$24 million. This would have been more than the cost of the on-site treatment and disposal remedy that was chosen in the 1991 ROD.

In the years since 1991, a new facility, the Model City Landfill located north of Niagara Falls, New York, has obtained a permit to dispose of PCB-contaminated materials. The operator of the landfill, Rust Remedial Services, Inc., a subsidiary of Waste Management, Inc., has offered to accept and dispose of all PCB-contaminated soil and debris from the Site at a cost of \$185 per ton, including excavation, transportation, disposal, and taxes. In addition, one of the members of the Carter Group, the Ford Motor Company, has applied for a permit to dispose of PCB wastes at the Allen Park Clay Mine Landfill in Allen Park, Michigan.

EPA has not made a determination on this permit yet. The Allen Park Clay Mine Landfill may be capable of receiving PCB-contaminated waste from the Site if its permit is approved. The costs for excavation, transportation and disposal at the Allen Park facility are estimated to be approximately \$130 per ton.

Based on the current and projected landfill disposal charges, the cost of cleaning up the Site using an off-site landfill would range from approximately \$5.2 million (using Allen Park Clay Mine Landfill) to \$7.7 million (using the Model City Landfill). In comparison, the cost of cleaning up the Site using LTTD would be approximately \$14 million.

2. There is less contaminated soil than we thought.

EPA's 1991 ROD was based on an estimate of 45,250 cubic yards of contaminated soil that would have to be treated. However, a survey recently completed as part of the remedial design work shows that only 19,300 cubic yards need to be treated - less than half the amount estimated in 1991. A change of this magnitude substantially reduces the cost-effectiveness of an on-site remedy like the one EPA chose in the 1991 ROD. This is because fixed costs, such as bringing the treatment equipment to the site and removing it later, remain approximately the same notwithstanding the reduced quantity of soil. The total remedial cost per cubic yard increases as the quantity of material to be treated decreases.

3. Restrictions on interstate transport have been struck down.

In 1991, EPA noted that there could be problems in getting permission to transport PCB wastes across state lines. EPA cited this concern as a factor which favored the selection of an on-site over an off-site remedy. Since then, the Supreme Court has resolved this problem by holding that states may not prevent the interstate shipment of waste. Chemical Waste Management, Inc. v. Hunt, 112 S. Ct. 2009 (June 1992). Fort Gratiot Sanitary Landfill, Inc. v. Michigan DNR, 112 S. Ct. 2019 (June 1992). C&A Carbone, Inc. v. Town of Clarkston, 114 S. Ct. 1677 (May 1994).

#### Procedure for Changing the Remedy

The information summarized above led EPA to rethink its 1991 decision. After reviewing the current status of the Site and comparing remedial alternatives, EPA decided that the remedy for PCB contamination at the Carter Site should be changed from on-site LTTD to off-site disposal in a permitted landfill. Under Section 117(c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9617(c), if EPA takes any remedial action which differs in any significant respect from a final remedial action plan, the Agency is required

to publish an explanation of the significant differences and the reasons such changes were made. The decision by EPA to change the remedy at the Carter Site constitutes such a significant difference. Indeed, EPA considers this to be a fundamental change in the remedy, necessitating the issuance of a new proposed plan and an amended ROD. Accordingly, on December 12, 1994, EPA released a new proposed plan. EPA published a notice of the proposed change in a major local newspaper of general circulation and released a new proposed plan. On January 11, 1995, EPA explained the reasons for the change in remedy at a public meeting in Detroit. Comments from the public were accepted through January 20, 1995.

After reviewing public comments, the Agency has decided to go forward with an Amended Record of Decision, adopting the proposed remedy change. The Amended ROD does not completely supersede the 1991 ROD. Much of the discussion in the old ROD is still pertinent and this material is incorporated by reference in the Amended ROD. What the Amended ROD adds is: (1) new information concerning the volume of contamination at the Site and the cost of off-site disposal; (2) an updated list of soil cleanup levels based on levels that the Michigan Department of Natural Resources (MDNR) has determined as appropriate to protect against direct contact threats with soils on residential properties; and, (3) a new comparison of off-site disposal versus on-site treatment using the NCP's nine evaluation criteria (40 CFR 430(e)(9)(iii)). This is followed by an updated description of the selected remedy and an analysis of how the new remedy meets the statutory criteria provided in Section 121 of CERCLA. As an attachment to the Amended ROD, EPA is issuing a responsiveness summary that addresses all significant comments received.

This decision document is part of an administrative record which is available for public inspection at the Detroit Public Library, Main Library - Reference Department, 5201 Woodward Avenue, Detroit, Michigan. The administrative record may also be reviewed at EPA Region 5, 77 West Jackson Boulevard, Chicago, Illinois.

#### **I. Site Location and Description**

See page 1 of the 1991 Carter ROD.

#### **II. Site History and Enforcement Activities**

For a history of the site and enforcement activities through June 1991, see the 1991 Carter ROD, pp. 1 - 5. The following enforcement events occurred after June 1991:

September 19, 1991 - Record of Decision signed.

November 18, 1991 - Special Notice letters issued to 28 PRPs.

January 27, 1992 - Good faith offer made on behalf of 11 PRPs.

March 26, 1992 - Settlement reached in principle with 14 PRPs.

January 19, 1993 - Carter Consent Decree lodged.

June 4, 1993 - Carter Consent Decree entered.

July 1, 1994 - Petition to Amend 1991 ROD submitted by the Carter Group.

### **III. Community Relations History**

For a description of EPA's community relations activities through September 19, 1991, see the 1991 Carter ROD, pp. 5-6. As noted above, EPA published a notice of the proposed change in remedy on December 12, 1994; held a public meeting on January 11, 1995 to describe the change, answer questions, and accept comments; and provided a public comment period running from December 12, 1994 through January 20, 1995. The Responsiveness Summary attached to the Amended Record of Decision provides EPA's response to each of the comments received.

### **IV. Scope and Role of Operable Unit**

The scope and role of the operable unit remains the same as that described in the 1991 Carter ROD (p. 6), except that the selected remedy is now off-site disposal of contaminated soil and debris. A later operable unit will still be necessary to address PCB contamination in the sewer lines running from the Carter Site to the Detroit River.

### **V. Site Characteristics**

The Amended ROD supplements the characteristics noted in the 1991 Carter ROD (pp. 6 - 9) by adding to the administrative record documents generated as part of the remedial design for the original remedy. These documents show that the amount of contaminated soil and debris at the Site is approximately 19,300 cubic yards, rather than the 46,000 cubic yards that EPA originally estimated.

### **VI. Site Risks**

See the discussion in the 1991 Carter ROD, pp. 9 - 22.

### **VII. Remedial Action Objectives**

See the discussion in the 1991 Carter ROD, pp. 22 - 25. EPA is now adopting the following soil cleanup levels based on levels which MDNR has determined are appropriate to protect against direct contact threats with soils on residential properties:

CONTAMINANT	Soil Cleanup Level Based on Direct Contact (mg/kg)
1,3-dichlorobenzene	6,700
1,4-dichlorobenzene	16
Xylene	140,000
Chlorobenzene	1,500
Benzo(a)anthracene	0.18
Pyrene	19,000
1,2,4-trichlorobenzene	1,200
pentachlorobenzene	220
tetrachlorobenzene	88,000
Lead*	400
Cadmium*	130
Arsenic*	.720
* background if higher	

#### VIII. Development of Remedial Action Alternatives

The Amended ROD compares only two remedial alternatives for the Carter Site: Alternative 1 is the remedy selected in the 1991 ROD - Low Temperature Thermal Desorption; Alternative 2 is off-site disposal of contaminated material in a permitted landfill. The restriction of the remedial alternatives to these two is justified by the fact that EPA conducted an extensive comparison in 1991. Indeed, the 1991 Carter ROD examined 15 different remedial alternatives, including "no action" and several treatment options. Of these, on-site low temperature thermal desorption was the optimum choice: it was more cost effective than any other treatment option. EPA continues to believe that LTTD represents the most cost effective method of achieving treatment of PCBs at the Carter Site. It should therefore not be necessary to compare any other treatment options with the off-site disposal alternative. If, given the new estimate of the volume of waste at the Site and the reduction in landfill costs, off-site disposal is judged superior to on-site LTTD, it may safely be assumed to be superior to any other treatment option as well.

**Alternative 1: On-site Low Temperature Thermal Desorption of soils/Off-site incineration of recovered PCB oils/On-site containment of treatment residuals**

Cost: \$14,014,210

Operation & Maintenance Cost: \$12,900/year

Present Worth: \$14,212,510

Duration: 19-20 months



This alternative calls for: (1) excavation of soil on the Carter Site and from designated properties in the neighborhood near the Site containing 1 ppm or more PCBs (estimated to be approximately 19,300 cubic yards); (2) demolition of contaminated buildings on-site; (3) on-site low temperature thermal desorption (LTTD) of soil and debris containing more than 10 ppm PCBs; (4) off-site incineration of PCB oil recovered during the LTTD process; (5) stabilization of solid residuals from LTTD system containing concentrations of lead in excess of TCLP standards; (6) construction of a containment cell on-site in which all contaminated soil and solid residuals from the LTTD processor containing more than 1 ppm, but less than 10 ppm PCBs, and material containing stabilized lead, will be disposed; (7) long-term operation and maintenance of the containment cell, including long-term restrictions on property use; (8) air monitoring and dust suppression during remedial activities; (9) removal of an underground storage tank and its contents; (10) restoration of areas where demolition or excavation take place; and (11) maintenance of all existing site safety measures, including fence, security guards, operation and maintenance of surface water runoff collection and treatment system during remedial activities.

**Alternative 2: Excavation and disposal in an off-site permitted landfill**

**Cost:** \$5,228,400 for Allen Park Landfill  
 \$7,716,200 for Model City Landfill  
**Operation & Maintenance Cost:** \$ 0  
**Present Worth:** \$5,228,400 for Allen Park Landfill  
 \$7,716,200 for Model City Landfill  
**Duration:** 7-8 months

This alternative calls for: (1) excavation of contaminated soil on the Carter Site and from designated properties in the neighborhood near the Site containing 1 ppm or more of PCBs (estimated to be approximately 19,300 cubic yards); (2) demolition of contaminated buildings on-site; (3) disposal of contaminated soil and debris at an approved, permitted, off-site landfill; (4) stabilization of material containing high concentrations of lead prior to disposal; (5) air monitoring and dust suppression during remedial activities; (6) removal of an underground storage tank and its contents; (7) restoration of areas where demolition or excavation take place; and (8) maintenance of all existing site safety measures, including fence, security guards, operation and maintenance of surface water runoff collection and treatment system during remedial activities.

## IX. Evaluation of Alternatives

### A. Evaluation Criteria

EPA's evaluation of remedial alternatives is based on the nine criteria set forth in the National Contingency Plan (NCP), 40 CFR Part 300. These criteria are described below.

A remedial alternative is first judged in terms of the threshold criteria of protecting human health and the environment and complying with Applicable or Relevant and Appropriate Requirements (ARARs). If a proposed remedy meets these two criteria, it is then evaluated against the balancing and modifying criteria in order to arrive at a final recommended alternative.

#### Threshold Criteria

1. Overall protection of human health and the environment: EPA determines whether an alternative adequately protects human health and the environment from unacceptable risks posed by hazardous substances, pollutants, or contaminants present at the site.
2. Compliance with ARARs: EPA evaluates whether an alternative attains applicable or relevant and appropriate requirements under federal environmental laws and state environmental or facility siting laws or provides grounds for invoking a waiver.

#### Balancing Criteria

3. Long-term effectiveness and permanence: EPA considers the ability of an alternative to maintain protection of human health and the environment over time, and the reliability of such protection.
4. Reduction of contaminant toxicity, mobility, or volume through treatment: EPA evaluates the degree to which an alternative uses treatment to address the principal threats posed by the site.
5. Short-term effectiveness: EPA considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.
6. Implementability: EPA considers the technical and administrative feasibility of implementing the alternative, such as relative availability of goods and services.

7. Cost: EPA estimates an alternative's capital and O&M costs and calculates the present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollars.

#### Modifying Criteria

8. State acceptance: EPA considers any concerns the state has raised with respect to the preferred alternative, other alternatives or with ARARs or ARAR waivers.

9. Community Acceptance: EPA considers which components of the alternatives interested persons in the community support, have reservations about, or oppose.

#### B. Application of the Evaluation Criteria to the two Cleanup Alternatives

##### 1. Overall Protection of Human Health and the Environment

The 1991 ROD and the supporting Feasibility Study ("FS") Report, dated April 1991, indicate that both off-site landfilling and LTTD/on-site containment would adequately protect human health and the environment.

##### 2. Compliance with ARARs

Alternative 1: The ARARs for the on-site remedy are discussed at length in the 1991 ROD (pp. 46-49). The most significant are: regulations promulgated under the Toxic Substances Control Act (TSCA) - which govern the disposal of the PCB materials found at the Site; regulations promulgated under the Resource Conservation and Recovery Act (RCRA) - which govern the handling of wastes at the Site containing high levels of lead; and regulations promulgated under Michigan's Act 641 - which govern the construction of the landfill on the Carter Site. EPA concluded that all of these requirements would be met except for a Michigan Act 641 requirement concerning isolation distances for siting landfills. EPA determined that a waiver of this requirement was appropriate.

Alternative 2: There are fewer ARARs for this alternative because much of the activity associated with it will take place off-site. Unlike on-site actions, the requirements regulating off-site activity are not imposed under the authority of CERCLA. Rather, state and federal laws and regulations pertaining to off-site activity apply independently. As such, they cannot be waived under Section 121 of CERCLA; nor are they frozen at the time of the ROD. They must therefore be assessed at the time off-site action begins to ensure compliance with all applicable standards.

On-site activities for this alternative consist mainly of excavation of soils containing PCBs and lead; and the loading of trucks. ARARs pertaining to these actions include: RCRA closure requirements (40 CFR 264.258) apply to cleanup of waste piles at the site. Michigan air pollution standards pursuant to Michigan Act 348 - apply to activities at the Site which produce air contaminants. EPA concluded that Alternative 2 would comply with these ARARs.

### 3. Long term effectiveness

Alternative 1: Under the 1991 ROD, the residual material remaining after LTTD processing that contains PCB concentrations between 1 and 10 pm would remain on site in a containment cell. The cell would be designed to minimize the possibility of leaks. However, besides good design and construction, the integrity of the cell would require periodic maintenance, limited access, and land use restrictions. These may be difficult to achieve, given the inner city location of the Carter Site. In the past, EPA has had trouble keeping warning signs and fences in place at the Site. Another consideration here is the effect that permanent use restrictions would have on property that could otherwise be redeveloped. The presence of the containment cell may discourage reuse of property in the vicinity.

Alternative 2: The excavation and removal of PCB-contaminated material would completely eliminate any potential threat to the public and environment in the vicinity of the Site. Placement of PCB-contaminated material in a secure landfill would reduce the potential for direct human contact with contaminants and for migration of contaminants into groundwater. Any long-term risks associated with off-site disposal would be minimized by the landfill's conformance with its permit requirements pertaining to leachate control, groundwater monitoring, and cap maintenance. Land use controls, limited access, and other necessary precautions would probably be more dependable at a commercial landfill than at a neighborhood landfill created solely for the Carter Site.

### 4. Reduction of toxicity, mobility or volume through treatment

Alternative 1: On-site soil treatment and on-site containment would reduce toxicity, mobility and volume of PCBs in the soil. However, high levels of lead (up to 29,000 ppm) would remain in the soil and would require stabilization prior to disposal.

Alternative 2: Containment of the PCB-contaminated material at an off-site TSCA landfill would reduce mobility, but not by treatment. Stabilization of lead in soil prior to disposal would reduce or eliminate its mobility. However, toxicity and volume of both PCBs and lead would remain unaffected.

## 5. Short term effectiveness

Alternative 1: Cleanup activities associated with on-site treatment would require 24 months to complete. Excavation of soils - potentially creating dust and runoff - would take place over a period of ten months. Operation of the LTTD unit would have to be carefully monitored to avoid undesirable air emissions.

Alternative 2: All on-site remedial activities would be completed in 12 months. Excavation of soils - potentially creating dust and runoff - would take place over a period of only four months. Hauling of material off-site would increase truck traffic in the vicinity of the site; but trucks would be routed to the interstate highway in such a way as to minimize traffic and safety problems. (See Figure 1 on page following). Moreover, off-site transportation would have to comply with RCRA, TSCA and Department of Transportation regulations.

## 6. Implementability

Alternative 1: Since 1991, several large-scale soil treatment projects using LTTD have been completed. These projects have demonstrated the technical feasibility of treating PCB contaminated soils like those found at the Carter Site.

Alternative 2: All of the cleanup activities involved here - excavation, transport off-site, disposal of contaminated soil in a commercial landfill, site restoration - are conventional, proven methods of hazardous waste cleanup. Potential restrictions on interstate transportation of hazardous wastes have been struck down in recent Supreme Court decisions. Several commercial landfills currently have the capacity to accept soil from the Carter Site. EPA therefore believes that this alternative is fully implementable.

## 7. Cost

Alternative 1: Using the revised estimate of the amount of soil to be treated (19,300 cubic yards), EPA projects the total cost of the on-site treatment remedy to be \$14,014,210 with an additional \$12,900 per year in long-term operation and maintenance costs for the on-site landfill. This brings the present worth of the remedy to \$14,212,510.

Alternative 2: EPA estimates that the total cost for the off-site disposal remedy would range from \$5.2 to \$7.7 million, depending on which commercial landfill is used. The low figure reflects the cost if the Allen Park Clay Mine Landfill in Allen Park, Michigan is used. The high figure reflects the cost if the Model City Landfill near Niagara Falls, New York is used. There are no additional operation and maintenance costs associated with

off-site disposal. The present worth of the remedy is therefore identical to the capital costs, i.e., \$5.2 to \$7.7 million.

#### 8. State acceptance

The Michigan Department of Natural Resources agrees with the proposed change in the remedy.

#### 9. Community acceptance

Based on the public comments received, EPA believes the community supports the proposed change in the remedy. The comments, together with EPA's responses, are contained in a responsiveness summary attached to this document.



FIGURE 1: POSSIBLE TRUCK ROUTE

### C. Results of Comparison Using the Nine Criteria

Both alternatives meet the two basic, threshold criteria: they both would provide adequate protection of human health and the environment; and they would meet ARARs or justify a waiver of such requirements.

Moving on to the balancing criteria, Alternative 1 is clearly superior in terms of reduction of toxicity, mobility and volume through treatment since it would destroy most of the PCBs found at the site. Alternative 2 would merely move the PCBs to a different place. Alternative 2 is clearly superior in terms of cost - it could be as much as \$9 million cheaper than Alternative 1. Alternative 2 is somewhat preferable in terms of short-term effectiveness since it would take less time. The kinds of nuisance problems associated with both remedies - dust, noise, etc. - would not last as long under the off-site disposal remedy as they would under the on-site treatment remedy. Alternative 2 may also be somewhat preferable in terms of long-term effectiveness because it eliminates the need for an on-site landfill which, given its location, might be difficult to maintain, and could inhibit redevelopment of the site. In terms of implementability, the two alternatives appear equally implementable.

EPA is mindful that the balancing criteria should not be assigned equal weights. Since CERCLA contains a preference for treatment over land disposal of contamination, the reduction of toxicity, mobility and volume criterion must be given more weight than the other balancing criteria. Even so, EPA believes that, in this case, the scales tip toward off-site disposal. EPA has concluded that the incremental difference in effectiveness provided by on-site treatment is not proportional to the great increase in cost over off-site disposal, especially considering the significant advantages of off-site disposal in terms of short and long-term effectiveness, described above. EPA has therefore decided to change the remedy by amending the 1991 ROD and selecting Alternative 2.

The final step in the comparison is to consider the two modifying criteria: state and community acceptance. Based on comments received from the Michigan Department of Natural Resources and the public, EPA has concluded that the state and community support the change in the remedy.

### X. The Selected Remedy

The new remedy for the Carter Site is Alternative 2 - off-site disposal of PCB-contaminated material in a permitted landfill. The main elements of the selected remedy are as follows:

- Excavation of soil on the Carter Site and from designated properties in the neighborhood near the Site containing 1 ppm or more of PCBs.
- Demolition of buildings on-site.
- Disposal of excavated soil and demolition debris at an approved permitted, off-site landfill.
- Removal of decontaminated scrap metal via sale to a scrap metal dealer or disposal in an approved, permitted, off-site landfill.
- Any soil or debris that fails the TCLP test shall be solidified prior to disposal such that it no longer exhibits this characteristic. Debris that fails the TCLP test and cannot be solidified or decontaminated shall be treated using best management principles in accordance with a treatability variance.
- Air monitoring and dust suppression during remedial activities.
- Removal of underground storage tank (UST) and its contents in the following manner: the tank contents shall be sampled, and based on the analytical results, shall be pumped out and transported to a permitted treatment and/or disposal facility. The tank shall then be decontaminated and removed in accordance with Michigan UST requirements. The soils beneath the tank shall be inspected for evidence of leaking. Any contaminated soils shall be excavated and the bottom of the excavation sampled to confirm adequate excavation. The excavated soil shall be sampled and characterized for ultimate disposal.
- Restoration of areas where demolition or excavation take place.
- Maintenance of all existing site safety measures, including fence, security guards, operation and maintenance of surface water runoff collection and treatment system during remedial activities.

#### **XI. Statutory Findings**

Section 121 of CERCLA requires the Agency to select remedies that:

1. Protect human health and the environment;
2. Comply with ARARs (or meet the conditions necessary to justify a waiver);



3. Are cost effective;
4. Utilize permanent solutions and alternative treatment technologies to the maximum extent practicable; and
5. Satisfy a preference for treatment as a principal element of the remedy.

The implementation of the amended remedy at the Carter Site satisfies these requirements as follows:

#### 1. Protection of Human Health and the Environment

Based on the risk assessment developed for the Site, inhalation of volatilized PCBs, incidental ingestion of on-site soils (pica behavior), dermal contact with contaminated on-site soils and off-site migration of contaminated soils are the identified risks associated with the Site. The highest numerical carcinogenic risk for the Site is  $4E-02$  or 4 in 100. Removal of contaminated soil and debris and disposal in an off-site, permitted landfill will eliminate these risks. No unacceptable short-term risks will be caused by implementation of the remedy. Measures will be taken to minimize the noise and dust caused by remedial activities.

While there are no environmental impacts in the immediate vicinity of the Site, there are potential impacts via migration of PCBs through the sewer line leading to the Detroit River. There is an island wildlife refuge located in the middle of the Detroit River 6.5 miles downstream from the sewer outfall. Prior to the installation of a runoff collection and treatment system in 1986, contaminated soils in runoff from the Site were carried into the sewer line. PCB-contaminated sediments were detected in the river just downstream of the sewer outfall at somewhat higher concentrations (40 mg/kg) than they were just upstream of the sewer outfall (18 mg/kg). The contaminated sewer lines are to be addressed as the final operable unit for the Site.

#### 2. Attainment of Applicable or Relevant and Appropriate Requirements

The selected remedy will meet all applicable or relevant and appropriate requirements (ARARs).

##### a. Chemical-specific ARARs

Clean-up levels for specific chemicals at the Carter Site were set primarily as a result of risk analysis and in consideration of EPA's "Guidance on Remedial Actions for Superfund Sites with PCB Contamination" (OSWER Directive No. 9355.4-01, August 1990).

MAC R 299.5701 et seq. - Cleanup Criteria established pursuant to Michigan Environmental Response Act (1982 P.A. 307, as amended) are applicable to the Carter Site. The cleanup levels established in this ROD for specific chemicals are consistent with these criteria.

b. Action-specific ARARs

Air Emissions

Rule 901, Michigan Department of Natural Resources, Air Pollution Control Commission, General Rules, Part 9 - Michigan air pollution standards pursuant to Michigan Act 348 are applicable to activities at the Carter Site which produce air contaminants. If demolition at the Carter Site involves materials containing friable asbestos, the requirements of 40 CFR 61.152 would apply.

Cleanup of Waste Piles

40 CFR 264.258 - RCRA closure requirements apply to cleanup of waste piles at the Carter Site.

3. Cost Effectiveness

After an extensive comparison of off-site disposal and on-site treatment, EPA concluded that off-site disposal offered significant advantages in terms of cost, short term effectiveness, and long term effectiveness, making it the more cost effective alternative.

4. Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable

The preamble to the current version of the NCP discusses how to evaluate the practicability of treatment:

Cost differences must also be considered in the context of all other differences between alternatives to reach a conclusion as to which alternative, all things considered, provides the most appropriate solutions for the site or site problem. It is this judgement that determines the maximum extent to which permanent solutions and treatment are practicable for the site or site problem being addressed. (54 FR 8729)

In this case, the combination of the lower cost of off-site disposal together with the advantage of eliminating an on-site waste disposal cell made off-site disposal the most appropriate solution for the site. EPA is therefore justified in concluding

that treatment and permanent solutions in excess of those called for in the amended remedy are not practicable.

5. Preference for Treatment as a Principal Element of the Remedy

In comparing alternatives, EPA did give preference to treatment over off-site disposal. That is, EPA assigned much greater weight to the treatment criterion than to the other balancing criteria. However, because of the magnitude of the difference in cost, and because two of the other balancing criteria - long and short term effectiveness - favored off-site disposal, the off-site landfill alternative overcame the preference for treatment.