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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

Enforcement Confidential Materials Attached

MEMORANDUM

DATE: September 13, 1999

SUBJ: Request for Change of Scope and a $2 Million Dollar Exemption for a Continued Removal Action at the Centredale Manor Site, North Providence, Rhode Island - **Action Memorandum Addendum**

FROM: Ted Bazenas, OSC TB
Site Evaluation and Response Section II

THRU: Steven R. Novick, Section Chief
Site Evaluation and Response Section II

TO: Patricia L. Meaney, Director
Office of Site Remediation and Restoration

I. PURPOSE

The purpose of this Action Memorandum Addendum is to request and document approval for additional funds and a change of scope to continue a removal action at the Centredale Manor Site in North Providence, Rhode Island.

This Action Memorandum Addendum proposes to address the threat to public health presented by exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin (dioxin), poly-chlorinated biphenyls (PCBs) and other hazardous substances in contaminated surface soils, sub-surface soils and exposed sediments at the site, and further, to address the potential migration of contaminants by moderating the impact of flood conditions at the Site. This Addendum requests additional funds of $2,350,000 to supplement the current Action Memorandum ceiling of $1,602,000; the new total ceiling will be $3,952,000. This action is necessary to prevent, minimize, and mitigate potential damage to the public health or welfare, and the environment posed by a release of hazardous substances to the environment.

II. SITE CONDITIONS AND BACKGROUND

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CERCLIS Identifier:	RID981203755
SITE Identifier:	016P
Category of Removal:	Time Critical
Nationally Significant/ Precedent Setting:	Yes

A. Site Description

1. Background

The Centredale Manor Site encompasses the following:

- the Brook Village Apartment property (Brook Village), located at 2072 Smith Street, North Providence, Providence County, Rhode Island

- the Centredale Manor Apartment property (Centredale Manor), located at 2074 Smith Street, North Providence, Providence County, Rhode Island

- and the flood plain of the Woonasquatucket River, as defined in the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map of the 100 year flood plain, from Route 44 southerly, up to and inclusive of the Allendale Dam and its associated structures, including the tailrace of the Allendale Dam, in North Providence, Providence County, Rhode Island

The Brook Village and Centredale Manor are zoned for residential occupancy and encompass a total of 9.7 acres of land. Centredale Manor is an eight-story apartment building for elderly and handicapped residents which was completed in 1983. There are two paved parking lots located to the north and west of the building. Brook Village is an eleven story apartment building for elderly and handicapped residents which was completed in1977. A series of three parking lots extend to the south of the building. The area around both buildings is landscaped with grass ground cover.

For additional information, please refer to the initial Action Memorandum, dated May 04, 1999.

2. Removal Site Evaluation

EPA has conducted numerous investigations including a Preliminary Assessment of Centredale Manor and Brook Village in August of 1986, a Screening Site Inspection in October of 1990, and Site Inspection Prioritization in May of 1997. These previous investigation led to an Expanded Site Inspection (ESI) in September of 1998. A total of 45 sediment and surface soil samples from

Centredale Manor, Brook Village and the Woonasquatucket River were collected and analyzed for the ESI. Dioxin was found in surface soils and exposed swale sediments at Centredale Manor at elevated levels up to 15.8 parts per billion (ppb). The data were evaluated for public health implications by the Agency for Toxic Substances and Disease Registry (ATSDR). In a Draft Health Consultation and a Record of Activity (March 19, 1999), ATSDR concluded that although current exposures are probably low, significant risks could exist for children or adults who have frequent contact with contaminated soils or sediment. ATSDR made several recommendations, including that public access be restricted to surface soils which exceed 1 part per billion (ppb) of dioxin. Occasional contact with sediment from the river is not expected to pose a public health problem.

Additional sampling has documented widespread dioxin contamination at the Site. Dioxin has been found at levels up to 140ppb in surface soil, with somewhat lower levels in subsurface soils. Other contaminants found at the Site include volatile organic compounds (VOCs) up to 10,000ppm total VOCs, semi-volatile organic compounds (SVOCs) up to 1,800ppm total SVOCs, and PCBs up to 1300ppm total PCBs. The complete and validated data package will be submitted to ATSDR for further evaluation.

3. Physical Location

The Site encompasses the flood plain of the Woonasquatucket River from the bridge at Route 44 downstream to the Allendale Dam, and the Brook Village and Centredale Manor apartment properties which are located at 2072 and 2074 Smith Street in North Providence, Providence County, Rhode Island. The geographic coordinates for the Site are 41° 51' 29.5" north latitude and 71° 30' 28.5" west longitude.

Please refer to the initial Action Memorandum dated May 04, 1999 for additional information.

4. Site Characteristics

Two multi-story apartment buildings for elderly and handicapped residents are located on the site. There are several paved parking lots associated with the buildings. Other areas around the parking lots and the buildings are landscaped with a grass ground cover. Elevation of the property is approximately 100 feet above mean sea level. The property slopes slightly to the west.

Please refer to the initial Action Memorandum dated May 04, 1999 for additional information.

5. **Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant**

2,3,7,8-tetrachlorodibenzo-p-dioxin (dioxin) is a hazardous substance as defined in Section 101(14) of CERCLA and is listed at 40 C.F.R. 302.4. Analytical data from the samples collected at the Site indicate dioxin concentrations up to 140 ppb in surficial soils or exposed swale sediments. Dioxin has also been identified in samples collected from surface soils in wetlands and flood plain areas downstream of the Site. The past use of the Site as a chemical manufacturing company and a barrel reclamation facility is not inconsistent with the presence of dioxin; however, the specific source of dioxin has not yet been identified.

Other contaminants have been identified in soils at the Site, including PCBs up to 1300ppm, chlorobenzene up to 1000ppm, toluene up to 430ppm, xylenes up to 270ppm, tetrachloroethylene up to 1700ppm, trichloroethene up to 2400ppm and benzene up to 480 ppm.

Other VOCs and semi-volatile organic compounds (SVOCs) were identified in soils and sediment at lower concentrations.

6. **NPL Status**

The Site is not currently listed on the National Priority List (NPL), but will be proposed in the future. This Removal Action will address the short term needs of the site, but inclusion on the NPL is the best means to address long term issues such as groundwater migration and sediment contamination. A Hazardous Ranking System rating is in progress for the Site. Following a series of informational meetings and discussions with EPA, state and local officials granted their support to the NPL proposal.

The Removal, Remedial and Site Assessment programs have closely coordinated their activities to date. The removal actions proposed in this document have been developed through a cross-program Agency team, and will be consistent with listing the Site on the NPL, and with any remedial actions.

B. <u>Other Actions to Date</u>

1. **State Actions**

From 1970 to 1986 the Rhode Island Department of Environmental Management (RI DEM) conducted or supervised several investigations at the Centredale Manor property. Over 800 drums were eventually inventoried at the property. Approximately 400 drums contained hazardous chemicals which required

disposal; the remaining empty drums were crushed and disposed of as non-hazardous. Legible drum labels and visual inspection of residual materials indicated that caustics, halogenated solvents, polychlorinated biphenyls (PCBs), and ink wastes may have been contained in the drums.

Please refer to the initial Action Memorandum dated May 04, 1999 for additional information.

2. Federal Involvement

EPA involvement in the Site began when EPA contractors conducted a Preliminary Assessment (PA) of the Centredale Manor property in August of 1986.

More recently, in January 1999, EPA installed temporary fencing around the areas at Centredale Manor where previous sampling results have indicated elevated levels of dioxin in surface soil. EPA has also implemented a community outreach and education program to disseminate information about the Site to the residents and neighbors. A Management Action Committee (MAC) has been established to work with EPA in an advisory role regarding communication with the community, and in review of technical documents.

Please refer to the initial Action Memorandum dated May 04, 1999 for additional information.

3. Current Actions

The Removal Program mobilized to the Site on May 18, 1999 and has completed the following actions to date:

- the site was prepared for sampling activities by grubbing and clearing approximately four acres of undergrowth; trees will be felled and additional acreage will be cleared as the work progresses.

- over six hundred (600) soil samples have been collected and shipped for dioxin and PCB analysis. The samples are comprised of hand auger samples and geoprobe samples from both on-site and residential areas, and sediment samples from Allendale Pond near the dam. The samples were collected in accordance with the Sampling QA/QC Plan and will be useful in determining the area and depth of soil contamination. In addition to dioxin analysis, a representative number of samples were also analyzed for VOCs, SVOCs, pesticides and metals.

- 850 feet of cedar fence was erected in high visibility areas at the Site; over 4000

feet of chain-link fence has been erected in other areas, with approximately 1000 additional feet of fencing to be installed in the near future.

- the OSC and team members have participated in weekly Management Action Committee (MAC) meetings to inform the community, local and state government of the progress and activity at the Site.

- the OSC participated in public meetings with residents from each building to discuss their concerns and answer questions regarding the Site

C. State and Local Authorities' Roles

1. State and Local Actions to Date

Management Action Committee, which includes federal, state and local government representation, has reviewed fact sheets, several press releases and the sampling plans. Through the MAC, EPA has disseminated site specific information such as the ESI report, the Sampling Plan, POLREPs and fact sheets.

2. Potential for Continued State/Local Response

EPA and RI DEM will continue to discuss sample collection for nearby areas that were historically industrial, but are unlikely to be associated with dioxin contamination from the Centredale Manor Site.

RI DEM is coordinating wetlands issues with their state counterparts.

The Management Action Committee will continue to have an active advisory role in the Removal Actions at the Site. Weekly meetings will continue at the North Providence Town Hall.

North Providence Mayor Ralph Mollis has pledged the Town's assistance and cooperation in providing local information and personnel. The Town will continue to provide access to meeting rooms, historical documents and other support services.

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

Dioxin occurs as a contaminant in the manufacturing process of certain chlorinated organic compounds, especially chlorinated phenols such as

hexachlorophene and herbicides such as 2,4,5-trichlorophenoxyacetic acid (2,4,5-T). Use of hexachlorophene and 2,4,5-T is currently restricted in this country. Other chlorinated compounds, like pentachlorophenol (PCP) used to preserve wood, may also contain dioxins. The use of PCP is also restricted in this country. Currently, dioxins are primarily released to the environment during combustion of fossil fuels (coal, oil, and natural gas) and wood, and during the incineration processes (municipal and medical waste, and hazardous waste incineration). Uncontrolled burning of many materials that contain chlorine, such as plastics, wood treated with PCP, pesticide-treated wastes, other polychlorinated chemicals, and even bleached paper, can produce dioxins.

Dioxin has a tendency to persist in the environment. It can bind to soil particles and bioaccumulate in the food chain, especially in foods such as meats, dairy products, and fish. Dioxin can enter the human body through ingestion, inhalation, and dermal absorption. Human exposure to very high levels of dioxin causes a skin condition called chloracne and is suspected of causing immunological problems and liver impairment.

The EPA considers dioxin to be a probable human carcinogen. Dioxin has been shown to cause biochemical alterations; thyroid, reproductive and immune toxicity; and cancer in animals. It is suspected of causing cancer in humans.

Animal studies have shown that dioxin is highly toxic although there are a wide variety of responses among the various species tested. Adverse health effects in animals tested include reproductive and developmental toxicity, hepatotoxicity (liver), immunotoxicity, and carcinogenicity.

Polychlorinated biphenyls have been identified at the Site at levels up to 1300ppm for Aroclor 1254 in soil. Most exposures to PCBs occur from consumption of fish and aquatic animals that accumulate high levels in body fat. Excessive occupational exposures have caused irritation of the nose and lungs, and skin irritations called chloracne. PCBs will accumulate in human body fat and may cause reproductive problems and liver damage. Some studies have shown that PCBs caused liver cancer in laboratory animals.

Chlorobenzene has been identified at the Site at levels up to 1000ppm in soil. Exposures occur when chlorobenzene is inhaled, or consumed in contaminated food or water. Exposure to high levels in air can cause adverse nervous system effects, including unconsciousness. Long term exposures to low levels of chlorobenzene will affect the nervous system and can damage the liver, kidney and blood systems.

Tetrachloroethylene was identified at the Site at levels up to 1700ppm in soil.

At high levels in the air, tetrachloroethylene can cause dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, and possibly unconsciousness and death. Skin irritation may result from direct contact. Long term exposure can cause liver and kidney damage, and cancer.

Trichloroethylene has been identified at the Site at levels up to 2400ppm in soil. Most exposures to trichloroethylene occur through breathing air or drinking water which is contaminated. Dizziness, headache, sleepiness and facial numbness have occurred in workers exposed to Trichloroethylene for short periods of time at high levels. Longer term exposures may produce nervous system changes, liver and kidney damage, and possibly leukemia.

Benzene has been identified at the Site at levels up to 480ppm in soil. The most common exposure to benzene comes from breathing air containing benzene. Brief exposure to very high levels of benzene in air can cause headaches, dizziness and drowsiness or at extremely high levels, death may occur. Overwhelming evidence has determined that benzene is carcinogenic. Long term exposure to benzene may lead to blood cancer (leukemia).

Toluene has been idetified at the Site at levels up to 430ppm in soil. Toluene has harmful effects on the central nervous system. Short-term exposure to high levels of toluene results in light-headedness, euphoria, followed by dizziness, sleepiness, unconsciousness, and eventually death. Long-term exposure has been linked to permanent brain damage effecting speech, vision, hearing and memory.

Xylene has been identified at the Site at levels up to 270ppm in soil. At high levels in the air, xylene can cause irritation of the skin, eyes, nose and throat; difficulty in breathing; impaired memory; stomach discomfort; and changes in liver and kidney functions. Exposure to very high levels of xylene for even a short period of time may lead to death.

A. Threats to the Public Health or Welfare

Section 300.415(b) of the National Contingency Plan (NCP) provides that EPA may conduct a removal action when it determines that there is a **threat to human health** or welfare or the environment based on one or more of the eight factors listed in 300.415(b)(2) of the NCP. The following factors listed below are present at this Site:

> **1. "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)].**

There are contaminated surface soils, sub-surface soils, and sediments in proximity to residential areas at the Centredale Manor Site. Contaminated soils have been identified within fifty feet of an eight-story residential apartment building for the elderly, and in wetlands immediately adjacent to a residential neighborhood. Levels of dioxin up to 140ppb, PCBs up to 1300ppm, and several other chemicals have been identified in soil samples from the Site. In a Health Consultation and a Record of Activity (March 19, 1999), the Agency for Toxic Substances and Disease Registry has recommended that EPA take actions to reduce exposure at the Site.

2. "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)(ii)].

Evidence from historical photographs, state report files, and preliminary geophysical testing results strongly suggest that buried drums may be found in several areas of the Site. Empty drums are visible at the surface in several areas and the RI DEM has previously performed drum removals at the Site. Buried drums may be a source of dioxin or other contaminants.

3. "High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;" [300.415(b)(2)(iii)].

Analytical data from surface soil, sub-surface soil and sediment samples collected from the Site indicate dioxin contamination at levels up 140 ppb at the Site and adjacent areas.

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

Heavy rainfall may produce significant flooding of the Woonasquatucket River. These conditions have occurred in the past on an irregular basis and may have resulted in the migration and deposition of dioxin to the flood plain .

5. "The availability of other appropriate federal or state response mechanisms to respond to the release;" [§300.415(b)(2)(vii)].

The RI DEM has indicated that funding and staffing limitations will restrict their ability to respond to this situation. The Army Corps of Engineers (ACOE) is evaluating the condition of dams on the river in anticipation of dam reconstruction and repair projects in the future. Conditions at the Site support removal actions as

described in the NCP.

6. "Other situations or factors that may pose threats to public health or welfare or the environment." [§300.415(b)(2)(viii)].

Public access to the contaminated surface soils is restricted by fencing to reduce exposure via contact and incidental ingestion However, potential migration of the contaminants will continue to pose a human health threat until addressed by the action proposed in this document.

B. Threats to the Environment

The environmental effects of many chemicals are only known from studies done under laboratory conditions, not in the field, and are therefore difficult to assess.

Due to the toxicity and persistence of **dioxin** in the environment, there may be adverse effects on animal populations. Dioxin accumulates and concentrates in the food chain, especially in food such as meat, dairy products and fish. Adverse health effects in animals tested under laboratory conditions include reproductive and developmental toxicity, hepatotoxicity (liver), immunotocity, and carcinogenicity.

Polychlorinated biphenyls are known to accumulate and concentrate in animals, especially fish and aquatic vertebrates. In laboratory conditions, animals that ate PCB contaminated feed showed liver, stomach, and thyroid gland injuries, and had reproductive problems.

Benzene is a known human carcinogen, and has been shown to cause cancer in laboratory animals.

Chlorobenzene is known to be moderately toxic to animals, as is xylene and other volatile organic compounds.

Section 300.415(b) of the National Contingency Plan (NCP) provides that EPA may conduct a removal action when it determines that there is a threat to human health or welfare **or the environment** based on one or more of the eight factors listed in 300.415(b)(2) of the NCP. The following factors listed below are present at this Site:

1. "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)].

Analysis of fish and eel tissue samples collected in the Woonasquatucket River indicate that dioxin is present in these animals and the food chain.

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

Dioxin, PCBs and other contaminants have been identified at elevated levels in wetlands, surface soils and flood plain soil samples. Wetlands, sediments and flood plains are sensitive ecosystems.

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

Significant flooding of the Woonasquatucket River has occurred in the past on an irregular basis and may have resulted in the migration and deposition of dioxin and other contaminants to the flood plain .

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 Addendum, may continue to present an imminent and substantial endangerment to public health, or welfare, or the environment. Federal, state and local agencies are recommending that immediate response actions be taken to reduce potential exposure.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

Additional characterization of the Site since EPA mobilization in May of 1999 has indicated that the nature and extent of contamination exceeds the scope and budget of the actions described in the initial Action Memorandum. As a result, the Removal Program proposes the following **interim** actions be employed until such time as a long-term remedy can be initiated through the Remedial Program. A Remedial Project Manager has been assigned to the Site.

The proposed actions are based on documents and data which will be available to the public in the Administrative Record, to be available for public review within 60 days of the inception of these proposed actions, as described in the National

Contingency Plan (40 CFR 300.415(m)(i). The proposed actions were developed as a continuing response action to reduce the potential for migrations of, and direct contact with dioxin-contaminated soils until a subsequent, comprehensive response action is developed. The actions proposed are consistent with CERCLA as amended, and are consistent with the NCP.

EPA/ OSWER Directive 9200.4-26, Memorandum - Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites, April 13, 1998, was considered in developing interim cleanup goals for dioxin at this Site. OSWER 9200.4-26 recommends a clean-up starting point of 1 ppb dioxin (TEQ) for surface soils that are reasonably expected to be used as residential property, and for sediments that are considered to be a direct exposure pathway for human receptors.

The actions proposed are consistent with recommendations made to EPA in the Draft ATSDR Health Consultation - Woonasquatucket River, March 10, 1999, and ATSDR Record of Activity, # 99-1185 (March 19, 1999).

1. Proposed action description

Proposed response actions include:

a) EPA will enter into an Inter-Agency Agreement with the Army Corps of Engineers to complete a Flood Evaluation Study of the Site and surrounding area, provide flood control options and designs, and design interim soil caps for specific areas of the Site. Estimated cost is $125,000.

b) install an interim protective cap (Cap #1) over the wooded area immediately south of the Centredale Manor parking lot. This area is prone to flooding and has the highest concentrations of dioxin and PCB contamination in surface soil found at the Site. Estimated cost is $300,000.

c) install an interim protective cap (Cap #2) over the grassed area between the Woonasquatucket River and the Centredale Manor building. This area is prone to flooding and has significantly elevated levels of dioxin in surface soils. Proximity to the river may necessitate construction of flood control measures to control erosion of the cap. Estimated construction cost is $225,000.

d) install an interim protective cap (Cap #3) at the northern edge of Allendale Pond. This area is not fully characterized. Preliminary results indicate that elevated levels of dioxin in the shallow soil/sediments samples collected here may be the result of deposition of contaminated soils which eroded from the Site. Additional sample collection is necessary to complete characterization of this area. An interim cap will control further movement of the contaminated

sediments. The interim cap design will be prepared by ACOE. Estimated construction cost is $500,000.

e) install flood control berms, dikes or other structures as recommended by the ACOE. These engineered controls will moderate flooding and migration of contaminated soils and sediments. The design will be prepared by ACOE. Estimated construction cost is $250,000.

f) reconstruct the former tailrace at the eastern edge of the property. The former tailrace has been filled in gradually over the years and is likely to contain contaminated soil/sediment. The tailrace receives surface water runoff from local roads which contribute to flooding at the Site. Design for reconstruction will be prepared by the ACOE. Estimated construction cost is $600,000.

ESTIMATED TOTAL COST $2,000,000

A site engineering survey, additional sample collection, and fence installation will be completed under the current action memo funding.

2. Contribution to Remedial Performance

Performing this removal action will serve to protect public health and the environment by reducing the potential for further release of and exposure to contaminants found at the Site. These proposed actions are the result of an integrated effort of the Removal Program and the Remedial Program via the Centredale Manor Team with the objective of accelerating the agency's response time, while simultaneously fulfilling the needs for a fast track listing of the Site. As such, the implementation of the proposed actions will contribute to and be consistent with the performance of any remedial action that may be undertaken at a later date.

3. Applicable or Relevant and Appropriate Requirements (ARARs)

The federal ARARs determined to be practicable for this Site is the Resource Conservation and Recovery Act (RCRA). State ARARs have been received from RI DEM and are included in the site file. EPA will comply with state ARARs whenever practicable, but reserves the right to waiver of ARARs as described in the NCP.

B. Estimated Costs and Schedule

The OSC's (independent government) estimate of the additional costs associated with carrying out the proposed actions outlined above are given below. The

actions are anticipated to be completed within 8 months of its commencement.

Extramural Costs:

ERCS	$2,000,000
START	Previously funded
10% Project Contingency	$200,000
Extramural Costs	$2,200,000
Total Extramural Costs	$2,200,000
EPA Regional Personnel	$ 150,000
REMOVAL PROJECT CEILING	$2,350,000
Initial Action Memo Ceiling	$1,602,000
TOTAL REMOVAL PROJECT CEILING	**$3,952,000**

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

In the absence of the removal action described herein, conditions at the Centredale Manor Site can be expected to remain unaddressed, and threats associated with exposure to hazardous substances will continue.

VII. OUTSTANDING POLICY ISSUES

Until the agency's reassessment of the toxicity of dioxin is complete, EPA/ OSWER Directive 9200.4-26, Memorandum - Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites, April 13, 1998 provides guidance for setting starting points for remediation goals at dioxin sites. The proposed actions are consistent with the guidance document. OSWER concurrence for this Nationally Significant Removal Action was signed on May 05, 1999.

VIII. ENFORCEMENT

ATTACHED TO THIS DOCUMENT - FOR INTERNAL DISTRIBUTION ONLY

IX. RECOMMENDATION

This decision document represents the selected removal action for the Centredale Manor Site in North Providence, Rhode Island. It was developed in accordance with CERCLA, as amended, and is consistent with the National Contingency Plan (NCP). The basis for this decision will be documented in the Administrative Record to be established for this Site.

Conditions at the Site meet the criteria set out in the NCP due to the presence of:

"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).].

"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)(ii)].

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

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

"The availability of other appropriate federal or state response mechanisms to respond to the release;" [§300.415(b)(2)(vii)].

"Other situations or factors that may pose threats to public health or welfare or the environment." [§300.415(b)(2)(viii)].

I recommend you approve $2,350,000 to continue and complete the removal action proposed above; as much as $2,200,000 is from the EPA-New England removal allowance. The initial Action Memorandum ceiling was for $1,602,000. The new total Action Memorandum ceiling is $3,952,000 with as much as $3,702,000 from the EPA-New England removal allowance. The characterization and control of dioxin contamination at the Site will mitigate the potential negative impacts of exposure to the residents living at and adjacent to the Centredale Manor Site.

APPROVAL: _____ DATE: 9/13/99

DISAPPROVAL: _____ DATE: _____