UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

SDMS DocID 461709

Enforcement Confidential Materials Attached

MEMORANDUM

DATE: September 29, 2003

SUBJ: Request for Change of Scope and 12-month Exemption for a Continued Removal Action at the Centredale Manor Site, North Providence, Rhode Island - **Action Memorandum - Third Addendum**

FROM: Ted Bazenas, On-Scene Coordinator
Site Evaluation and Response Section II

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

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

TO: for Susan Studlien, Director
Office of Site Remediation and Restoration

I. PURPOSE

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

EPA has negotiated an Administrative Order on Consent for implementation of the actions described herein. In the event that the Potentially Responsible Parties do not perform the actions as directed in the Order, EPA is prepared to undertake the work on a fund-lead basis, pending availability of funding.

As described in previous decision documents, this Action Memorandum - Third 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. No additional funds are requested at this time. The Action Memorandum ceiling remains $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

CERCLIS Identifier:	RID981203755
Site Identifier:	016P
Category of Removal:	Time Critical
Nationally Significant/ Precedent Setting:	Yes
NPL Status:	Included on the NPL on March 06, 2000

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 in 1977. A series of parking lots extend to the south of the building. The area around both buildings is landscaped with grass ground cover.

The Site and associated impact areas were added to the National Priorities List on March 06, 2000.

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

2. Removal Site Evaluation

EPA has conducted several investigations including a Preliminary Assessment of Centredale Manor and Brook Village in August of 1986, a Screening Site Inspection in October 1990, and Site Inspection Prioritization in May of 1997. These previous investigations 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 Health Consultation (June 7, 1999) and a Record of Activity (March 17, 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 ppb of dioxin.

Subsequent site characterization including samples that were collected in the summer of 2002 has documented widespread dioxin contamination at the Site. Dioxin has been found at levels up to 140 ppb in surface soil, and up to 40ppb in sediments from the tailrace. Other contaminants found at the Site include volatile organic compounds (VOCs) up to 10,000 ppm total VOCs, semi-volatile organic compounds (SVOCs) up to 1,800 ppm total SVOCs, and polychlorinated biphenyls (PCBs) up to 1,300 ppm total PCBs.

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 CFR 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. EPA has established that hexachlorophene was manufactured at the Site; dioxin is a well-documented byproduct of hexachlorophene production.

Other contaminants have been identified in soils at the Site, including PCBs up to 1,300 ppm, chlorobenzene up to 1,000 ppm, toluene up to 430 ppm, xylenes up to 270 ppm, tetrachloroethylene up to 1,700 ppm, trichloroethene up to 2,400 ppm and benzene up to 480 ppm.

Other VOCs and SVOCs were identified in soils and sediment at lower concentrations.

6. NPL Status

The Site was added to the National Priority List (NPL) on March 06, 2000. Although this Removal Action will address the short term needs of the site, inclusion on the NPL is the best means to address long term issues. The Removal, Remedial, and Site Assessment programs have closely coordinated their actions to date. The Removal Actions in this document have been developed through a cross-program Agency team to be consistent with including the Site on the NPL, and with any remedial actions.

B. Other Actions to Date

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, PCBs, and ink wastes may have been contained in the drums.

Please refer to the initial Action Memorandum dated May 04, 1999, the Action Memorandum Addendum dated September 13, 1999, and the Action Memorandum - Second Addendum dated June 01, 2000 for additional information.

2. Federal Involvement

a. Removal Program

EPA involvement at the Site began when EPA contractors conducted a Preliminary Assessment (PA) of the Centredale Manor property in August of 1986. Since that time, many EPA programs have contributed to the project including Site Assessment, Pre-remedial, Remedial, Quality Assurance, Community Involvement, Removal, Enforcement and Contracts.

EPA also implemented a community outreach and education program to disseminate information about the Site to the residents and neighbors. A Management Action Committee (MAC) established in 1999 continues to work with EPA in an advisory role regarding communication with the community, and in review of technical documents.

An Action Memorandum dated May 04, 1999 and an Action Memorandum Addendum dated September 13, 1999 proposed a series of removal actions. The Removal Program mobilized to the Site in May 1999 and completed several of the proposed actions.

On March 06, 2000, the Site was added to on the National Priorities List.

On April 12, 2000 a Unilateral Administrative Order (UAO) was signed which directed a group of five respondents to take over the Removal Actions. The UAO became effective on April 24, 2000.

The respondents complied with the Order. On June 02, 2000, an Action Memorandum - Second Addendum was signed to encompass the UAO and modify the Removal Scope of Work. Under the Addendum, the OSC provided oversight of responsible party actions to complete an administrative cap. At that time, EPA determined that the remaining actions proposed in the Action Memoranda should be addressed in a Non-Time Critical Removal Action (NTCRA). This determination was documented in the Second Addendum. The remaining actions and alternatives were evaluated under the Remedial Program through the Engineering Evaluation and Cost Analysis (EE/CA) process.

b. Remedial Program

EPA Remedial Program activities began in the summer of 1999, with data collection for the initial phase of the Remedial Investigation.

In February 2000 the Agency signed an Approval Memorandum for the performance of two Engineering Evaluation/Cost Analyses (EE/CAs). These two EE/CAs were later combined into one, resulting in an EE/CA report issued in September 2000 which recommended restoration of the Allendale Dam and removal of the dioxin-impacted soil and flood-plain sediment from residential and recreational-use properties. Following a 60-day public comment period, EPA issued an Action Memorandum for a Non-Time Critical Removal Action (NTCRA) on January 18, 2001. On March 26, 2001, a UAO was issued which directed a group of respondents to perform the work outlined in the NTCRA. In the summer of 2001 the respondents began reconstruction of the Allendale Dam and restoration of the Allendale Pond. This part of the action was completed in February 2002.

In the spring and summer of 2002, as part of the NTCRA, samples for dioxin analysis were collected in the former tailrace behind the Centredale Manor, on the eastern embankment which also abuts residential-use properties. This area had not been sufficiently characterized previously. Levels of dioxin up to 128 ppb were found at depth to 3 feet, with results in surface samples as high as 40 ppb. Additional surface and at-depth sampling conducted by EPA better defined the extent of this contamination. EPA and the COE also investigated the surface hydrology of the former tailrace, which indicated that significant drainage and run-off enters the former tailrace during storm events.

In the fall of 2002, the PRPs also removed dioxin-contaminated soil from residential properties around Alledale Pond.

3. Current Actions

a. Remedial Actions

The remedial program has requested that elevated levels of dioxin in the tailrace sediments be evaluated by the Removal Program for this Time Critical Removal Action. Work on the RI/FS continues.

b. Removal Actions

The Removal Program has evaluated the sample data collected for the EE/CA and the RI/FS. Samples collected from the tailrace in the summer of 2002 identified dioxin in surface soil up to 40 ppb, and in sub-surface soil up to128 ppb.

The elevated levels of dioxin in the tailrace present two issues for Removal Program consideration:

1) Direct contact with contaminated sediments may be a human health threat. As a temporary measure, a chain link fence was installed by EPA in 2000 to restrict access to the tailrace sediments. The fence is reported to have been breached on several occasions.

2) Contaminated sediment transport continues to impact Allendale Pond. There is continuing erosion of the dioxin-contaminated sediment from the tailrace into Allendale pond, especially during high flow events. The tailrace is a significant source of contamination for the entire river system and may recontaminate residential properties around Allendale Pond.

The Removal Program has evaluated the most recent data and determined that a Time Critical Removal Action is appropriate and within the scope of previous removal work.

C. State and Local Authorities' Roles

The Management Action Committee (MAC) includes federal, state, and local government representation and serves as the forum for their involvement at the Site. The MAC meets regularly for site progress updates and to discuss upcoming site activities. As a team, the MAC has reviewed and provided comments to fact sheets, press releases and sampling plans. Through the MAC, EPA has disseminated site specific information such as the ESI report, the Sampling Plan, POLREPs, fact sheets and Final Site Investigation Report.

The MAC representatives have been involved with the evaluation of the most recent data and are in support of this Removal Action.

1. Potential for Continued State/Local Response

EPA and RI DEM will continue to coordinate site activities in regard to state

regulations. RI DEM is coordinating wetlands issues with its state counterparts.

The MAC will continue to have an active advisory role in the Removal Actions at the Site. Regular 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 when appropriate. The Town will continue to provide access to meeting rooms, historical documents and other support services. EPA may seek a non-monetary contribution to the Removal Action from the Town of North Providence.

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

Dioxin has been identified at the Site at levels up to140ppb in soils samples collected in 2000. Samples collected from the tailrace in the summer of 2002 identified dioxin in surface soil up to 40ppb, and in sub-surface soil up to128ppb.

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 previously 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. Occupational exposures in the past 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 previously 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 previously 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 previously 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 previously 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 previously identified 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 affecting speech, vision, hearing and memory.

Xylene has been previously 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 to140 ppb and PCBs up to1300 ppm along with several other chemicals have been identified in soil samples from the Site. Samples collected from the tailrace in the summer of 2002 identified dioxin in surface soil up to 40 ppb, and in sub-surface soil up to128 ppb. In a Health Consultation (June 07, 1999) 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.

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, flood plain soil and exposed sediment samples previously collected from the Site indicate dioxin contamination at levels up 140 ppb at the Site and adjacent areas. Samples collected from the tailrace in the summer of 2002 identified dioxin in surface soil up to 40 ppb, and in sub-surface soil up to128 ppb.

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. Storm drain runoff from Route 44a is currently directed into the tailrace area adjacent to the residential properties and contributes to the migration of contaminated soils.

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. There are no other known state or federal funds or response mechanisms. 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 the fence is a temporary measure and has been breached on several occasions. 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 effects of most chemicals on the environment 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 therefore in 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. Storm drain runoff from Route 44A is currently directed into the tailrace area adjacent to the residential properties and contributes to the migration of contaminated soils.

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 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. EXEMPTION FROM STATUTORY LIMITS

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

A. Appropriateness

EPA OSWER directive 9360.0-12 states that an action is appropriate if the activity is necessary for any ***one*** of the following reasons:

1. To avoid a foreseeable threat;
2. To prevent further migration of contaminants;
3. To use alternatives to land disposal; **or,**
4. To comply with the off-site policy

The proposed actions outlined below **do meet criteria two**. Reconstruction of the tail-race will isolate contaminated soil with a protective cover to prevent surface migration of dioxin-contaminated soil and minimize the threat to human health and the environment.

B. Consistency

This Site is on the National Priorities List (NPL). The proposed Removal Actions have been coordinated with the Remedial Programs and will contribute to the performance of planned long-term remedial actions. The actions outlined below have been coordinated with RIDEM to regarding their consistency with State regulations.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

Recent sampling by the Remedial Program indicates that contamination remains in high concentrations in the tail-race, and prompt attention consistent with previous Time Critical Actions is necessary. As a result, the Removal Program proposes that the following interim actions be employed.

Following lengthy negotiations, on September 11, 2003, EPA issued an Administrative Order on Consent for implementation of the actions described herein. In the event that the Potentially Responsible Parties do not satisfactorily implement the actions as directed in the Order, EPA is prepared to undertake the work on a fund-lead basis, pending the availability of funding. In either case, the removal action will protect public health, welfare and the environment from the threats identified in Section III.

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 not inconsistent 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

In the event that the Order is not satisfactorily implemented by the PRPs, the proposed Time Critical Actions for the agency include:

a. Enter into an Inter-Agency Agreement with the Army Corps of Engineers to design the reconstruction of the tail-race to prevent migration of the contaminated surface soil and sediment; incorporate design for an interim cap to stabilize the contaminated soils and sediments in the tailrace, and mitigate storm drain runoff from Route 44a that flows into the tailrace.

b. Reconstruct the former tail-race at the eastern edge of the property, incorporating an interim cap over contaminated soils and sediments.

c. Mitigate stormdrain runoff from Route 44A into the tailrace.

2. Contribution to the 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 to address areas of high concern. 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.

4. Project Schedule

The actions are anticipated to be completed within 6 months of their commencement, weather permitting.

B. Estimated Cost

The estimated extramural cost for this action if performed by EPA is $950,000. No change to the previously established cost ceiling is requested.

The Total Removal Project Cost Ceiling remains $3,952,000.

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

Extramural Costs:

ERRS[1]	950,000
START[2]	50,000
20% Project Contingency	$200,000
Extramural Costs	$1,200,000
Total Extramural Costs	$1,200,000
EPA Regional Personnel	$ 150,000
REMOVAL PROJECT COST for this action	$1,350,000
Removal Costs to Date	**$1,873,849**
TOTAL REMOVAL PROJECT CEILING	**$3,952,000**

VII. 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.

VIII. 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

[1] Emergency Rapid Response Services contract

[2] Superfund Technical Assessment and Response Team

consistent with the guidance document. OSWER concurrence for this Nationally Significant Removal Action was signed on May 05, 1999.

IX. ENFORCEMENT - *ATTACHED TO THIS DOCUMENT - FOR INTERNAL DISTRIBUTION ONLY*

The EPA cost for the actions outlined in this document are $1,350,000. Total costs for EPA Time Critical Removal Actions, based on full-cost accounting practices that will be eligible for cost recovery, are estimated to be $5,019,830.[3]

X. 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).].

"Actual or potential contamination of drinking water supplies or sensitive ecosystems;" [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)(iv)].

"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)].

---

[3] *Direct costs include direct intramural costs and direct extramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific costs, consistent with the full cost 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.*

This decision document represents the selected removal action for the Centredale Manor site in North Providence, RI, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the site.

Conditions at the site meet the NCP section 415(b) criteria for a removal and I recommend your approval of the proposed removal action. The total removal action project ceiling for the action described in this addendum, if approved, will be $1,350,000 of which, an estimated $950,000 comes from the Regional removal allowance.

APPROVAL: _____ DATE: 9-30-03

DISAPPROVAL: _____ DATE: _____

C:\WINDOWS\Temp\J.notes.data\add3h.wpd