UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

ACTION MEMORANDUM

DATE: February 27, 2008

SUBJECT: Request for Ceiling Increase with an Exemption from the 12-Month and $2 Million Statutory Limits at the Kentucky Wood Preserving Site, Winchester, Clark County, Kentucky

FROM: Subash Patel, On-Scene Coordinator (OSC)
Emergency Response and Removal Branch

THRU: Shane Hitchcock, Branch Chief
Emergency Response and Removal Branch

TO: Franklin E. Hill, Director
Superfund Division

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of a second time-critical removal action, a ceiling increase, and an exemption to the 12-month and $2 million statutory limits imposed by Section 104(c) of the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA), 40 U.S.C 9604 (c) as amended, for the Kentucky Wood Preserving Site, located in Winchester, Clark County, Kentucky (the "Site" or KWP). The Site poses a threat to public health and the environment and meets the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) Section 300.415(b) criteria for removal actions. A ceiling increase is necessary to continue removal measures at the Site in order to abate the release or threat of release of hazardous substances from the Site into the environment. This request is based on the presence of high levels of arsenic in surface soils on Site and in adjacent residential properties, and an imminent threat of a release of chromated copper arsenate (CCA) wastewaters from a pressure vessel containment pit located on Site.

Initial response actions were taken at the Site under the OSC's $250,000 authority to provide prompt risk reduction through expedited action. The Region 4 Superfund Division Director then authorized expenditure of an additional $250,000 to continue emergency response actions at the Site. The Action Memorandum describes response actions to be implemented at the Site and includes securing the Site, disposing of CCA wastewaters from the pressure vessel's containment pit, disposing of CCA sludge from the process vessels,

removal of about 5,000 untreated wood poles, removal of 30 containers of small quantity hazardous wastes, and building an outfall structure to reduce the flow of contaminated stormwater runoff exiting the Site.

As the result of the Site conditions, immediate removal actions conducted pursuant to Section 104 of CERCLA are needed at the Site. The total project ceiling, if approved, will be $2,265,000 of which an estimated $1,555,000 comes from the Regional Removal Allowance.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS No:	KYD981473697
Response Authority:	CERCLA
NPL Status:	NA
Type:	Time-Critical Removal Action
Site ID #:	A4QP

A. Site Description

1. Removal Site Evaluation

In November 2006, EPA was first notified of the Site when a former employee notified the National Response Center of a potential release of wood treating chemicals. On April 10, 2007, EPA OSC Art Smith and Kentucky Department of Environmental Protection (KDEP) Superfund Branch staff investigated the abandoned former wood treating facility. It was discovered that a containment pit, under a pressure vessel was near capacity, and a release of CCA wastewaters solution was imminent. Measurements taken with an x-ray Fluorescence instrument also detected elevated levels of arsenic and chromium in the surface soils.

On June 12, 2007, KDEP visited the Site again and discovered that vandals had broken into the new treatment building and pried open the door of the pressure vessel. KDEP then referred the Site to EPA for purposes of conducting a time-critical removal action citing concerns over the unstable conditions at the Site.

On July 18, 2007, OSC Smith initiated a time-critical removal action at the Site under his delegated procurement authority *(Attachment 1)*. On August 9, 2007, the Region 4 Superfund Division Director authorized expenditure of an additional $250,000 to continue emergency response actions at the Site *(Attachment 2)*. During this action, approximately 50,090 gallons of CCA contaminated wastewaters were shipped to a wastewater treatment facility off-site. About 3,580 gallons of CCA sludge were transported to a Subtitle C landfill. Over 5,000 untreated wooden poles were processed into mulch and transported offsite for commercial resale to access the contaminated soil underneath them. Thirty containers of small quantity hazardous materials were removed and processed at a

permitted offsite location. A chain link fenced was erected to secure the perimeter.

On September 24, 2007 a Removal Site Evaluation (RSE) was begun, to determine the need for further removal actions at the Site. The RSE was completed on January 8, 2008. The RSE focused on surface and subsurface soil contaminated areas, the drip pad area, the new treatment area, surrounding residential and industrial properties, a drainage ditch, and Strodes Creek. Soil samples were taken onsite and from surrounding residential and industrial properties. Sediment samples of the drainage ditch were also collected.

The following are the result form the RSE for Parcel 1:

> Arsenic and chromium concentrations exceed EPA removal action levels (RALs) for direct contact at industrial levels provided by the Technical Support Services Section of 160 parts per million (ppm) and 7,500 ppm, respectively. The highest concentration detected onsite for arsenic is 15,000 ppm, or approximately 93 times the RAL. The highest concentration detected onsite for chromium is 18,000 ppm which is more than twice the RAL of 7,500 ppm.

The following are the results form the RSE for Parcel 2:

> The drip pad area is heavily stained with CCA residues, thus indicating a release of hazardous substances.
>
> The containment pit located underneath the pressure vessel located in the new treatment area is near capacity and a release of CCA wastewaters solution in imminent. Stormwater continues to flow into the containment pit even though temporary steps were taken to limit this during the first phase of the time-critical removal.
>
> The Site's stormwater runoff transports contamination off-site via a culvert. The culvert flows into a drainage ditch and then into Strodes Creek.

The following are the results for RSE for the residential property:

> Arsenic concentrations exceed the 10^{-4} carcinogenic residential risk-based human health criteria for direct contact to surface soils of 40 ppm. The highest recorded residential concentration for arsenic is 97.0 ppm, which is more than twice the 40 ppm criteria. The RALs are also exceeded at two feet below ground level.

2. Physical Location

KWP is approximately three acres in size and is currently zoned industrial. KWP is located at 200 Magnolia Street, Winchester, Kentucky, 40392. The geographic coordinates from the center of the property are 38.003055 degrees North Latitude and -84.176388 degrees West Longitude. Winchester is about 25 miles from Lexington, Kentucky, the nearest large city. Winchester has a population of about 16,500 people and is located within Clark County, which has a population of about 33,000 people. The Site is bordered by railroad tracks to the west and southwest, Magnolia Street to the north, and residential properties to the east. The Site and the land to the northwest of the Site is zoned industrial with industrial use currently in existence. Adjacent to the Site on the west is an operating facility that produces artificial stones and bricks.

3. Site Characteristics

KWP is an abandoned wood treating facility. The company used Copper Chromated Arsenate (CCA) wood preservative to treat dry wood. The KWP treatment process consisted of: drying untreated wood; then placing the dried wood in a pressure vessel where it is pressurized with a CCA solution; the wood was then removed from the vessel and placed onto the drip track to dry. The CCA solution from the process was collected in sumps located on the drip pad and recycled.

The Site consists of two adjacent parcels encompassing approximately three acres *(Attachment 3).* Wood treating activities began on Parcel 1 in the 1950s, while activities did not start on Parcel 2 until 1986. While KWP had operated the facility under different management since the 1950s, it did not buy Parcel 2 until 1986. In 1993, KWP took title to both parcels. A full discussion of the ownership history of the property is included in the enforcement addendum attached to this action memo. KWP defaulted on its loan and on November 11, 2006, a Judgment and Order of Sale was entered by the Commonwealth of Kentucky, Clark Circuit Court, Division No. II. The Order named a Master Commissioner and ordered him to sale both parcels. The Master Commissioner has been unable to comply with the Order because of the Site contamination.

A number of structures remain on the Site. On the western part of the Site, these structures were primarily part of the old treatment area. An office building exists on the northwest area of the Site. On the eastern area of the Site is the new treatment area which consists of the drip track, drip pad area, and a pressure vessel enclosed in a building. On the southern side a small drainage ditch runs south of the southern railroad track. Stormwater runoff exits the Site from the south and empties into a drainage ditch which flows to Strodes Creek. Strodes Creek is located within a few hundred feet of the Site.

According to the Winchester Municipal Utilities, all residents in the immediate Site vicinity are supplied by the municipal water supply.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

The Site represents an actual ongoing release that poses a threat to human health, welfare and the environment from CERCLA hazardous substances, arsenic and chromium. Arsenic and chromium are present in the soils on Site and arsenic is present in soils in the adjacent residential property at levels above EPA's recommended RALs.

Below are the sampling results for the residential property:

Sampling events performed by EPA have identified arsenic concentrations in an adjacent residential property's surface soils that exceed the RALs. Runoff from the Site may have carried contamination to the residential property. Currently, there are two families living on this property (refer to Table 1).

Table 1: Arsenic Analytical Results Above EPA Residential Clean Up Guidance

Sample Identification	*EPA Residential Guidance (mg/kg)*	*Analytical Results (mg/kg)*
KWP-OF-01B	40	97
KWP-OF-01B-SB-0-3	40	64

Below are results for Parcel 1:

Sampling events performed by EPA have detected arsenic and chromium contamination in surface and subsurface soils that exceeds the RALs for industrial properties (refer to Table 2 and 3).

Table 2: Arsenic Analytical Results Above EPA Industrial Guidance at Parcel 1

Sample Identification	*EPA Industrial Guidance (mg/kg)*	*Analytical Results (mg/kg)*
KWP-C6-SS	160	2,100
KWP-C6-SB-0.5-2	160	15,000
KWP-C7-SB-0.5-2	160	500
KWP-C7-SB-3-6	160	2,100
KWP-E6-SB-6-7	160	250
KWP –F5-SB-0.5-2	160	310
KWP-F7-SS	160	370
KWP-TC-01	160	2,000
KWP-TP-02-1-3	160	1,500
KWP-TP-03-0-3	160	1,800

KWP-TP-03-3-6	160	620

Table 3: Chromium Analytical Results Above EPA Residential Guidance at Parcel 2

Sample Identification	*EPA Industrial Guidance (mg/kg)*	*Analytical Results (mg/kg)*
KWP-TC-01	7,500	18,000

Results for Parcel 2:

Rain runoff enters the containment pit of the pressure vessel in the new treatment area. The containment pit is coated with CCA residue. During the first phase of the time-critical removal, liquids from the main sump were pumped out and an earthen-berm was built. Over the past four months, the containment pit's level has risen and threatens to overflow. It appears water is entering the containment pit from underground. This poses an imminent threat of a release to Strodes Creek.

Runoff from the Site is carrying arsenic and chromium off Site via a culvert that leads to a drainage ditch which empties into Strodes Creek. In addition, sediment samples collected from a section of the municipal stormwater system running beneath the Site exhibited elevated levels of metals. Finally, sediment samples from Strodes Creek also exhibit elevated concentrations of arsenic and copper, which are believed to have been deposited from historical wood treating operations at the Site.

5. NPL Status

The Site is not listed on the NPL, and it is unlikely that the Site will meet criteria for listing on the NPL.

6. Maps, Pictures and Other Graphic Representation

The following attachments are included in the Action Memorandum:

1. $250,000 Emergency Action Memo
2. Emergency Action Memo Amendment
3. Parcel Map
4. Final POLREP
5. Site Location
6. Site Photographs
7. Enforcement Addendum

B. Other Actions to Date

1. Previous and Current Actions

EPA OSC Smith initiated an emergency response at the Site on July 18, 2007. Actions taken during the emergency action are documented in the attached Final POLREP. *(Attachment 4)*

C. State and Local Authorities' Role

1. State and local actions to date

KDEP was notified of the proposed removal actions by letter that was mailed on January 10, 2008. The Removal Program will continue to coordinate its action with the state's representatives.

2. Potential for continued State/local response

KDEP referred the Site to EPA because they do not have sufficient funds to implement this action.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

The OSC has determined that a release of a hazardous substance into the environment has occurred at the Site, as the terms are defined in Section 101 of CERCLA and established under Section 102 of CERCLA at 40 CFR Part 302/Table 302.4. Conditions at the Site meet the following criteria listed from the NCP at 40 CFR 300.415(b)(2) for removal action:

A. Threats to Public Health

Section 300.415 (b)(2)(i):

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

Contaminated soils with concentrations above RALs have been found in one residential property where there are currently two families living. Hazardous substances exist on and off the Site at high enough concentrations to present a risk of potential exposure to a nearby residential community and an adjacent waterway. Hazardous substances also pose a direct contact threat to trespassers. Trespassing and vandalism are evident on the Site. EPA's Technical Support Section has reviewed the analytical results and recommends the removal of contaminated soils above removal action levels.

Section 300.415 (b)(2)(iii):

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;

The containment pit of the pressure vessel is currently half full. A release of CCA wastewaters solution from the pit is imminent. Stormwater continues to flow into the containment even though temporary steps were taken to prevent this during the first phase of the time-critical removal.

Section 300.415 (b)(2)(iv):

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;

Runoff from the Site is carrying soil contamination to nearby residential property and into Strodes Creek. Strodes Creek has sediment concentrations above screening ecotoxicity levels.

Section 300.415 (b)(2)(vii):

The availability of other appropriate federal or state response mechanisms to respond to the release;

Given the potential size and scope of the action, State funds are insufficient. No other governmental entity currently has funds available to conduct the necessary removal activity in a timely manner.

B. <u>Threats to the Environment</u>

Section 300.415 (b)(2)(i):

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

Uncontrolled releases of hazardous substances from the Site may pose a threat to the environment. Uncontrolled releases of contaminated substances transported by drainage ditch to Strodes Creek may cause a threat to aquatic species. Sediments samples taken in Strodes Creek contain Site-related contamination at levels above screening ecotoxicity values.

IV. ENDANGERMENT DETERMINATION

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

V. EXEMPTION FROM STATUTORY LIMITS

This removal action is requesting an exemption to the 12-month and $2 million statutory limits imposed by Section 104(c) of the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA), 40 U.S.C 9604 (c) as amended, and the National Oil and Hazardous Substance Contingency Plan (NCP).

A. There is an immediate risk to public health or welfare or the environment.

Site conditions allow flow of contaminated soils into the adjacent residential property where private residences can come into direct contact with elevated levels of arsenic concentration. Site conditions also allow flow of contaminated soils to enter a drainage ditch that leads into Strodes Creek. There is an imminent threat of release of CCA wastewaters solution from the containment pit. A release of the solution may contaminate nearby soils and will flow downhill into the drainage ditch that leads into Strodes Creek.

B. Continued response actions are immediately required to prevent, limit, or mitigate an emergency.

Arsenic and chromium contamination may increase within the above described areas due to stormwater runoff and natural erosion of soils on Site. Continued soil and sand erosion will eventually reach Strodes Creek and continue to elevate arsenic and lead concentrations in the residential property. Stormwater runoff continues to enter the containment pit which will soon overflow and contaminate surrounding soils.

C. Assistance will not otherwise be provided on a timely basis.

The conditions within the Site continue to deteriorate on a daily basis. Neither KDEP nor the local government has the resources to perform the actions to mitigate threats posed by the Site, in a timely manner.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

Actions for Parcel 1 are to be completed by CSX will be documented in an enforcement action memorandum following ongoing negotiations. These actions will include stabilization of the source areas and contaminant of the migration from the old treatment plant. (See attached Enforcement Addendum for additional details on the Potentially Responsible Parties.)

EPA's fund-lead removal action under this ceiling increase will involve decommissioning of the treatment plant on Parcel 2 and addressing the threat from surficial soil contamination on Parcel 2 and the adjacent residential property.

The proposed actions at the Site include the following:

1. Expand and upgrade the existing outlet control structure to include placement of iron filings for chemical treatment of arsenic-laden runoff from Parcel 1 and Parcel 2.

2. Implement mitigation methods for stormwater sewer sediments at the Site. Alternatives include replacing the affected section of the municipal storm sewer system, or construction of a surface drainage ditch to channelize stormwater runoff at Parcel 1 and Parcel 2.

3. Remove the new treatment building to excavate the containment pit of the pressure vessel and decontaminate the pressure vessel, process tanks, and surrounding structures.

4. Excavate and remove the drip pad area.

5. Restore the disturbed areas through backfill, grading, and reseeding, as needed.

The proposed actions at the Site include the following for the residential property:

1. Excavate contaminated soils on the residential property to mitigate direct contact threats.

2. Provide temporary relocation to residents as needed.

3. Conduct post-removal confirmation sampling.

4. Restore the disturbed areas, through backfill, grading, sodding and seeding, as needed.

Accumulated soils, the drip pad area, the drip track, and water from the pressure vessel decontamination will be evaluated in accordance with Resource Conservation and Recovery Act (RCRA) waste determinations for offsite disposal at appropriate facilities. Solvents used for decontamination of the drip pad area and the pressure vessel, as well as, its surrounding areas will be considered RCRA F035 listed waste. The drip pad, pressure vessel containment, and the drip track will also be considered RCRA F035 listed waste.

A contained-in determination may be made to environmental media as required. EPA considers contaminated environmental media to no longer contain hazardous waste when they no longer exhibit a characteristic of hazardous waste and when concentrations of hazardous constituents from listed hazardous waste are below health-based levels. The health-based levels for the Site are 160 ppm for arsenic and 7,500 ppm for chromium.

2. Contribution to remedial performance

As discussed previously, the Site is not expected to meet NPL listing criteria. However, to the extent practicable, removal measures conducted will not impede future responses based on available information. No further federal response is anticipated following response implementation.

3. Description of alternative technologies

At this time, it is uncertain whether alternative technologies may be utilized given the concentrations of the contaminants of concern. If alternatives technologies are considered as an option for onsite treatment for the sediments and/or soils, they will be evaluated and incorporated where applicable.

4. EE/CA

Since this is a time-critical removal action, and there is not a 6-month planning period an EE/CA is not required.

5. Applicable or relevant and appropriate requirements (ARARs)

In accordance with Section 300.415(i) of the NCP, onsite removal actions conducted under CERCLA are required to attain ARARs to the extent practicable, considering the exigencies of the situation. While administrative requirements need not be met for onsite applicable and/or relevant and appropriate requirement, substantive requirements will be met to the extent practicable for both applicable and/or relevant and appropriate requirements. Practicability is based on an evaluation of the degree of urgency and the scope of the removal action. Off-site removal activities need only comply with all applicable federal and state laws, unless there is an emergency.

A request to identify state ARARs was sent to the Commonwealth of Kentucky on January 10, 2008. EPA has not received a response to the letter at this time. To the extent practicable, the proposed Removal Action will meet the substantive requirements of the following ARARs:

- RCRA Land Disposal Restrictions (40 CFR 268)
- RCRA Requirements for Identification, Management and Transportation of Hazardous Waste (40 CFR 261, 262, and 263)
- DOT Hazardous Materials Regulations (49 CFR 107 and 171-179)
- State ARARs that are applicable, to the extent practicable and are within the scope of the removal action.

6. Project Schedule

Fund-lead response actions at this Site will be initiated upon approval of this Action Memorandum, and modification of contract documents. The fund-lead removal measures are expected to be completed within six (6) months of approval of this Action Memorandum.

B. Estimated Costs

Extramural Costs:

Regional Allowance Cost:	Current Ceiling	Increase	Proposed Ceiling
ERRS	$425,000	$1,130,000	$1,555,000
Non-Regional Allowance Cost			
START	$ 65,000	$ 194,000	$ 259,000
EPA ERT/GSA Contract	$ 10,000	$ 10,000	$ 20,000
USCG/GST	$ 0	$ 53,000	$ 53,000
Subtotal, Extramural Costs:	**$500,000**	**$1,387,000**	**$1,887,000**
Contingency (20%)	$ 0	$ 278,000	$ 378,000
TOTAL SITE BUDGET	**$500,000**	**$1,665,000**	**$2,265,000**

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be $3,436,598.

($2,265,000 + $80,000) + [($2,265,000 + $80,000)* 46.55 %)]

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

A delay in action or no action at this Site would increase the actual or potential threats to the public and the environment. The worse-case scenario involves the continued migration of the contaminated surface soils/sediments and CCA wastewaters solution into nearby residential neighborhoods and adjacent waterway.

VIII. OUTSTANDING POLICY ISSUES

None.

IX. ENFORCEMENT

See Confidential Enforcement Addendum.

X. RECOMMENDATION

This decision document represents the selected removal action for the Kentucky Wood Preserving Site in Winchester, Clark County, Kentucky, 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 criteria listed in 40 C.F.R. Section 300.415(b)(2) for a removal action. I recommend your approval of the Action Memorandum to allow a removal response and the 12-month and $2 million exemptions. The total project ceiling is $2,265,000 of which an estimated $1,555,000 will be funded from the regional removal allowance.

APPROVED: _____ DATE: 3/26/08

Franklin E. Hill, Director
Superfund Division

DISAPPROVED: _____ DATE: _____

Franklin E. Hill, Director
Superfund Division