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U.S. Environmental Protection Agency

Region III

Hazardous Waste Management Division

Five-Year Review (Type Ia)

L.A. Clarke and Son (Fredericksburg, Virginia)

AR303229

I. Introduction

Authority Statement. Purpose. EPA Region III conducted this review pursuant to CERCLA Section 121(c), NCP Section 300.400(f)(4)(ii), and OSWER Directives 9355.7-02 (May 23, 1992), and 9355.7-02A (signed and dated July 26, 1994). It is a statutory review. The purpose of a five-year review is to ensure that a remedial action remains protective of public health and the environment and is functioning as designed. This document will become a part of the Site File. This Type Ia review is applicable to a site at which response is ongoing.

Site Characteristics. The L.A. Clarke and Son Site is a former wood treating facility located in Spotsylvania County, Virginia, approximately 2.5 miles south of Fredericksburg.

Wood preserving operations began at the Site in June 1937 and continued until 1988, except for one inactive period between April 1979 and June 1980. L.A. Clarke leased the land from the Richmond, Fredericksburg & Potomac Railroad (RF&P Railroad) until 1976, when the Clarke family bought the property. In 1980, the Clarke family sold the facility to the Curtas family who then operated the facility until it closed in 1988. Railroad ties, telephone poles, and fence posts were preserved at the Site by injecting them with a mixture of creosote and coal tar in a sealed compartment under high temperature and pressure.

The Remedial Investigation Feasibility Study (RI/FS) Report dated 1988 determined that the Site contained contaminated soils and sediments which may present an imminent and substantial endangerment to public health, welfare, or the environment. Based on the RI/FS, EPA issued a Record of Decision on March 31, 1988 for Operable Unit 1 to address the contaminated soils and sediments and deferred Operable Unit 2 for additional RI/FS work for ground water. Although information was obtained during the RI indicating that the aquifers underlying the Site were contaminated, additional information was required to determine the extent of the contamination and to develop remedial alternatives. The OU-1 ROD addressed the surface conditions and contamination at the Site requiring remedial action. To address these hazards, the remedy selected in the OU-1 ROD contained the following major components:

- Biological treatment of contaminated soil under the then existing process buildings via in situ soil flushing with a surfactant solution followed by in situ bioreclamation.
- Biological treatment of all other contaminated soil and sediment via onsite landfarming. All contaminated surface soil which cannot be treated in situ, sediments

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(ditches 1, 2, and 3 and wetlands), buried pit materials, and subsurface wetland soil would be excavated/dredged and consolidated for treatment in the landfarming unit. The total amount of soil and sediments to be treated is approximately 119,000 cubic yards.

- Backfill excavated areas with treated soil and sediment. Cover backfilled areas with topsoil and revegetate.
- Biological treatment of the Resource Conservation and Recovery Act ("RCRA") regulated soil pile via land treatment in place.
- Biological treatment of the lagoon sludge in a tank. The bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol is a listed waste under RCRA, with the designation K001.
- Ground water monitoring during and post treatment.

In situ soil flushing was selected to remediate the soil under the then existing process buildings because the wood treating facility was still in operation at the time of the March 31, 1988 ROD. On December 29, 1989, EPA issued an Explanation of Significant Differences to revise the selected remedy for the soil in the former process area. Because the wood treating facility had then stopped operations and RF&P Railroad agreed to dismantle the process buildings, EPA selected land farming as the selected remedy.

On March 31, 1994, EPA issued another Explanation of Significant Differences to revise the selected remedy for the lagoon sludge from biological treatment in a tank to offsite incineration. The total amount of lagoon sludge to be treated is approximately 700 cubic yards.

As a result of a Consent Decree executed with EPA, RF&P Railroad is currently conducting a Remedial Design/Remedial Action for OU-1. In addition, RF&P Railroad is conducting the RI/FS for OU-2 under an Administrative Order on Consent. Both the RD/RA and RI/FS are being conducted under the direction of EPA as the lead agency and the Virginia Department of Environmental Quality as the support agency.

II. Discussion of Remedial Objectives; Areas of Noncompliance

OU-1, as defined above, was further broken down into four operable units to ease EPA management of the site remediation. The additional operable units are as follows:

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- OU-1 is site security, including installation of a site fence.
- OU-2 is demolition and disposal (D & D) of the process buildings and the remaining railroad ties and poles. Removal, treatment and disposal of the sludge in the lagoon and the removal and disposal of the lagoon structure is included in OU-2.
- OU-3 is the site water controls.
- OU-4 is the treatment and disposal of the surface soil and sediment.
- OU-5 is the RI/FS for ground water, what was originally OU-2.

This five-year review was triggered by the installation of a fence at the site to deter trespassing onto the site as it pertains to OU-1, site security. A fence was installed around the site to deter trespassing onto the site. Since there is an active railroad line transversing the site, the fence cannot encircle the site as a whole. Rather, the fence was placed in certain areas where trespassers would likely enter the site. Signs have been placed around the perimeter of the site to warn against trespassing.

A local security firm has been hired as guards in addition to the site fence. When activity is being conducted at the site, the guards are present at the site five days a week. When no activities are taking place at the site, the guards check the perimeter of the site daily and the contractor for the Responsible Party (RP) checks the interior of the site weekly.

The majority of the work under OU-2 consisted of demolishing the process buildings. That work has been satisfactorily completed. Practically all of the railroad ties and poles which were in good condition have previously been taken offsite to be put to use. The remaining ties and poles are scheduled to be disposed of offsite by the end of November 1994. Removal of the lagoon sludge and structure are tentatively scheduled to be completed by the end of December 1994. Presently, the lagoon is completely encircled by another chain link fence. Complete removal of the ties and poles and disposal of the lagoon sludge and structure will constitute completion of OU-2.

OU-3, site water controls, consists of installing berms to minimize the amount of runoff at the site and treating the surface water in the ditches on the site. In the fall of 1993, the RP constructed dams in the ditches to replace the bales of straw which had been placed there previously. However, the dams which were constructed have been shown to excessively retard the flow of water in the ditches and flood the site. As such, the RP is scheduled to reconstruct the dams in the fall of 1994. A surface

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water treatment facility was recently designed. However, due to the changes in OU-4 and OU-5, construction of the designed facility has been put on hold.

The Consent Decree for implementing the March 1988 ROD includes a clause to allow the RP to petition EPA to revise the cleanup level for surface soil. EPA approved the revised cleanup level in the summer of 1994. Because the new cleanup level is less stringent than that in the ROD, the amount of soil requiring remediation is reduced. Also, since the time of the ROD, additional information on treatment processes have been discovered. As such, the RP has suggested performing a Focused Feasibility Study and EPA has agreed. Depending on the findings of the Focused Feasibility Study, actual remediation of surface soil could start as soon as fall of 1995.

At present, EPA and the RP have executed an Administrative Order on Consent to perform the RI/FS for ground water (OU-5). However, in the hope of expediting ground water remediation, EPA has initiated negotiations with the RP to perform the remaining RI/FS work, remedial design, and remedial action for ground water. Completion of negotiations are scheduled for Fall of 1994. The site plan is to combine ground water treatment with surface water treatment in the same facility.

III. Recommendations

Based on visual observation of the fence on September 27, 1994, additional signs are needed both on the fence and at those areas around the site border which cannot be fenced. EPA will notify the RP to install the additional signs.

IV. Statement on Protectiveness

The remedies selected for this site are not at this time protective of human health and the environment. EPA is taking steps as listed above to make the remedies protective.

V. Next Five-Year Review

The next five-year review will be conducted by September 1999.



Thomas C. Voltaggio, Director
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