

US EPA ARCHIVE DOCUMENT



SDMS DocID

285158

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FOR INCLUSION IN THE ADMINISTRATIVE RECORD

June 8, 2007

United States Environmental Protection Agency
Region 1 - New England Regional Office
One Congress Street, Suite 1100 (HBO)
Boston, Massachusetts 02114-2023

Attn: Anna Krasko, Project Manager

**RE: Source-Area Soil Alternatives
Centredale Manor Restoration Project Superfund Site
North Providence, Rhode Island**

Dear Ms. Krasko:

At the April 23, 2007 dialog meeting, the Battelle project team presented a summary of EPA's detailed analysis of the remedial alternatives for source-area soil. As presented, three of the remedial alternatives that have been evaluated are being retained for further evaluation. These alternatives are: (i) no further action; (ii) upgrade and maintain existing caps and parking lots; and (iii) convert to RCRA caps and maintain. We are writing on behalf of Emhart Industries, Inc. to express significant concern with the notion that the existing caps that cover the source-area soil need to be upgraded or converted to RCRA caps to be adequately protective of human health and the environment.

The source-area soil includes soil that is beneath asphalt drives/parking lots and three engineered and constructed caps. The engineered and constructed caps include: Cap #1 at the south end of the Centredale Manor property; Cap #2 adjacent to the east embankment of the Woonasquatucket River; and Cap #3 within the area of the former tailrace along the eastern

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boundary of the site. Cap #1 is an earthen cap that was constructed in 1999 using a geotextile liner, clean soil, loam, and vegetation (grass). Cap #2 is an earthen cap that was constructed in 1999/2000. This cap was constructed using a geotextile liner, clean soil, loam, vegetation (grass), and rip-rap placed along the east embankment of the Woonasquatucket River. The construction of this cap included a berm to prevent cap erosion from the river during floods, and a drainage swale to facilitate storm water run-off from the surface of the cap and surrounding drainage area. Cap #3 is an earthen/geotextile cap that was constructed in 2003/2004 to cap soil and sediments and to provide for surface water drainage. In the drainage swale portion of the cap, approximately six inches of sand were placed directly over sediment; a geotextile liner was placed upon the sand; and washed stone set within a polyethylene cellular confinement system was placed upon the geotextile liner. The construction of this cap/swale also included the placement of rip-rap within sections of the drainage swale. The remaining portion of this cap was constructed using a geotextile liner, clean soil, loam, and vegetation (grass).

While a RCRA soil cap is one possible alternative at sites where certain contaminants are present, neither CERCLA nor its implementing regulations mandate that such a cap be chosen as the ultimate remedy. To determine which alternative is the most appropriate for a given site, several factors must be considered including overall protection of human health and the environment, long-term effectiveness and permanence, short-term effectiveness, and cost of the alternative. *See* CERCLA §121(b)(1), 40 C.F.R. §300.430(e)(9)(iii). The chosen remedy also must attain applicable or relevant and appropriate requirements (ARARs) under federal and state environmental laws, unless a waiver can be invoked. *See* CERCLA §121(d); 40 C.F.R. §300.430(e)(9)(iii)(B). An ARAR may be waived if, among other things, another alternative is equally protective as the ARAR or compliance with the ARAR would result in greater risk to human health and the environment than other alternatives. *See* CERCLA §121(d)(4); 40 C.F.R. §300.430(f)(1)(ii)(C). In this case, even if RCRA closure requirements are ARARs, they should be waived for the reasons discussed below. Due to the effectiveness of the current soil caps and the risk to human health and the environment presented by the construction of RCRA cover systems, the existing soil caps should be maintained.

RCRA caps would be no more protective than the existing caps. The caps at the site have been engineered and constructed to be protective of human health and the environment, and since being constructed, the caps clearly have met that standard. The caps provide a direct barrier to contact with the underlying source-area soil and sediment. They clearly are maintainable; the

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constructed caps and asphalt drives/parking lots are in good condition and continue to prevent exposure. As constructed, the caps are graded to withstand any impacts from flooding conditions and surface water run-off. In fact, the caps have endured the significant precipitation, peak discharge, and flooding events that occurred on March 22, 2001, October 15, 2005, and June 7, 2006 and have not been eroded by high flows.

The caps were designed to protect human health and the environment from exposure to dioxins, mainly 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD), which EPA has identified as the primary constituent of concern present in the source-area soil and sediment at the site. In soil and sediment, 2,3,7,8-TCDD is not expected to leach and, with the exception of the perceived leaching and migration of dioxins in the vicinity of monitoring well MW-05, the leachability of contaminants at the site is not a concern. In fact, based on the data obtained for the site, there is no evidence that 2,3,7,8-TCDD has leached to groundwater. Because the presence of 2,3,7,8-TCDD in source-area soil and sediment is not a source of groundwater contamination, the caps do not need to address percolation. This is the primary reason that the caps do not need to be replaced by RCRA caps that include a geomembrane liner. RCRA caps with a geomembrane liner would be no more protective of human health and the environment than the existing caps.

Furthermore, the existing caps do not need to be modified to provide three percent slopes to minimize infiltration. Again, the infiltration of water through the caps and leaching of contaminants is not a concern at the site. No more protection to human health and the environment will be provided by reconstructing the caps with three percent slopes.

Moreover, constructing RCRA caps would result in greater risk to human health and the environment than maintaining the existing caps. Replacing the existing caps would result in exposing the source-area soil and sediments and leaving them subject to erosion through wind dispersion and surface water run-off. The exposed soil and sediments would also be subject to cross-site tracking and possible downstream transport through the movement of heavy machinery. Even if it is assumed that some benefit may result from constructing a RCRA cover system, the potential migration of 2,3,7,8-TCDD through these transport mechanisms and further potential exposure of humans and the environment to site contaminants, far outweighs any incremental and assumed benefit that may result in constructing RCRA caps.

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Because the existing caps are equally protective of human health and the environment and the installation of RCRA caps would result in greater risk to human health and the environment than maintaining the existing caps, the RCRA closure requirements, if they are ARARs, should be waived.

Maintaining the existing caps is the most appropriate alternative for source-area soil. The existing caps are more than adequate to provide an effective long-term remedy for the site and selection of the RCRA cap alternative would not satisfy the remedy selection criteria of CERCLA and the National Contingency Plan (NCP). The potential threat to human health and the environment is much higher with the construction of RCRA caps, during which time exposure may result from the disturbance of source-area soil, than with the maintenance of the existing caps. It has already been demonstrated that the existing caps and parking lots will withstand the elements and are protective of human health and the environment. Should the existing caps be disturbed to construct RCRA caps, contaminated soil and sediment would be vulnerable to wind dispersion, surface run-off, and impacts from heavy machinery during construction, which may result in contaminant exposure. Although the potential for contaminant transport through these mechanisms would be limited to the construction period, the potential exposure to the transported contaminants may be lasting and it would create a serious threat of adverse effects to human health and the environment.

It should be clear that the no further action alternative is not to be equated with a no action alternative. Significant costs have already been incurred in designing and constructing the existing caps; caps that are clearly protective of human health and the environment. To ensure the protectiveness of the existing caps, the no further action alternative contemplates monitoring and maintenance of the caps. Therefore, maintenance of the existing caps is the most appropriate and recommended alternative for source-area soil.

In summary, the existing caps were designed and constructed to be protective of human health and the environment and have met this standard. The constructed caps are maintainable and continue to be protective of human health and the environment. Converting the existing caps to RCRA caps or modifying the existing caps will result in further potential exposure of humans and the environment to the site contaminants and will provide no more protection than maintaining the existing caps and parking lots. Finally, the use of a RCRA cap is not mandatory and, therefore, EPA is not required to convert the existing caps.

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We look forward to discussing this information at our June 12 meeting.

Sincerely,

LOUREIRO ENGINEERING ASSOCIATES, INC.

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President

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