



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

FINAL DECISION RESPONSE TO COMMENTS

MARYLAND ENVIRONMENTAL SERVICES
HAWKINS POINT HAZARDOUS
WASTE LANDFILL

BALTIMORE, MARYLAND

EPA ID NO. MD 000731356

Prepared by
Office of Remediation
Land and Chemicals Division
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List of Acronyms

COC	Contaminant of Concern
COMAR	Code of Maryland Regulations
COPR	Chrome-Ore Processing Residue
EI	Environmental Indicator
EPA	Environmental Protection Agency
GPRA	Government Performance and Results Act
IC	Institutional Control
MCL	Maximum Contaminant Level
MDE	Maryland Department of the Environment
MES	Maryland Environmental Services
MPA	Maryland Port Administration
NPDES	National Pollutant Discharge Elimination System
RCRA	Resource Conservation and Recovery Act
SB	Statement of Basis
TCLP	Toxicity Characteristic Leaching Procedure and Characteristic Wastes
WWTP	Waste Water Treatment Plant

Section 1: Introduction

The United States Environmental Protection Agency (EPA) is issuing this Final Decision and Response to Comments (FDRTC or Final Decision) in connection with the Maryland Environmental Services (MES) Hawkins Point Landfill Facility located at Baltimore, Maryland (Facility). The Final Decision is issued pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. §§ 6901 et seq.

On February 27, 2013, EPA issued a Statement of Basis (SB) in which EPA proposed a remedy for the Facility. Concurrent with issuing the SB, EPA issued a draft Corrective Action Permit. EPA held a joint forty-five (45)-day public comment period for the SB and draft Corrective Action Permit which began on February 27, 2013 and ended on April 12, 2013. The only comments EPA received during the public comment period were submitted by Maryland Department of the Environment (MDE).

EPA has determined that it is not necessary to make significant modifications to its proposed final remedy as set in the SB. Based on comments received during the public comment period EPA is, however, making minor modifications to the proposed final remedy as described in more detail in Attachment A, EPA Response to Comments which is included in the Final Decision. This Final Decision, the remedy selected herein, and permit incorporate those minor modifications and clarifications.

Section 2: Facility Background

2.1 Introduction

The Facility is located in the Curtis Bay Industrial Area at 5501 Quarantine Road, near the southern Baltimore City limits. The Facility is bordered by Thoms Cove to the east and industrial properties to the west including two closed landfills (SCM Glidden and BFI). Surrounding land is zoned primarily for heavy industrial use. Some limited undeveloped park land is located nearby; however, there are no residences within 1,000 feet of the Facility boundary. The Facility is owned by the Maryland Port Administration (MPA), has a total area of 67 acres, and is currently subject to a RCRA Permit issued by the Maryland Department of the Environment (MDE).

MPA obtained the 67-acre site in 1958 from the United States Government and developed it as a landfill for chrome-ore processing residue (hereafter COPR) from the former Allied Signal, Inc. Baltimore Works Plant. In 1979, MES began operating the Facility for the owner (MPA). MES is a not-for-profit public corporation that provides services to government and private sector clients and works on projects including water and wastewater treatment, solid waste management, composting, recycling, dredged material management, hazardous materials cleanup, and renewable energy. MES also provides engineering, monitoring and inspection services.

The landfill is divided into four areas: Areas 2, 3, 4, and 5. The landfill accepted hazardous wastes from 1975 until 1995. The MPA has leased Area 1 to Eastalco since 1968 and was never part of the landfill. An onsite wastewater treatment plant (WWTP) for leachate treatment ceased operation and was dismantled in 2000.

MDE issued a Post-Closure Permit, Permit Number: A-264 (MDE Permit or MDE Post-Closure Permit) to MES on October 15, 1995 for the purposes of requiring post-closure care and groundwater monitoring of the inactive MES land disposal facility (the Hawkins Point Hazardous Waste Landfill). The MDE Permit had an expiration date of 1998; however, the MDE Permit remained in effect until a renewal permit was issued by MDE to MES. MDE issued MES a Post-Closure Care Permit on January 28, 2002 (2002 MDE Permit). The 2002 MDE Permit would have expired on January 27, 2007, but was administratively extended until the permit was renewed. MDE issued a renewal of the post-closure permit for the Hawkins Point Hazardous Waste Landfill with an effective date of December 10, 2012.

2.2 Areas of Investigation

2.2.1 Areas 2 and 3

From 1975 to 1979, COPR materials were disposed of in three clay-lined cells located in Areas 2 and 3. These cells were closed in 1980. Areas 2 and 3 contain COPR

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cells constructed by MPA that are managed by MES in post-closure care status as required by the MDE Permit and regulations. Leachate generated from Areas 2 and 3 is managed by a leachate collection system constructed in the late 1970s and rehabilitated in 2002. The collected leachate is conveyed to a leachate collection and storage system.

Since February 28, 1983, MES has performed groundwater monitoring using perimeter wells installed in Areas 2 and 3 and has managed overland surface water flow with a surface water collection swale. This non-impacted surface water is discharged to Thoms Cove.

2.2.2 Area 4

During construction of Area 5, two temporary leachate-holding lagoons were located in Area 4. These temporary lagoons were lined basins used for storing surface water collected during landfill construction. They were removed when landfill construction was completed in 1993. Area 4 has also been identified as a location where a “paint sludge” material had been observed, as reported in a June 27, 1985 Assessment of Continuing Releases Report by MES. This area pre-dates landfill closure, and there is no indication that the sludge remains on-site. Currently, Area 4 has no fill material and is a grass field.

2.2.3 Area 5

Area 5 was used for the disposal of COPR and demolition debris from the former Allied Signal, Inc.’s Baltimore Works Plant (Allied Signal Plant) (currently owned by Honeywell International, Inc.). Area 5 comprises 10 waste cells (numbered 1–3 and 5–11; there is no Cell 4) containing COPR and chromium-contaminated soil, trash, and construction debris from demolition of the former Allied Signal Plant. MES operated Area 5 while it was active, from approximately 1980 to 1994. In January 1983, MES began accepting COPR from the Allied Signal Plant. In 1985, the Allied Signal Plant closed. As part of that facility’s closure, portions of the Allied Signal Plant were dismantled, yielding chromium-contaminated debris consisting of structural beams, concrete, brick, asbestos, soil (up until May 8, 1980), and other chromium-contaminated debris which was disposed of in Area 5 until 1993. An estimated 451,450 tons of COPR and demolition materials were disposed of in Area 5.

MES completed RCRA closure activities for Area 5 on May 20, 1994, and has since managed the closed landfill in post-closure care status. A condition of the MDE Post-Closure Permit is the performance of compliance monitoring of 6 wells conducted on a semi-annual basis for Area 5. Presently, the only waste handled from Area 5 is leachate from the landfill through the leachate collection system.

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2.2.4 Leachate Containment Tank

Since 1999, MES has been RCRA permitted by MDE to store the landfill leachate in a 21,573-gallon aboveground tank, where all of the leachate collected at the Facility is combined, including leachate from Areas 2, 3, and 5. The leachate is conveyed via underground lines to an underground collection vault, from where it is then pumped into the 21,573-gallon aboveground storage tank. MES is RCRA permitted to store chromium-containing leachate in the aboveground storage tank. The leachate is transported offsite by a RCRA permitted hazardous waste transporter for treatment and disposal at EQ Pennsylvania, 730 Vogelsong Road, York, PA.

As required under Code of Maryland Regulations (COMAR) 26.13.05.10, the leachate collection and tank system is equipped with controls to prevent spills and overflows (e.g., level-sensing devices, high-level alarms, and automatic feed cutoff) and secondary containment. The tank is required to be inspected every operating day to detect visible corrosion or visible releases of leachate from the tank. As required under COMAR 26.13.05.10D, the tank has an inspection completed each odd-numbered year under the supervision of a licensed and registered Professional Engineer.

The leachate collected at the Facility is derived from water moving through COPR, which contains five main contaminants, namely, calcium, iron, aluminum, magnesium, and chromium. Four of these elements (aluminum, chromium, iron, and magnesium) originate from the raw chromite ore and the calcium originates from calcined lime that was added during processing and roasting of the ore. The landfill leachate is also classified as hazardous waste due to corrosivity and Toxicity Characteristic Leaching Procedure (TCLP) toxicity characterization for chromium.

2.2.5 Waste Water Treatment Unit

The on-site wastewater treatment plant (WWTP) ceased operation and was dismantled in 2000. MES uses the aboveground storage tank associated with the former WWTP for the collection of landfill leachate which is transported offsite for disposal at a RCRA permitted treatment and disposal facility. These leachate management practices will continue under the existing MDE Permit. Following cessation of the WWTP operation, the MDE National Pollutant Discharge Elimination (NPDES) Permit MD0061417 was terminated on January 28, 2004. The Facility currently operates under a General Discharge Permit MD3311 for Storm Water Associated with Industrial Activities, dated December 1, 2002, which addresses the discharge of non-impacted surface water runoff from the Facility. There are no documented spills or releases from the wastewater treatment unit area.

Section 3: Summary of Environmental Investigations

3.1 Environmental Investigations

Area	Description
Area 1	The Maryland Port Administration has leased Area 1 to Eastalco since 1968 and it was never part of the landfill.
Areas 2 and 3	Since 1983, MES has performed groundwater monitoring using perimeter wells installed in Areas 2 and 3 as part of the MDE Permit and will continue until the MDE Permit expires in ten years from December 10, 2012. EPA has determined that the covers, the leachate collection system, and institutional controls designed to maintain the landfill and limit future site activities in this Area, effectively eliminate potential future exposure pathways now and into the future. EPA has determined that no additional remedial activities are required.
Areas 4 and 5	Since 1995, MES has performed groundwater monitoring using perimeter wells installed in Areas 4 and 5 as part of the MDE Permit and will continue until the MDE Post-Closure Permit expires in ten years. There have been no documented violations of the MDE Permit. EPA has determined that the covers, the leachate collection system, and institutional controls designed to maintain the landfill and limit future site activities in this area significantly reduce potential future exposure pathways now and into the future. EPA has determined that no additional remedial activities are required.
Leachate Containment Tank	There are no documented spills or releases from the leachate tank area. EPA has determined that no remedial activities are required.
Wastewater Treatment Unit	There are no documented spills or releases from the wastewater treatment unit area. EPA has determined that no remedial activities are required.
Facility Groundwater	Groundwater from monitoring wells are monitored as part of the MDE Permit. Groundwater monitoring results showed no exceedances of Maximum Contaminant Levels (MCLs) promulgated at 40 C.F.R. Part 141 pursuant to Section 1412 of the Safe Drinking Water Act, 42 U.S.C. Section 300g-1, for any of the contaminants, VOCs or chromium, on-site. Groundwater in Areas 2 and 3 have been monitored since 1983. Groundwater in Areas 4 and 5 have been monitored since 1995. Groundwater monitoring will be perpetual as long as the wastes remain in place.

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3.2 Environmental Indicators

Under the Government Performance and Results Act (GPRA), EPA has set national goals to address RCRA corrective action facilities. Under GPRA, EPA evaluates two key environmental clean-up indicators for each facility: (1) Current Human Exposures Under Control and (2) Migration of Contaminated Groundwater Under Control. The Facility met these indicators on October 6, 2010. The environmental indicator determinations are available at <http://www.epa.gov/reg3wcmd/ca/md.htm>.

Section 4: Corrective Action Objectives

EPA's Corrective Action Objective for the Facility is the containment of hazardous wastes and hazardous constituents that remain in place at the Facility and the control of human and environmental exposure to those hazardous wastes and hazardous constituents in a non-residential land use scenario.

EPA's Corrective Action Objectives for the specific environmental media at the Facility are the following:

1. Soils

EPA's Corrective Action Objective for the Facility is the control of exposure to the hazardous wastes and constituents remaining in the landfill by requiring the compliance with and maintenance of land use restrictions at the Facility and maintenance of the Facility's landfill caps.

2. Groundwater

EPA's Corrective Action Objectives for Facility groundwater is to control potential exposure to the hazardous wastes and constituents remaining in the landfill. While the contaminants in groundwater are not above levels appropriate for residential uses, because source material remains in place in the landfill, EPA is requiring the continued implementation of the groundwater monitoring program and leachate collection and treatment so that the Facility will be able to detect and remediate potential releases that may occur in the future.

Section 5: Final Remedy

The final remedy for the Facility consists of the maintenance of the Facility's landfill caps, the operation and maintenance of the Facility's leachate collection system, the continued implementation of a groundwater monitoring program required by the MDE Permit and the implementation and maintenance of land use restrictions.

Under EPA's final remedy, some concentrations of contaminants remain in the soils at the Facility above levels appropriate for residential uses. As a result, the final remedy will require land use restrictions to be implemented through enforceable institutional controls (ICs) in order to prevent human exposure to contaminants while such contaminants remain in place. ICs are generally non-engineered instruments such as administrative and/or legal controls that minimize the potential for human exposure to contamination and/or protect the integrity of a remedy.

The ICs may be implemented through State of Maryland Well Construction Regulations, Article Title 9, Subtitle 13, Annotated Code of Maryland; COMAR, Title 26, Subtitle 4, Chapter 4, COMAR 26.04.04 (Regulations), local ordinances and local zoning requirements, and through site-specific institutional controls required by permit conditions. The ICs will restrict land use to non-residential uses.

The ICs shall contain the following land use restrictions:

1. The Facility property shall not be used for residential purposes unless it is demonstrated to MDE and EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the final remedy, and MDE and EPA provide prior written approval for such use;
2. The Facility shall not be used in any way that will adversely affect or interfere with the integrity and protectiveness of the landfill caps; the leachate collection and removal system, and groundwater monitoring wells unless it is demonstrated to MDE and EPA that such use will not pose a threat to human health or the environment, and MDE and EPA provide prior written approval for such disturbance.

EPA has determined that the above listed restrictions are contained in the MDE Post-Closure Permit and are enforceable thereunder. EPA's federal Permit modification requires MES to comply with the terms of its MDE Post-Closure Permit. In addition, pursuant to MDE regulations, MES has also placed a notice in the chain of title for the Facility and attached a survey of the areas where waste will remain in place. This requirement provides notice to any successor-in-interest of the existence of the landfill, in the event of a conveyance of an interest in the Facility property. MES has also placed a Deed Restriction (February 1983) on the title to the Facility property. According to the Deed Restriction, no construction can take place unless written approval is given by MDE.

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Section 6: Evaluation of Final Remedy

This section provides a description of the criteria EPA used to evaluate the final remedy consistent with EPA guidance. The criteria are applied in two phases. In the first phase, EPA evaluates three decision threshold criteria as general goals. In the second phase, for those remedies which meet the threshold criteria, EPA then evaluates seven balancing criteria.

Threshold Criteria	Evaluation
1) Protect human health and the environment	<p>EPA incorporated certain requirements of the Facility's MDE Post-Closure Permit in a modification to the CA Permit. The Post-Closure Permit requires the Facility to maintain a groundwater monitoring program, operate and maintain the leachate collection system, inspect and maintain the landfill caps, and implement land use controls (institutional controls) prohibiting the disturbance of the landfill caps and restricting other uses of the Facility property while wastes remain in place. Also a Deed Restriction on the Facility property requires written approval from MDE for any construction on such property.</p> <p>Monitoring data indicate there are no releases or significant groundwater impacts from the landfill. Furthermore, groundwater is not used as a potable water source within the Site boundary, no groundwater quality impacts are attributable to the Facility, and the site and surrounding areas are served by public water and sewer and Baltimore City does not allow groundwater for use as potable water.</p>
2) Achieve media cleanup objectives	<p>EPA's final remedy meets the cleanup objectives based on assumptions regarding current and reasonably anticipated land and water resource use(s). Groundwater monitoring confirms there are no significant impacts or releases to groundwater beneath the landfill. The landfill caps prevent human and environmental exposure to the hazardous wastes and hazardous constituents remaining in landfill.</p>
3) Remediating the	<p>In its RCRA Corrective Action remedy decisions, EPA</p>

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Source of Releases	<p>seeks to eliminate or reduce further releases of hazardous wastes or hazardous constituents that may pose a threat to human health and the environment.</p> <p>EPA's final remedy meets the Remediating the Source of Releases criterion based on the following. The MDE Post-Closure Permit requires the landfill leachate to be collected and treated so it does not contaminate the groundwater. Groundwater monitoring and site inspections continue under the MDE Post-Closure Permit to detect any potential releases that may occur in the future so they can be remediated. The Facility and surrounding areas are served by public water and sewer and Baltimore City does not allow groundwater for use as potable water. The Facility is closed as a landfill and waste remains in place reducing the chances of a release of hazardous wastes from transportation.</p>
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Section 6: Evaluation of Final Remedy (continued)

Balancing Criteria	Evaluation
4) Long-term effectiveness	<p>The final remedy will maintain protection of human health and the environment over time by controlling exposure to the hazardous wastes remaining in soils. Groundwater is not used on the Facility for drinking water, and no downgradient users of off-site groundwater exist between the Facility boundary and the Thoms Cove. The Facility is closed as a landfill and waste remains in place. Therefore, the long term effectiveness of the remedy for the Facility will be assured by the continuation of the groundwater monitoring program, continued collection and treatment of the leachate, maintenance of the Facility's landfill caps and implementation of land use controls (institutional controls).</p>
5) Reduction of toxicity, mobility, or volume of the Hazardous Constituents	<p>The reduction of toxicity, mobility and volume of hazardous constituents at the Facility has already been achieved, as demonstrated by the data from the groundwater monitoring which has not detected any contaminants from the landfill for 29 years. In addition, a groundwater monitoring program already in place will continue. Leachate from the landfill will be collected and treated. Maintenance of the Facility's landfill caps will also continue.</p>
6) Short-term effectiveness	<p>EPA's final decision does not involve any activities, such as construction or excavation, that would pose short-term risks to workers, residents, and the environment. In addition, EPA anticipates that the land use restrictions will be fully implemented shortly after the issuance of the Final Decision and Response to Comments. The groundwater monitoring program and leachate collection and treatment are already in place and will continue.</p>
7) Implementability	<p>EPA's final decision is readily implementable. All of the engineering components of final remedy, namely, the groundwater monitoring, maintenance of the Facility's landfill caps and leachate collection and treatment, are already in place and operational. In addition, the Facility's Post-Closure Permit requires the Facility to inspect and to implement land use controls prohibiting the disturbance of the landfill caps and restricting other uses on the Facility property while wastes remain in place. Therefore, EPA does not anticipate any regulatory constraints in implementing its final remedy.</p>
8) Cost	<p>EPA's final decision is cost effective. The costs associated with this final remedy and the continuation of</p>

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	groundwater monitoring have already been incurred and the remaining costs are minimal.
9) Community Acceptance	The only comments EPA received on the proposed remedy were from MDE as discussed directly below.
10) State/Support Agency Acceptance	EPA received comments from MDE. Based on MDE's comments, EPA has made minor modifications and has clarified certain aspects of the remedy as described in Attachment A, Public Comments and EPA responses.

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Section 7: Declaration

Based on the Administrative Record, EPA has determined that the Remedy as set forth in this Final Decision is appropriate and will be protective of human health and the environment.

Date: 5.13.13



John A. Armstead, Director
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US EPA, Region III

Section 8: Index to Administrative Record

Controlled Hazardous Substances Permit Number A-264 from MDE for MES Hawkins Point Landfill, Effective Date: December 10, 2012 and Expiration Date: December 9, 2022

Final RCRA Corrective Action Site Visit Report for MES Hawkins Point Landfill, August 17, 2010

Deed Restriction for Hawkins Point Landfill between the Maryland Port Administration and Maryland Department of Health and Mental Hygiene, February 23, 1983

Third Quarter 2011 Groundwater Monitoring Report Hawkins Point Hazardous Waste Facility – Permit A-264, November 10, 2011

Fourth Quarter 2011 Groundwater Monitoring Report Hawkins Point Hazardous Waste Facility – Permit A-264, February 10, 2012

Revised Permit Application For Hazardous Waste Management Units At Hawkins Point Hazardous Waste Landfill Areas 2, 3, And 5, January 2012

MES October 26, 2010 letter to MDE, Apparent Statistically Significant Increase in Hexavalent and Total Chromium

Attachment A to
MES FDRTC

EPA Response to Comments

EPA only received comments from MDE on the SB and Draft Permit during the forty-five (45) day public comment period. In general, the comments from MDE were clarifying comments. Some comments related to MDE receiving copies of reports and correspondence. In addition, many of MDE's comments addressed grammatical changes. Also, one comment requested that EPA remove the financial assurance requirement as a state government owned facility is not required to have financial assurance according to the regulations (40 C.F.R. Section 264.140c). All of MDE's comments were addressed in the Permit and FDRTC except for the following comment:

MDE Comment

MDE commented that Attachment B is said to incorporate Sections II and III of the Maryland Post-Closure Permit. Section IV of the MDE Permit (Groundwater Detection Monitoring) should also be included.

EPA's Response

The Permit already incorporates Section IV of the MDE Permit in Part II, Section B.2.