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**U.S. Army  
Environmental  
Center**

# **Resource Conservation and Recovery Act Closure Report for Explosive Ordnance Demolition Open Burn/Open Detonation Area Fort Devens, Massachusetts**

September 1994  
Contract No. DAAA15-90-D-0012  
Delivery Order No. 0003  
ELIN A009

Prepared for:  
**Commander**  
**U.S. Army Environmental Center**  
**Aberdeen Proving Ground, Maryland 21010-5401**

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RESOURCE CONSERVATION AND RECOVERY ACT CLOSURE REPORT  
FOR EXPLOSIVE ORDNANCE DEMOLITION  
OPEN BURN/OPEN DETONATION AREA  
FORT DEVENS, MASSACHUSETTS

Contract No. DAAA15-90-D-0012  
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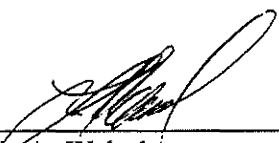
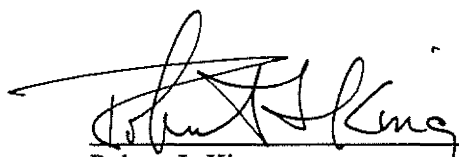
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Closure Report: EOD OB/OD Area  
 Section No.: Table of Contents  
 Revision No.: 0  
 Date: September 1994

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## 1. INTRODUCTION

This closure report has been prepared for the Open Burn/Open Detonation (OB/OD) Area of the Explosive Ordnance Demolition (EOD) Range at the Fort Devens Army Installation in Massachusetts. This closure report is a supplement to the extensive environmental investigations that have been conducted at the EOD Range under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as directed under the Federal Facility Agreement between the United States Army and the United States Environmental Protection Agency (EPA). The CERCLA investigations are reported in the *Final Remedial Investigation Report, Functional Area I, Fort Devens, Massachusetts*, prepared by Ecology and Environment, Inc. (E & E) in August 1994. This report (hereafter referred to as the Functional Area I RI Report) consists of five volumes as follows: Volume I, General Information; Volume II, AOC-25 EOD Range; Volume III, AOC-26 Zulu Range; Volume IV, AOC-27 Hotel Range; and, Volume V, Appendices A-T. Under Public Law 101-510, the Defense Base Closure and Realignment Act of 1990, Fort Devens has been selected for cessation of operations and closure by the end of 1995. The Department of the Army will retain 4,800 acres and those facilities essential to support the Reserve Component training requirement (Defense Base Closure and Realignment Commission, Report to the President, 1991). The retained area includes the section of the base known as South Post (Functional Area I), on which the EOD OB/OD area is located. This closure report has been prepared by E & E for the United States Army Environmental Center (USAEC), under Contract No. DAAA15-90-D-0012, Delivery Order No. 0003.

The purpose of this closure report is to demonstrate that the EOD OB/OD area has met closure requirements of the Resource Conservation and Recovery Act (RCRA), 40 CFR 264.111 Subpart G and 40 CFR 264.600 Subpart X. This report has been prepared to satisfy the requirements of the EPA under RCRA and the Massachusetts Department of Environmental Protection (MDEP) under RCRA/21C. Section 1.3 of the Functional Area I RI Report Volume I states which sites require RCRA closure. A background discussion of the history and the regulatory requirements of RCRA is presented in Appendix T, Regulatory Issues at Fort Devens. The substantive requirements of RCRA have been met in the CERCLA environmental investigation process. Fort Devens is a federally funded facility and is exempt from RCRA financial requirements, therefore closure cost estimates and financial assurance documents are not discussed.

Following EPA approval of this report, the Army will submit a certification of closure signed by an independent, registered professional engineer to the EPA Region I, certifying the closure of the EOD OB/OD area under RCRA. It has been concluded from the RI investigations that at the EOD OB/OD area no contamination exists which poses unacceptable risks to human health or the environment, and no further investigation or remediation is recommended under CERCLA or RCRA. Because EOD is within the South Post Impact Area, which is currently secured and slated for continued use for military training

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involving explosives; no revegetation, grading, erosion controls, or institutional controls are proposed.

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## 2. CLOSURE PERFORMANCE STANDARDS

The closure performance standards for the EOD OB/OD area have been met according to the applicable criteria set forth for closure of RCRA units under 40 CFR Part 264.111 (Closure and Post-Closure general requirements-Subpart G) and 40 CFR Part 264.601 (Miscellaneous Units Environmental Performance Standards-Subpart X). The closure performance standards for the EOD OB/OD area are based on applicable regulations, background information, results of sampling and environmental investigations, and a site-specific human health and ecological risk assessment, all detailed in the Functional Area I RI Report. The closure performance standards and environmental performance standards are to ensure that no contaminants exist that pose a threat to human health and the environment.

Surface soils, subsurface soils, groundwater, surface water, and sediment were sampled to determine areas where contaminants may be present. Analytical results from this sampling were compared to background values and screening values developed from applicable or relevant and appropriate requirements (ARARs) to determine if contamination exists at the EOD OB/OD area. The chemical-specific screening values used are below the levels established for maximum concentrations of contaminants for the RCRA Toxicity Characteristic in 40 CFR 261.24. For metals, soils exceeded background concentrations in beryllium, cobalt, copper, iron, manganese, mercury, nickel, selenium, and zinc. For organic contaminants, nitrocellulose, nitroglycerine, and TPHC were found in surface soils and TPHC and tetrachloroethene in subsurface soils. Manganese was detected in the groundwater above the maximum contaminant level (MCL), but was attributed to natural levels, and Cyclonite (RDX) exceeded the Safe Drinking Water Act Health Advisory in one groundwater well.

A human health and ecological risk assessment was conducted to assess the impacts of analytes detected on potential receptors. The human health risk assessment did not estimate risk for groundwater exposure because the groundwater will not be available for human consumption while the Army retains the South Post Impact Area. The groundwater model (Appendix F of the Functional Area I RI Report) and hydrogeologic investigations conclude that groundwater discharges from the South Post directly into the adjacent Nashua River, where it is diluted and dispersed to a point where no explosive compounds could be detected in the sampling. Maximum exposures for other exposure pathways resulted in risks to human health below those deemed of concern by the EPA. The Functional Area I RI Report concludes that no site-derived contamination exists at the site which threatens human health, and as long as the Army retains the EOD OB/OD area within the active impact range of the South Post Impact Area, no further environmental investigations or remedial action is warranted at the EOD OB/OD area.

The ecological risk assessment concluded that there are potential risks to small mammals and plants in the OB/OD area under maximum, but not under average, exposures.

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Maximum detected concentrations of mercury, nitroglycerin, and zinc may present the potential for adverse toxicological effects to small mammals or plants at the site, but based on the marginal exceedances of toxicity reference values, these potential effects were considered to be minimal. The EOD OB/OD area is sparsely vegetated and physically stressed from the detonation of explosives and from training activities. The site can support only a few individuals and potential impacts to plant or animal populations as a whole are minimal. The ecosystems in the general vicinity of the site are not affected by EOD operations. The analytes detected in the environmental investigations are not ecologically significant due to the limited detections and disturbed nature of the habitat. The ecological risk assessment concluded that no further action is necessary at the EOD OB/OD area to investigate or mitigate ecological risks of soil or other media contamination at the site.

The general requirements of the closure and post-closure performance standards set forth in 40 CFR 264.111 and subsequent environmental performance standards set forth in 40 CFR 264.601 require the prevention of any releases that may have an adverse effect on human health or the environment due to migration of hazardous waste constituents in the groundwater, subsurface soil, surface water, wetland, surface soil, or air. These environmental performance standards must consider the following factors:

- The volume of and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners, or other containing structures, or emission and dispersal of gases, aerosols, and particulates;
- The hydrologic, meteorologic, and geologic characteristics of the unit and the surrounding area;
- The existing quality of groundwater, surface water, soils, and air, including other sources of contamination and their cumulative impact on each media;
- The quantity, quality, and direction of groundwater flow;
- The proximity to and withdrawal rates of current and potential groundwater and surface water users;
- The patterns of land use in the region;
- The potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food-chain crops and other vegetation;
- The potential for health risks caused by human exposure to waste constituents;



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- The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
- The effectiveness and reliability of containing, confining, and collecting systems and structures in preventing migration to soil, groundwater, or surface water or emissions of hazardous constituents to the air; and
- The operating characteristics of the unit.

The factors listed above have been considered in the human health and ecological risk assessments, the nature and extent of contamination and fate and transport of contamination discussions, and the conclusions of the Functional Area I RI Report as summarized below.

Explosive waste is consumed during the treatment process at the EOD OB/OD area, and any scrap metal generated is transported to the Defense Reutilization and Marketing Office (DRMO) in accordance with EOD standard operating procedures, therefore there is no volume of waste remaining in the area. Results from soil and groundwater investigations confirm that there are no contaminated media which could be characterized at the EOD OB/OD area as posing a threat to human health. The hydrologic, meteorologic, and geologic characteristics of the unit are assessed in the Functional Area I RI Report, Volume I, Section 3. The existing quality of soil, surface water, groundwater, and air is assessed in Sections 1 and 5 of Volume II. The quantity and direction of groundwater flow also is addressed in Section 3, and supported by a groundwater flow model presented in Appendix F of Volume V. The closest current and potential groundwater and surface water users are discussed in Section 5 and Section 8.5 of Volume I.

Land use surrounding and including the region of the EOD OB/OD area is the active South Post Impact Area as described in Section 1 of Volumes I and II. This land use introduces low levels of explosive contamination at EOD and throughout the South Post to all environmental media. The potential for deposition or migration of contaminants detected at the EOD OB/OD area into the root zone of food chain crops or subsurface physical structures is non-existent because neither of these targets exist at or in the vicinity of EOD. The potential for damage to animals, wildlife, and vegetation is addressed in the ecological risk assessment in Section 9 of Volume I, which concludes that metals, explosives, and other organic chemicals detected do not present risks to plants or wildlife at the EOD OB/OD area. The potential for human health risks caused by human exposure to constituents is addressed in Section 8 of Volume II, which concludes that there are no unacceptable risks to human health.

The operating characteristics of the EOD OB/OD area are described in Section 1 of Volume II, and are reiterated below. From 1979 until November 1992, a maximum of 1,200 pounds per year of explosives and ammunition were destroyed at this range by open burning or open detonation. Open burning involved the placement of ordnance, including small arms ammunition, smoke grenades, cartridge activated devices, and pyrotechnics, in pits or

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trenches within the 2-acre area in the southeast corner of the range. Items were covered with packing material, soaked with diesel fuel, oil, and non-serviceable flammable liquids, and ignited with smokeless charges. Open detonation was performed on munitions and ordnance that contained explosive filters with an explosive counter charge such as C-4 or trinitrotoluene (TNT) in open pits or on a flat surface tied to railroad ties. The item was destroyed through detonation, with scrap metals and shrapnel brought to the DRMO for recycling.

The Functional Area I RI Report concludes that operations at the EOD OB/OD area have not contaminated any media in levels that pose unacceptable risks to human health, as described in Section 8 of Volume II. The isolated detection of Cyclonite (RDX) at one monitoring well is indicative of low levels of explosive residue found throughout the South Post Impact Area from the training activities, which will continue into the future. It is concluded from the environmental investigations that operations to date have not introduced hazardous constituents into the soil, groundwater, and air in quantities that threaten human health or the environment. Closure performance standards for the EOD OB/OD area as required in 40 CFR 264.601 have been met.

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### **3. GENERAL CLOSURE REQUIREMENTS**

Closure requirements are developed to meet closure performance standards discussed in the previous section. Due to the fact that no unacceptable risks from contamination exist from EOD operations, the closure performance standards for the EOD OB/OD area have been met, and therefore no procedures will be set forth for remediation or monitoring of the EOD OB/OD area. This clean closure meets all requirements set forth in 40 CFR 264.111 through 264.115 and 264 Subpart X. The EOD unit will not undergo partial closure.

#### **3.1 GENERAL CLOSURE PROCEDURES**

Due to the fact that the environmental performance standards of mitigating impacts to human health and the environment have been met and the EOD OB/OD area is in a clean-closed state, no substantive steps are necessary outside the current Army protocol for maintaining the security and infrastructure of the South Post Impact Area.

#### **3.2 INVENTORY/HANDLING OF HAZARDOUS WASTES**

The handling of the explosive compounds is described in the previous section, with a maximum of 1,200 pounds per year of explosives treated. Records on the specific explosives treated are incomplete and exist only for several years from 1979 through 1987. These records are provided in Table 3-1 to aid in characterizing the waste stream. Based on a beginning date of 1 October 1979 and an ending date of 8 November 1992, the EOD OB/OD area operated in its present location as a RCRA regulated unit for 13 years.

#### **3.3 OPERATIONAL PERIOD REMAINING**

The EOD OB/OD area has been operating at its present location since 1979 and is presently awaiting EPA approval of clean closure. The operational period as a RCRA-regulated unit ceased as of 8 November 1992. Detonations and impacts will continue as part of the prescribed future use of the South Post Impact Area. Since the EOD OB/OD area is within the South Post Impact Area, it will continue to be affected by non-RCRA-regulated troop training activities involving detonations of explosive materials.

#### **3.4 MAXIMUM EXTENT OF OPERATIONS**

The maximum extent of operations during the life of the EOD OB/OD area is described in Volume II of the Functional Area I RI Report and consists of numerous detonation craters, which have been graded and regraded over time. These craters are located within a 300 foot by 450 foot detonation area in the southeastern corner of the EOD Range.

<b>Table 3-1</b> <b>UNSERVICEABLE AMMUNITION DESTROYED BY 14TH EOD DETACHMENT</b> <b>AT THE SOUTH POST OF FORT DEVENS, MASSACHUSETTS</b> <b>1979 TO 1987</b>								
Period From To	Small Arms	Artillery/ Mortar	Grenades	Rockets/ Jatos	Pyro- technics	Propellants	Bulk Explosives (lbs)	Haz. Expl. Materials (lbs)
10/1/79 9/31/80 No Delineation	2,916	77	165	6	1,591,515	2	480	2,860
10/1/80 9/31/81 No Delineation	30,373	67	43	8	84	12	95	25
10/1/81 9/31/82 Incident Reports	26,253	68	67	38	877	8	204	681
Range Reports	--	--	140	--	6	--	--	--
10/1/83 9/31/84 Incident Reports	7,148	350	89	48	138	--	21	179
Activity Reports	4,280	--	--	--	--	--	--	2,767
6/30/85 9/30/85 Incident Reports	8,557	91	22	1	67	870	20	6,050
3/31/87 6/30/87 Incident Reports	196	6	5	3	--	--	--	3
Range Reports	--	23	--	--	--	--	--	--

Note: Total munitions destroyed on the SPIA by the 14th EOD are reported; no delineation of which ranges the detonations occurred at was available. Data gaps exist in the 14th EOD files.

Source: Ecology and Environment, Inc., 1993.

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#### **4. CLOSURE PERFORMANCE MONITORING**

The objective of closure performance monitoring is to confirm that surface soils, subsurface soils, surface water, sediments, groundwater, and ambient air contain no contamination from EOD-related activities, and that no contamination has travelled through these media to surrounding environments. It was concluded in the Functional Area I RI Report (Volume II) that no discernable levels of contamination posing a threat to human health or the environment exist at the EOD OB/OD area or in the surrounding environment, therefore no further monitoring or environmental investigations will occur. The greatest risk remaining throughout the South Post is not the toxicological risk from contaminated media, but the physical risk of unexploded ordnance, and this risk will continue as long as the South Post is used for troop training. Explosive ordnance clearance will continue throughout the South Post Impact Area, including EOD, when access to these areas is required by troops in training.

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## **5. CLOSURE SCHEDULE**

The EOD OB/OD area has met all substantive requirements for clean closure, only the administrative requirements remain. The Army is submitting this Closure Report to the EPA for approval. Upon receipt of approval from the EPA, the Army will submit by registered mail, a closure certification signed by the Fort Devens Installation Commander and a registered engineer in the Commonwealth of Massachusetts, which will certify that the EOD OB/OD area at Fort Devens is clean closed under RCRA. A survey plat of the EOD OB/OD area has been submitted to EPA as Plate 1 in the Functional Area I RI Report, Volume II.

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## **6. WASTE MANAGEMENT**

There will be no closure derived waste because no closure activities will occur. Scrap metals retrieved from training activities throughout the South Post Impact Area are turned over to the DRMO at Fort Devens for recycling.

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## **7. CONTINGENT CLOSURE PLAN AND POST-CLOSURE MONITORING PLAN**

A contingent closure plan and post-closure monitoring plan is required if the concentrations of closure performance monitoring compounds exceed remedial goals. Volume II of the Functional Area I RI Report established that no contamination exists at the EOD OB/OD area which threatens human health and no further action is recommended to mitigate environmental risks. Therefore clean closure has been achieved and there is no contingent closure plan, nor will any post-closure monitoring occur.



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## **8. REGULATORY COMPLETENESS CHECKLIST**

A regulatory completeness checklist for hazardous waste treatment, storage, and disposal facilities is provided in Table 8-1.

TABLE 8-1

## REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT, AND DISPOSAL FACILITIES

Facility Name Fort Devens EOD OB/OD Area  
 Address Fort Devens, Massachusetts  
01433-5100 AFZD-DEQ  
 Contact Name Commander, Headquarters, Fort Devens, Massachusetts  
 Contact Phone Number (508) 796-3114

EPA I.D. Number MA 7210025154  
 Permit Review Team \_\_\_\_\_  
 Date Application Received \_\_\_\_\_  
 Date Review Completed \_\_\_\_\_

Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b>PART I - CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS</b>	270.14(b)(13) [12/10/87], 270.14(b)(15) [5/02/86], 270.14(b)(16) [5/02/86], 270.14(b)(17), 270.14(b)(18), 264.110-264.151, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351	3,4,7	
<b>I-1 Closure Plans</b>  A copy of the written closure plan required by 264.112 and consistent with Items I-1a through I-1e.	270.14(b)(13) 264.112 [5/02/86]	3,4,7	
<b>I-1a Closure Performance Standard</b>  A description of how closure:	264.111 (264.112 requires consistency with 264.111) [5/02/86]	2	
o Minimizes the need for further maintenance		2	
o Controls, minimizes or eliminates post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.		2	

Key at end of table.

Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b>I-1a continued</b>		2	
o Complies with the closure requirements of Subpart G and unit-specific closure requirements.			
<b>I-1b <u>Partial Closure and Final Closure Activities</u></b> Fully describe time and all activities required for:	264.112(b) (264.112(b)(1) through 264.112(b)(7) outline minimum acceptable plan elements [5/02/86]	3,4,7	
o Partial closure, if applicable.		N/A	
o Final closure.		3,4,7	
o Maximum extent of operation which will be active during life of facility.		3.4	
Description must identify how requirements of 264.111, 264.113, 264.114, 264.115, and applicable requirements of 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, and 264.351 will be met.		3,4,7	
<b>I-1c <u>Maximum Waste Inventory</u></b> A description of the maximum inventory of wastes that could be in storage, treatment, and disposal at any time during the life of the facility.  Methods for removing, transporting, treating, storing, or disposing of all hazardous wastes. Identification of the type(s) of off-site hazardous waste management units to be used.	264.112(b)(3) [5/02/86]	3.2  3.2,6	
<b>I-1d <u>Schedule for Closure</u></b> A schedule for final closure including:	264.112(b)(6) [5/02/86]	5	
o Each HWMU and final closure of the facility.		5	
o Closure schedule with total time to close, time for intervening closure activities, and inspection schedule during closure.		5	

Key at end of table.

## Closure/Post-Closure and Financial Requirements - Module I

Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b>I-1d continued</b>		N/A	
o Estimated expected year of closure for facilities that use trust funds to establish financial assurance and that are expected to close prior to the expiration of the permit.			
<b>I-1d(1) <u>Time Allowed for Closure</u></b> The time schedule for closure must show:	264.112(b)(2), 264.113(a) and (b) [5/02/86]	5	
o All hazardous wastes will be treated, removed off site, or disposed of on site within 90 days from receipt of final volume of waste at the unit or facility.		5	
o All closure activities will be completed within 180 days from receipt of final volume of waste at the unit or facility.		5	
<b>I-1d(1)(a) <u>Extensions for Closure Time</u></b> A petition made to the Regional Administrator for a schedule for closure which exceeds the 90 days for treatment, removal, or disposal of wastes and/or the 180 days of completion of closure activities made to the Regional Administrator. One of the following must be demonstrated:	264.113(a), 264.113(b) [5/02/86]	N/A	
o Closure activities require longer than 90 or 180 days,		N/A	
o Unit or facility has capacity to receive additional wastes,		N/A	
o There is a reasonable likelihood that another person other than owner or operator will recommence operation of the site within one year, and		N/A	
o Closure would be incompatible with continued operation.		N/A	
Demonstrate that all steps have and will be taken to prevent threats to human health and environment from unclosed but inactive facility.		N/A	

Key at end of table.

9-6

Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b>I-1e <u>Closure Procedures</u></b>	264.112, 264.114 [5/02/86]	3,4,7	
<b>I-1e(1) <u>Inventory Removal, Disposal, or Decontamination of Equipment</u></b>  A description of how all facility equipment and structures will be decontaminated or disposed of when closure is completed. The following should be included:	264.114 [5/02/86]  264.112(b)(4) [5/02/86]	7	
o Decontamination procedures.		N/A	
o Criteria for determining decontamination.		N/A	
o List of equipment, structures, and soils.		N/A	
o Disposal of contaminated soil and residues.		N/A	
o Decontamination of cleanup materials and equipment.		N/A	
o Demonstrate decontamination has been effective		N/A	
A demonstration that any hazardous constituents left will not impact environmental media in excess of agency established exposure levels, and direct contact will not pose a threat to human health and the environment.	264.111(b) [5/02/86] Guidance (Preamble 51 FR 16444, May 2, 1986)	2	
<b>I-1e(2) <u>Closure of Disposal Units</u></b>  Closure plans for all piles, landfills, surface impoundments, and miscellaneous disposal units in which wastes or contaminated materials are to remain at closure must describe how the unit will be closed, including a description of the final cover to be established and its expected performance. Contingent closure plans for tanks, surface impoundments, and waste piles also must provide these descriptions.	270.14(b)(13), 270.17(f), 270.18(h), 270.21(e), 264.228(a)(2), 264.228(c)(1)(i), 264.258(c), 264.310(a), 264.601	3,4,7	

Key at end of table.

## Closure/Post-Closure and Financial Requirements - Module I

Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b>I-1e(3) Closure of Containers</b>  A description of how at closure, all hazardous waste residues will be removed from the containment system, and how remaining containers, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues will be decontaminated or removed.  The description should address the following:	264.178	N/A	
o Hazardous waste removal and disposal	Guidance	N/A	
o Container decontamination and disposal	Guidance	N/A	
o Site decontamination and disposal including linings, soil, and washers	Guidance	N/A	
o Verification of decontamination	Guidance	N/A	
o Maximum inventory	264.112(b)(3)	N/A	
<b>I-1e(4) Closure of Tanks</b>  A description of how at closure, all hazardous waste residues will be removed from tanks, discharge control equipment, and secondary containment structures, and the facility will be decontaminated. The description should address the following:	264.197(a)	N/A	
o Waste removal from tanks and equipment	Guidance	N/A	
o Decontamination of all components	Guidance	N/A	
o Verification of decontamination	Guidance	N/A	
o Disposal of wastes and residues	Guidance	N/A	
o Maximum inventory	264.112(b)(3)	N/A	
If not all contaminated soils can be removed or decontaminated at closure, a closure and post-closure plan for a landfill must be included. If the tank systems do not have secondary containment or are not exempt, then a contingent closure and post-closure plan for a landfill must be provided.	264.197(b) [5/02/86] 264.197(c)	N/A	

Key at end of table.

Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<p><b>I-1e(5) Closure of Waste Piles</b></p> <p>The application must describe how all hazardous waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structure and equipment contaminated with waste and leachate will be removed or decontaminated at closure and managed as hazardous waste.</p> <p>If any wastes, waste residues or contaminated materials or soils will remain after closure, provide plans for closing the pile as a landfill [I-1f(6)] and provide post-closure plan [I-2]. Piles without liners or with liners that do not meet the requirement of D-3e must also provide contingent plans for closing the facility as a landfill [I-1d(6)] and a contingent post-closure [I-2], except for dry, enclose piles meeting the requirements of D-3b or piles for which a liner exemption is sought in accordance with D-3c.</p> <p>The description should address the following:</p> <ul style="list-style-type: none"> <li>o Procedures and criteria for determining whether or not decontamination has been successful</li> <li>o Sampling and analytical techniques</li> <li>o Continuance of treatment during closure (if appropriate).</li> </ul> <p>If any wastes, waste residues, or contaminated materials or soils will remain after closure, provide plans for closing the surface impoundments in place and provide post-closure plans [I-2]. Plans for closing a surface impoundment in place must address the following:</p> <ul style="list-style-type: none"> <li>o Elimination of liquids by removal or solidification</li> <li>o Stabilization of wastes to sufficient bearing capacity</li> </ul>	<p>270.18(h) 264.258 264.112(b)(4)</p>	<p>N/A</p>	
o Procedures and criteria for determining whether or not decontamination has been successful	Guidance	N/A	
o Sampling and analytical techniques	Guidance	N/A	
o Continuance of treatment during closure (if appropriate).	Guidance	N/A	
If any wastes, waste residues, or contaminated materials or soils will remain after closure, provide plans for closing the surface impoundments in place and provide post-closure plans [I-2]. Plans for closing a surface impoundment in place must address the following:		N/A	
o Elimination of liquids by removal or solidification		N/A	
o Stabilization of wastes to sufficient bearing capacity		N/A	

Key at end of table.

## Closure/Post-Closure and Financial Requirements - Module I

Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
o Final cover designed and constructed to provide long-term minimization of migration of liquids through the closed impoundment, function with minimal maintenance, promote drainage and minimize erosion of final cover, accommodate settling and subsidence, and have a permeability less than or equal to that of the bottom liner system or natural subsoils present.		N/A	
Surface impoundments without liners or with liners that do not meet requirement of D-4c must also provide contingent plans for closure in place and a contingent post-closure plan [I-2], except for impoundments requesting a liner exemption in accordance with D-4b.		N/A	
<b>I-1e(7) Closure of Incinerators</b>  Description of how at closure all hazardous waste and hazardous waste residues including ash, scrubber waters, and scrubber sludges will be removed from the incinerator, associated duct work, piping, air pollution control equipment, sumps, and any other structures or operating equipment such as pumps, valves, etc., that have come into contact with the hazardous waste. Alternatively, a description of how the incinerator and associated units and equipment will be dismantled and disposed of as a hazardous waste will suffice.	264.351	N/A	
<b>I-1e(8) Closure of Landfills</b>  Provide detailed plans and an engineering report which describes the final cover components in detail. cover installation and construction quality assurance procedures should be thoroughly described. These detailed plans and engineering report must describe how the final cover will:	270.21(e), 264.310(a), 264.280(b)	N/A	
o Provide long-term minimization of migration of liquids through closed landfill		N/A	
o Function with minimum maintenance		N/A	
o Promote drainage and minimize erosion/abrasion			
o Settle/subside without losing integrity		N/A	

Key at end of table.



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Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
o Be less permeable than bottom liners or subsoils		N/A	
o Withstand freeze/thaw cycles.		N/A	
<b>I-1e(9) Closure of Land Treatment</b> During discussion of land treatment facilities the owner or operator must comply with the following:	270.20(f), 264.280(a)	N/A	
o Continue all operations (including pH control) necessary to maximize degradation, transformation, or immobilization of hazardous constituents within the treatment zone as required, except to the extent such measures are inconsistent with 264.280(a)(8)		N/A	
o Continue all operations in the treatment zone to minimize runoff of hazardous constituents		N/A	
o Maintain the run-on control system		N/A	
o Maintain the runoff management system		N/A	
o Control wind dispersal of hazardous waste if required		N/A	
o Continue to comply with any prohibitions or conditions concerning growth of food-chain crops		N/A	
o Continue unsaturated zone monitoring except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone.		N/A	
o Establish a vegetative cover on the portion of the facility being closed at such time that the cover will not substantially impede degradation, transformation, or immobilization of hazardous constituents in the treatment zone. The vegetative cover must be capable of maintaining growth without extensive maintenance.		N/A	
When closure is complete the owner-operator may submit to the Regional Administrator certification by an independent qualified soil scientist, in lieu in an independent registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.		N/A	

Key at end of table.

Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b>I-1e(10) Closure of Miscellaneous Units:</b>  Show that at closure, all hazardous waste and hazardous waste residues will be removed from the treatment process or equipment, discharge control equipment, and discharge confinement structures, and that the facility will be decontaminated. Description of the sampling/test procedures or other means used to ensure that no contamination remains on, in, or around the units and associated equipment and structures. If any wastes, waste residues, or contaminated materials or soils will remain after closure, provide plans for closing the miscellaneous unit as a disposal unit [I-1e(2)] and provide post-closure plans [I-2].	264.601, 270.23(a)(2) [12/10/87]	3,4,7	
<b>I-2 Post-Closure Plan</b>  An owner/operator of a disposal facility must have a written post-closure plan, or, if applicable, a contingent post-closure plan. A copy of the approved plan and all revisions to the plan must be kept at the facility until the post-closure care begins. Landfill, surface impoundment, waste pile, and tank post-closure plans should address items I-2a, b, c, f, g, h; land treatment unit post-closure plan, items I-2d, f, g, and h; miscellaneous units should address items I-2a, b, c, e, f, g, and h.	270.14(b)(13), 270.17(f), 270.18(h), 270.20(f), 270.21(e), 270.23(a)(3), 264.118 [5/02/86], 264.197(b), 264.197(c)(2), 264.228(b), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), 264.280(c), 264.310(b), 264.603	7	
<b>I-2a Inspection Plan</b>  A description of the inspections to be conducted during the post-closure care period, their frequency, the inspection procedure, and the logs to be kept. The following items, as applicable, should be included in the inspection plan:	264.118(a), [5/02/86] 264.197(b), 264.197(c)(2), 264.228(b), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), 264.310(b)	7	
o Security control devices		3.1	
o Erosion damage		N/A	

Key at end of table.

Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
o Cover settlement, subsidence, and displacement		N/A	
o Vegetative cover condition		N/A	
o Integrity of run-on and run-off control measures		N/A	
o Cover drainage system function		N/A	
o Leachate collection/detection and removal system maintenance		N/A	
o Gas venting system		N/A	
o Well condition		N/A	
o Benchment integrity		N/A	
The rationale to be used to determine the need for corrective maintenance activities.		7	
<b>I-2b <u>Monitoring Plan</u></b> A description of the monitoring to be conducted during the post-closure care period, including, as applicable, the procedures for conducting the following operations and evaluating the data gathered should include:	264.118(b)(1) [5/02/86] 264.228(b), 264.197(b), 264.197(c)(2), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), 264.310(b)	7	
o Groundwater monitoring		N/A	
o Leachate collection/detection and removal		N/A	
<b>I-2c <u>Maintenance Plan</u></b> A description of preventative and corrective maintenance procedures, equipment procedures, equipment requirements, and material needs. Include the following items in the maintenance plan, as applicable:	264.118(b)(2), [5/02/86] 264.197(b), 264.197(c)(2), 264.228(b), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), 264.310(b)	3.1	
o Repair of security control devices		3.1	
o Erosion damage repair		N/A	

Key at end of table.

## Closure/Post-Closure and Financial Requirements - Module I

Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
o Correction of settlement, subsidence, and displacement		N/A	
o Mowing, fertilization, and other vegetative cover maintenance		N/A	
o Repair of runon and runoff control structures		N/A	
o Leachate collection/detection system maintenance		N/A	
o Well replacement		N/A	
o The rationale to be used to determine the need for corrective maintenance activities.		7	
<b>I-2d Land Treatment</b> A description of the operation, inspection, and maintenance programs to be used at the closed facility. Include descriptions of the procedures for conducting the following activities and identify frequencies at which they are to be conducted:	264.280(c)	N/A	
o Continuance of land treatment		N/A	
o Vegetative cover maintenance		N/A	
o Maintenance of runon control systems and runoff management systems		N/A	
o Wind dispersal control		N/A	
o Control of food chain crops		N/A	
o Unsaturated zone monitoring			
<b>I-2e Post Closure Care for Miscellaneous Units</b> A detailed description of the plans to ensure protection of human health and the environment. Include the prevention of any releases to groundwater or subsurface environment; surface water or wetlands or on the soil surface; or to air. This will include providing related information from [D-8].	20.23(a)(3), 264.603 [12/10/87]	7	

Key at end of table.

Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b>I-2f <u>Post-Closure Security</u></b>  Indicate which security provisions will continue during closure when hazardous waste will remain exposed after completion of partial or final closure or access by the public or domestic livestock may pose a hazard to human health.	264.117(b) [5/02/86]	3.1	
<b>I-2g <u>Post-Closure Contact</u></b>  Provide the name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.	264.118(b)(3) [5/02/86]	5	
<b>I-3 <u>Notices Required for Disposal Facilities</u></b>  <b>I-3a <u>Certification of Closure</u></b>  A statement by the applicant which indicates that within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of the completion of final closure, closure certification will be submitted to the Regional Administrator. The certification must certify that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications of the approved closure plan. The certification must be signed by the owner/operator and by a independent registered professional engineer (or by an independent qualified soil scientist in the case of a land treatment closure).	264.115 [5/02/86] 264.280(b)		Pending EPA Approval

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Key at end of table.

Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b><u>I-3b Survey Plat</u></b>  A statement by the applicant which indicates that no later than the submission of certification of closure of each hazardous waste disposal unit, a survey plat indicating the location and dimensions of landfill cells or other disposal units with respect to permanently surveyed benchmarks, will be submitted to the local zoning authority (or authority with jurisdiction over local land use) and to the Regional Administrator. The plat must be prepared and certified by a professional land surveyor and must contain a note, prominently displayed, which states the owner/operator's obligation to restrict disturbance of the disposal unit in accordance with applicable 40 CFR 264 Subpart G regulations.	264.116 [5/02/86]	5	
<b><u>I-3c Notice to Local and Authority</u></b>  Documentation by applicant that within 60 days after closure a record of the type, location, and quantity of hazardous waste within each cell or disposal area will be submitted to the appropriate local land use authority and to the Regional Administrator.	264.119 [5/02/86]	5	
<b><u>I-3d Post-Closure Certification</u></b>  Provide a statement which indicates that within 60 days of completion of the post-closure care period for each hazardous waste disposal unit, certification will be submitted to the Regional Administrator. The certification must certify that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications of the approved post-closure plan. The certification must be signed by the owner/operator and by an independent registered professional engineer.	264.120 [5/02/86]	5	
<b><u>I-3e Notice in Deed to Property</u></b>  Documentation by applicant that he has or will record a notation on the facility deed, or other instrument examined during a title search, that notifies any potential purchase of the property that:	270.14(b)(14), 264.119 [5/02/86]	N/A	
o The property has been used to manage hazardous wastes		N/A	

Key at end of table.

Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
o Use of the land is restricted to activities that will not disturb integrity of final cover system, or monitoring system during post-closure care period		N/A	
o Requirements stated under I-3a above have been complied with.		N/A	
<b>I-4 Closure Cost Estimate</b> A copy of the most recent closure or contingent closure cost estimate, prepared in accordance with 264.142.	270.14(b)(15) [5/02/86]	N/A	
o Cost estimate based on third party costs	264.142(a)(2)	N/A	
o Fully loaded (most costly)	Guidance	N/A	
o No salvage credits	264.142(a)(3),(4)	N/A	
o Current year costs	264.142(a)	N/A	
o Cost adjusted annually from anniversary date of first cost estimate	264.142(b)	N/A	
o Based on point in operating life when extent and manner of operation would make closure most expensive.	264.142(a) [5/02/86]	N/A	
<b>I-5 Financial Assurance Mechanism for Closure</b> A copy of the established financial assurance mechanism for facility closure adopted in compliance with 264.143. The mechanism must be one of the following [I-5(a) through I-5(f)] and include due dates and use standard wording.	270.14(b)(15) 264.143 264.151 [5/02/86]	N/A	
<b>I-5a Closure Trust Fund</b> A copy of the closure trust fund agreement with the wording required in 264.151(a)(1) and a formal certification of acknowledgement.	264.143(a) 264.151(a)(1)	N/A	
o Bank of approval institution		N/A	

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Key at end of table.

## Closure/Post-Closure and Financial Requirements - Module I

Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
o Mechanics:		N/A	
- pay-in period; life of permit or remaining life of facility, whichever is shorter,		N/A	
- Annual payment; unfunded liability divided by years left in pay-in period.		N/A	
<b>I-5b Surety Bond</b> A surety bond from a federally acceptable surety company meeting one of following requirements:	264.143(b) and (c), 264.151(b) and (c) [5/02/86]	N/A	
o Surety bond guaranteeing payment into a closure trust fund. A copy of the surety bond with the wording required in 264.151(b), a copy of the standby trust fund agreement	264.143(b), 264.151(b) [5/02/86]	N/A	
o Surety bond guaranteeing performance of closure. A copy of the surety bond with the wording required in Part 264.151(c), guaranteeing that the owner/operator will perform closure according to the closure plan and the requirements of Subpart G.	264.143(c), 264.151(c)	N/A	
<b>I-5c Closure Letter of Credit</b> A copy of the closure letter of credit with the working required in 264.151(d):	264.143(d), 264.151(d)	N/A	
o Irrevocable letter of credit		N/A	
o At least one year period, automatic renewal		N/A	
o Standby trust fund		N/A	
o Amount reflects current cost estimate.		N/A	
<b>I-5d Closure Insurance</b> To demonstrate that the owner/operator has closure insurance, he or she must submit to the Regional Administrator 60 days before hazardous waste is received a certificate of insurance worded as specified in 264.151(e).	264.143(e) 264.151(e)	N/A	
o Non-cancelable policy, automatic renewal		N/A	

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Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
o Insurer licensed or eligible surplus lines carrier		N/A	
o Certificate of insurance		N/A	
o Funds available whenever final closure occurs.		N/A	
<b>I-5e <u>Financial Test and Corporate Guarantee for Closure</u></b>  To demonstrate that this test is met, an owner/operator must submit a letter signed by the company's chief financial officer that is worded as specified in 264.151(f) and meets the following criteria:	264.143(f), 264.151(f), 264.151(h) [5/02/86]	N/A	
o Tangible net worth \$10 million		N/A	
o Tangible net worth 6 x all closure and post-closure costs		N/A	
o U.S. assets at least 90 percent of total assets or at least six times all closure and post-closure costs		N/A	
o Bond rating requirement or alternative financial ratio tests		N/A	
o Application must include:		N/A	
- copy of a report from the owner's/ operator's independent CPA to the owner/operator stating that he or she has examined the data in the letter from the chief financial officer and that it is consistent with the amounts in the independently-audited year-end financial statements for the latest fiscal year and that no matters came to attention to cause him or her to believe that the data should be adjusted.		N/A	
In lieu of the above items, the owner/operator may submit a corporate guarantee worded as required by 264.151(h). This guarantee provides that the guarantor, which must be the parent company of the owner/operator. A copy of these items should be submitted with the Part B for review by the permit writer.	264.143(f)(10)	N/A	

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Key at end of table.

## Closure/Post-Closure and Financial Requirements - Module I

Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b><u>I-5f Combinations</u></b>  <b><u>I-5f(1) Use of Multiple Financial Mechanisms</u></b>  A copy of a combination of trust fund agreements, surety bond guaranteeing payment into a closure trust fund, letter of credit, or insurance, and state assumption of responsibility, which provide financial assurance for the amount of closure. Combined financial assurance must be at least equal to the adjusted closure cost estimate. Financial assurance instruments must meet requirements 264.143(a), (b), (d), or (e) which include closure trust fund, surety bond guaranteeing payment into a closure trust fund, closure letter of credit, and closure insurance, respectively.	264.143(g)	N/A	
<b><u>I-5f(2) Use of Financial Mechanism for Multiple Facilities</u></b>  A copy of the financial assurance mechanism for more than one facility showing for each facility, the EPA ID number, name, address, and amount of closure funds assured by the mechanism.  Total funding must be no less than the sum required for each facility considered separately. Documents must be submitted to each region where facilities are located. Financial test applies to sum of closure and post-closure costs for all facilities.	264.143(h)  264.143(h)	N/A	
<b><u>I-6 Post-Closure Cost Estimate</u></b>  If landfill, land treatment, surface impoundments, or waste piles are utilized, the application must include a post-closure or a contingent post-closure cost estimate prepared in accordance with 264.144:	270.14(b)(16), 264.144 [5/02/86]	N/A	
o Fully loaded labor rate (third party)	Guidance	N/A	
o No salvage values	Guidance	N/A	
o No operation credits (gas, crops, livestock)	Guidance	N/A	
o Current year	Guidance	N/A	

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Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
o Based on the extent of operation most likely to make post-closure most expensive	Guidance	N/A	
o Inspection costs	Guidance	N/A	
o Administration	Guidance	N/A	
o Transportation	Guidance	N/A	
<b>I-7 <u>Financial Assurance Mechanism for Post-Closure</u></b>  A copy of the established financial assurance mechanism for post-closure care adopted in compliance with 264.145. The mechanism must be one of the following: [I-7(a) through I-7(f)] and include due dates and use standard wording.	270.14(b)(16) 264.145 264.151 [5/02/86]	N/A	
<b>I-7a <u>Post-Closure Trust Fund</u></b>  A copy of the post-closure trust fund agreement with the wording required in 264.151(a)(1) and a formal certification of acknowledgement:	264.145(a), 264.151(a)(1)	N/A	
o Bank or approval institution		N/A	
o Mechanics		N/A	
- pay-in period; life of permit or remaining life of facility, whichever is shorter		N/A	
- annual payment; unfunded liability divided by years left in pay-in period.		N/A	
<b>I-7b <u>Surety Bond</u></b>  A surety bond from a federally acceptable surety company meeting one of the following requirements:	264.145(b) and (c), 264.151(b) and (c) [5/02/86]	N/A	
o Surety bond guaranteeing payment into a post-closure trust fund. A copy of the surety bond with the working required in 264.151(b), a copy of the standby trust fund agreement.	264.145(b), 264.151(b) [5/02/86]	N/A	

Key at end of table.

## Closure/Post-Closure and Financial Requirements - Module I

Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
o Surety bond guaranteeing performance of post-closure activities. A copy of the surety bond with the wording required in Part 264.151(c), guaranteeing that the owner-operator will perform post-closure plan and the requirements of Subpart H.	264.145(c), 264.151(c)	N/A	
<b>I-7c <u>Post-Closure Letter of Credit</u></b>  A copy of post-closure letter of credit with the wording required in 264.151(d):	264.145(d), 264.151(d)	N/A	
o Irrevocable letter of credit		N/A	
o At least one year period, automatic renewal		N/A	
o Standby trust fund		N/A	
o Amount reflects current cost estimate		N/A	
<b>I-7d <u>Post-Closure Insurance</u></b>  To demonstrate that the owner/operator has post-closure insurance, he or she must submit to the Regional Administrator 60 days before hazardous waste is received a certificate of insurance worded as specified in 264.151(e):	264.145(e), 264.151(e)	N/A	
o Noncancellable policy, automatic renewal		N/A	
o Insurer licensed or eligible surplus lines carrier		N/A	
o Certificate of insurance		N/A	
o Funds available whenever final post-closure occurs		N/A	
<b>I-7e <u>Financial Test and Corporate Guarantee for Post-Closure</u></b>  To demonstrate that this test is met, an owner/ operator must submit a letter signed by the company's chief financial officer that is worded as specified in 264.151(f) and meets the following criteria:	264.145(f) [5/02/86], 264.151(f) 264.151(h) [11/18/87]	N/A	
o Tangible net worth \$10 million		N/A	

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Key at end of table.

Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
o Tangible net work 6 x all closure and post-closure costs		N/A	
o U.S. assets at least 90 percent of total assets or at least six times all closure and post-closure costs		N/A	
o Bond rating requirements or alternatives		N/A	
o Application must include:		N/A	
- copy of a report on the company's financial statements drafted by an independent certified public accountant (CPA)		N/A	
- copy of a report from the owner's/ operator's independent CPA to the owner/operator stating that he or she has examined the data in the letter from the chief financial officer and that it is consistent with the amounts in the independently-audited year-end financial statements for the latest fiscal year and that no matters came to attention to cause him to believe that the data should be adjusted.		N/A	
In lieu of the above items, the owner/operator may submit a corporate guarantee worded as required by 264.151(h). This guarantee provides that the guarantor, which must be the parent company of the owner/operator, will perform post-closure activities in accordance with the post-closure plan if the owner/operator fails to do so or will establish a post-closure trust fund for the owner/operator. A copy of these items should be submitted with the Part B for review by the permit writer.	264.145(f)(10)	N/A	

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Key at end of table.

## Closure/Post-Closure and Financial Requirements - Module I

Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b><u>I-7f Combinations</u></b>  <b><u>I-7f(1) Use of Multiple Financial Mechanisms</u></b>  A copy of a combination of trust fund agreements, surety bond guaranteeing payment into a post-closure trust fund or letters of credit, insurance, and state assumption of responsibility, which provide financial assurance for the amount of post-closure. Combined financial assurance must be at least equal to the adjusted post-closure cost estimate. Financial assurance instruments must meet requirements of 264.143(a), (b), (d), or (e) which include post-closure trust fund, surety bond guaranteeing payment into a post-closure trust fund, post-closure letter of credit, and post-closure insurance, respectively.	264.145(g)	N/A	
<b><u>I-7f(2) Use of Financial Mechanism for Multiple Facilities</u></b>  A copy of a financial assurance mechanism for more than one facility showing for each facility, the EPA ID number, name, address, and amount of closure funds assured by the mechanism. Total funding must be no less than the sum required for each facility considered separately. Documents must be submitted to each region where facilities are located. Financial test applies to the sum of closure and post-closure costs for all facilities.	264.145(h)	N/A	
<b><u>I-8 Liability Requirements</u></b>  Where applicable, a copy of the insurance policy or other documentation which comprise compliance with the requirements of 264.147. (Coverage is for all facilities owned and operated and applies until certification for closure and post-closure is completed. For facilities in Phase I authorized states, originally signed duplicates of executed instruments or certificates of insurance are not required until the time of permit issuance, except as required by state law.)	270.14(b)(17), 264.147(a) and (b)	N/A	

Key at end of table.

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Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b>I-8a Sudden Insurance</b> Hazardous waste treatment, storage, or disposal facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences.	264.147(a), 264.147(g), 264.151(g, i, j) [5/02/86]	N/A	
o Amount of at least \$1 million per occurrence		N/A	
o An annual total of at least \$2 million, exclusive of legal costs		N/A	
o A signed duplicate original of the Hazardous Waste Facility Liability Endorsement worded as specified in		N/A	
o A Certificate of Liability Insurance worded as specified in 264.151(j), or		N/A	
o Financial test		N/A	
- letter from CFO		N/A	
- auditor report		N/A	
- auditor opinion		N/A	
- other information requested by R.A.		N/A	
- acceptable ratios		N/A	
- notification to EPA by Attorneys General or insurance commissioner of guarantor's state and facility state that corporate guarantee is legally valid and enforceable.		N/A	
o A combination of endorsement or certification and financial test or a combination of endorsement or certification and corporate guarantee. Amounts of coverage must total at least the minimum amounts required by 264.147(a).		N/A	
<b>I-8b Nonsudden Insurance</b> This applies to high risk storage facilities (designated by Regional Administrator), surface impoundments, land disposal, and land treatment.	264.147(b) and (d). 264.151(i) and (j), 264.147(f)	N/A	

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Key at end of table.

## Closure/Post-Closure and Financial Requirements - Module I

Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
o At least \$3 million per occurrence		N/A	
o An annual total of at least \$6 million is required, exclusive of legal costs		N/A	
o Same endorsement or certification requirements as for sudden insurance coverage or		N/A	
o Financial test		N/A	
- letter for CRD (264.151(g))		N/A	
- auditor's report		N/A	
- auditor's opinion		N/A	
- other information requested by R.A.		N/A	
o Corporate guarantee	264.147(b)(2)	N/A	
- guarantor must be parent corporation	264.147(g)(2)(i).	N/A	
- certified copy of corporate guarantee with wording as specified in 264.151(h)(2)	264.151(h)(2)	N/A	
- financial test for guarantor	[11/18/87]	N/A	
<b><u>I-8c Variance Procedures and R.A. Adjustments</u></b> Evaluation of degree and duration of risk sufficient to allow R.A. to make a judgment on reduction of required liability. The financial responsibility levels specified above for liability insurance for sudden accidental occurrences may be adjusted downward if the owner/operator can prove to the Regional Administrator that these levels are not consistent with the degree and duration of risk at the owner's/operator's facility. Conversely, the Regional Administrator may adjust the levels of financial responsibility up or down, based on the Administrator's assessment of the degree and duration of risk associated with the facility.	264.147(c) and (d)	N/A	
<b><u>I-9 State Financial Mechanism</u></b> Where appropriate, proof of coverage by a state financial mechanism in compliance with 264.149 or 264.150.	270.14(b)(18)	N/A	

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Key at end of table.



Closure/Post-Closure and Financial Requirements - Module I			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b>I-9a <u>Use of State-Required Mechanisms</u></b>  Where a state has hazardous waste regulations with equivalent or greater liability requirements for financial assurance for closure and post-closure care, evidence of establishment of the state-required financial mechanisms, including the facility EPA ID number, name, address, required mechanism does not satisfy amount of funds required, funds may be made available through the state-required mechanisms or by using additional mechanisms specified in 264.143.	264.149(a)  264.149(b)	N/A	
<b>I-9b <u>State Assumption of Responsibility</u></b>  If the state assume legal responsibility for compliance with closure, post-closure, or liability requirements or the state assures that state funds are available to cover those requirements, then facility is in compliance and must include a copy of a letter from the state describing the state assumption of responsibility and a letter from the owner/ operator requesting that the state's assumption of responsibility be considered acceptable in meeting the financial coverage requirements, and including the facility EPA ID number, name, address, and amounts of liability coverage or funds for closure or post-closure care that are assured by the state.	264.150	N/A	

Key:

\* Numbers identified in column entitled "Location in Application" refer to section numbers of this Report.

N/A = Not applicable.

Source: Ecology and Environment, Inc. 1994.

Key at end of table.

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REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT, AND DISPOSAL FACILITIES

Facility Name Fort Devens EOD OB/OD Area  
 Address Fort Devens, Massachusetts  
01433-5100 AFZD-DEQ  
 Contact Name Commander, Headquarters, Fort Devens, Massachusetts  
 Contact Phone Number (508) 796-3114

EPA I.D. Number MA 7210025154  
 Permit Review Team \_\_\_\_\_  
 Date Application Received \_\_\_\_\_  
 Date Review Completed \_\_\_\_\_

Other Federal Laws - Module J			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b>PART J - OTHER FEDERAL LAWS</b>  Demonstration of compliance with the requirements of other applicable federal laws such as the Wild and Scenic Rivers Act, National Historic Preservation Act of 1966, Endangered Species Act, Coastal Zone Management Act, Fish and Wildlife Coordination Act.	270.14(b)(20) 270.3	1,2	

Key:

\* Numbers identified in column entitled "Location in Application" refer to section numbers of this Report.

N/A = Not applicable.

Source: Ecology and Environment, Inc. 1994.

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## REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT, AND DISPOSAL FACILITIES

Facility Name Fort Devens EOD OB/OD Area  
 Address Fort Devens, Massachusetts  
01433-5100 AFZD-DEQ

EPA I.D. Number MA 7210025154  
 Permit Review Team \_\_\_\_\_

Contact Name Commander, Headquarters, Fort Devens, Massachusetts  
 Contact Phone Number (508) 796-3114

Date Application Received \_\_\_\_\_  
 Date Review Completed \_\_\_\_\_

## Corrective Action - Module L

Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b>PART L - INFORMATION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS</b>  <b>L-1 Description of Solid Waste Management Units:</b>  A description of each solid waste management unit at the facility including:	270.14(d)(1) [12/1/87]	N/A	
o Location of the unit on the topographic map required under 270.14(b)(19)		N/A	
o Type of unit		N/A	
o General dimensions and structural description (provide drawings if available)		N/A	
o Dates of operation of the unit		N/A	
o Description of all wastes that have been managed at the unit.		N/A	
<b>L-2 Information Pertaining to Releases:</b>  The applicant must provide all available information pertaining to releases of hazardous wastes or hazardous constituents from solid waste management units at the facility.	270.14(d)(2) [12/1/87]	N/A	
<b>L-3 Sampling and Analysis:</b>  The applicant must provide the results of sampling and analysis of groundwater, land surface and subsurface strata, surface water, and air which has been conducted (voluntary, or) at the request of the Agency to complete a RCRA Facility Assessment.	270.14(d)(3) [12/1/87]	N/A	

Key: \* Numbers identified in column entitled "Location in Application" refer to section numbers of this Report. N/A = Not applicable.

Source: Ecology and Environment, Inc. 1994.

**REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT, AND DISPOSAL FACILITIES**

Facility Name Fort Devens EOD OB/OD Area  
 Address Fort Devens, Massachusetts  
04133-5100 AFZD-DEQ  
 Contact Name Commander, Headquarters, Fort Devens, Massachusetts  
 Contact Phone Number (508)796-3114

EPA I.D. Number MA 7210025154  
 Permit Review Team \_\_\_\_\_  
 Date Application Received \_\_\_\_\_  
 Date Review Completed \_\_\_\_\_

Closure Equivalency Determination - Module M			
Subject Requirement	40 CFR Section Nos.	Location in Application*	Comments
<b>PART M - CLOSURE EQUIVALENCY DETERMINATION</b>  Owner/operators of surface impoundments, landfills, land treatment units, and waste piles that received wastes after July 26, 1982 or certified closure according to 265.115 after January 26, 1983 must do <u>one</u> of the following:	270.1(c) [12/1/87]		
o Obtain post-closure permits for those units.		N/A	
o Demonstrate closure by removal in accordance with 270.1(c)(5) and (6).		1,2,3,4,5,6,7	
<b>M-1 Closure by Removal</b>  Basic information requirements:	270.1(c)(5) [12/1/87] 270.1(c)(5)	N/A	
o List of contaminants managed in the closed unit		N/A	
o List of cleanup levels for each contaminant		N/A	
o List of 40 CFR Part 264 acceptable cleanup levels for each contaminant.		N/A	
<b>M-1a Requirement for Closure Equivalency Determination:</b>  Demonstrate that the closure met the standards for closure by removal or decontamination in 264.228, 264.258, or 264.280(a):		1,2,3,4,5,6,7	

Key at end of table.

## REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT, AND DISPOSAL FACILITIES

Facility Name Fort Devens EOD OB/OD Area  
 Address Fort Devens, Massachusetts  
01433-5100 AFZD-DEQ

Contact Name Commander, Headquarters, Fort Devens, Massachusetts  
 Contact Phone Number (508) 796-3114

EPA I.D. Number MA 7210025154  
 Permit Review Team \_\_\_\_\_

Date Application Received \_\_\_\_\_  
 Date Review Completed \_\_\_\_\_

State Actions - Module N			
Subject Requirement	MHWMR No.	Location in Application*	Comments
<b>PART N - STATE SPECIFIC REGULATIONS</b>		N/A	
<b>N-1 <u>Buffer Zones</u></b>			
o Commercial Landfill Location	264.18(c)	N/A	
o Hazardous Waste Facilities	264.18(c)	N/A	
o Commercial Landfill Notification	264.18(c)	N/A	
<b>N-2 <u>Location Standard</u></b>		N/A	
o Commercial Landfill	264.18(d)	N/A	
<b>N-3 <u>Perpetual Care</u></b>		N/A	
o Perpetual Use Plan	270.20(e)(1)	N/A	
o Submit Property Deed	270.20(e)(2)	N/A	
<b>N-4 <u>Financial Capability and Compliance Record</u></b>		N/A	
o Organizational Structure	270.20(f)(1)	N/A	
o Listing of Environmental Laws or Regs.	270.2(f)(2)	N/A	
o Financial Statement	270.20(f)(3)(4)	N/A	
<b>N-5 <u>Obtain Aerial Photos on all New Commercial Facilities</u></b>		N/A	

Key: \* Numbers identified in column entitled "Location in Application" refer to section numbers of this Report. N/A = Not applicable.  
 Source: Ecology and Environment, Inc. 1994.

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## **APPENDIX A**

### **RCRA CLOSURE RESEARCH FILES OBTAINED FROM MDEP FILE SEARCH ON AUGUST 13, 1993**

APPENDIX A

E & E Reference: RCRA CLOSURE RESEARCH FILES OBTAINED FROM MDEP  
FILE SEARCH ON AUGUST 13, 1993

File No.: 161      Type: License  
Title: Hazardous Waste License #3B Ft. Devens  
To: US Army Ft Devens  
From: MDEP  
Date: Undated  
Source: MDEP Worcester 8/13/93

File No.: 162      Type: Note  
Title: Identification of Hazardous Waste Activity  
(EPA Part "A" submission) at DEH, DRMO,  
EOD  
To: Christine Williams EMO  
From: Steve Hopkins EMO  
Date: Undated  
Source: MDEP Worcester 8/13/93

File No.: 163      Type: Report (White Unmarked Binder)  
Title: Untitled technical information and maps on  
EOD and Ft. Devens  
To:  
From:  
Date: Undated  
Source: MDEP Worcester 8/13/93

File No.: 164      Type: Letter and Permits  
Title: 3 EPA Forms 3510-1, 3 Forms 3510-3 (Haz Waste  
Permit Part A Application under  
consolidated permits program,  
MA7210025154, EOD Bunker & Range)  
To: EPA Permits, Boston  
From: Rich Kattar, Ft. Devens  
Date: 11/14/80  
Source: MDEP Worcester 8/13/93, Ft. Monmouth 54th EOD  
7/29/93

File No.: 165      Type: Report (2 White Binders)  
Title: Ft Devens Haz Waste Management Operational  
Plan: Chapter 13: Closure Plan prior to  
MDEP 1/82 regs  
To: MDEP  
From: Ft. Devens  
Date: 81  
Source: MDEP Worcester 8/13/93

File No.: 166      Type: Letter  
Title: EOD is exempt from RCRA under 310 CMR  
30.104(15)  
To: Will Nichols EMO  
From: Steve Dreeszen MDEP Bost, cc: Delmar Corbin  
Ft. Devens; John Kronopolis MDEP; Steve  
Yee, Jacob Edwards EPA.  
Date: 03/24/84  
Source: MDEP Worcester 8/13/93

File No.: 167      Type: Letter  
Title: Comments on Ft. Devens Part A and B Haz Waste  
Application to Store Hazardous Waste  
To: Delmar Corbin, Comm, Ft Devens cc: Sen.  
Atkins, Rep. McGovern  
From: William Cass MDEP Bost, cc: John Kronopolus  
MDEP cc: Gwen Ruta EPA  
Date: 9/25/84  
Source: MDEP Worcester 8/13/93

File No.: 168      Type: Report  
Title: Solid Waste Management Unit Report 1985, Ft.  
Devens  
To:  
From: Ft. Devens  
Date: 85  
Source: USAEC 8/30/93

File No.: 169      Type: Report  
Title: Ft Devens PA, SI, and Decisions  
To: MDEP  
From: EPA  
Date: 10/08/85  
Source: MDEP Worcester 8/13/93

File No.: 170      Type: Report  
Title: Ft. Devens Facility Management Plan  
To: MDEP  
From: EPA  
Date: 11/04/85  
Source: MDEP Worcester 8/13/93

File No.: 171      Type: License  
Title: Letter updating Draft '84 Haz Waste License  
#3B Ft. Devens w. SWMUS  
To: Steve Dreeszen MDEP  
From: Joe Pierce EMO  
Date: 8/24/87  
Source: MDEP Worcester 8/13/93



File No.: 172      Type: Questionnaire  
 Title: ASIDES MDEP RCRA tracking on MA7210025154 &  
 MA214020270: RCRA 3010 Notification/Part A  
 Applic. 11/14/80, Part B Applic./Interim  
 Status 6/3/84. SWMU:40 no thermal  
 treat/interim listed. Excellent  
 Bibliography  
 To:  
 From: Carolyn MDEP  
 Date: 3/23/88  
 Source: MDEP Worcester 8/13/93

File No.: 173      Type: Memo  
 Title: Status of RCRA Part B for EOD  
 To: Commander, 542 EOD, Ft. Dix, NJ  
 From: Joe Pierce EMO  
 Date: 9/20/88  
 Source: MDEP Worcester 8/13/93, Ft.Monmouth, 54th EOD  
 7/29/93

File No.: 174      Type: Inventory  
 Title: 1988 Inventory of Federal Haz Waste  
 Activities  
 To:  
 From: Joe Pierce EMO  
 Date: 11/16/88  
 Source: MDEP Worcester 8/13/93

File No.: 175      Type: Memo  
 Title: RCRA/1984 HSWA Subpart X effects on EOD units  
 and permit status  
 To: Ft. Devens & various installations nationwide  
 From: John Sobke, Stan Mitchell  
 Date: 3/11/88  
 Source: MDEP Worcester 8/13/93,  
 Ft.Monmouth,NJ,54thEOD 7/29/93

File No.: 176      Type: Memo  
 Title: Draft Agreement w. MDEP and EPA on RCRA,  
 State unauthorized for '84 HSWA Regs  
 To: MDEP  
 From: Chris Ayers EPA  
 Date: 8/29/89  
 Source: MDEP Worcester 8/13/93

File No.: 177      Type: Report  
 Title: Exerpt: EPA Handbook on RCRA Corrective  
 Action Technologies  
 To:  
 From: EPA  
 Date: 90  
 Source: MDEP Worcester 8/13/93

File No.: 178      Type: Memo  
 Title: Tank Closure  
 To: Steve De Gabriel, Steve Dreeszen, John Carrigan, Becky Cutting MDEP Bost, Mike Maher, Jim Moody, Neil Olegry, Ed Benoit, Joe Ellis, Lynne Chappell MDEP  
 From: John Kronopolus MDEP  
 Date: 1/30/92  
 Source: MDEP Worcester 8/13/93

File No.: 179      Type: Report (Holt Science Blue Binder)  
 Title: Defense Reutilization Marketing Service (DRMS) "Environmental Compliance for DRMS Haz Prop Prog" Chap IV, Sect L:Closure  
 To:  
 From: DRMS, Battle Creek, MI  
 Date: 4/92  
 Source: MDEP Worcester 8/13/93

File No.: 180      Type: Article  
 Title: "Army Retreat Leaves Land Up For Grabs"  
 To:  
 From: David Vaughn, Boston Business Journal  
 Date: 4/20/92  
 Source: MDEP Worcester 8/13/93

File No.: 181      Type: Minutes  
 Title: New England Environmental Expo, HSWA Interim Status Corrective Action  
 To:  
 From: John Smalatore EPA  
 Date: 4/30/92  
 Source: MDEP Worcester 8/13/93

File No.: 182      Type: Report (7 White Binders) w. Cover Memo  
 Title: EPA Haz Waste Part B Permit, Subpart X Application by Halliburton, NUS, w. request for Army signature  
 To: Ft. Devens Commander  
 From: Carrol Howard EMO  
 Date: 6/3/92  
 Source: MDEP Worcester 8/13/93, Ft. Monmouth 54th EOD 7/29/93, EMO 4/16/93

File No.: 183      Type: Letter  
 Title: (Certified) EMO Part A Expiration on 11/08/92, request for Part B  
 To: Steve Hopkins EMO  
 From: Gerald Levy MDEP cc: John Kronopolus, Jeff Chamann, Steve Dreeszen MDEP, James Gaffey, Gary Gosbee EPA  
 Date: 6/08/92  
 Source: MDEP Worcester 8/13/93

File No.: 184      Type: Memo  
 Title: EOD operations exempt from RCRA: disposal in direct support of training(blowing duds), emergency actions approved on case-by-case basis, Closure meeting to be held 9/3/92  
 To: Ft. Devens  
 From: Carrol Howard EMO  
 Date: 7/28/92  
 Source: MDEP Worcester 8/13/93, Ft.Monmouth 54th EOD 7/29/93

File No.: 185      Type: Memo  
 Title: Fact Sheet, Subpart X Emergency Procedures, simplified for EOD  
 To: Ft. Devens  
 From: Steve Hopkins Ft. Devens  
 Date: 9/14/92  
 Source: MDEP Worcester 8/13/93, Ft.Monmouth,NJ,54thEOD 7/29/93

File No.: 186      Type: Letter  
 Title: Upon termination of EOD permit, if emergency service falls under 40 CFR 270.61, EPA Regional Response in Lexington is contact with reporting EMO  
 To: Brian Olsen EPA  
 From: Carrol Howard EMO  
 Date: 9/14/92  
 Source: MDEP Worcester 8/13/93, Ft.Monmouth 54th EOD 7/29/93

File No.: 187      Type: Telecon  
 Title: Bryan Olson, Merrill Hollman (EPA, CFR 270.61) deferred emergency permit authority to Steve Dreeszen (MDEP, 310 CMR 30.860) and Worcester Central Emergency Response Center  
 To: Ft. Devens  
 From: Christine Williams EMO  
 Date: 11/4/92  
 Source: MDEP Worcester 8/13/93, Ft.Monmouth 54th EOD 7/29/93

File No.: 188      Type: Letter  
 Title: Identical to EPA letter, emergency under 310 CMR 30.861  
 To: Steve Dreeszen MDEP Boston  
 From: Carrol Howard EMO  
 Date: 11/5/92  
 Source: MDEP Worcester 8/13/93, Ft.Monmouth 54th EOD 7/29/93

File No.: 189      Type: Letter  
 Title: (Certified) EPA defers all EOD emergency permit authority to MDEP, but non-emergency permit applications still under EPA, 40 CFR 270.  
 To: Carrol Howard Ft. Devens  
 From: Gary Gosbee EPA cc: John Kronopolus, Steve Dreeszen MDEP  
 Date: 11/9/92  
 Source: MDEP Worcester 8/13/93, Ft. Monmouth 54th EOD 7/29/93

File No.: 190      Type: Letter  
 Title: Review of E&E WP Suppl. RI/FS Group 1B for Compliance w. 21C/RCRA  
 To: Molly Elder MDEP, cc: L. Chappell MDEP, J. Leung, D. Watton  
 From: Mary Doyle M&E, cc: S. McCarron M&E  
 Date: 1/27/93  
 Source: USAEC 4/12/93

File No.: 191      Type: Memo  
 Title: MDEP Emergency License Guidance and Application for EOD  
 To: Ft. Devens  
 From: MDEP  
 Date: 1/29/93  
 Source: MDEP Worcester 8/13/93

File No.: 192      Type: Report  
 Title: Ft. Devens Closure Procedures For Haz Waste Accumulation Areas (HWAA) & HW Sources (EOD not IDed)  
 To: Ft. Devens EMO DEH  
 From: Rich Dotchin EMO  
 Date: 2/2/93  
 Source: MDEP Worcester 8/13/93

File No.: 193      Type:  
 Title: Closure of OB/OD Unit at EOD  
 To: Rich Dotchin, Army Env Officer  
 From: Gary Gosbeen USEPA  
 Date: 2/11/93  
 Source: MDEP Worcester 8/13/93

File No.: 194      Type: Minutes  
 Title: EOD Meeting w. MDEP, EMO, DOL 2/5/93 54th  
          takes over emerg permit reqmts from 14th  
          EOD  
 To: Deputy Commander, Army  
 From: Donald W. Lane, Ft. Devens Plans, Training &  
       Security Ft. Devens  
 Date: 2/11/93  
 Source: MDEP Worcester 8/13/93

File No.: 195      Type: Letter  
 Title: (Certified) Approval of EOD closure plan  
          submitted to EPA 11/3/92 deferred to  
          MDEP-Steve Dreeszen, closure must  
          coordinate w. CERCLA. EPA, MDEP, and Army  
          will meet to coordinate RCRA and CERCLA.  
 To: Rich Dotchin EMO  
 From: Gary Gosbee EPA cc: Rob DiBiccaro, Jim Byrne  
       EPA, John Kronopolus, Steve Dreeszen,  
       Lynne Chappel MDEP  
 Date: 2/11/93  
 Source: MDEP Worcester 8/13/93

File No.: 196      Type: Letter  
 Title: Summary of Closure approach at EOD  
 To: John Kronopolus MDEP, CC: Lynne Chappell,  
       Steve Dreeszen MDEP  
 From: Rich Dotchum, Lt Col, US Army  
 Date: 2/22/93  
 Source: MDEP Worcester 8/13/93

File No.: 197      Type: Memo  
 Title: 21c/RCRA Closure on EOD not required -  
          covered by 21E/CERCLA, Closure not reqd.  
          for Hotel, Zulu, TA 14  
 To: Lynne Chappell, Molly Elder, John Regan, John  
       Kronopolus, Jim Moody MDEP, Becky Cutting  
       MDEP Bost  
 From: Joe Ellis MDEP  
 Date: 3/10/93  
 Source: MDEP Worcester 8/13/93

File No.: 198      Type: Letter  
 Title: EPA Comments:5/93 SI Groups 2,7(Closure may  
          be reqd at SA 28)  
 To: Rich Dotchin,Bill Mullen EMO cc:Darrell  
       Deleppo USACOE,Gary Pease AEC  
 From: Jim Byrne EPA, cc: Lynne Chappell MDEP, Mike  
       Kulbersh CDM-FCP  
 Date: 3/9/93  
 Source: E&E '93



File No.: 204      Type: Article  
 Title: Corrective Action Mngmt Unit (CAMU) Rule  
          Finalized--allows on site treatment of  
          remediation wastes  
 To: MDEP  
 From: Groundwater Technology  
 Date: 4/16/93  
 Source: MDEP Worcester 8/13/93

File No.: 205      Type: Article  
 Title: Denver ruling at Rocky MT. Arsenal on 4/6/93:  
          State RCRA cleanups can superceed  
          CERCLA--this overturns prior Supreme Court  
          ruling, but Not Applicabbble where IAG has  
          been signed  
 To:  
 From: Engineering News Record  
 Date: 4/19/93  
 Source: E&E '93

File No.: 206      Type: Letter  
 Title: Requesting 21C RCRA Closure and Future CERCLA  
          investigation for SA 24 (EOD Bunker 187)  
 To: Richard Dotchin EMO cc: Ed Nuttall Ft.  
          Devens, Kristine Kingery AEC  
 From: Lynne Chappell MDEP cc: Jim Byrne EPA  
 Date: 4/20/93  
 Source: MDEP Worcester 8/13/93

File No.: 207      Type: Fax  
 Title: Outline on RCRA Closure under 310 CMR  
 To: David Bailey E&E  
 From: Tim Rezendes EMO  
 Date: 5/6/93  
 Source: E&E '93

File No.: 208      Type: Letter  
 Title: Request for any 21C/RCRA permit or  
          application info AOC 25,26,27,28 per  
          telephone conversation w. Mike Maher MDEP  
          same day  
 To: Pat Regan MDEP  
 From: David Bailey E&E  
 Date: 5/11/93  
 Source: E&E '93

File No.: 209      Type: Letter  
 Title: MDEP Comments:5/93 E&E RI/FS  
 To: Rich Dotchin EMO, cc:Jim Chambers Ft. Dev,  
      Kristine Kingery AEC  
 From: Lynne Chappell MDEP, cc:Debra Darby MDEP  
      Bost, Mary Doyle M&E, Jim Byrne EPA  
 Date: 6/24/93  
 Source: E&E '93

File No.: 210      Type: Letter  
 Title: Suppliment to MDEP Comments:5/93 E&E RI/FS  
      RCRA; AOC 25,26,27,28  
 To: Ron Ostrowski EMO cc: Jim Chambers Ft.Dev,  
      Kristina Kingery AEC, David Bailey E&E  
 From: Lynne Chappell MDEP, cc: John Kronopolus  
      MDEP, Mary Doyle M&E, Becky Cutting MDEP  
      Bost, Jim Byrne EPA  
 Date: 7/29/93  
 Source: E&E '93

File No.: 211      Type: Memo  
 Title: Emergency License continuation for 54th EOD  
 To: Steve De Gabriel, Steve Dreeszen, Becky  
      Cutting MDEP Bost, Lynne Chappell, Mike  
      Maher, Jim Moody, Neil Oleary MDEP  
 From: John Kronopolus MDEP  
 Date: 2/08/93  
 Source: MDEP Worcester 8/13/93

File No.: 212      Type: Memo  
 Title: Review of E&E 5/93 RI and Appx A for 21C/RCRA  
      Closure under 310 CMR 30.580  
 To: Molly Elder MDEP  
 From: Mary Dole, Betsy Shreve-Gibb, Sandra McCarron  
      M&E  
 Date: 6/28/93  
 Source: MDEP Worcester 8/13/93

File No.: 213      Type: Letter  
 Title: MDEP Response to E&E Response to MDEP Comment  
      Response Suppliment on 5/93 E&E RI/FS  
      (RCRA Closure on AOC 25,26,27,28)  
 To: Ron Ostrowski, EMO cc:Jim Chambers Ft.Dev,  
      Kristine Kingery AEC  
 From: Lynne Chappell MDEP cc:Mary Doyle M&E, Debra  
      Darby MDEP Bost Jim Byrne EPA  
 Date: 8/17/93  
 Source: E&E '93