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United States Government **Department of Energy**

memorandum

DATE: December 20, 1999

REPLY TO ATTN OF: Office of Environmental Policy and Assistance (EH-41):Bascietto:6-7917

SUBJECT: **Management of Remediation Waste Under the Resource Conservation and Recovery Act (RCRA)**

TO: Distribution

PURPOSE To notify DOE elements of the availability of the U.S. Environmental Protection Agency (EPA) memorandum that compiles and presents existing guidance on *RCRA policies and regulations* that, in EPA's view, most often affect remediation waste management; and to present additional EPA policies and regulations that are **not** addressed in the EPA memorandum, but may be of significant interest and offer additional programmatic flexibility to Environmental Restoration Project Managers (ERPMs) in scoping, planning, conducting, or overseeing remediation waste management activities.

BACKDROP In October 1998, EPA issued a memorandum entitled: *Management of Remediation Waste Under RCRA* (EPA530-F-98-026). Designed to assist its RCRA/CERCLA regional offices in successfully implementing RCRA requirements for remediation waste, EPA consolidated into a single memorandum existing guidance on the RCRA regulations and policies that, in its view, most often affect remediation waste management.

Notwithstanding, a number of additional EPA regulations and policies that potentially affect remediation waste management (e.g., staging areas, dredge materials) were not addressed in EPA's memorandum. Also, from an implementation perspective, some of the regulatory and policy discussions offered limited insight relative to their use, timing, and applicability during corrective actions under RCRA or response actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

By way of this memorandum, EH-413 is providing supplemental guidance that ① outlines additional RCRA regulations and policies that potentially affect DOE remediation waste management activities, ② identifies at what juncture in the cleanup process these provisions (both EPA-identified and EH-identified regulations and policies) may come into play, and ③ articulates the "considerations and factors" impacting the applicability or use of these provisions.

FORMAT This memorandum consists of four elements: ❶ a table (***Attachment A***) that, for each RCRA policy and regulation identified, highlights those points in the cleanup process that are potentially affected, as well as the "considerations and factors" governing their applicability and use; ❷ supplemental narrative discussions (***Attachment B***) that examine remediation waste-related policies and regulations **not** addressed in the EPA memorandum and complement the tabular discussions appearing in Attachment A; ❸ EPA's October 1998 memorandum entitled *Management of Remediation Waste Under RCRA* (***Attachment C***), which also augments the Attachment A tabular discussions; and ❹ a compiled list of DOE resources that are pertinent to remediation waste management (***Attachment D***).

GETTING STARTED Table 1 (below) includes ***hypertext links*** to each policy and regulation discussed in *Attachment A*. Thus, it can be used as a "road-map" to efficiently access each regulatory/policy discussion of interest.

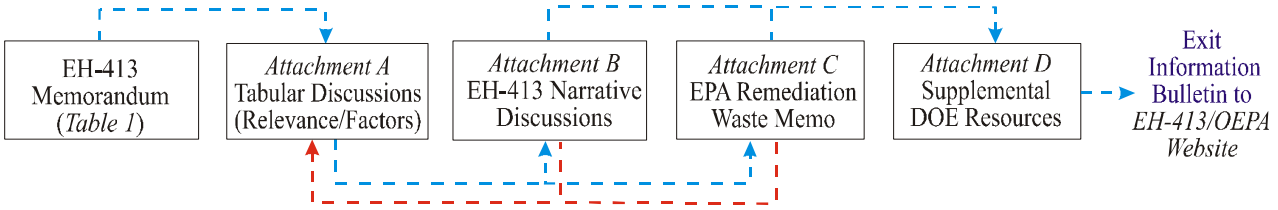
TABLE 1. REMEDIATION WASTE MANAGEMENT REGULATORY/POLICY OPTIONS ADDRESSED [Equipped with Hypertext Links to Tabular Discussions (Attachment A)]

EPA Memorandum (Attachment C) Topics	Additional EH-413 Topics (Attachment B)
Section 1. Regulations and Policies that Apply to All Remediation Wastes	
• *Area of Contamination Policy* • *Corrective Action Management Units (CAMUs)* • *Corrective Action Temporary Units (TUS)* • *Determination of When Contamination Is Caused by Listed Hazardous Waste* • *Site-Specific LDR [Land Disposal Restrictions] Treatment Variances* • *Treatability Studies Exemption* • *Exemption for Ninety Day Accumulation* • *Permit Waivers* • *Exemption from 40 CFR Part 264 Requirements for People Engaged in Immediate Phase of Spill Response* • *Changes During Interim Status to Comply with Corrective Action Requirements* • *Emergency Permits* • *Temporary Authorization at Permitted Facilities*	• *Exemption for On-site Management of Corrosive Wastes in Elementary Neutralization Units (ENUs) and Remediation Liquids and Sludges in Wastewater Treatment Units (WWTUs)* • *Exemption from Air Emission Standards (Subpart CC) for Remediation Waste Storage Units* • *Exemption from RCRA Permitting and Facility-Wide Corrective Action when Managing Remediation Waste* • *Off-site Management of Remediation Wastes during CERCLA Response Actions* • *Petroleum-Contaminated Media and Debris from Underground Storage Tank (UST) Corrective Actions* • *Recovered Commercial Chemical Products Sent for Use/Reuse or Recycling* • *Reduced Information for and/or Relief from RCRA Permitting during Post-Closure Care* • *Exclusion for Samples of Remediation Waste* • *Use of Staging Piles for Temporary Storage of Solid, Non-Flowing Remediation Waste*
Section 2. Regulations and Policies that Apply to Contaminated Environmental Media Only	
• *Contained-In Policy* • *RCRA Section 3020(b) Exemption for Reinjection of Contaminated Ground Water* • *LDR Treatment Standards for Contaminated Soils* • *Site-Specific, Risk-Based LDR Treatment Variance for Contaminated Soils*	• *Exclusion for Dredge Material (i.e., Sediment) that Exhibits a Characteristic or Contains a Listed Hazardous Waste* • *Management of Investigation-Derived Waste (IDW)*
Section 3. Regulations and Policies that Apply Only to Debris	
• *LDR Treatment Standards for Contaminated Debris* • *Interpretation that Debris Treated to the LDR Debris Treatment Standards Using Extraction or Destruction Technologies No Longer Contain Hazardous Waste*	• *Exemption for "Empty" Containers and Residues from Empty Containers* • *Exclusion for Scrap Metal that Is Being Recycled* • *Exemption for Certain Polychlorinated Biphenyl (PCB) Wastes*

GETTING STARTED (Cont.)

In *Attachment A*, users can (1) examine the relevance of each RCRA policy and regulation to the remediation waste management process, and (2) review the considerations and factors impacting its applicability or use. To distinguish whether a particular discussion pertains to an EH-413-selected policy/regulation (*Attachment B*) or a policy/regulation appearing in EPA's October 1998 memorandum (*Attachment C*), hypertext links (blue, italicized text) citing the author are provided in its left-hand column (under the topical headings). By "clicking" on an organization-related link, users desiring to pursue a policy/regulatory topic of interest can "jump" from *Attachment A* to additional, policy/regulatory-specific information presented in *Attachment B* or *C*. Similarly, these are equipped with hypertext links that either (1) return the user to *Attachment A* , or (2) jump the user to a list that references separate DOE guidance corresponding to each policy and regulation (*Attachment D*). The relationship between all four components of this memorandum is illustrated in Figure 1.

Figure 1. Hypertext Links Between Components of EH-413 Remediation Waste Memo



QUESTIONS and ADD'L INFO

Questions or comments addressing EPA's *Management of Remediation Waste Under RCRA* or this memorandum may be directed to John Bascietto of my staff by:

- Calling (202) 586-7917,
- Faxing messages to (202) 586-3915, or
- Communicating electronically, via Internet, to "***john.bascietto@eh.doe.gov***".

Thomas T. Traceski
Director, RCRA/CERCLA Division
Office of Environmental Policy and Assistance

ATTACHMENT A

Supplemental Information Associated with EPA Policies and Regulations Governing the Management of Remediation Waste Under the Resource Conservation and Recovery Act (RCRA)

Introduction

The following table constitutes the first of four attachments to an Office of Environmental Policy and Assistance, RCRA/CERCLA Division (EH-413) memorandum titled ***Policies and Regulations Governing the Management of Remediation Waste Under the Resource Conservation and Recovery Act (RCRA)***. It presents technical information, from an implementation perspective, regarding the policies and regulations that potentially affect the management of remediation waste during corrective actions under RCRA or response actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This technical information pertains to (and is designed to be used in concert with) 1) narrative discussions presented by the U.S. Environmental Protection Agency (EPA) in its October 1998 memorandum titled *Management of Remediation Waste Under RCRA* (EPA530-F-98-026) (***Attachment C***), and 2) narrative discussions that were prepared by EH-413 and which focus on policies and regulations that are not addressed in EPA's memorandum, but which nonetheless can potentially impact remediation waste management (***Attachment B***). Supplemental DOE resources pertaining to each policy/regulation discussed herein are referenced in ***Attachment D***.

Organization of Attachment A Tabular Information

The particular EPA policy or regulation being addressed is identified in the table's first column. These policies and regulations are separated into *three* broad sections using the same convention as that used by EPA in its remediation waste memorandum. These include (1) "Regulations and Policies that Apply to All Remediation Waste"; (2) "Regulations and Policies that Apply to Contaminated Environmental Media Only"; and (3) "Regulations and Policies that Apply Only to Debris." Within each of the three sections, technical information pertaining to the EPA memorandum policies and regulations precedes the information related to the EH-413-selected remediation waste policies and regulations. Technical information is further separated into two headings:

(1) "**Relevance to Cleanup Activities/Process**," which identifies points in the cleanup process at which Environmental Restoration Project Managers (ERPMs) should consider the potential applicability of individual EPA policies and regulations; and

(2) "**Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation**," which highlights additional factors, considerations, and site conditions governing the applicability or use of these regulations and policies.

To distinguish between "relevance/considerations" information pertaining the EH-413-selected policies and regulations and that which appears in EPA's memorandum, hypertext links (blue, italicized text) are provided in the first column (under the topical headings) that identify and connect users to the EH-413-prepared or the EPA-prepared narratives, as appropriate.

As with the other elements of this Information Bulletin, ***Attachment A*** includes intra-document, hypertext links. Therefore, upon encountering a policy or regulation of interest, users viewing an electronic portable document format (PDF) version of this attachment can "click" on the link provided. This will "jump" them directly from this attachment to the related policy or regulatory information presented in either the supplemental (EH-413) narrative discussions (***Attachment B***) or the EPA memorandum (***Attachment C***). Similarly, hypertext links that will return the user to this table have been inserted into the heading of each of the Attachment B and C narrative discussions. Finally, as an added feature, the supplemental EH-413 narrative discussions include hypertext links to EPA's remediation waste memorandum, in cases that these narratives cite an existing EPA regulatory or policy discussion.

Area of Contamination (AOC) Policy ***Go to* EPA *Narrative Discussion***	**Relevance to Cleanup Activities/Processes** The identification of an AOC often begins following the discovery of contaminated soils that qualify as hazardous waste, which may occur during normal earthmoving or grading activities, site characterization activities, or remedial action implementation. In most cases, the AOC concept is applied in the context of an EPA overseen cleanup action, and delineation of AOCs are reviewed, overseen, and approved as part of those actions (e.g., CERCLA Proposed Plan; RCRA Statement of Basis). However, since the AOC concept is an interpretation of current Federal statutory and regulatory requirements, its application outside EPA-overseen cleanup actions does not require oversight or advance approval at the Federal level. When applied outside the context of an overseen cleanup action, however, EPA encourages consultation with the appropriate agency and routinely cautions that misapplication of the AOC concept could constitute improper disposal of hazardous waste. (See EPA letter from M. Shapiro to N. Nosenchuck dated March 25, 1996.) Also, alterations to permitted or interim status unit present within an AOC may trigger the need for permit modifications or changes in the RCRA Part A and Part B applications. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** Under CERCLA, EPA describes an AOC as an existing area of continuous contamination of varying amounts and types. AOCs are identified on a case-by-case basis and are delineated by the extent of continuous contamination (e.g., a waste pit and the surrounding contaminated ground water is one AOC and may be viewed as a single unit). Therefore, an AOC is generally equated to a single RCRA land-based unit, or "landfill" (55 *FR* 8758–60; March 8, 1990). Remediation wastes that contain listed hazardous waste or which exhibit a hazardous waste characteristic are not required to meet land disposal restrictions (LDR) concentration-based or specified technology treatment standards before redeposition provided management of the restricted waste does not constitute placement. Under CERCLA, "placement" into an AOC does ***not*** occur if wastes are • moved within an AOC (e.g., drilling muds from ground water well installation, excess soil from "split-spoon" sampling, normal earth moving/grading operations); • left or treated in place (e.g., capping, in situ treatment such as permeable treatment beds or vitrification); or • consolidated within the AOC from which they were extracted (e.g., extracted ground water is placed into a surface impoundment within that same AOC; investigation-derived wastes are placed into drums which remain within an AOC). In most cases, AOCs are not subject to the design and operating requirements for Subtitle C landfills because they are viewed as *existing portions* of a RCRA landfill. However, any lateral expansion of the existing unit (i.e., AOC) could trigger the minimum technology requirements (MTR) of 40 CFR 264.301(c) as well as the need to meet applicable LDR treatment standards. Also note that while the AOC concept and the term placement were first explained in the proposed CERCLA National Contingency Plan (NCP) [see 53 FR 51444 (December 21, 1988) and 54 FR 41566 (October 10, 1989), respectively], they are based on interpretations under RCRA and, therefore, apply equally to CERCLA response actions and RCRA corrective action sites, cleanups under state law, and voluntary cleanups (EPA letter from M. Shapiro, S. Luftig, and J. Clifford to RCRA Branch Chiefs/CERCLA Regional Managers dated March 13, 1996).
Corrective Action Mgmt. Units (CAMUs)	**Relevance to Cleanup Activities/Processes** Under RCRA, CAMUs must be designated by the regulators for purposes of implementing corrective action at interim status facilities under RCRA 3008(h) authority, as well as at permitted facilities under RCRA 3004(u) and 40 CFR 264.101. Other mechanisms for designating a CAMU include a RCRA permit, permit or order modification, RCRA Section 7003, or another type of enforceable document [as defined under 40 CFR 270.1(c)(7)].

Corrective Action Mgmt. Units (CAMUs) (Cont.)

Go to **EPA** *Narrative Discussion*

Relative to CERCLA response actions, the substantive requirements for CAMUs are expected to be applicable or relevant and appropriate requirements (ARARs) when addressing RCRA hazardous wastes at Federal facilities. ERPMs designating a CAMU under the ARAR provision should incorporate the substantive requirements into CERCLA decision documents [i.e., Records of Decision (ROD)], rather than RCRA permits, orders, or Federal Facility Compliance Agreement (FFCA) (58 *FR* 8679; February 16, 1993). EPA considers CAMU requirements [especially 40 CFR 264.552(c)(6)] to be functional equivalents of NCP principal threats expectations in 40 CFR 300.430(a)(1)(iii)(A) because they facilitate the use of treatment technologies, and believes that their use will increase as sites move to the remedy selection phase (63 *FR* 65921; November 30, 1998).

Part of the CAMU concept's value is EPA's broader and more flexible definition of waste management activities (e.g., placement activities) that do ***not*** constitute "land disposal" under RCRA 3004(k). EPA clarifies the applicability of LDR requirements to the management of remediation wastes in CAMUs at 58 *FR* 8665-8666 (February 16, 1993). Specifically, except for the first of these, the following activities would constitute "placement" and trigger LDRs or MTRs for a particular AOC; however, they do constitute land disposal into a CAMU and, therefore, do *not* trigger LDRs or MTRs:

(1) Remediation wastes are moved or consolidated within a designated land-based CAMU.
(2) Remediation wastes are moved from an area or unit at the facility, but outside a defined CAMU, and subsequently placed into a CAMU.
(3) Remediation wastes from one or more CAMUs at the facility are consolidated into a single land-based CAMU at the facility.
(4) Remediation wastes are excavated from a CAMU, and treated on-site in another unit; the waste (or residuals) are redeposited into the CAMU.
(5) Remediation wastes are excavated and staged in piles located within the CAMU boundary before being transported to a treatment unit.
(6) Remediation wastes are placed into a CAMU for land-based treatment (e.g., bioremediation) (58 *FR* 8666).

Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation

Consolidation or placement of remediation waste into or within a CAMU does not constitute land disposal of hazardous waste and does ***not*** trigger LDRs or MTRs. Implementation of CAMU regulations, however, may vary from site to site depending on whether the CAMU regulations have been adopted by the state in which ERPMs are performing remediation. The Regional Administrator (or authorized state agency) will consider the applicability of the CAMU provisions on a case-by-case basis and designate CAMUs in accordance with the following:

(1) The CAMU shall facilitate the implementation of reliable, effective, protective, and cost-effective remedies.
(2) Waste management activities associated with the CAMU shall not create unacceptable risks to humans or to the environment resulting from exposure to hazardous wastes or hazardous constituents.
(3) The CAMU shall include uncontaminated areas of the facility, only if including such areas for the purpose of managing remediation waste is more protective than management of such wastes at contaminated areas of the facility.
(4) Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases, to the extent practicable.
(5) The CAMU shall expedite the timing of remedial activity implementation, when appropriate and practicable.
(6) The CAMU shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of remedial actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure

CAMUs (Cont.) *Go to* **EPA** *Narrative Discussion*	of the CAMU. (7) The CAMU shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU. In contrast to AOCs, however, the designation of CAMUs under RCRA is more related to the function and purpose the unit will serve in facilitating management of remediation wastes during cleanup rather than the aerial extent and "contiguousness" of contamination at the facility before cleanup. Accordingly, ERPMs may request the Regional Administrator to include uncontaminated land areas within a CAMU; however, they must demonstrate that such inclusion will enhance the protectiveness of the remedial actions.
Corrective Action Temporary Units (TUs) *Go to* **EPA** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** The regulators will specify requirements for temporary units in a facility's permit or order. Where a TU is a component of a selected remedy, the approval for that unit would normally be part of the regulator-initiated permit modification for the remedy. When a TU is not part of a larger permit modification procedure for a selected remedy or interim measure (e.g., the unit will be used ***prior to*** remedy selection to handle investigation-derived wastes), EPA expects owners/operators to request approval for the TU as a Class 2 permit modification under 40 CFR 270.42. Relative to CERCLA response actions, the substantive requirements for TUs (like CAMUs) are expected to be ARARs for the remediation of RCRA hazardous wastes. ERPMs designating a TU under the ARAR provision should incorporate the substantive requirements into CERCLA decision documents (i.e., ROD) rather than RCRA permits, orders, or FFCA (58 *FR* 8679; February 16, 1993). As with CAMUs, the regulators will consider the applicability of the TU provisions on a case-by-case basis. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** For temporary tanks and container storage areas used for treatment or storage of hazardous remediation wastes, during remedial activities required under 40 CFR 264.101 or RCRA 3008(h), the regulators may determine that a design, operating, or closure standard applicable to such units may be replaced by alternative requirements. Any temporary unit (TU) to which alternative requirements are applied in accordance with 40 CFR 264.553(a) shall be • located within the facility boundary, and • used only for treatment or storage of remediation wastes. In establishing standards to be applied to a TU, the Regional Administrator considers the • length of time such unit will be in operation, • type of unit, • volumes of wastes to be managed, • physical and chemical characteristics of the wastes to be managed in the unit, • potential for releases from the unit, • hydrogeological and other relevant environmental conditions at the facility which may influence the migration of any potential releases, and • potential for exposure of humans and environmental receptors if releases were to occur from the unit. Although the definition of remediation wastes includes non-hazardous solid wastes, management of such wastes would not require the designation of a TU.
Determination of When Contamination Is Caused by Listed HW	**Relevance to Cleanup Activities/Processes** Wastes disposed of prior to November 19, 1980 (the date RCRA Subtitle C "cradle-to-grave" provisions took effect) are ***not*** subject to RCRA provisions. Conversely, hazardous wastes or contaminated media that are extracted or exhumed (i.e., actively managed) after the applicable effective date become immediately subject to RCRA's self-implementing requirements.

Determination of When Contamination Is Caused by Listed Hazardous Waste (Cont.) *Go to* **EPA** *Narrative Discussion*	At any point during the performance of CERCLA response actions or RCRA corrective actions, ERPMs that find it necessary or desirable to exhume contaminated soil or sediment or extract ground water have "generated" a waste for which proper waste characterization is critical. Although initial project scoping information may furnish some insight regarding the expected contaminants of potential concern (COPC), upon exhuming/extracting an unknown (at the point of initial generation prior to mixing or treatment), the generator must confirm whether it is subject to RCRA Subtitle C, including LDR requirements, following an approach addressed in EPA's NCP/HWIR-Media (Hazardous Waste Identification Rule for Contaminated Media). **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** Hazardous waste listings are retroactive. Once a particular waste is listed, all wastes meeting that description are hazardous wastes no matter when disposed [53 *FR* 31147; August 17, 1988 (First Third LDR Final Rule)]. The presence of one or more hazardous constituents alone, however, does not clearly and convincingly demonstrate that the contaminant(s), when disposed or otherwise discarded, met a hazardous waste listing description found in 40 CFR Part 261, Subpart D. Some process knowledge or other historical information, if available, can be used in tandem with analysis results to reach a conclusion that a listed waste is or is not present and contained in the remediation waste. To determine whether remediation waste exhibits a characteristic of hazardous waste identified in 40 CFR Part 261, Subpart C, ERPMs may either test a representative sample or use their process knowledge. However, in the absence of testing, ERPM decisions must be based on site-specific information and data collected on the constituents and their concentrations during site investigations (55 *FR* 8762). Relative to mixed waste, *Joint NRC/EPA Guidance on Testing Requirements for Mixed Radioactive and Hazardous Waste* (62 *FR* 62079; November 20, 1997) stresses the value of waste knowledge in making hazardous waste determinations and the flexibility allowed in testing mixed wastes in order to minimize radiation hazards. Be aware that some remediation waste streams may both meet a listing and exhibit a characteristic [e.g., contaminated soil containing F-listed solvents that also exhibits the Toxicity Characteristic (TC) for one or more metals]. For the purposes of complying with certain RCRA provisions (e.g., manifesting, LDR notification and treatment standards), unless the treatment standard for the listed waste specifically addresses the characteristic(s), each generator must assign the waste code(s) for any applicable listing, as well as one or more of the waste codes in 40 CFR Part 261, Subpart C where the waste also exhibits a characteristic.
Site-Specific LDR Treatment Variances *Go to* **EPA** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Once the need for a site-specific treatment variance for remediation waste is determined, ERPMs should initiate the process of obtaining the variance. Under RCRA, the site-specific variances [40 CFR 268.44(h)] are processed on a site-by-site basis and are obtained by petitioning EPA or the authorized state representative. They are not required to be processed using the procedures set forth in 40 CFR 260.20. In contrast, each petition for a variance from a treatment standard on a national scale under 40 CFR 268.44(a) [i.e., for types of waste that may be found at numerous sites] must be submitted in accordance with the procedures in 40 CFR 260.20. Under CERCLA, the process for obtaining a Treatment Variance depends on the type of response action. Since no formal procedures for identifying and analyzing alternatives for emergency and time-critical actions exist, the request for a Treatment Variance will be in the form of a memorandum attached to the Action Memorandum. In contrast, for non-time-critical actions, sufficient lead time is generally available. Thus, ERPMs interested in obtaining a Treatment Variance will generally need to submit the information justifying a Treatment Variance in a memorandum attached to the Engineering Evaluation/Cost Analysis (OSWER Dir. 9347.3-06BFS).

Site-Specific LDR Treatment Variances (Cont.) *Go to* **EPA** *Narrative Discussion*	For CERCLA remedial actions, EPA believes that ERPMs will make the justification for a Treatment Variance on the basis of (1) available information on the performance capabilities of the remedial technology(ies) being considered, (2) site-specific conditions that may affect the implementation or effectiveness of those technologies, and (3) the remediation goals of the CERCLA response action. At many sites, data from treatability studies conducted during the remedial investigation/feasibility study (RI/FS) will suffice as justification. If site-specific treatability study data are not available, surrogate data from the application of technologies to similar wastes may be used (OSWER Dir. 9347.3-06FS). **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** Regulators may approve a variance from an applicable LDR treatment standard if the following conditions are present: (1) It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard. To show that this is the case, the petitioner must demonstrate that because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the LDR treatment standard, the waste cannot be treated to the specified level or by the specified method. (2) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though such treatment is technically possible. To show that this is the case, the petitioner must demonstrate that • treatment to the specified level or by the specified method is technically inappropriate (for example, resulting in combustion of large amounts of mildly contaminated environmental media); or • for remediation waste only, treatment to the specified level or by the specified method is environmentally inappropriate because it would likely discourage aggressive remediation. [40 CFR 268.44(a)] Although EPA expressly limits the "environmentally inappropriate" treatment variance to remediation wastes, such wastes may result from implementation of RCRA corrective action, CERCLA cleanup, and/or cleanup under a state program (62 FR 64507; December 5, 1997). Also, EPA ensures that the public has an opportunity to comment prior to regulators granting or denying any site-specific treatment variance [40 CFR 268.44(h)(3)].
Treatability Studies Exemption *Go to* **EPA** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Treatability studies provide valuable site-specific data necessary to aid ERPMs in screening, selecting and implementing site remedies. Treatability studies may be conducted during and serve as integral components of early actions (e.g., CERCLA removal actions), remedial investigation/corrective measures study (RCRA) or remedial investigation/feasibility study (CERCLA) indicate whether a certain technology or treatment train can achieve the preliminary cleanup levels, thereby furnishing determinative information to aid in remedy selection. In contrast, treatability studies conducted during the remedial design/remedial action (RD/RA) phase establish the design and operating parameters necessary to optimize the ***selected*** technology(ies) performance. Historically, treatability studies have been delayed until after the ROD is signed. Although post-ROD studies are appropriate, pre-ROD studies should eliminate or reduce the uncertainties associated with selecting the remedy, thus, providing a sounder, more defensible basis for the ROD. For pre-ROD studies, the need for treatability studies should be identified during project scoping to avoid delays in RI/FS schedule and will be based on the technology information gathered therein. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** During scoping of the cleanup action, a literature survey should be conducted to gather information on a technology's applicability, performance, implementability, relative costs, and operation and

Treatability Studies Exemption (Cont.) *Go to* **EPA** *Narrative Discussion*	maintenance requirements. If practical candidate technologies have not been sufficiently demonstrated or cannot be adequately evaluated based on the available information, treatability testing should be performed. In a guidance document titled *Guide for Conducting Treatability Studies Under CERCLA* (EPA/540-R-92/071a) dated October 1992, EPA presents its "stepwise approach or protocol" that ERPMs should consider following during all phases of the site cleanup. This approach includes • establishing data quality objectives (DQOs), • selecting a contracting mechanism, • issuing the task assignment, • preparing the Work Plan, • preparing the Sampling and Analysis Plan, • preparing the Health and Safety Plan, • conducting community relations activities (e.g., interviews), • complying with regulatory requirements, • executing the study, • analyzing and interpreting the study data, and • reporting the results. Although this approach is grounded in and based on CERCLA authorities and responsibilities, a similar approach may be taken at RCRA facilities provided it reflects site conditions and RCRA programmatic constraints (e.g., sample quantity, shipment, and time limitations), and recognizes that not all of these steps will be applicable during RCRA corrective action. Relative to CERCLA wastes, environmental restoration activities that transfer samples of remediation waste off-site for treatability studies are exempt from EPA's Off-site Rule. [See 40 CFR 300.440(a)(5) and the preamble discussion at 58 FR 49203, September 22, 1993.]
Exemption for Ninety Day Accumulation *Go to* **EPA** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Under RCRA Subtitle C, the codified definition for *generator* includes "any person, by site, whose act or process produces hazardous waste . . . or whose act first causes a hazardous waste to become subject to regulation" (40 *CFR* 260.10). Thus, environmental restoration personnel that have produced, extracted, exhumed, or otherwise first subjected hazardous wastes, contaminated media, or hazardous debris to Subtitle C jurisdiction, have "generated" a hazardous waste. Beginning at the initial point of generation, they (like other generators) must comply with the applicable provisions of 40 CFR Part 262, including any 40 CFR Part 265 general requirements and unit-specific standards referenced therein. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** Section 262.34 provides a limited exemption from the requirement that those who store hazardous waste must obtain RCRA permits. To become (and remain) eligible for the 90-day exemption from RCRA permitting, generators that are managing unknown wastes but suspect they are accumulating hazardous wastes must ensure they fulfill <u>all</u> of the 40 CFR 262.34 accumulation provisions. If the date on which the accumulation began (i.e., the date the first drop entered the unit) is not marked on a drum [40 CFR 262.34(a)(2)] or the drum is are not marked "Hazardous Waste" [40 CFR 262.34(a)(3)], then the generator has not fulfilled the pre-conditions for the exemption from permitting. Instead, he/she considered to be is an owner/operator of a hazardous waste storage facility (assuming the waste meets a listing or exhibits a characteristic) subject to the hazardous waste treatment, storage, and disposal facility (TSDF) requirements of 40 CFR Parts 264/265 and the permit requirements of 40 CFR Part 270. This point was clarified in an interpretive EPA letter from S. Lowrance to S. Axtell (dated April 21, 1989).

Exemption for Ninety Day Accumulation (Cont.) *Go to* **EPA** *Narrative Discussion*	In addition to the accumulation date and "Hazardous Waste" markings, hazardous waste generators must comply with the following 40 CFR 262.34 pre-conditions, among others: • Unit-specific standards for tanks, containers, or containment buildings set forth in 40 CFR Part 265, Subparts I, J, and DD, respectively • Preparedness and prevention requirements • Contingency plan and emergency procedures • Personnel training For the purposes of determining the applicability of the generator accumulation provisions, there is a distinction between hazardous waste such as treatment residues "generated" by a TSDF and waste that is remove from storage. Specifically, TSDF activities that result in treatment residues (e.g., incinerator ash, still bottoms resulting from the distillation of F-listed solvents) are eligible for the 90-day generator accumulation provisions, whereas hazardous wastes that are simply removed from storage are not eligible for the 90-day exemption because they have not been "generated" (45 FR 86969; December 31, 1980). Also, be aware that generators conducting cleanup activities in batch cycles may be "episodic generators," subject to 90-day generator provisions one month and 180-day (small quantity) generator provisions the next month (51 *FR* 10146 - 10178; March 24, 1986).
Permit Waivers *Go to* **EPA** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Although this provision removes the need to acquire a permit for on-site CERCLA remedial actions, it does not remove the need to meet (or waive) the substantive provisions of permitting regulations that qualify as ARARs (e.g., structural requirements for containers or tank systems, siting or location restrictions, emissions monitoring). Substantive permitting requirements (i.e., ARARs) typically should be identified during the scoping process, especially when ERPMs believe it will hasten their identification. Active consultation with the permitting authority occurring on a regular and frequent basis, ultimately resulting in the substantive requirements that would be imposed by a permit being stated in CERCLA-based documentation. To facilitate such consultation, ERPMs should consider providing copies of the design contractor and remedial action contractor submittals in a timely manner to the permitting authority whose ARARs are the subject of the submittals. In some instances, when a need arises to complete a response action to avoid delays and cost increases, the lead agency may decide to terminate the consultation process (OSWER Dir. 9355.7-03). **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** Under CERCLA, EPA has consistently maintained that the acquisition of permits is not required for managing remediation waste as part of an "on-site" remedial action. On-site includes "the aerial extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action" (40 CFR 300.5). Furthermore, EPA has clarified that on-site may include noncontiguous facilities that are related on the basis of geography (e.g., both facilities contribute significant sources of contamination) or related based on the threat posed (55 *FR* 8688 and 58 *FR* 49204). "EPA policy further clarifies "on-site" to include the soil and the ground water plume that are to be remediated" (OSWER Dir. 9355.7-03) and may extend to those areas where the contamination in question has come to be located (55 *FR* 8689). In contrast, environmental restoration activities that involve off-site discharges of remediation wastes [e.g., discharging extracted groundwater to a publicly owned treatment works (POTW)] are subject both to obtaining the requisite permits, and EPA's Off-site Rule (58 FR 49200; September 22, 1993), which requires that the off-site facility be evaluated and found acceptable by EPA before waste is transferred (e.g., discharged) to the facility. Areas not covered by the definition of on-site fall within the definition of "off-site."

Permit Waivers (Cont.) *Go to* **EPA** *Narrative Discussion*	Relative to RCRA Section 7003 waivers, an endangerment is "substantial" if there is reasonable cause for concern that health or the environment may be seriously harmed. It is not necessary that the risk be quantified. Because conditions often vary dramatically from site to site, there is no comprehensive list of factors that EPA should consider when determining whether conditions may present an imminent and substantial endangerment. In some cases, the potential endangerment may be immediately apparent; in others, the risks may be less readily identified. Some of the factors that the Regions may consider as appropriate are: (1) the levels of contaminants in various media; (2) the existence of a connection between the solid or hazardous waste and air, soil, groundwater, or surface water; (3) the pathway(s) of exposure from the solid or hazardous waste to the receptor population; (4) the sensitivity of the receptor population; (5) bioaccumulation in living organisms; (6) visual signs of stress on vegetation; (7) evidence of wildlife mortalities, injuries, or disease; (8) a history of releases at the facility or site; (9) staining of the round; and (10) "missing" (i.e., unaccounted for) solid or hazardous waste.
Exemption from 40 CFR Part 264 Requirements for People Engaged in Immediate Phase of Spill Response *Go to* **EPA** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** The need to employ this exemption typically will occur while remediation wastes are being actively managed on-site (e.g., exhuming unruptured but structurally deficient containers; handling filled containers during storage in staging areas; loading/unloading containers) when hazardous waste spills (i.e., sudden, unplanned releases such as burst pipes, ruptured tanks or containers, breached dikes) occur or when products materials spill, thereby, becoming hazardous waste. Although this provision applies equally to generators and owners/operators of TSDFs, response activities generally will be conducted in accordance with a RCRA Contingency Plan at generator sites or an Integrated Contingency Plan (ICG) at TSDFs that have to prepare multiple plans under different statutes/regulations (61 *FR* 28642; June 5, 1996). **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** A persons conducting hazardous waste treatment (e.g., absorption, neutralization) or containment (e.g., diking) are not required to obtain a RCRA permit or interim status for activities taken during immediate response to any of the following situations: • A discharge of a hazardous waste • An imminent and substantial threat of a discharge of hazardous waste • A discharge of a material which, when discharged, becomes a hazardous waste • An immediate threat to human health, public safety, property, or the environment from the known or suspected presence of military munitions, other explosive material, or an explosive device, as determined by an explosive or munitions emergency response specialist as defined in 40 CFR 260.10 Furthermore, the units used during immediate response actions are not subject to RCRA design, operating, closure, or post-closure requirements. This exemption does not extend to intentional releases or releases that routinely occur from, for example, scheduled maintenance of machinery (45 *FR* 76628). Likewise, structures used for responding to discharge events that occur periodically or repeatedly do not qualify for the exemption.
Changes During Interim Status To Comply with Corrective Action Requirements	**Relevance to Cleanup Activities/Processes** Rather than discontinue operations until site-specific changes to accommodate remediation waste management during corrective action can be approved as part of a revised Part A or in connection with the issuance of a final RCRA Subtitle C permit, these provisions allow interim status facilities to implement changes without revising their RCRA Part A permit application and without prior regulator approval.

Changes During Interim Status To Comply with Corrective Action Requirements (Cont.) *Go to* **EPA** *Narrative Discussion*	**Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** The first of these provisions [40 CFR 270.72(a)(5)] exempts owners/operators of interim status TSDFs from submitting a revised RCRA Part A permit application and receiving regulator approval prior to implementing changes, provided such changes are (1) specifically identified in a corrective action order (or other type of enforceable document), and (2) implemented in accordance with the order. If the changes are not specifically contemplated by the order, they can still be made under other provisions (e.g., changes to comply with a Federal requirements) and would be limited by the restrictions of those provisions. Also, changes necessary for voluntary corrective actions remain subject to regulator approval and the reconstruction limit because such actions generally do not involve Federal or state oversight or public notice. The second provision [40 CFR 270.72(b)(5)] exempts from the "reconstruction limit" changes such as installing an incinerator or new treatment train, provided such changes are • made in accordance with an interim status corrective action order issued by EPA under section 3008(h) or other Federal authority, by an authorized state under comparable state authority, or by a court in a judicial action brought by EPA or by an authorized state; and • limited to the treatment, storage, or disposal of solid waste from releases that originate within the boundary of the facility. This limit applies only to facility changes regulated under 40 CFR 270.72. Other changes do not require approval of a revised Part A or a final RCRA permit.
Emergency Permits *Go to* **EPA** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** At any point in the environmental restoration process, should hazardous waste-related site conditions indicate an imminent and substantial endangerment exists, EPA or an authorized state Director may issue a temporary emergency permit: (1) to a non-permitted facility to allow treatment, storage, or disposal of hazardous waste; or (2) to a permitted facility to allow treatment, storage, or disposal of a hazardous waste not covered by an effective permit. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** Because conditions vary dramatically from site to site, there is no comprehensive list of factors that EPA considers when determining whether conditions may present an imminent and substantial endangerment. Some of the factors that the EPA Regions may consider as appropriate are (1) the levels of contaminants in various media; (2) the existence of a connection between the solid or hazardous waste and air, soil, groundwater, or surface water; (3) the pathway(s) of exposure from the solid or hazardous waste to the receptor population; (4) the sensitivity of the receptor population; (5) bioaccumulation in living organisms; (6) visual signs of stress on vegetation; (7) evidence of wildlife mortalities, injuries, or disease; (8) a history of releases at the facility or site; (9) staining of the ground; and (10) "missing" (i.e., unaccounted for) solid or hazardous waste (*Guidance on the Use of Section 7003 of RCRA*, October 1997).
Temporary Authorization at Permitted Facilities Go to **EPA** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Temporary authorizations, which can be granted without prior public notice and comment, are short-term fixes that are expected to be useful in two situations: (1) To address a one-time or short-term activity at a facility for which the full permit modification process is inappropriate; or (2) To allow a facility to initiate a necessary activity while its permit modification request is undergoing the Class 2 or 3 review process.

Temporary Authorization at Permitted Facilities (Cont.) Go to **EPA** *Narrative Discussion*	The term of such an authorization may be for any period up to 180 days with extensions beyond day 180 provided the permittee has initiated the appropriate Class 2 or 3 modification process in a timely manner (i.e., submitted permit mod request by day 60). **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** A RCRA permittee may request a temporary authorization for any ***Class 2*** modification meeting the following criteria: (1) The authorized activities are in compliance with the standards of 40 CFR Part 264 (2) The temporary authorization is necessary to achieve one of the following objectives before action is likely to be taken on a modification request: - To facilitate timely implementation of closure or corrective action activities - To allow treatment or storage in tanks or containers, or in containment buildings in accordance with 40 CFR Part 268 - To prevent disruption of ongoing waste management activities - To enable the permittee to respond to sudden changes in the types or quantities of the wastes managed under the facility permit - To facilitate other changes to protect human health and the environment A RCRA permittee may request a temporary authorization for any ***Class 3*** modification meeting the following criteria: (1) The authorized activities are in compliance with the standards of 40 CFR Part 264. (2) The temporary authorization is necessary to achieve one of the following objectives before action is likely to be taken on a modification request: - To facilitate timely implementation of closure or corrective action activities. - To allow treatment or storage in tanks or containers, or in containment buildings in accordance with 40 CFR Part 268. ***OR*** (3) The Class ***3*** modification provides improved management or treatment of a hazardous waste already listed in the facility permit and • prevents disruption of ongoing waste management activities, • enables the permittee to respond to sudden changes in the types or quantities of the wastes managed under the facility permit, or • facilitates other changes to protect human health and the environment. The permittee must send a notice about the temporary authorization request to all persons on the facility mailing list maintained by the Director and to appropriate units of state and local governments as specified in 40 CFR 124.10(c)(ix). This notification must be made within seven (7) days of submitting the authorization request.
Exemption for On-site Mgmt. of 1) Corrosive Wastes in Elementary Neutralization Units (ENUs) and 2) Liquids and Sludges in Wastewater Treatment Units (WWTUs)	**Relevance to Cleanup Activities/Processes** From a practical implementation perspective, based on "waste knowledge" or "acceptable knowledge" (see 62 *FR* 62081; November 20, 1997) or upon receiving the analytical results of a representative sample, ERPMs should determine whether their aqueous or liquid remediation waste stream is hazardous solely because it exhibits the characteristic of corrosivity or whether it exhibits one or more additional characteristics. If it is solely corrosive, the waste can be introduce into the exempt ENU and be conditioned for discharge into a local POTW or the facility wastewater treatment system. For the wastewater treatment unit (WWTU), upon receiving the analytical results, ERPMs should characterize their extracted/collected remediation wastewater and, if it does not qualify as hazardous waste, or it qualifies as hazardous waste but is not prohibited from being introduced into a federally owned treatment work,[1] experts on facility water and wastewater should review the analytical results to discern whether discharging the water to the on-site wastewater treatment plant will adversely impact their treatment operation. Provided no adverse effects are anticipated, wastewater can be transported and/or discharged into the exempt WWTU or directly into the facility sanitary or

Exemption for On-site Mgmt. of 1) Corrosive Wastes in Elementary Neutralization Units (ENUs) and 2) Liquids and Sludges in Wastewater Treatment Units (WWTUs) (Cont.) *Go to* **EH-413** *Narrative Discussion*	wastewater treatment system. If the wastewater qualifies as restricted hazardous waste, but is eligible for discharge to the FOTW, a one-time LDR notification identifying the rinsewater's final disposition should be placed in the operating record [40 CFR 268.7(a)(7)]. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** To qualify as an elementary neutralization unit and, therefore, be eligible for the exemption from general facility and unit-specific standards as well as RCRA permitting, the device must meet both of the following conditions: (1) It is used for neutralizing aqueous or liquid waste streams that are hazardous solely because they exhibit the characteristic of corrosivity (as defined in 40 CFR 261.22), or they are listed in 40 CFR Part 261, Subpart D only for this reason. (2) The unit meets the codified definition of tank, tank system, container, transport vehicle, or vessel under 40 CFR 260.10. To qualify for WWTU exemption, the tank or system used to manage remediation waste (e.g., contaminated purge water, equipment rinsate, or rinsewater) must (1) be part of a waste water treatment facility that (a) produces a treated wastewater effluent that is discharged into surface waters or into a POTW sewer system and therefore is subject to the NPDES or pretreatment requirements [Sections 402 or 307(b), respectively] of the Clean Water Act (CWA), or (b) produces no treated wastewater effluent as a direct result of such requirements[2] (2) receive, treat, or store an influent wastewater that is a hazardous waste, or generate, accumulate, treat, or store a waste water treatment sludge that is hazardous waste; and (3) meet the definition of tank or tank system. In both instances, the exemptions apply to the entire system. Thus, the exemption applies to sumps that meet EPA's definition of tank in 40 CFR 260.10 provided they are used to convey hazardous wastewater to an exempted unit. Similarly, if an elementary neutralization unit is not subject to RCRA Subtitle C, equipment that is ancillary to the exempted unit and is used to distribute, meter, control the flow of remediation waste is likewise not subject to the Subtitle C standards (58 FR 34080; September 2, 1988). See *Application of Best Available Technology for Radioactive Effluent Control* [DOE-STD-, DOE Standard - Draft], March 1997.
Exemption from Subpart CC Air Emission Standards for Remediation Waste Storage Units *Go to* **EH-413** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Since it explicitly encompasses "hazardous waste that is placed in the unit as a result of implementing remedial activities," this exemption potentially offers relief from Subpart CC air emission standards beginning with site characterization activities (e.g., storage of contaminated purge water or VO-containing soil) through the remedial design/remedial action (CERCLA) or corrective measures implementation (RCRA) phase of cleanup. Clear and convincing documentation illustrating that the unit(s) is used solely for the on-site management of hazardous waste resulting from remedial activities should be maintained. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** EPA explicitly defers from 40 CFR Part 264/265, subpart CC air emission standards "a waste management unit that is used solely for on-site treatment or storage of hazardous waste that is placed in the unit as a result of implementing remedial activities required under the corrective action authorities of RCRA sections 3004(u), 3004(v), or 3008(h); CERCLA authorities; or similar Federal or state authorities." Thus, provided these units are not used to manage other hazardous wastes (e.g., "as-generated" wastes), units (i.e., tanks, containers, surface impoundments, or miscellaneous units) that are used to treat or store remediation waste remain exempt from RCRA air emission standards.

Exemption from RCRA Permitting and Facility-Wide Corrective Action and Facility-Wide Corrective Action when Managing Remediation Waste

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Narrative Discussion

Relevance to Cleanup Activities/Processes

Owners or operators treating, storing, or disposing of hazardous remediation waste (as defined in 40 CFR 260.10) at a remediation waste management site can elect to obtain a special form of RCRA permit–a Remedial Action Plan (RAP). Provided it receives regulator approval, RAPs are designed to encourage facility cleanups by avoiding the process of obtaining a conventional RCRA Hazardous Waste Management Permit. Used in lieu of a conventional RCRA permit, a RAP does not subject the owners/operators to facility-wide corrective action requirements.

RAPs can be used when managing hazardous remediation waste at either an interim status facility or an already permitted RCRA facility. For interim status facilities, owners/operators should submit an application using the requirements established in 40 CFR Part 270, Subpart H. For permitted RCRA facilities, owners/operators should obtain a modification to an existing permit under 40 CFR 270.41 or 270.42 rather than using Subpart H. When an application for such a modification is submitted, however, the information requirements in 40 CFR 270.42(a)(1)(i), (b)(1)(iv), and (c)(1)(iv) do not apply. Rather, the information required under 40 CFR 270.110 must be submitted. Upon issuance, the RAP becomes part of an existing RCRA permit and is, therefore, modified, revoked and reissued, or terminated when the permit (including the RAP portion) expires.

Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation

A RAP can only be issued for (1) the area of contamination where the remediation wastes to be managed under the RAP originated, (2) areas in close proximity to the contaminated area, or (3) a location removed from the area where the remediation wastes originated provided the Director determines that such an alternative location is more protective than managing remediation waste at the area of contamination or areas in close proximity. A RAP may be (1) a stand-alone document that includes only the information and conditions required by this subpart, or (2) part (or parts) of another document that includes information and/or conditions for other activities at the remediation waste management site. In addition to general remediation waste management site/facility information, the following must be included in the application for a RAP:

- The United States Geological Survey or county map showing the location of the remediation waste management site
- A scaled drawing of the remediation waste management site showing the following:
  - The remediation waste management site boundaries
  - Any significant physical structures
  - The boundary of all areas on-site where remediation waste is to be treated, stored or disposed
- A specification of the hazardous remediation waste to be treated, stored or disposed of at the facility or remediation waste management site. This must include information on the following:
  - Constituent concentrations and other properties of the hazardous remediation wastes that may affect how such materials should be treated and/or otherwise managed
  - An estimate of the quantity of these wastes
  - A description of the processes to be used to treat, store, or dispose of this waste including technologies, handling systems, design and operating parameters to be used to treat hazardous remediation wastes before disposing of them according to the LDR standards of 40 CFR Part 268, as applicable
- Enough information to demonstrate that operations that follow the provisions in your RAP application will ensure compliance with applicable requirements of 40 CFR Parts 264, 266, and 268
- Such information as may be necessary to enable the Regional Administrator to carry out his duties under other Federal laws as is required for traditional RCRA permits under 40 CFR 270.14(b)(20)
- Any other information the Director decides is necessary for demonstrating compliance with 40 CFR Part 270, Subpart H or for determining any additional RAP conditions that are protective.

Off-site Management of Remediation Wastes during CERCLA Response Actions

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Narrative Discussion

Relevance to Cleanup Activities/Processes

As with other remedial alternatives, the viability and acceptability of off-site transfers of CERCLA wastes typically begins soon after project planning (i.e., scoping) and may be included within the range of treatment alternatives that might be used to achieve the site-specific cleanup objectives. Depending on the effectiveness, implementability, and cost of transferring the waste off-site, the off-site transfer alternative may have one or more components that can be carried through the corrective measure study or feasibility study screening process separately or combined into comprehensive alternatives.

Off-site acceptability status changes frequently, thus, ERPMs should contact their EPA Regional Off-site Contacts (ROCs) to obtain up-to-date, accurate information regarding the acceptability of facilities in their area. ROC information has been published and is also available from the RCRA/Superfund Industry Assistance Hotline at (800) 424-9346.

Be aware that an exemption from the Off-site Rule is provided for the off-site transfer of laboratory samples and treatability study wastes (e.g., contaminated ground water sent off-site for (1) the sole purpose of testing to determine its character or composition or (2) the purpose of conducting treatability studies) [40 CFR 300.440(a)(5)(i)-(iii)]. Also, in some situations, ERPMs fulfilling the responsibilities of On-Scene Coordinators may determine that cleanup or stabilization activities must be initiated within hours or days (i.e., emergency removal actions, emergencies during remedial actions). In these situations, CERCLA wastes may be transferred off-site without complying with the Off-Site Rule [40 CFR 300.440(a)(2)]. However, before off-site shipment, ERPMs should weigh, to the extent practicable, the following factors to determine whether a facility in noncompliance may be used for off-site disposal:

- The urgency of the situation
- The availability of alternative receiving facilities
- The reasons for the facility's primary unacceptability
- The facility's status relative to public health threats
- The likelihood of the facility's return to compliance

In some situations (e.g., fire, explosion), it may be necessary to move material off-site before a facility's acceptability can be evaluated (58*FR* 49204; September 22, 1993).

Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation

Under CERCLA, any remedial or removal action involving the off-site transfer of any hazardous substance, pollutant, or contaminant as defined under CERCLA ("CERCLA waste"), including cleanups at Federal facilities under Section 120 of CERCLA, must comply with the CERCLA Off-Site Rule. This rule generally provides that a facility used for the off-site management of CERCLA wastes must be in physical compliance with RCRA or other applicable Federal or state laws. In addition, the following criteria must be met:

(1) Units receiving CERCLA wastes at RCRA Subtitle C facilities must not be releasing any hazardous wastes, hazardous constituents, or hazardous substances.

(2) Receiving units at Subtitle C land disposal facilities must be in compliance with RCRA section 3004(o) minimum technology requirements.

(3) All releases from non-receiving units at land disposal facilities must be addressed by a corrective action program prior to using any unit at the facility.

(4) Environmentally significant releases from non-receiving units at Subtitle C treatment and storage facilities as well as all non-Subtitle C facilities must be addressed by a corrective action program prior to using any unit at the facility for the management of CERCLA wastes (58 FR 49202).

EPA's determination of acceptability of any facility selected for the treatment, storage, or disposal of CERCLA waste, prior to the facility's initial receipt of CERCLA waste, also will be based on (1)

Off-site Mgmt. of Remediation Wastes during CERCLA Response Actions (Cont.)	whether there are relevant violations affecting the unit or units receiving CERCLA waste (i.e., significant deviations from regulations, compliance order provisions, or permit conditions designed to ensure that CERCLA waste is destined for and delivered to authorized facilities; prevent releases of hazardous waste, hazardous constituents, or hazardous substances to the environment; ensure early detection of such releases; or compel corrective action for releases). Criminal violations that result in indictment are also relevant violations. A facility that has previously been evaluated and found acceptable under this rule (or the preceding policy) is acceptable until the EPA Regional Office notifies the facility otherwise [40 CFR 300.440(d)].
Petroleum-Contaminated Media and Debris from Underground Storage Tank (UST) Corrective Actions *Go to* **EH-413** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Generally, the presence of underground storage tanks (USTs) will be recognized at permit, order, or agreement issuance or ROD signature, prior to site characterization activities. Moreover, such USTs and any contamination associated with such units will typically be addressed within the decision document governing facility/site cleanup including, among others, • the "Ground Water Monitoring and Corrective Action for Waste Management Units" attachment of a RCRA Hazardous Waste Management Permit if the UST was, for example, devoted to storing used oil; and • a CERCLA ROD if the UST was, for example, used to store commercial chemical products (e.g., methanol, methylene chloride, etc.) that qualify as hazardous substances. It is possible, however, to encounter an anomaly during site characterization activities (e.g., non-invasive ground-penetrating radar) that, upon further characterization, is found to be an UST that was inadvertently buried and, therefore, previously unknown to the owner/operator. In these instances, a permit modification request or ROD amendment may needed to accommodate the removal and subsequent cleanup of any contamination associated with such a unit. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** The temporary deferral from the Subtitle C hazardous waste regulations applies to petroleum-contaminated media and debris that would otherwise qualify as TC organics (D018 through D043 only) provided such media and debris are subject to 40 CFR Part 280 (or an authorized state equivalent) corrective action regulations [40 CFR part 261.4(b)(10)]. EPA has interpreted this deferral to include all media and debris generated in response to known or suspected releases from petroleum UST systems (58 FR 8505; February 12, 1993). A petroleum UST system is defined as including "an underground storage tank system that contains petroleum or a mixture of petroleum with *de minimis* quantities of other regulated substances. Such systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils" (40 CFR 280.12). Discovery of contamination during routine petroleum UST system activities requires reporting under EPA's UST regulations (i.e., the contamination represents a known or suspected release from a UST) and responses to releases, therefore, potentially subject the UST owner/operator to 40 CFR 280, Subpart E ("Release Reporting, Investigation, and Confirmation") and F ("Release Response and Corrective Action for UST Systems Containing Petroleum or Hazardous Substances"). Thus, this deferral includes contaminated media and debris discovered as a result of routine activities such as petroleum UST closures, UST site assessments, and UST replacements. Be aware that although EPA proposed to suspend the TC rule for environmental media and debris contaminated by petroleum released from sources other than RCRA Subtitle I USTs (57 FR 61542; December 24, 1992), that rule was never finalized. Therefore, contaminated media and debris from non-Subtitle I regulated sources (e.g., aboveground tanks) are ***not*** included within this deferral.

Recovered Commercial Chemical Products (CCPs) Sent for Use/Reuse or Recycling *Go to* **EH-413** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Identified during scoping or upon unexpectedly identifying the presence of economically recoverable quantities of CCPs, options and alternatives for recovering CCPs should be evaluated as early actions [i.e., interim measures (RCRA), removal actions or interim remedial actions (CERCLA)]. Recovery operations generally are expected to comprise one element of a phased approach, should contribute to attaining the site-wide remedial objectives, and may occur concurrent with or as a precursor to other site restoration activities. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** Objective considerations highlighted by EPA that were considered for use in determining whether a spilled material is a CCP rather than a solid waste include the following (from 55 FR 22671; June 1, 1990): • Whether the site has begun to recycle the spill residue • Length of time the spill residue has existed • The value of the spilled material • Whether it is technically feasible or practicable to recycle the spilled material • Whether there is any past history of the regulated community recycling this type of residue Be aware that, even if contaminated media or debris is sent for disposal, the presence of a P- or U-listed constituent in a chemical formulation does ***not*** in and of itself automatically mean that the remediation waste meets a listing. Rather, to qualify as P- or U-listed hazardous wastes, discarded chemicals or chemical formulations must (1) appear in either of the 40 CFR 261.33 lists, (2) be an ***unused*** formulation, and (3) be a commercially pure formulation or a technical grade of the listed chemical, or (4) be a formulated product in which the listed waste is the sole active ingredient.
Reduced Info. for and/or Relief from RCRA Permitting During Cleanup and Post-Closure Care *Go to* **EH-413** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** When considering whether a particular DOE facility, site, operation, or activity is eligible to use an alternative mechanism in lieu of a post-closure care permit, ERPMs should consider • whether the specific unit, operation, or activity qualifies as a RCRA HWMU; • whether waste residues will remain on-site at levels that exceed established thresholds; • whether the facility is operating under interim status (and therefore is eligible to use one or more alternative mechanism); and • whether the particular state has adopted the final Post-Closure Rule provisions. To determine whether their facility or a particular regulated unit is eligible for replacing all or part of the requirements of 40 CFR Part 264/265, Subpart F (groundwater monitoring and corrective action) or Subpart G (closure/post-closure care) with the alternative requirements ***developed using the corrective action process***, ERPMs should consider whether site conditions indicate that (1) hazardous wastes or constituents (40 CFR Part 261, Appendix VIII) have been released from the unit, (2) the regulated unit is situated among one or more Solid Waste Management Units (SWMUs)/AOCs, and (3) both the regulated unit and the SWMU(s)/AOC(s) are likely to have contributed to the release. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** EPA intended that authorized states have sufficient flexibility to decide when an alternative mechanism should be used in lieu of a permit to address a particular site under their purview. Thus, rather than specifying when a mechanism would be used, EPA offers the following factors to states evaluating the appropriateness of an alternative mechanism (63 *FR* 56717; October 22, 1998): • Specific conditions at the site • The availability of approved alternate state cleanup authorities • Availability of resources • The facility cooperation or recalcitrance

Reduced Information for and/or Relief from RCRA Permitting During Cleanup and Post-Closure Care (Cont.) *Go to* **EH-413** *Narrative Discussion*	• Preferences of facility owners/operators and local public • Compliance status of the owners/operators Regulators electing to implement alternative mechanisms must ensure that they meet the same substantive requirements that apply to regulated units receiving post-closure permits. That is, the final Post-Closure rule does not remove or modify the requirements applicable to regulated units under post-closure permits. Rather, it allows regulators to use a variety of mechanisms to impose those requirements. Accordingly, EPA or an authorized state that issues an "enforceable document" [as defined in Sec. 270.1(c)(7)] in lieu of a post-closure permit must impose • the 40 CFR Part 270 information requirements that are relevant to closed facility requiring permits only for post-closure care, and that enable the regulators to implement ground water monitoring and other requirements [40 CFR 265.121(a)(1)]; • facility-wide corrective action for SWMUs consistent with 40 CFR 264.101 [40 CFR 265.121(a)(2)]; and • the more extensive Part 264 groundwater monitoring standards, as they apply to regulated units [40 CFR 265.121(a)(3)].
Exclusion for Samples of Remediation Waste *Go to* **EH-413** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** The exclusion for samples typically will be utilized during and is an integral strategy component of site characterization activities (e.g., soil, sediment, and groundwater sampling) that occur during the RCRA facility investigation (RFI) or RI/FS. Additionally, early actions taken during a phased approach may entail the removal of contaminated soil, sediment, or ground water requiring analysis and, therefore, may rely on this exclusion. Finally, implementation of the selected remedy (e.g., ground water monitoring associated with containment) may necessitate the need to use this exclusion. Excess sample, sample residue, and analytical residue remain exempt only until such time as the laboratory has completed its testing and has no reason to retain the sample-related waste. Upon approval of the analytical results (and provided the excess sample, sample residue, and analytical residue qualify as hazardous waste), laboratories must determine the next management step for each of these materials. Three possible avenues for managing such waste exist: (1) return excess sample, sample residue, and analytical residue to the sample originator; (2) designate such waste for (on-site or off-site) treatment, storage, or disposal; or (3) retain the samples for future analysis. In general, once analytical results have been approved and laboratory personnel (or the responsible project manager) determine the sample-related hazardous waste will be sent for disposal (rather than returned to an on-site or off-site sample originator), the laboratory becomes the generator (i.e., the first person by site that subjects the waste to regulation). Any subsequent treatment, storage, and disposal must comply fully with applicable RCRA regulations since such activities are no longer covered by the exclusion. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** Remediation waste samples are typically under one gallon in size and consist of solid or semi-solid waste or of water, soil, or air that are produced from on-site restoration activities or are received from off-site sources. In addition to being collected for the sole purpose of testing to determine its characteristics (e.g., ignitable, corrosive, sulfide- or cyanide-bearing reactive waste) or composition [e.g., TC metal concentrations, if the waste is to meet its concentration-based LDR treatment standards, including underlying hazardous constituents (UHCs)], one of the following six statements must be true for the sample to remain excluded [40 CFR 261.4(d)]: (1) It is being stored by the sample collector before being transported to a laboratory for testing. (2) It is being transported to a laboratory for the purpose of testing. (3) It is being stored in a laboratory before testing.

Exclusion for Samples of Remediation Waste (Cont.) *Go to* **EH-413** *Narrative Discussion*	(4) It is being stored in a laboratory after testing but before being returned to the sample collector. (5) It is being temporarily stored in a laboratory after testing for a specific purpose. (6) It is being transported back to the sample collector after testing. Sample collectors responsible for shipping exempt samples to the laboratory and, likewise, laboratory personnel returning excess samples and sample residue to a sample collector must determine and observe the applicable sample shipping (packaging and labeling) requirements. These may be the requirements of the Department of Transportation (DOT), U.S. Postal Service (USPS), or Nuclear Regulatory Commission (NRC), or EPA-prescribed labeling and packaging requirements. At a minimum, the following information must accompany the sample: sample collector and laboratory names, addresses, and telephone numbers; the quantity of the sample; date of shipment; and a description of the sample. Additionally, the packaging must prevent leaks, spills, and vapors from escaping (40 CFR 261.4(d)(2)(ii)). Relative to CERCLA wastes, be aware that environmental restoration activities that transfer samples of remediation waste to off-site laboratories are exempt from EPA's Off-site Rule. (See 40 CFR 300.440(a)(5) and the associated preamble discussion at 58 FR 49203, September 22, 1993).
Use of Staging Piles for Temporary Storage of Solid, Non-Flowing Remediation Waste *Go to* **EH-413** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** These units are intended to allow remediation wastes to be temporarily stored on-site (1) following interim measures while decisions on the final remedy are being formulated, (2) prior to completion of the remedial activity, or (3) to accumulate sufficient treatment volumes, facilitating treatment technologies such as chemical extraction. Relative to previously existing land-based unit management options, EPA anticipates that staging piles will be used (1) in place of CAMUs in cases where waste is being temporarily accumulated, and (2) in situations that the AOC policy does not apply (e.g., contaminated soil is being piled within one of several noncontiguous areas prior to further management) (63 FR 65920; November 30, 1998). Designation of staging piles and staging pile operating term extensions is expected to most often be part of the approval of remedy selection at a site. Therefore, like selection of the remedy, staging piles will generally be approved using Class 2 permit modification procedures. EPA also will allow staging piles and staging pile operating term extensions to be designated and modified through RAP modification procedures under 40 CFR 270.170 and 270.175. Modification of a closure plan to incorporate a staging pile or staging pile operating term extension also is acceptable and should proceed according to the requirements in 40 CFR 264.112(c) (permitted facilities) or 265.112(c) (interim status facilities). Finally, modification of an interim status order [e.g., RCRA 3008(h)] to incorporate a staging pile or staging pile operating term extension must occur according to the terms of the order and the applicable provisions of 40 CFR 270.72(a)(5) or (b)(5). **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** The three parts of the performance standard are as follows:[40 CFR 264.552(d)(1)] (1) "The staging pile must facilitate a reliable, effective and protective remedy." (2) "the staging pile must be designed so as to prevent or minimize releases of hazardous wastes and hazardous constituents into the environment, and minimize or adequately control cross-media transfer, as necessary to protect human health and the environment (for example, through the use of liners, covers, run-off/run-on controls, as appropriate)" (3) "the staging pile must not operate for more than two years, except when the Director grants an operating term extension. The two-year limit, or other operating term specified by the Director in the permit, closure plan, or order, from the first time you place remediation

Use of Staging Piles for Temporary Storage of Solid, Non-Flowing Remediation Waste (Cont.) *Go to* **EH-413** *Narrative Discussion*	waste into a staging pile. You must maintain a record of the date when you first placed remediation waste into the staging pile for the life of the permit, closure plan, or order, or three years, whichever is longer." The Director also must consider the following decision factors in establishing the standards and design criteria for the staging pile: • Length of time the pile will be in operation • Volumes of wastes to be stored • Physical and chemical characteristics of the wastes to be stored in the unit • Potential for releases from the unit • Hydrogeological and other relevant environmental conditions at the facility which may influence the migration of any potential releases • Potential for human and environmental exposure to potential releases from the unit

1. Section 3023(b) of the Federal Facility Compliance Act of 1992 prohibits the discharge of hazardous waste into a federally owned treatment works unless one of four conditions are met. Three of the four conditions are potentially applicable: (1) The rinsewater is subject to and in compliance with a pretreatment standard; (2) the rinsewater will be subject to a pretreatment standard that is scheduled to be established before October 6, 1999; or (3) the rinsewater meets LDR treatment standards.

2. For "zero discharge" facilities, EPA has clarified the difference between a facility that produces no treated wastewater as a direct result of CWA requirements and units that are not required to obtain an NPDES permit because they do not discharge treated effluent. In the first case, the facility would have had a surface water discharge at one time, but has since eliminated the discharge as a result of, or by surpassing, NPDES or pretreatment requirements. Such a facility would be eligible for RCRA's WWTU exemption. In the second case, the facility never had a surface water discharge and, therefore, was never subject to NPDES permitting or CWA requirements (53 FR 34080). The RCRA exemption is ***not*** available in these cases.

Contained-in Policy

Go to **EPA** *Narrative Discussion*

Relevance to Cleanup Activities/Processes

"Contained-in" determinations do not mean that no hazardous constituents are present in the environmental media but simply that their concentrations do not warrant management as hazardous waste. EPA or an authorized state can determine, ***at any time*** during the remediation process that environmental media did not contain (or no longer contains) any solid or hazardous waste.

To accomplish this, ERPMs will need to gather detailed site-specific information on hazardous constituents or combinations of hazardous constituents of concern, potential human and environmental receptors, and potential routes of exposure (assuming direct exposure). This information should become available during the RI/FS.

Specific to contaminated soil, EPA anticipates that decisions as to whether soil no longer contains hazardous waste will often be combined with LDR site-specific minimize threat decisions evaluated using the site-specific LDR variance process set forth in 40 CFR 268.44(h). In fact, EPA encourages owners/operators to combine these determinations and include information regarding the "contained-in" decision in the public notice of the ***site-specific, risk-based (minimize threat) LDR treatment variance***. EPA and state officials already routinely make these types of decisions when developing site-specific, risk-based cleanup levels.

Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation

Environmental media itself is not a listed hazardous waste, and the "mixture" and "derived from" rules are not appropriate for contaminated media (i.e., media is not a "solid waste"). Thus, EPA typically relies on its "contained in" policy to classify environmental media as hazardous waste. The determination of whether environmental media contains hazardous waste is site-specific and should be decided through consultation with regulators (e.g., EPA Regional Administrator). Although it has not yet finalized them, EPA proposed a set of decision factors that it believes may be appropriate to consider when making contained-in decisions, including

- media characteristics;
- waste constituent characteristics (i.e., solubility, mobility, toxicity, and interactive effects of constituents present that may affect these properties);
- exposure potential (including potential for direct human contact and potential for exposure of sensitive environmental receptors, considering site-specific management controls that could be imposed to lessen these potentials;
- surface and subsurface properties/characteristics,
- climate conditions;
- whether the media pose an unacceptable risk to human health or the environment; and
- other site or waste-specific properties or conditions that may affect the decision (61 FR 18797; April 29, 1996 (HWIR-Media Proposed Rule).

Hazardous waste listings are retroactive, therefore, once EPA lists a particular type of waste, solid wastes meeting that listing description qualify as hazardous wastes regardless of disposition date, provided they are actively managed after the effective date of the listing (53 *FR* 31145). In contrast, to determine whether media is characteristically hazardous, ERPMs may either test a representative sample or use their waste knowledge. However, in the absence of testing, ERPM decisions must be based on site-specific information and data collected on the constituents and their concentrations during site investigations (55 *FR* 8762). See *Determination of When Contamination Is Caused by Listed Waste* policy.

In some cases, media may contain substantial portions of an unused commercial chemical product (CCP) [e.g., free product nonaqueous phase liquids (NAPLs) floating on top of a water table] which may be recovered and used, reused, or reclaimed within a reasonable amount of time. CCPs that are exhumed, extracted, etc., and used/reused for their intended purpose or reclaimed are not "solid wastes" (see 40 CFR 261.2 and 63 FR 28583; May 26, 1998) and, therefore, do not qualify as "remediation wastes." [Also see burden of proof under 40 CFR 261.2(f)]. For CCPs that meet a P-

Contained-in Policy (Cont.) *Go to* **EPA** *Narrative Discussion*	or U-listing and cannot be recovered for use/reuse or reclamation, the contained-in policy applies in the same manner as for other listed wastes [Internal EPA Memorandum dated February 17, 1995; OSWER Dir. 9444.1995.(01)]. Note that if a spill residue involves a CCP that is listed solely because it exhibits a characteristic (e.g., acetone, methanol), any residue remains classified under the appropriate U-waste code (even if the residue is no longer characteristically hazardous) until it can be demonstrated that the residue no longer "contains" that listed waste. The presence of a P- or U-listed constituent in a spilled chemical formulation, however, does ***not*** in and of itself automatically mean that the remediation waste contains a listed waste.
RCRA Section 3020(b) Exemption for Reinjection of Contaminated Ground Water *Go to* **EPA** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** CERCLA response actions/RCRA corrective actions may involve ground water "pump-and-treat" operations that entail extraction of contaminated ground water from an aquifer, treatment of the ground water, and reinjection of the treated ground water back into the aquifer. This alternative should be considered during cleanup alternatives screening and, if appropriate, be carried through to the detailed analysis. Initially, the regulators will present this alternative (i.e., reinject the effluent from treating contaminated ground water) as part of a CERCLA Proposed Plan or RCRA Statement of Basis. This alternative is selected as part of a RCRA permit, permit modification, order, or other type of enforceable document or a CERCLA Record of Decision (ROD). **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** Under Subtitle C of RCRA, LDR requirements prohibit "land disposal" of hazardous wastes unless the wastes are first treated to meet concentration-based or specified technology treatment standards. By definition under RCRA 3004(k), injection of ground water constitutes "land disposal." Substantive RCRA requirements must be attained during the CERCLA response actions if the requirements are determined to be ARARs. Furthermore, RCRA corrective actions must comply with any legally applicable substantive *and* administrative requirements. Under certain circumstances, however, EPA has determined that LDR requirements do not apply to reinjection of ground water that is managed during pump-and- treat operations, even when the extracted ground water qualifies as hazardous waste. That is, provided the three following conditions are met, RCRA Section 3020(b) contains an exception that allows reinjection (of treated ground water) into the aquifer from which the contaminated ground water was extracted provided: (1) The reinjection is part of a CERCLA §104 or 106 response action or is a RCRA corrective action. (2) The contaminated ground water will be treated "to substantially reduce hazardous constituents before such injections." (3) The action will, *upon completion*, be sufficient to protect human health and the environment. EPA has determined that RCRA §3020(b), which directly focuses on the injection of treated ground water, is more specific than the 3004(k) language that prohibits "land disposal" of hazardous wastes. Therefore, EPA has concluded that the LDR prohibitions do not apply to response/corrective actions that meet those three conditions. Although the language of RCRA 3020(b) is straightforward regarding its applicability during RCRA corrective actions, it is not explicit relative to CERCLA response actions conducted at Federal facilities. During CERCLA response actions, DOE employs section 104 authority (under the authority delegated by Executive Order 12580). Accordingly, CERCLA response actions (which include ground water reinjection operations) conducted at DOE facilities can

RCRA Section 3020(b) Exemption (Cont.)	satisfy the first of the three previously listed conditions. Based on a case-by-case determination, ERPMs should consider contacting their Regional EPA Office to discuss invoking the RCRA Section 3020(b) exception to the prohibition of underground injection of hazardous waste. ERPMs must be able to demonstrate that the two additional Section 3020(b) conditions are also met (i.e., the contaminated ground water is treated and actions will be protective).
LDR Treatment Standards for Contaminated Soils *Go to* **EPA** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** At environmental restoration sites located in states that have not received authorization to implement LDR provisions or states that have adopted or plan on adopting the alternative LDR treatment standards for contaminated soil, ERPMs may want to consider revisiting their site decision documents (e.g., ROD, RCRA permit) to ascertain whether the alternative treatment standards for soil (1) encourage restoration that utilizes treatment as opposed to leaving untreated contaminated soils in-situ, and (2) offer environmentally protective relief from the previously selected treatment requirements that appear technically infeasible or inordinately expensive. ERPMs need to recognize that LDR notification provisions (40 CFR 268.7) have been amended to explicitly address contaminated soil and new certification statements must be utilized for contaminated soil. For out-of-state shipments of soils treated to meet the less stringent alternative treatment standards, ERPMs need to ensure that each designated facility's state (i.e., consignment state) has adopted and been authorized to implement the new provisions. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** At some sites, the concentrations of naturally occurring background constituents may be higher than the levels at which the LDR treatment standards for the constituents are to be capped. Accordingly, EPA presumes that when LDR treatment standards would require treatment of UHCs to concentrations that are below natural background, a variance will be appropriate, provided the soil used to establish the natural background concentration has not been influenced by human activities or releases (63 FR 28609; May 28, 1998).
Site-Specific, Risk-Based LDR Treatment Variance for Contaminated Soils *Go to* **EPA** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Although clear and convincing evidence supporting the appropriateness of a site-specific, risk-based LDR treatment variance for contaminated soils may not be available during scoping, its appropriateness should be considered as early as possible in the RCRA corrective action/CERCLA response action process. Under RCRA, potential receptors are identified as part of the RFI, which generally precede and justify the need for the RCRA corrective measures study (CMS). Similarly, under CERCLA, the baseline risk assessment is conducted as part of the remedial investigation (RI) and precedes or runs concurrent with the screening of alternatives phase of the CERCLA feasibility study (FS). Thus, before developing and screening an appropriate range of remedial alternatives during the CMS/FS, ERPMs that suspect a site-specific, risk-based LDR treatment variance for contaminated soil may be appropriate should consider approaching the regulators to determine whether they too believe such a variance is warranted. If the regulators recognize that a variance may have merit, ERPMs and regulators should reach consensus on conducting (possibly as part of a phased approach) a RCRA Release Assessment (also known as a "Phase I RFI") as the first phase of an RFI, or a focused RI/FS (CERCLA) to justify such a variance. While not forbidden, EPA believes that site-specific, risk-based minimize threat determinations will rarely be made in the context of an independent or voluntary cleanup action, since, in these types of actions, an overseeing agency will not, typically, have been involved in the identification of exposure pathways and receptors of concern or the calculation of site-specific, risk-based cleanup levels. Of course, ERPMs could apply for a site-specific, risk-based

Site-Specific, Risk-Based LDR Treatment Variance for Contaminated Soils (Cont.) *Go to* **EPA** *Narrative Discussion*	minimize threat variance during an independent or voluntary cleanup and, provided EPA or an authorized state agreed that the proposed alternative treatment standards minimized threats considering appropriate exposure pathways and receptors, a variance could be approved. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** When threats posed by land disposal of any given volume of contaminated soil are "minimized" at concentrations of hazardous constituents that are greater (i.e., higher) than those specified in the technology-based soil LDR treatment standards (i.e., technology-based treatment standards result in treatment beyond the point at which threats are minimized), ERPMs should consider the appropriateness of a site-specific, risk-based LDR treatment variance for contaminated soils. At this time, EPA is making the site-specific minimize threat variance available to contaminated soil only; however, variances are not expressly limited to on-site land disposal. To obtain minimize threat variance determinations for contaminated soil, EPA is requiring that site-specific factors and conditions be evaluated using the existing site-specific variance process set out in 40 CFR 268.44(h). At a minimum, alternative LDR treatment standards approved through a site-specific minimize threat variance must be within the range of acceptable values typically used by EPA for cleanup decisions. For carcinogens, this equals a total excess risk to an individual that falls within a range from 10^{-4} to 10^{-6} and, for non-carcinogens, a hazard index equal to or less than one. Unlike some CERCLA response or RCRA corrective action remedies, site-specific minimize threat variances cannot rely on the potential safety of land disposal units, or engineered structures such as liners, caps, slurry walls, or any other for post-land disposal controls or practice (63 FR 28607-28608). Since EPA guidance on site-specific, risk-based minimize threat determinations is essentially the same as that for "contained-in" determinations, EPA anticipates that decisions about site-specific minimize threat variances will often be combined with decisions that soil no longer "contains" hazardous waste. In these cases, once treated to comply with the alternative treatment standards imposed by the variance, the soil would no longer have any obligations under RCRA Subtitle C and could be managed--including land disposed--without further control under RCRA Subtitle C.
Exclusion for Dredged Material that Exhibits a Characteristic or Contains a Listed HW *Go to* **EH-413** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** As part of an early removal action, interim measure, or remedy implementation, dredged material can be mechanically or hydraulically dredged and disposed of by barges or pipelines into river channels; lakes; estuaries; ocean; waters of the United States, including open water; at confined disposal facilities (CDFs); or for beneficial uses, which are all regulated under the Clean Water Act (CWA). **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** Although it may qualify as solid waste (subject to RCRA Subtitle D), to be excluded from qualifying as hazardous waste, dredged material that contains hazardous waste or exhibits one or more characteristics of hazardous waste must be subject to either the requirements of a permit that has been issued under section 404 of the CWA, or section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA) [40 CFR 261.4(g)]. Definitions that apply to this provision include (1) the term dredged material, which means "material that is excavated or dredged from waters of the United States" (40 CFR 232.2); (2) the term permit, which includes

Exclusion for Dredge Material that Exhibits a Characteristic or Contains a Listed Hazardous Waste (Cont.) *Go to* **EH-413** *Narrative Discussion*	a. permits issued by the U.S. Army Corps of Engineers (Corps) or an approved state under section 404 of the Federal Water Pollution Control Act (33 U.S.C. 1344); b. Corps permits issued under MPRSA section 103 (33 U.S.C. 1413); or c. in the case of Corps civil works projects, the administrative equivalent of the Corps permits referred to in paragraphs a and b above, as provided for in Corps regulations (for example, see 33 CFR 336.1, 336.2, and 337.6). If upland-disposed dredged material has ***no*** runoff or return flow from a contained land or water disposal area into waters of the United States (e.g., from a weir and outfall pipe to drain water from a CDF, including the water entrained with the solid portion of the dredged material discharged at the site and from rainwater runoff), as defined by CWA section 404 (see 40 CFR 232.2), that dredged material would not be regulated under the CWA or MPRSA and, therefore, is not eligible for this exclusion from RCRA. Groundwater flow, however, can be considered a return flow under CWA Section 404 provided a "direct hydrogeological connection" to a surface water body, including certain wetlands, can be demonstrated (see 63 FR 65922; 40 CFR 232.2 definition of "waters of the United States").
Management of Investigation-Derived Waste (IDW) *Go to* **EH-413** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** The most important phase of IDW management is planning for waste generation and handling ***before*** RCRA/CERCLA field investigation activities (e.g., RFI, RI/FS, remedial design) begin (OERR Dir. 9345.3-02). Thus, in the planing phase, ERPMs should determine whether the IDW can remain on-site, can be temporarily stored (e.g., in a staging pile) prior to off-site transfer, or should be transferred immediately for off-site treatment, storage, or disposal. Should the IDW contain a listed waste or exhibit a characteristic of hazardous waste, ERPMs will be considered "generators" because their "act or process (e.g., exhuming contaminated soil from the ground) first causes the IDW to become subject to regulation" (see 40 *CFR* 260.10). As with managing other waste streams, generators of hazardous IDW must comply with 40 CFR 262.34 accumulation requirements (which may trigger container, tank, or containment building standards found in 40 CFR Part 265, Subparts I, J, and DD, respectively), as well as LDR provisions. The LDR storage prohibition, however, does not necessarily apply. Further, EPA's satellite accumulation area provisions [40 CFR 262.34(c)] should be considered when limited volumes of IDW (e.g., less than 55 gallons of environmental media containing non-acutely hazardous waste) are expected. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** At RCRA facilities, unless the IDW is source, special nuclear, or byproduct material eligible for an exemption from the RCRA's definition of solid waste [RCRA Section 1004(27); 40 *CFR* 261.4(a)(4)], generators must properly characterize their IDW in accordance with EPA's *Determination of When Contamination Is Caused by Listed Waste* policy. In many cases, the exact character and/or composition of an IDW will be unknown. Although ***not*** specific to IDW, in an April 21, 1989, interpretive letter (S. Lowrance to S. Axtell), EPA clarified that generators who are interested in retaining their exemption from RCRA permitting must accumulate unknown wastes in accordance with all of the 40 CFR 262.34 pre-conditions beginning at ***the initial point of generation*** rather than when the analytical results are received. Provided such compliance occurs, permitting requirements will not be triggered. Relative to site-specific considerations, ERPMs should evaluate the facility Waste Analysis Plan (WAP), Sample and Analysis Plan (SAP) , or work plan to determine whether the facility plan(s) implements a specific approach for managing unknown IDW awaiting test results or treatment, storage, or disposal capacity.

Management of Investigation-Derived Waste (IDW) (Cont.) *Go to* **EH-413** *Narrative Discussion*	At CERCLA sites, ERPMs managing IDWs may need to exercise professional judgement with respect to matters such as analytical testing of IDW, handling of wastes that are covered under CERCLA but not regulated under other authorities, and on-site disposal. Additionally, ERPMs must ensure the on-site management satisfies ARARs to the extent *practicable*. Although no permits are required for on-site CERCLA response actions [***CERCLA Section 121(e) Permit Waivers***], RCRA's unit-specific standards for containers, tanks, containment buildings, and staging piles are generally deemed substantive and EPA's policy is to follow the storage regulation practices required for generators. ERPMs should evaluate whether regulators view additional generator accumulation provisions (90-day limit, marking and labeling, etc.) as substantive requirements. ERPMs overseeing CERCLA activities must select a management option that is protective. Considerations to be used in determining whether a particular management/disposal option is protective include the contaminants, their concentrations, and total volume of IDW; the media potentially affected; the location of the nearest population and the likelihood and/or degree of site access; potential exposures to site workers; and potential for environmental impacts (OERR Dir. 9345.3-03FS). In either case, ERPMs examining alternatives for on-site management may find it beneficial to explore the potential for managing IDW in accordance with EPA's regulations and policy governing ***CAMUs*** and/or ***AOCs***.

LDR Treatment Standards for Contaminated Debris *Go to* **EPA** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Remediation waste often includes debris such as contaminated building materials (brick, concrete, pavement) and demolition debris, equipment, PPE and rags, utility and railway poles, and pallets. Debris types and quantities, permeability and destructibility, categories, treatment technologies, and characteristics affecting technology performance should, when possible, be identified during project scoping. Often, the range of debris alternatives being developed and screened includes performance-based, alternative treatment technologies for debris at 40 CFR 268.45. These alternative treatment methods can be used in place of waste-specific, concentration-based or specified technology LDR treatment standards and "always satisfy the decontamination standard in the closure [i.e., cleanup] provisions" (57 FR 37243; August 18, 1992). Debris treatment alternatives can be developed, screened, and analyzed concurrently with the RFI/RI site characterization as part of the RCRA CMS or the CERCLA FS. When the response action constitutes a removal action under CERCLA, the EE/CA may be used as a vehicle for analyzing the implementability, efficacy, cost, and short-term risks of these technologies. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** "Debris" means solid material exceeding a 60 mm particle size that is intended for disposal, including manufactured objects, plants, animal matter, or natural geologic materials. However, the following materials are not debris: (1) any material for which a specific treatment standard is provided in Subpart D, Part 268, namely lead acid batteries, cadmium batteries, and radioactive lead solids; (2) process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and (3) intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of 1) debris that has not been treated to the alternative treatment standards in 40 CFR 268.45 and 2) other material is subject to regulation as debris provided such a mixture is comprised "primarily of debris," which is determined based on a visual inspection (40 CFR 268.2). "Hazardous debris" means debris that exhibits a characteristic of hazardous waste or contains a listed hazardous waste. Hazardous debris must be treated prior to land disposal, unless EPA concurs that the debris is no longer contaminated with ("contains") listed waste [40 CFR 261.3(f)(2)] or the debris has been (or will be) treated to meet the applicable waste-specific LDR treatment standards in 40 CFR Part 268, Subpart D. Rather than treating it to meet waste-specific treatment standards, generators/treaters can choose to treat hazardous debris for each "contaminant subject to treatment" (i.e., toxicity characteristic debris, debris contaminated with a prohibited listed hazardous waste, and cyanide reactive debris) using technologies identified in 40 CFR 268.45, Table 1--Alternative Treatment Standards for Hazardous Debris. Similarly, debris that exhibits a characteristic of ignitability, corrosivity, or reactivity can be deactivated using one of those technologies. Hazardous debris that is also a waste PCB under 40 CFR part 761 is subject to the requirements of either part 761 or section 268.45, whichever are more stringent. For debris that is contaminated with two or more *contaminants subject to treatment* or is a mixture debris types, alternative LDR treatment standards must be met for each contaminant and each type of debris using one or more of the performance-based technologies, unless the debris is converted into treatment residue. Although treatment residuals are subject to the waste-specific treatment standards for the waste contaminating the debris, hazardous debris that has been treated using one of the EPA-specified *extraction* or *destruction* technologies and no longer exhibits a characteristic following treatment is *not* a hazardous waste and need not be managed at Subtitle C facilities. Hazardous debris contaminated with a listed waste that is treated by an *immobilization* technology, however, remains hazardous (i.e., must be disposed of in a Subtitle C facility). See DOE's *Environmental Restoration Waste Management Guide.*

Go to **EPA** *Narrative Discussion*	**Interpretation that Debris Treated to the LDR Debris Treatment Standards Using Extraction or Destruction Technologies No Longer Contain Hazardous Waste** See preceding tabular discussion & DOE's *Environmental Restoration Waste Management Guide.*
Exemption for "Empty" Containers and Residues from Empty Containers *Go to* **EH-413** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Empty containers may be encountered at any point during a facility/site cleanup. If they are buried within an area of contamination, empty containers may be identified during site characterization while applying subsurface geophysical methods (e.g., ground penetrating radar, electromagnetic induction, metal detection, magnetometry). Other containers may be emptied (in accordance with the governing provisions) to facilitate cleanup (e.g., bulking of compatible hazardous wastes into larger containers managed in staging areas; transfer of container content into a tanker truck prior to off-site transport). Therefore, ERPMs should remain cognizant of this exemption throughout all phases of cleanup. Be aware that some empty containers may be suitable for reuse. For example, if the original container that the manufacturer used to ship a chemical product remains on-site and is available, it may be used to recontainerize cleanup waste; however, close attention should be paid to ensuring the waste is compatible with the container and residues from its previous content. The Department of Transportation (DOT) has special provisions governing DOT packaging that is reused for the shipment of hazardous waste to designated facilities (49 CFR 173.12(c)). Also, under DOT regulations, a container that has held a hazardous material (which includes hazardous waste) must be cleaned and purged of its contents before the hazardous material label can be removed (49 CFR 173.29). Relative to empty lead or lead-lined containers that can continue to be used to store mixed waste, EPA has consistently stated that such containers generally are not subject to Federal hazardous waste requirements when placed on the land during this normal manner of use (i.e., the lead's primary use is shielding in low-level waste disposal operations). See EPA letter (Williams to Husseman) dated June 26, 1987; an EPA memorandum dated October 4, 1989 ("Guidance on the Definition and Identification of Commercial Mixed Low-Level Radioactive and Hazardous Waste and Answers to Anticipated Questions"); and a RCRA/Superfund Industrial Hotline Monthly Hotline Report, May 1992. Both the October 1989 and May 1992 guidance, however, highlight EPA's concern that lead containers and liners may be equally hazardous to human health and the environment when place into or onto the land, regardless of their legal classification as a waste or a container. Therefore, EPA recommends that all lead containers/liners be managed in an environmentally conscious manner (e.g., sent to a permitted TSDF or rendered non-characteristic). **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** The following descriptions outline the conditions used by EPA to define a hazardous waste container as "empty" (40 CFR 261.7): (1) **Compressed gas cylinder:** A container that has held a hazardous waste that is a *compressed gas* is considered empty when the pressure in the container approaches atmospheric pressure. (2) **Containers or inner liners that have held an *acutely hazardous waste*** are considered empty if they have been triple rinsed using an appropriate solvent or cleaned by another method achieving equivalent removal. If the container had an inner liner that prevented contact of the container with the commercial chemical product or manufacturing chemical intermediate, the container is considered empty when the inner liner has been removed.

Exemption for "Empty" Containers and Residues from Empty Containers (Cont.)	(3) **Containers or inner liners that have held *other hazardous waste:*** Such units are considered empty if all wastes that can be removed using common practices (e.g., pumping, pouring, aspirating, etc.) have been removed and (a) no more than 2.5 cm (1 inch) of residue remains on the bottom of the container or inner liner, ***or*** (b) residuals constitute no more than 3 percent by weight of the total capacity of the container or inner liner for containers of 110 gallons or less, or no more than 0.3 percent by weight for containers exceeding 110 gallons. Thus, the definition of an empty container has three parts and is dependent on the type of waste the container held. In other words, ERPMs must determine whether a container is empty based on the material it previously held.
Exclusion for Scrap Metal That is Being Recycled *Go to* **EH-413** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Although the economics and regulations are complex, rapidly changing, and are generally location specific, both RCRA and CERCLA contain provisions that advocate pollution prevention and environmentally sound recycling. Thus, ERPMs that are evaluating remedial alternatives based on local conditions should consider the viability as well as the costs/benefits of scrap metal recycling. The presence, type, and quantity of scrap metal can be estimated as part of an initial asset survey conducted during the RFI/CMS or RI/FS scoping process and should include scrap metal that will be managed for implementing DOE facility cleanup. Thus, in addition to inventoried scrap metal (i.e., structural steel and other metals from decommissioned buildings, scrap metals accumulated from facility maintenance and renovation, and scrap stored in scrap and lay-down yards), these estimates should include buried scrap metal that is known or discovered, and structural metals that are still part of buildings that have not yet been, but are expected to be, decommissioned while implementing facility cleanup. When recovering scrap metal values, remedial alternative may rely on several process options to comprise a treatment train. These treatment trains may involve rough separation (i.e., the removal of unacceptable conventional and radioactive contaminants and increase of the scrap metal concentrations) followed by separation and isolation, during which scrap metal is further cleaned and upgraded. Be aware, however, that should one or more of the recovery or treatment alternative(s) be viewed as or be integral to the scrap metal recycling process, it may be exempt from RCRA regulation under 40 CFR 261.6© except from 40 CFR 264/265, Subparts AA and BB [as specified for in 40 CFR 261.6(d)]. See interpretive EPA letters such as Denit to Redington (dated July 28, 1993); Bussard to Mauro (dated May 9, 1994). **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** EPA defines scrap metal as bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that are combined together with bolts and soldering (e.g., radiators, scrap automobiles, railroad box cars), which, when worn or superfluous can be recycled. EPA distinguishes scrap metal from other metal-bearing secondary materials because of the differences between them in physical form, content, and manageability. Thus, the following metal-bearing waste streams do not meet EPA's definition of scrap metal: (1) secondary materials from smelting and refining operations (e.g., slags, drosses and sludges); (2) liquid wastes containing metals (e.g., spent acids and caustics); (3) liquid metal wastes (e.g., liquid mercury); and (4) metal-containing wastes with a significant liquid component (e.g., spent lead-acid batteries). Further, EPA has clarified that to meet the definition, a physically similar material must have greater than 50 percent metal (*RCRA/Superfund Hotline Monthly Report*, March 1990). EPA offers two separate exclusions relative to scrap metal. Under 40 CFR 261.6, EPA provides an exclusion for scrap metals that do not qualify as "excluded scrap metal" and would otherwise

Exclusion for Scrap Metal That is Being Recycled (Cont.) *Go to* **EH-413** *Narrative Discussion*	qualify as hazardous waste; however, they are being reclaimed or recycled and, therefore, qualify as "recyclable materials" [§261.6(a)(3)(ii)]. This type of scrap metal often encompasses obsolete scrap (i.e., scrap that is composed of worn-out metal or a metal product that has outlived it original use, such as automobile hulks, railroad cars, aluminum beverage cans, steel beams from torn down buildings, and household appliances), provided they are reclaimed or recycled. The second exclusion relates to materials that are specifically excluded from EPA's codified definition of "solid waste." Under 40 CFR 261.4(a)(13), EPA excludes processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal being recycled (i.e., these materials are sufficiently product-like, are not considered "solid waste," and therefore, are not subject to RCRA solid/hazardous waste regulation). These items are defined as follows: ***Processed scrap metal*** is scrap metal that has been manually or physically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes, but is not limited to, scrap metal that has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type (i.e., sorted); and fines, drosses, and related materials that have been agglomerated, regardless of who does the processing. In other words, a processing step may be performed by the generator, an intermediate scrap handler (e.g. broker, scrap processor), or a scrap recycler. Once the scrap metal has undergone a processing step, it may qualify for the exclusion. ***Home scrap metal*** is scrap metal generated by steel mills, foundries, and refineries, such as turnings, cuttings, punchings, and borings, and may have little bearing on ER activities; whereas ***prompt scrap metal*** (also known as industrial or new scrap metal) is scrap metal that is generated by the metal working/fabrication industries and includes such material as turnings, cuttings, punchings, and borings, which may be encountered in certain instances. Processed scrap metal does not, however, include any distinct components separated from unprocessed or partially processed scrap metal that would not otherwise meet the current definition of scrap metal. For example, processed scrap metal does not include batteries, capacitors, or other liquid-bearing metal articles; fluff or other non-metal residuals; liquid metals such as mercury or metal-bearing liquids such as spent caustics and acids; or process secondary materials such as slags, drosses, ashes, and sludges that have a physical form dissimilar to scrap metal.
Exemption for Certain PCB Wastes *Go to* **EH-413** *Narrative Discussion*	**Relevance to Cleanup Activities/Processes** Unlike some wastes/materials (e.g., scrap metal), the presence, type, and quantity of polychlorinated biphenyl- (PCB-) containing dielectric fluids and associated PCB-contaminated electrical equipment generally should be known prior to initiating facility cleanup [i.e., quantified as an element of complying with the Toxic Substances Control Act (TSCA)]. Thus, during project scoping, ERPMs should ensure that their state (and any consignment state) has codified an analogous exemption in place of implementing RCRA-based PCB provisions that are "more stringent" or "broader in scope" than the Federal program. **Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation** Provided it is hazardous solely because it is TC organic (i.e., Hazardous Waste Codes D018 through D043 only), EPA explicitly exempts from RCRA jurisdiction the disposal of PCB-containing dielectric fluid removed from electrical transformers, capacitors, and other electrical equipment as well as items containing such fluids that are authorized for use and regulated under 40 CFR Part 761 (40 CFR 261.8). In contrast, 40 CFR Part 761 applies to all persons who manufacture, process, distribute in commerce, use, or dispose of PCBs or PCB Items, and

Exemption for Certain PCB Wastes (Cont.)	regulates dielectric fluids, among others chemical substances or combinations of substances. Under 40 CFR 761.60, PCB liquids at concentrations $\geq$ 50 ppm must be disposed of in an incinerator that complies with 761.70, except that mineral oil dielectric fluid at concentrations $\geq$ 50 ppm and <500 ppm may be disposed of in a high-efficiency boiler according to 40 CFR 761.71(a).

ATTACHMENT B

Additional EPA Policies and Regulations Affecting the Management of Remediation Waste under the Resource Conservation and Recovery Act (RCRA)

Introduction

This attachment constitutes the second of four attachments to an Office of Environmental Policy and Assistance, RCRA/CERCLA Division (EH-413) Information Bulletin titled ***Policies and Regulations Governing the Management of Remediation Waste Under the Resource Conservation and Recovery Act (RCRA)***. Although the environmental policy/regulatory narrative discussions comprising this attachment were prepared by EH-413, they are grounded in regulations, preamble discussions, and interpretive memoranda and letters issued by the U.S. Environmental Protection Agency (EPA), which are cited throughout each of the discussions, as appropriate. They address remediation waste-related policies and regulations that are not examined in an October 1998 EPA memorandum titled *Management of Remediation Waste Under RCRA* (EPA530-F-98-026), which is provided as ***Attachment C*** to this Information Bulletin. The policies/regulations addressed herein and in the October 1998 EPA memorandum are designed to complement the corresponding "*Relevance to Cleanup Activities/Process*" and "*Considerations and Factors Regarding the Applicability or Use of the Policy and/or Regulation*" tabular discussions presented in ***Attachment A*** to this bulletin.

Users viewing an electronic [portable document format (PDF)] version of this document should recognize that each narrative discussion in this attachment includes two hypertext links (illustrated using blue, italicized text). One link appears next to the policy/regulatory heading and transfers/returns the user to the corresponding *Attachment A* tabular information. A second link at the end of each topical discussion "jumps" the user to a table that lists supplemental DOE resources that are pertinent to remediation waste management (***Attachment D***). As an added feature, where appropriate, several of the following discussions include hypertext links to related policy/regulatory information appearing in EPA's October 1998 remediation waste memorandum.

Additional EPA Policies and Regulations

Exemption for On-site Management of Corrosive Wastes in Elementary Neutralization Units (ENUs) and Remediation Liquids and Sludges in Wastewater Treatment Units (WWTUs) ***(Return to Att.A).*** At some cleanup sites, it may be cost-effective or more protective or expeditious to either construct or bring on-site units that can be used to conduct treatment of certain remediation wastes, rather than transport such wastes off-site for eventual treatment, storage, or disposal. Although RCRA Subtitle C in general requires a permit to conduct the treatment, storage, or disposal of hazardous waste, EPA has crafted two exemptions from RCRA Subtitle C standards and permitting for (1) elementary neutralization units (ENUs) and (2) wastewater treatment units (WWTUs). To be considered exempt, an elementary neutralization unit, which includes associated sumps and ancillary equipment, must meet the codified definition in 40 CFR 260.10. Specifically, the device must be used to neutralize wastes that are hazardous solely because they exhibit the corrosivity characteristic (e.g., spent acid rinses from tank cleaning activities), and it must meet the definition of tank, tank system, container, transport vehicle, or vessel as defined in 40 CFR 260.10.

WWTUs are exempted from RCRA permitting provided the unit meets its codified definition, which includes three conditions (40 CFR 260.10). First, the unit must be part of a wastewater treatment facility that (1) produces a treated effluent whose direct discharge is subject to National Pollutant Discharge Elimination System (NPDES) permitting or whose indirect discharge is sent to a publicly-owned treatment works (POTWs) [i.e., that subject to regulation under either section 402 or 307(b) of the Clean Water Act, respectively]; or (2) produces no treated wastewater effluent as a direct result of such treatment [OSWER Dir. 9522.1992(01) and 53 FR 34080; September 2, 1988]. The latter of these includes permitted and unpermitted zero dischargers engaging in CWA-equivalent treatment who may discharge to a dry river bed (common in the western U.S.), spray irrigate or otherwise place the wastewater on the land, or use evaporation ponds (61 FR 15573; April 8, 1996). Second, the

unit must receive, treat, or store an influent wastewater that is hazardous waste (e.g., contaminated groundwater or purge water, equipment rinsate, rinsewater from pressure washing); or generate, accumulate, treat, or store a wastewater treatment sludge which is hazardous waste.

The third condition requires the unit meet the definition of tank or tank system. "Tank" is defined under 40 CFR 260.10. EPA has issued interpretive guidance clarifying that this definition includes "any stationary device that is designed to accumulate hazardous waste, is constructed primarily of nonearthen materials, and, if filled to design capacity and removed from the ground, would be self-supporting (i.e., it would retain its structural integrity)" Another interpretive discussion clarified that mobile treatment units (e.g., activated carbon bed) would qualify as tanks provided the unit was stationary during operation and it otherwise met the definition of tank. In addition, EPA has issued interpretive guidance clarifying the types of units that can qualify as "tanks" and, therefore, potentially be eligible for the WWTU exemption. These include units such as air strippers, sludge dryers, and distillation columns, some of which can be used to treat remediation waste at sites undergoing environmental restoration [e.g., air strippers that remove volatile organic compounds (VOCs) from contaminated groundwater] (52 *FR* 3763). Since the definition encompasses tank systems, all ancillary equipment (e.g., piping, other tanks, sumps that store hazardous waste as primary containment, as well as those that are designed to collect and/or convey routine and systematic discharges of hazardous waste) connected to an exempted WWTU is likewise exempted. Finally, the applicability of the exemption does not hinge on whether the waste is piped, trucked, or conveyed in any other manner to the WWTU, nor does it depend on whether the unit is located on-site or off-site (53 *FR* 34080).

Regulations defining the term "tank" and outlining the criteria used to define "wastewater treatment unit" are at 40 CFR 260.10, whereas the codified language exempting WWTUs from facility and unit-specific standards and permitting are in 40 CFR 264.1(g)(6), 265.1(c)(10), and 270.1(c)(2)(v). Insightful EPA preamble discussions appear at 45 *FR* 76074 (November 17, 1980); 52 *FR* 20919 (June 3, 1987); 53 *FR* 34079 (September 2, 1988); and 56 *FR* 7201 (February 21, 1991). EPA also has issued numerous interpretive memoranda and letters (e.g., *Control of Air Emissions from Superfund Air Strippers at Superfund Groundwater Sites* (OSWER Dir. 9355.0-28); EPA letter dated January 16, 1992 (S. Lowrance to T. Cervino); and EPA letter dated September 20, 1990 (S. Lowrance to P. Fox). Relative to elementary neutralization units, provided they meet their codified definition (40 CFR 260.10), such units are exempted from RCRA Subtitle C standards and permitting under 40 CFR 264.1(g)(6), 265.1(c)(10), and 270.1(c)(2)(v). Associated preamble discussions appearing at 45 *FR* 76074 (November 17, 1980) and 53 *FR* 34079 (September 2, 1988), with numerous EPA interpretive memoranda and letters are available at http://www.epa.gov/rcraonline/. ***(Go to Supplemental DOE Resources–Att. D)***.

Exemption from Air Emission Standards (Subpart CC) for Remediation Waste Storage Units. ***(Return to Att. A).*** Under Phase II of its air emission standards, EPA issued the *Hazardous Waste Treatment, Storage, and Disposal Facilities: Organic Air Emission Standards for Tanks, Surface Impoundments, and Containers (Subpart CC); Final Rule* at 59 *FR* 62896 (December 6, 1994). These standards potentially apply to (1) owners and operators of hazardous waste treatment, storage, and disposal facilities subject to RCRA Subtitle C permitting requirements, and (2) to large quantity (90-day) hazardous waste generators accumulating waste in on-site tanks and containers provided the waste qualifies as hazardous and possesses a volatile organic (VO) concentration of equal to or greater than 500 parts per million by weight (ppmw) at the "point of waste origination" or at the "point of waste treatment."

Regulations establishing air emission standards for tanks, surface impoundments, containers, and miscellaneous units appear in 40 CFR Parts 264/265, Subpart CC. As one element of the Subpart CC final rule, EPA issued several deferrals from the Subpart CC standards. Among these is a deferral that can directly impact DOE's environmental restoration remediation waste management. Specifically, EPA defers "a waste management unit that is used solely for on-site treatment or storage of hazardous waste that is placed in the unit as a result of implementing remedial activities required under the corrective action authorities of RCRA sections 3004(u), 3004(v), or 3008(h); CERCLA authorities; or similar Federal or State authorities" [40 CFR 264.1080(b)(5) and 265.1080(b)(5)]. Associated preamble discussions are at 59 *FR* 62913 (December 6, 1994); 61 *FR* 4904 (February 9, 1996); and 63 *FR* 65889 (November 30, 1998), in which EPA clarifies that remediation

waste management units authorized by Remedial Action Plans (RAPs) are not subject to Subpart CC; and 64 *FR* 3384 (January 21, 1999), in which EPA amended 40 CFR 264/265.1080 to clarify that waste management units that are used solely for on-site treatment or storage of hazardous waste that is "placed in the unit" (rather than "generated") as a result of implementing federally required remedial activities are deferred from Subpart CC ***(Go to Supplemental DOE Resources–Att. D)***.

Exemption from RCRA Permitting and Facility-Wide Corrective Action when Managing Remediation Waste ***(Return to Att. A).*** Historically, owners/operators of facilities seeking traditional RCRA permits to manage remediation wastes on-site were reluctantly required to investigate and cleanup their entire facility (i.e., conduct facility-wide RCRA corrective action), even if the facility owners and operators desired to voluntarily clean up only a small portion of their facility to avoid future liability, to free the property for sale or other uses, or to restore the environmental health of their property. Moreover, RCRA permit applications were required to include terms and conditions to protect against any improper waste management practices over the long-term active life of an operating facility, with regulator approval often taking several years. In contrast to operating facilities, in the remedial scenario, cleanup activities are generally a one-time project; once the cleanup is completed and the remediation waste is properly treated and disposed, then the activities are completed. In addition, remedial activities are limited to addressing the contamination at the site, and therefore are often more limited in scope than the operating practices of a facility that is engaged in on-going waste treatment, storage, and disposal.

To overcome these limitations, EPA issued regulations establishing a special form of RCRA permit--a Remedial Action Plan (RAP)--which streamlines the process for receiving a RCRA permit to treat, store, and dispose of remediation wastes and requires the facility owners/operators to submit significantly less information than for a traditional RCRA permit. A RAP may only be issued for the area of contamination where the remediation wastes to be managed under the RAP originated, or for areas in close proximity to the contaminated area, unless an alternative location outside such areas is determined to be more protective. Facility owners/operators that are seeking a RAP only to treat, store, or dispose of remediation wastes (remediation-only facilities) are not subject to the facility-wide corrective action requirement.

Regulations governing RAPs appear in a separate subpart (40 CFR Part 270, Subpart H), with a provision directing owners/operators to this newly codified subpart found in 40 CFR 270.68. Associated preamble discussion appears in the Hazardous Remediation Waste Management Requirements (HWIR-Media) final rule at 63 *FR* 65874 (November 30, 1998), with the proposed HWIR-Media rule at 61 *FR* 18780 (April 29, 1996) ***(Go to Supplemental DOE Resources–Att. D)***.

Off-site Management of Remediation Wastes during CERCLA Response Actions ***(Return to Att. A).*** Under CERCLA, the definition of "on-site" is case-specific and means the aerial extent of contamination and all suitable areas in close proximity to the contamination necessary to implement response actions. In some cases, on-site may include noncontiguous facilities that are related on the basis of geography (e.g., both facilities contribute significant sources of ground water contamination) or related based on the threat posed (55 *FR* 8688 and 58 *FR* 49204). "EPA policy further defines "on-site" to include the soil and the ground water plume that are to be remediated." Areas not covered by the definition of on-site fall within the definition of "off-site."

Unlike CERCLA response actions that are conducted entirely on-site and, therefore, are not required to comply with programmatic administrative burdens, "CERCLA wastes" (which essentially are analogous to the RCRA definition of remediation wastes) that are transferred off-site for treatment, storage or disposal must comply with substantive requirements that define a level or standard of control and administrative requirements (e.g., RCRA documentation; certain reporting/recordkeeping; Federal, state, or local permits), as well as the CERCLA Off-site Rule.

On September 22, 1993, EPA amended the NCP to include procedures that must be observed when a response action under CERCLA involves the off-site management of CERCLA wastes. In this final rule, EPA explains "if a Federal agency plans to transfer CERCLA wastes off-site from a Federal facility under a CERCLA

authority . . . the Federal agency may transfer CERCLA wastes only to facilities found to be acceptable under this rule. Federal facilities may transfer wastes off the CERCLA site to treatment, storage, or disposal units on the same Federal property, but only if the other units (and the larger Federal facility or installation) meet the requirements of this rule [58 *FR* 49204]. This means that the off-site facility receiving CERCLA (i.e., remediation) wastes must be evaluated by the EPA Regional Office and determined to be acceptable before shipping waste to it regardless of whether it is a DOE facility or not. ERPMs should contact their EPA Regional Off-site Contacts (ROCs) to obtain up-to-date, accurate information regarding the acceptability of facilities in their area. This information has been published and is also available from the RCRA/Superfund hotline (800) 424-9346.

Be aware that an exemption from the Off-site Rule is provided for the off-site transfer of laboratory samples and treatability study wastes. For example, contaminated ground water sent off-site for (1) the sole purpose of testing to determine its character or composition or (2) the purpose of conducting treatability studies are not subject to the Off-site Rule provided certain management conditions are met [40 CFR 300.440(a)(5)(i)-(iii)]. Also, in some situations, DOE ERPMs fulfilling the responsibilities of On-Scene Coordinators may determine that cleanup or stabilization activities must be initiated within hours or days (i.e., emergency removal actions, emergencies during remedial actions). In these situations, CERCLA wastes may be transferred off-site without complying with the Off-site Rule [40 CFR 300.440(a)(2)]. However, before off-site shipment, ERPMs should weigh, to the extent practicable, the following factors to determine whether a facility in noncompliance may be used for off-site disposal:

- Urgency of the situation
- Availability of alternative receiving facilities
- Reasons for the facility's primary unacceptability
- Facility's status relative to public health threats
- Likelihood of the facility's return to compliance

In some situations, it may be necessary to move material off-site before a designated facility's acceptability can be evaluated (58 *FR* 49204).

Regulations governing off-site management of CERCLA (remediation) wastes appear at 40 CFR 300.440, with the associated preamble discussion at 58 *FR* 49200 (September 22, 1993) ***(Go to Supplemental DOE Resources–Att. D)***.

Petroleum-Contaminated Media and Debris from Underground Storage Tank (UST) Corrective Actions ***(Return to Att. A).*** Under the authority of RCRA Subtitle I, EPA has established a comprehensive program for identifying and responding to releases from underground storage tanks (USTs) storing regulated substances. EPA defines "regulated substance" as (1) petroleum, including crude oil or any fraction thereof; and (2) CERCLA hazardous substances, excluding hazardous waste (40 CFR 280.12).

In 1990, EPA promulgated the Toxicity Characteristic (TC) final rule (55 *FR* 11798; March 29, 1990). Briefly, this rule replaced the extraction procedure (EP) leach test with the Toxicity Characteristic Leaching Procedure (TCLP), added 25 organic constituents to the list of toxic constituents of concern (40 CFR 261.24, Table 1), and established regulatory levels for these organic constituents. Recognizing that some petroleum-contaminated media and debris may exhibit the TC for organic hazardous constituents that are indigenous to petroleum (e.g., benzene) and that there were uncertainties regarding the rule's impacts on the UST cleanups, EPA crafted a temporary deferral from the hazardous waste regulations [40 CFR part 261.4(b)(10)] for petroleum-contaminated media and debris that would otherwise qualify as TC organics (D018 through D043 only) provided such media and debris are subject to 40 CFR Part 280 (or an authorized state equivalent) corrective action regulations.

The regulation containing the UST deferral was published in the TC final rule (55 *FR* 11862; March 29, 1990) and later amended (55 *FR* 26986; June 29, 1990). Although EPA issued two subsequent notices focusing on this deferral--57 *FR* 36866; August 14, 1992 and 58 *FR* 8504; February 12, 1993--it has never taken final action on these notices and the deferral is unaffected by the HWIR-media final rule (see 63 *FR* 65932; November 30, 1998) ***(Go to Supplemental DOE Resources–Att. D)***.

Recovered Commercial Chemical Products (CCPs) Sent for Use/Reuse or Recycling ***(Return to Att. A).*** In general, EPA interprets the universe of CCPs broadly to include virtually any viable product, commodity, or variant thereof that can serve its intended purpose or function [EPA letter from S. Lowrance to N.G. Kaul dated February 23, 1993–OSWER Dir. 9444.1993(01)]. Unused CCPs, off-specification products, and intermediates, ***when disposed of or intended for disposal***, may be considered to be hazardous wastes because (1) they are residues or contaminated soil, water, or other debris resulting from cleanup of a spill of a P- or U-listed CCP and, therefore, meet the "P-" or "U-listing" description appearing in 40 CFR 261.33; or (2) they exhibit one or more characteristics identified in 40 CFR Part 261, Subpart C.

In some cases, however, substantial portions of the CCP [e.g., free product nonaqueous phase liquids (NAPLs) floating on top of a water table] may be recaptured and subjected to some form of reclamation (i.e., regeneration, recovery, or recycling) within a reasonable amount of time. CCPs that are exhumed, extracted, etc., for reclamation do not meet EPA's codified definition for "solid wastes" (see 40 CFR 261.2) and, therefore, cannot qualify as "remediation wastes," provided they are destined to be used/reused for their intended purpose. A general assertion of intent to recover or otherwise recycle a CCP, however, is not sufficient to satisfy the required burden of proof under 40 CFR 261.2(f).

Regulations clarifying the status of CCPs sent for use/reuse or reclamation are at 40 CFR 261.2(c)(3) and Table 1, which illustrates that "[c]ommercial chemical products listed in 40 CFR 261.33" are not solid wastes when they are reclaimed, except when they are recycled by being applied to or placed on the land, burned for energy recovery, or used to produce a fuel, unless that is the CCP's ordinary manner of use. [See EPA letters: from M. Williams to J. Keenan dated March 19, 1986; from J. Denit to D. Bozaan dated November 25, 1992.] Also, although 261.2(c), Table 1 explicitly states "listed in 40 CFR 261.33," preamble discussion at 50 *FR* 14219 (April 11, 1985) clarify that the regulatory status of nonlisted CCPs that are being reclaimed mirrors that of the P- or U-listed CCPs ***(Go to Supplemental DOE Resources–Att. D)***.

Reduced Information Requirements for and/or Relief from RCRA Permitting during Cleanup and Post-Closure Care ***(Return to Att. A)*****.** EPA's Post-Closure final rule at 63 *FR* 56710 (October 22, 1998) instills greater flexibility into the permit/interim status provisions governing groundwater monitoring, corrective action for releases to groundwater, closure/post-closure care, and permitting. These new provisions:

- provide regulators with the option of using "enforceable documents" [e.g., RCRA 3008(a) and 3008(h) orders, CERCLA 104 and 106 orders/decision documents, closure or post-closure plans, or approved state equivalents (63 *FR* 56715)] in lieu of RCRA closure/post-closure permitting land disposal units that are closing (or closed) under interim status;
- provide EPA and state regulators with the discretion to respond to releases from regulated units situated among one or more solid waste management units (SWMUs) or areas or concern (AOCs) under a more holistic, facility-wide corrective action program, rather than automatically defaulting to 40 CFR Part 264/265 prescribed groundwater monitoring, closure, and post-closure care permitting requirements; and
- reduce substantially the breadth of information that must be submitted by the owners/operators of land-based, hazardous waste management units (HWMUs) who are required to prepare a RCRA post-closure (Part B) permit application.

ERPMs should consider the viability of using these new provisions when they are (1) closing land-based RCRA units but encounter conditions that are more complex than initially envisioned and dictate that facility closure include cleanup activities, rather than the more straightforward waste removal and capping activities, and find the prescribed closure time frames may not be adequate; (2) implementing more protective remedies that are being discouraged by the post-closure requirement that an impermeable final cover be placed on a land disposal unit; (3) applying inconsistent cleanup levels (e.g., background levels were being used for removal and decontamination--"clean closure" of HWMUs--whereas higher, risk-based concentrations were selected for site-wide cleanup levels under CERCLA response or RCRA corrective actions; or (4) groundwater monitoring requirements (40 CFR 264/265, Subpart F) designed for regulated units are not providing sufficient flexibility for complex cleanups (e.g., Subpart F requirement to place wells at the downgradient edge of a regulated unit

generally would not make sense if there are downgradient SWMUs that are subject to monitoring under RCRA corrective action.

Regulations addressing the use of alternative mechanisms in lieu of a post-closure permit define "enforceable document" at 40 CFR 270.1(c)(7) and the conditions that must be imposed at 40 CFR 265.121(a)(1)-(3)]. Revised regulations addressing releases from regulated units situated among one or more SWMUs or AOCs under a more holistic, facility-wide corrective action program, rather than automatically defaulting 40 CFR Part 264/265 prescribed groundwater monitoring, closure, and post-closure care permitting requirements appear in 264/265.90(f), 264.110(c)/265.110(d), 264/265.140(d), and 271.16(e). Associated preamble discussion is at 63 *FR* 56710 (October 22, 1998) ***(Go to Supplemental DOE Resources–Att. D)***.

Exclusion for Samples of Remediation Waste ***(Return to Att. A)*****.** One notable factor concerning DOE hazardous/mixed remediation waste streams encountered during environmental restoration activities is the wide array of matrices, volumes, radioactivity levels, and RCRA-regulated hazardous properties and constituents. As a result, in some cases, the specific characteristics and/or composition of a remediation waste will not be known. In contrast to persons collecting or receiving large volumes of hazardous waste or media samples to perform innovative "treatability studies" (see EPA memorandum section titled ***Treatability Studies Exemption***), in 1981, EPA codified a conditional exclusion that allows persons desiring to determine the characteristics or composition of an unknown remediation waste (e.g., investigation-derived waste, contaminated soil or ground water) to collect representative samples of remediation waste (typically less than one gallon) and send the sample to an analytical laboratory for testing ***without*** triggering RCRA Subtitle C cradle-to-grave management requirements (e.g., generator manifesting, LDR notification). Because this is a conditional exclusion, it is incumbent upon persons initiating the sample (i.e., the sample originator) as well as the personnel at the consigned laboratory to ensure that potentially hazardous waste samples collected to support DOE (including those that are radiologically contaminated) are properly characterized, stored, treated, and disposed of.

Under EPA's sample exclusion [40 CFR 261.4(d)], the original samples, any excess samples, and resulting sample residues being returned to the sample originator may be shipped using any mode of transportation. To remain exempt, however, sample originators and laboratories returning excess samples are responsible for appropriately determining whether their sample shipment:

(1) Meets the Department of Transportation (DOT) codified definition of "hazardous material" and is, therefore, subject to applicable DOT marking, labeling, packaging, and placarding regulations, among others (49 CFR Part 171 through Part 177);
(2) Is subject to U.S. Postal Service (USPS) labeling and packaging guidelines;
(3) Is subject to any other applicable shipping requirement [e.g., Nuclear Regulatory Commission (NRC)]; or
(4) Is not subject to DOT, USPS, or other shipping requirements and, therefore, must be labeled and packaged in accordance with general performance requirements set forth by EPA.

If it is determined the sample must be shipped in compliance with DOT, USPS, and/or NRC, their regulations and guidelines govern the shipment of samples even in the absence of EPA regulations. Additionally, persons transporting mixed waste samples to off-site facilities by common carriers must comply with the NRC packaging and transportation requirements found in 10 CFR Parts 21, 30, 39, 40, 70, 71, and 73. If it is determined that the requirements of DOT, USPS, or NRC do <u>not</u> apply to the sample shipment, excess samples are subject to EPA-prescribed general labeling and packaging requirements. The following information must accompany the sample: sample collector and laboratory names, addresses, and telephone numbers; the quantity of the sample; date of shipment; and a description of the sample. Additionally, the packaging must prevent leaks, spills, and vapors from escaping [40 CFR 261.4(d)(2)(ii)].

In some cases, it may be necessary to archive samples for future reference. Although some DOE sites have established limits on the duration of excess sample/sample residue storage (e.g., one year), EPA has acknowledged that sample retention for additional and future analysis may entail several years of storage at 46 *FR* 47427 (September 25, 1981). ERPMs that identify a need to archive samples should initiate dialogue with the appropriate DOE line manager to ascertain the type of information to be submitted (e.g., specific purpose for retaining samples; alternative retention period; physical and environmental conditions--storage temperature, level

of lightness or darkness, separate storage for volatile organics--commensurate with their intended purpose) when requesting approval for prolonged sample storage.

Regulations governing remediation waste samples are at 40 CFR 261.4(d), with associated preamble discussions at 46 *FR* 47426 (September 25, 1981). Additional sources of interpretive EPA guidance include interpretive letters [e.g., August 11, 1994 (D. Bussard to S. Prior); August 11, 1988 (D. Barnes to G. Steele); April 30, 1987 (M. Williams to G. Davidson); and January 23, 1985 (I. Horner to V. Tersegno) (OSWER 9441.03(85))], and RCRA/Superfund Monthly Report Questions/Answers (e.g., May 1990, April 1985, and March 1985] ***(Go to Supplemental DOE Resources–Att. D)***.

Use of Staging Piles for Temporary Storage of Solid, Non-Flowing Remediation Waste ***(Return to Att. A).*** In the HWIR-media final rule (63 *FR* 65909, November 30, 1998), EPA establishes a new type of HWMU, exclusive of containment buildings, that can be used for the temporary storage of "solid, non-flowing remediation waste" during remedial operations only. The goal of this new type of HWMU is to complement existing options (e.g., CAMUs, TUs, AOCs) and provide regulators (in concert with ERPMs) with another mechanism that can be used for short-term remediation waste storage and, thereby, avoid imposing requirements on remediation waste management activities that are overly conservative and often inappropriate.

To realize this goal, EPA addresses three RCRA requirements that it believes pose the greatest obstacles to protective, reliable, and cost-effective remedies and remediation waste management--land disposal restrictions (LDRs), minimum technology requirements (MTRs), and permitting. Relative to LDR disincentives, EPA allows prohibited wastes to be temporarily stored and accumulated in staging piles without being subject to LDRs (i.e., without first being treated to meet LDR treatment standards). Second, because only short-term storage will be allowed and the unit is not a land disposal unit, staging piles will ***not*** be required to comply with MTRs. Cleanup activities are generally a one-time project and once the cleanup is completed and the remediation waste is properly treated and disposed of, then the activities which are limited in scope to addressing the contamination at the site are complete. Accordingly, to overcome the inordinate amount of information and time invested in obtaining a traditional RCRA permit, EPA's new Remedial Action Plans (RAPs) requirements streamline the process and encourage cleanups by (1) allowing the facility owner/operator to submit significantly less information than for a traditional RCRA permit, and (2) not subjecting facilities that need a RCRA permit only to treat, store, or dispose of remediation wastes (remediation-only facilities) to the facility-wide corrective action requirements.

Regulations establishing the requirements and performance criteria for staging piles appear in 40 CFR 264.554, whereas the exemptions from (1) the definition of "land disposal" when placing remediation waste in a staging pile, and (2) the storage prohibition for hazardous remediation wastes stored in a staging pile that been approved by the regulators are at 40 CFR 268.2(c) and 40 CFR 268.50(g), respectively. Associated preamble discussions begin at 63 *FR* 65909 (November 30, 1998) ***(Go to Supplemental DOE Resources–Att. D)***.

Exclusion for Dredged Material (i.e., Sediment) that Exhibits a Characteristic or Contains a Listed Hazardous Waste ***(Return to Att. A)***. Although historically dredged material could trigger RCRA's Subtitle C requirements by exhibiting any of the four characteristics or by containing a listed hazardous waste, EPA issued a final rule designed to facilitate the efficient assessment and management of dredged material (which can include sediments) that is contaminated or suspected of being contaminated with hazardous waste and destined for disposal in an aquatic environment. Specifically, EPA promulgated an integrated approach that eliminates the potential for overlaps between the RCRA Subtitle C with the Federal Water Pollution Control Act Amendments of 1972 as amended by the Clean Water Act of 1977 (CWA) or under section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA, also known as the Ocean Dumping Act) by excluding dredged material from RCRA Subtitle C jurisdiction, provided the material is managed under a CWA/MPRSA permit or, for an Army Corps of Engineers civil works project, an administrative equivalent.

Regulations defining dredged material and establishing its exclusion from RCRA are set forth at 40 CFR 261.4(g), with the associated final and proposed rule preamble discussions at 63 *FR* 65921 (November 30, 1998) and 61 *FR* 18831 (April 29, 1996), respectively ***(Go to Supplemental DOE Resources–Att. D)***.

Management of Investigation-Derived Waste (IDW) ***(Return to Att. A)*****.** Typical IDWs include drilling muds, soil cuttings, and purge water from test pit and well installation; well development purge waste; disposable sampling equipment and personal protective equipment (PPE); and solutions used to decontaminate nondisposable protective clothing and equipment. As with other waste streams, ERPMs that "generate" IDW by exhuming, extracting, or otherwise first causing it to become subject to regulation must make a reasonable effort to characterize their waste at the initial point of generation. In its October 1998 memorandum, EPA clarifies its approach to characterizing remediation waste as listed or characteristic hazardous waste (see "*Determination of When Contamination Is Caused by Listed Waste*").

Should IDW qualify as hazardous waste and the site-specific IDW Management Plan involve placement into a separate treatment, storage, or disposal area/unit inside or outside the existing AOC (see Internal EPA memorandum from C. Wehling to S. Golian dated April 16, 1991), the applicability of EPA's LDR requirements, including those governing any underlying hazardous constituents (UHCs) reasonably expected to be present, must likewise (typically concurrently) be determined at the initial point of generation prior to mixing or treatment (55 *FR* 22652, June 1, 1990, and 59 *FR* 48016; September 19, 1994). Thus, generators of a hazardous IDW must examine the waste-specific prohibitions (40 CFR Part 268, Subpart C), 40 CFR 268.40, and 40 CFR 268.48 to determine (1) whether they are managing one or more prohibited waste codes, and (2) the applicable LDR treatment standard(s), including those for UHCs. Furthermore, waste streams that are subject to LDR must be managed in compliance with the full spectrum of LDR provisions.

Management of IDW generated during the site investigation often entails on-site storage in containers while awaiting sample results and/or off-site disposal capacity. EPA's policy governing the interim storage of IDW is to follow the generator accumulation provisions required for RCRA generators who wish to avoid obtaining permits (40 CFR Part 262). Under LDR, however, generators and owner/operators that store prohibited wastes in tanks, containers, or containment buildings on-site may do so only if the storage is solely for the purpose of accumulating sufficient quantities of the waste as is necessary to facilitate proper disposal, treatment, or recovery (40 CFR 268.50). Furthermore, should prohibited waste be stored for more than one year, an owner/operator bears the burden of proving that storage was solely for this purpose [40 CFR 268.50(c)].

Although there are no regulations explicitly codifying EPA's IDW policy, in May 1991, EPA issued a guidance document titled *Management of Investigation-Derived Wastes During Site Inspection* (OERR Dir. 9345.3-02), which presents a general regulatory background and options for managing IDW generated during CERCLA site inspections. In contrast to other hazardous waste, historically, EPA has viewed the storage of IDW until a final disposal option is selected and implemented during the remedial action as allowable under the LDR storage prohibition. For example, in another publication titled *Superfund LDR Guide #1 - Overview of RCRA Land Disposal Restrictions (LDRs)*," EPA states that "Temporary storage used during CERCLA actions to facilitate proper disposal (e.g., storage while awaiting sampling results, or while selecting and designing a remedy) is allowable under the storage prohibition." This policy was reaffirmed as representing an official Agency-wide position in an interpretive EPA letter (D. Clay to R.S. Freedman), dated January 7, 1991 [OSWER Dir. 9551.1991(15)]. EPA continues by explicitly stating that the LDR Guides' interpretations of RCRA apply at Superfund sites and at non-Superfund sites, "whenever the cleanup involves a RCRA waste." Finally, in a publication titled *Guide to Management of Investigation-Derived Wastes*, OSWER Dir. 9345.3-03FS (April 1992), EPA restates its belief that storing IDW until a final disposal option is selected and implemented during the remedial action is allowable under the storage prohibition ***(Go to Supplemental DOE Resources–Att. D)***.

Exemption for "Empty" Containers and Residues from Empty Containers ***(Return to Att. A)*****.** EPA defines "container" as "any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled." (40 CFR 260.10). Because this is such a broad definition, it can encompass units such as paint cans, jars, carboys, 55-gallon drums, and even tanker trucks. Interpretive EPA guidance expands this list to potentially include units such as industrial equipment, paper bags, scintillation vials, pipettes, batteries, and roll-off containers. [See, for example, EPA letter from D. Bussard to K. Dunn dated October 22, 1991; EPA letter

from I. Horner to S. Johnson dated May 20, 1985; and RCRA/Superfund/OUST Hotline Monthly Report Question, May 1990 (OSWER Dir. 9441.1990(13e).]

Historically, EPA has recognized that small amounts of residue remaining in individual, empty unrinsed containers do not pose a substantial threat. Accordingly, EPA issued criteria and conditions for defining containers as "empty." Provided persons employ common emptying methods such as pouring, pumping, or aspirating to remove toxic (i.e., non-acute) hazardous wastes such that the amount of residue remaining within the container is less than EPA's specified quantities (e.g., less than one inch), persons can manage such residues outside the jurisdiction of RCRA Subtitle C. In contrast, triple rinsing is required for containers that previously held acutely hazardous wastes. Furthermore, once "empty," any residues removed from a container that previously held a listed waste are *only* subject to RCRA Subtitle C if they exhibit a characteristic in and of themselves. Since there is no formal approval process, until these conditions are met, containers and their hazardous waste content remain subject to RCRA Subtitle C requirements.

Regulations establishing the conditions and criteria must be used to determine whether a container qualifies as "empty" and, therefore, any remaining residue is no longer regulated as hazardous waste appear in 40 CFR 261.7. Associated preamble discussions can be found at 45 *FR* 78524 (November 25,1980), 46 *FR* 2829 (January 12, 1981), and 47 *FR* 36092 (August 18, 1982). Relevant EPA guidance is offered in several interpretive EPA letters including December 23, 1993 (P. Joseph to M. Shapiro); September 13 1990 (S. Lowrance to C. Winwood); October 22, 1991 (D. Bussard to K. Dunn); and July 21, 1989 (D. Barnes to S. Schiffman), among others ***(Go to Supplemental DOE Resources–Att. D)***.

Exclusion for Scrap Metal that Is Being Recycled ***(Return to Att. A)*****.** EPA defines scrap metal as "bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that are combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled" [40 CFR 261.1(c)(6)]. Scrap metal that would otherwise qualify as hazardous waste, but is being recycled (i.e., used, reused, or reclaimed), is considered "recyclable materials" under RCRA Subtitle C regulations [40 CFR 261.6(a)(3)]. Thus, generators recovering scrap metal for recycling were not subject to RCRA Subtitle C storage provisions and could transport the metal (without a manifest) to scrap processors or recyclers (e.g., secondary lead smelters) operating without a RCRA permit or interim status.

In a Phase IV LDR final rule, EPA amended its regulations to exclude additional types of scrap metal from RCRA jurisdiction (62 *FR* 26011; May 12, 1997). Specifically, this final rule amended its codified list of exclusions with "excluded scrap metal, which is comprised of processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal." Processed scrap metal is "scrap metal which has been manually or mechanically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes, but is not limited to scrap metal which has been bailed, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type (i.e., sorted), and fines, drosses and related materials which have been agglomerated" [40 CFR 261.1(c)(10)].

EPA also expanded the scope of the exclusion to cover the following when they are being recycled:

(1) Unprocessed home scrap is scrap metal generated by steel mills, foundries, and refineries such as turnings, cuttings, punchings, and borings).

(2) Unprocessed prompt scrap metal, also known as industrial or new scrap metal, is generated by the metal working/fabrication industries and includes such scrap metal as turnings, cuttings, punchings, and borings).

EPA clarifies that the exclusion for processed scrap metal being recycled applies to scrap metal that has undergone a processing step ***regardless of who does the processing*** (62 FR 26011; May 12, 1997). In other words, a processing step may be performed by the generator, an intermediate scrap handler (e.g. broker, scrap processor), or a scrap recycler. Once the scrap metal has undergone a processing step, it may qualify for the exclusion from EPA's codified definition of solid waste.

In contrast, EPA has consistently stated that the following materials do not qualify as scrap metal: (1) residues generated from smelting and refining operations (e.g., slags); (2) liquid wastes containing metals (e.g., metal-bearing acids or caustics); liquid metal waste (i.e., liquid mercury); and metal-containing wastes with a significant liquid component (e.g., spent lead-acid batteries). Further, the exclusion from EPA's definition of solid waste does not include obsolete scrap metal (scrap that is composed of worn out metal or a metal product that has outlived it original use, such as automobile hulks, railroad cars, aluminum beverage cans, steel beams from torn down buildings, and household appliances).

Regulations addressing the various aspects and types of scrap metal (e,.g., definitions) can be viewed at 40 CFR 261.1(c)(6), 261.4(a)(13), and 40 CFR 261.6(a)(3), with associated preamble discussions at 50 *FR* 624 - 625, and 649 (January 4, 1985); the proposed and final Phase IV LDR supplemental rulemaking at 61 *FR* 2361 (January 25, 1996) and 62 *FR* 26011 (May 12, 1997), respectively***(Go to Supplemental DOE Resources–Att. D)***.

Exemption for Certain Polychlorinated Biphenyl (PCB) Wastes ***(Return to Att. A)*****.** EPA elected to exempt from the RCRA Subtitle C cradle-to-grave management system dielectric fluids containing polychlorinated biphenyls (PCBs) removed from electrical transformers, capacitors, as is the electrical equipment provided such waste is regulated under 40 CFR Part 761 and is Toxicity Characteristic (TC) organic (D018 through D043 only).

Regulations exempting such PCB-containing wastes from RCRA jurisdiction are at 40 CFR 261.8, and were promulgated March 29, 1990 (55 *FR* 1184) ***(Go to Supplemental DOE Resources–Att. D)***.

ATTACHMENT C

EPA Memorandum Titled *Management of Remediation Waste Under RCRA* (EPA530-F-98-026)

This attachment constitutes the third of four attachments to an Office of Environmental Policy and Assistance, RCRA/CERCLA Division (EH-413) Information Bulletin titled ***Policies and Regulations Governing the Management of Remediation Waste Under the Resource Conservation and Recovery Act (RCRA)***. Although this attachment mirrors EPA's October 1998 memorandum, each of the narrative discussions appearing in this version include hypertext links to (1) the corresponding tabular discussions appearing in ***Attachment A*** and (2) a list of supplemental DOE resources pertaining to each remediation waste management policy and regulation (***Attachment D***). These links are identified using blue, italicized text. Thus, upon encountering a topic of interest, users can "click" on the hypertext link appearing next to the topical heading, which will take them to the implementation-related tabular discussion appearing in Attachment A, or at the end of the discussion, which will take them to the list of supplemental DOE resources. Similarly, when perusing the table (Attachment A), users can "click" on the hypertext links appearing under a topical heading of interest. This will take them to the from the table directly to the narrative regulatory or policy information presented herein or in ***Attachment B***, which focuses on policies and regulations that were not addressed within EPA's October 1988 memorandum but nonetheless potentially impact remediation waste management.

United States
Environmental Protection
Agency

Solid Waste and
Emergency Response
(5305W)

EPA530-F-98-026
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Management of Remediation Waste Under RCRA

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October 14, 1998

MEMORANDUM

SUBJECT: Management of Remediation Waste Under RCRA

TO: RCRA/CERCLA Senior Policy Managers
Regional Counsels

FROM: Timothy Fields, Jr., Acting Assistant Administrator for
Solid Waste and Emergency Response ***/signed/***

Steven A. Herman, Assistant Administrator for
Enforcement and Compliance Assurance ***/signed/***

Rapid clean up of RCRA corrective action facilities and Superfund sites is one of the Agency's highest priorities. In this context, we often receive questions about management of remediation waste under the Resource Conservation and Recovery Act (RCRA). To assist you in successfully implementing RCRA requirements for remediation waste, this memorandum consolidates existing guidance on the RCRA regulations and policies that most often affect remediation waste management. We encourage you to work with the regulations, policies and approaches outlined in this memorandum to achieve our cleanup goals as quickly and efficiently as possible.

Note that not all remediation wastes are subject to RCRA Subtitle C hazardous waste requirements. As with any other solid waste, remediation wastes are subject to RCRA Subtitle C only if they are listed or identified hazardous waste. Environmental media are subject to RCRA Subtitle C only if they contain listed hazardous waste, or exhibit a characteristic of hazardous waste. These distinctions are discussed more completely below.

The information in this memo is divided into three categories: information on regulations and policies that apply to all remediation waste; information on regulations and policies that apply only to contaminated media; and, information on regulations and policies that apply only to contaminated debris. Most of the references cited in this memo are available over the Internet. The Federal Register notices published after 1994 are available at www.access.gpo.gov/nara; the guidance memos and other EPA documents are available at www.epa.gov/correctiveaction. Federal Register notices and other documents are also available through the RCRA/CERCLA hotline: in Washington D.C., call (703) 412-9810; outside Washington D.C., call (800) 424-9346; and hearing impaired call (800) 553-7672. The hotline's hours are Monday - Friday, excluding

Federal holidays, 8:00 - 5:00, eastern standard time. Many EPA guidance memos and other documents may also be obtained through the RCRA/CERCLA hotline fax-back system. To obtain a list of documents available over the fax-back system, and fax-back system code numbers, call the RCRA/CERCLA hotline at the numbers listed above.

I hope this information will assist you as you continue to make protective, inclusive, and efficient cleanup decisions. If you have additional questions or require more information, please contact Robert Hall or Greg Madden, of our staffs, on (703) 308-8484 or (202) 564-4229 respectively.

Regulations and Policies that Apply to All Remediation Wastes

Area of Contamination Policy ***(Return to Att. A)***. In what is typically referred to as the area of contamination (AOC) policy, EPA interprets RCRA to allow certain discrete areas of generally dispersed contamination to be considered RCRA units (usually landfills). Because an AOC is equated to a RCRA land-based unit, consolidation and *in situ* treatment of hazardous waste within the AOC do not create a new point of hazardous waste generation for purposes of RCRA. This interpretation allows wastes to be consolidated or treated *in situ* within an AOC without triggering land disposal restrictions or minimum technology requirements. The AOC interpretation may be applied to any hazardous remediation waste (including non-media wastes) that is in or on the land. Note that the AOC policy only covers consolidation and other in situ waste management techniques carried out within an AOC. For *ex situ* waste management or transfer of wastes from one area of contamination to another, see discussion of corrective action management units, below.

The AOC policy was first articulated in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). See 53 FR 51444 for detailed discussion in proposed NCP preamble; 55 FR 8758-8760, March 8, 1990 for final NCP preamble discussion. See also, most recent EPA guidance, March 13, 1996 EPA memo, "Use of the Area of Contamination Concept During RCRA Cleanups." ***(Go to Supplemental DOE Resources–Att. D)***

Corrective Action Management Units (CAMUs) ***(Return to Att. A).*** The corrective action management unit rule created a new type of RCRA unit – a Corrective Action Management Unit or CAMU--specifically intended for treatment, storage and disposal of hazardous remediation waste. Under the CAMU rule, EPA and authorized states may develop and impose site-specific design, operating, closure and post-closure requirements for CAMUs in lieu of MTRs for land-based units. Although there is a strong preference for use of CAMUs to facilitate treatment, remediation waste placed in approved CAMUs does not have to meet LDR treatment standards.

The main differences between CAMUs and the AOC policy (discussed above) are that, when a CAMU is used, waste may be treated *ex situ* and then placed in a CAMU, CAMUs may be located in uncontaminated areas at a facility, and wastes may be consolidated into CAMUs from areas that are not contiguously contaminated. None of these activities are allowed under the AOC policy, which, as discussed above, covers only consolidation and *in situ* management techniques carried out within an AOC. ***(Go to Supplemental DOE Resources–Att. D)***

CAMUs must be approved by EPA or an authorized state and designated in a permit or corrective action order. In certain circumstances, EPA and states (including states that are not authorized for the CAMU regulations) may use other mechanisms to approve CAMUs. See, 58 FR 8677, February 16, 1993; appropriate use of RCRA Section 7003 orders and comparable state orders is discussed below and in an EPA guidance memo from J. Winston Porter to EPA Regional Administrators, "RCRA Permit Requirements for State Superfund Actions," November 16, 1987, OSWER Directive 9522.00-2. In addition, as appropriate, CAMUs may be approved by EPA as an applicable or relevant and appropriate requirement during a CERCLA cleanup using a record of decision or by an authorized state during a state cleanup using a CERCLA-like authority and a similar state document. See, e.g., 58 FR 8679, February 16, 1993. An opportunity for the public to review and comment on tentative CAMU approvals is required by the regulations when CAMUs are approved using permitting procedures and as a matter of EPA policy when CAMUs are approved using orders. EPA recommends that, whenever possible, remediation project managers combine this public participation with other public involvement activities that are typically part of remediation. For example, public notice of tentative approval of a CAMU could be combined with public notice of a proposed plan under CERCLA.

The CAMU rule is currently subject to litigation; however, the suit has been stayed pending promulgation of the final HWIR-Media regulations. Although EPA proposed to withdraw CAMUs as part of the HWIR-Media proposal, the Agency now intends to retain the CAMU rule. The Agency encourages approval of CAMUs when they are appropriate given the site-specific conditions.

The CAMU regulations are at 40 CFR 264.552, promulgated February 16, 1993 (58 FR 8658). The differences between CAMUs and AOCs are discussed in more detail in the March 13, 1996 EPA guidance memo, "Use of the Area of Contamination Concept During RCRA Cleanups." ***(Go to Supplemental DOE Resources–Att. D)***

Corrective Action Temporary Units (TUs) ***(Return to Att. A).*** Temporary units, like corrective action management units, are RCRA units established specifically for management of hazardous remediation waste. The regulations for temporary units (TUs) were promulgated at the same time as the regulations for corrective action management units. The CAMU regulations established land-based units for treatment, storage and disposal of remediation waste; the TU regulations established non-land based units for treatment and storage of hazardous remediation waste. Under the TU regulations, EPA and authorized states may modify existing MTR design, operating and closure standards for temporary tank and container units used to treat and store hazardous remediation waste. Temporary units may operate for one year, with an opportunity for a one year extension.

Like CAMUs, temporary units must be approved by EPA or an authorized state and designated in a permit or corrective action order. In certain circumstances, EPA and states (including states that are not authorized for the TU regulations) may use other mechanisms to approve TUs. See, 58 FR 8677, February 16, 1993; appropriate use of RCRA Section 7003 orders and comparable state orders is discussed below and in an EPA guidance memo from J. Winston Porter to EPA Regional Administrators, "RCRA Permit Requirements for State Superfund Actions," November 16, 1987, OSWER Directive 9522.00-2. In addition, as appropriate, TUs may be approved by EPA as an applicable or relevant and appropriate

requirement during a CERCLA cleanup using a record of decision or by an authorized state during a state cleanup using a CERCLA-like authority and a similar state document. Placement of waste in tanks or containers, including temporary units, is not considered land disposal. Therefore, waste does not have to be treated to meet LDR treatment standards prior to being placed in a TU. Of course, LDRs must be met if hazardous remediation wastes are eventually land disposed, for example, after they are removed from the TU; however, if treatment in a TU results in constituent concentrations that comply with applicable land disposal restriction treatment standards, no further treatment prior to land disposal is required as a condition of the LDRs.

An opportunity for the public to review and comment on tentative TU approvals is required by the regulations when TUs are approved using permitting procedures and as a matter of EPA policy when TUs are approved using orders. As with CAMUs, EPA recommends that whenever possible, remediation project managers combine this public participation with other public involvement activities that are typically part of remediation. For example, public notice of tentative approval of a temporary unit could be combined with public notice of a proposed plan under CERCLA.

The TU regulations are at 40 CFR 264.553, promulgated February 16, 1993 (58 FR 8658). ***(Go to Supplemental DOE Resources–Att. D)***

Determination Of When Contamination is Caused by Listed Hazardous Waste. ***(Return to Att. A)*** Where a facility owner/operator makes a good faith effort to determine if a material is a listed hazardous waste but cannot make such a determination because documentation regarding a source of contamination, contaminant, or waste is unavailable or inconclusive, EPA has stated that one may assume the source, contaminant or waste is not listed hazardous waste and, therefore, provided the material in question does not exhibit a characteristic of hazardous waste, RCRA requirements do not apply. This approach was first articulated in the Proposed NCP preamble which notes that it is often necessary to know the source of a waste (or contaminant) to determine whether a waste is a listed hazardous waste under RCRA[1] and also notes that, "at many CERCLA sites no information exists on the source of the wastes." The proposed NCP preamble goes on to recommend that the lead agency use available site information such as manifests, storage records and vouchers in an effort to ascertain the sources of wastes or contaminants, but that when this documentation is not available or inconclusive the lead agency may assume that the wastes (or contaminants) are not listed RCRA hazardous wastes. This approach was confirmed in the final NCP preamble. See, 53 FR 51444, December 21, 1988 for proposed NCP preamble discussion; 55 FR 8758, March 13, 1990 for final NCP preamble discussion.

This approach was also discussed in the HWIR-Media proposal preamble, 61 FR 18805, April 29, 1996, where it was expanded to also cover dates of waste disposal – i.e., if, after a good faith effort to determine dates of disposal a facility owner/operator is unable to make such a determination because documentation of dates of disposal is unavailable or inconclusive, one may

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[1] Listing determinations are often particularly difficult in the remedial context because the listings are generally identified by the sources of the hazardous wastes rather than the concentrations of various hazardous constituents; therefore, analytical testing alone, without information on a waste's source, will not generally produce information that will conclusively indicate whether a given waste is a listed hazardous waste.

assume disposal occurred prior to the effective date of applicable land disposal restrictions. This is important because, if hazardous waste was originally disposed of before the effective dates of applicable land disposal restrictions and media contaminated by the waste are determined not to contain hazardous waste when first generated (i.e., removed from the land, or area of contamination), the media are not subject to RCRA requirements, including LDRs. See the discussion of the contained-in policy, below. ***(Go to Supplemental DOE Resources–Att. D)***

Site Specific LDR Treatment Variances ***(Return to Att. A)*****.** The regulations for site-specific LDR treatment variances allow EPA and authorized states to establish a site-specific LDR treatment standard on a case-by-case basis when a nationally applicable treatment standard is unachieveable or inappropriate. Public notice and a reasonable opportunity for public comment must be provided before granting or denying a site-specific LDR treatment variance. EPA recommends that remediation project managers combine this public involvement with other public involvement activities that are typically part of remediation. Regulations governing site-specific LDR treatment variances are at 40 CFR 268.44(h), promulgated August 17, 1988 (53 FR 31199) and clarified December 5, 1997 (62 FR 64504). The most recent EPA guidance on site-specific LDR treatment variances, which includes information on establishing alternative LDR treatment standards, is in the January 8, 1997 guidance memo, "Use of Site-Specific Land Disposal Restriction Treatability Variances Under 40 CFR 268.44(h) During Cleanups."

In 1996, EPA revised its policy on state authorization for site-specific LDR treatment variances and began encouraging states to become authorized to approve variances. See, HWIR-Media proposal, 61 FR 18828 (April 29, 1996).

On May 26, 1998, EPA promulgated additional site-specific land disposal restriction treatment variance opportunities specific to hazardous contaminated soil. These opportunities are discussed below. ***(Go to Supplemental DOE Resources–Att. D)***

Treatability Studies Exemption ***(Return to Att. A).*** The term "treatability study"as defined at 40 CFR 260.10 refers to a study in which a hazardous waste is subjected to a treatment process to determine: (1) whether the waste is amenable to the treatment process; (2) what pretreatment (if any) is required; (3) the optimal process conditions needed to achieve the desired treatment; (4) the efficiency of a treatment process for a specific waste or wastes; or, (5) the characteristics and volumes of residuals from a particular treatment process. Under regulations at 40 CFR 261.4(e) and (f), hazardous wastes managed during a treatability study are exempt from many RCRA Subtitle C requirements. The regulations limit the amount of waste that may be managed under an exempt treatability study to, generally, 1000 kg of hazardous waste or 1 kg of acutely hazardous waste per study. For contaminated environmental media, the volume limit is, generally, 10,000 kilograms of media that contain non-acutely hazardous waste and 2,500 kilograms of media that contain acutely hazardous waste per study. There are also limits on the types and lengths of studies that may be conducted under the exemption and record keeping and reporting requirements. Regulations governing treatability studies are at 40 CFR 261.4(e) and (f), associated preamble discussions at 52 FR 27290 (July 19, 1988) and 59 FR 8362 (February 18, 1994). ***(Go to Supplemental DOE Resources–Att. D)***

Exemption for Ninety Day Accumulation ***(Return to Att. A).*** Management of hazardous waste in tanks, containers, drip pads and containment buildings does not constitute land disposal. In addition,

EPA has provided an exemption for generators of hazardous waste which allows them to accumulate (i.e., treat or store) hazardous waste at the site of generation in tanks, containers, drip pads or containment buildings for up to ninety days without RCRA interim status or a RCRA permit. Accumulation units must meet applicable design, operating, closure and post-closure standards. Because putting hazardous waste in a tank, container, drip pad or containment building is not considered land disposal, LDR treatment standards do not have to be met before putting waste in such units. LDRs must be met if hazardous wastes are eventually land disposed, for example, after they are removed from the accumulation unit; however, if treatment in an accumulation unit results in constituent concentrations that comply with applicable land disposal restriction treatment standards, no further treatment prior to land disposal is required as a condition of the LDRs. The exemption for ninety-day accumulation is found in regulations at 40 CFR 262.34; associated preamble discussion is at 51 FR at 10168 (March 24, 1986). ***(Go to Supplemental DOE Resources–Att. D)***

Permit Waivers ***(Return to Att. A).*** Under CERCLA Section 121(e), no Federal, state or local permit is required for on-site CERCLA response actions. EPA has interpreted CERCLA Section 121(e) to waive the requirement to obtain a permit and associated administrative and procedural requirements of permits, but not the substantive requirements that would be applied through permits.[2]

In addition, on a case-by-case basis, where there may be an imminent and substantial endangerment to human health or the environment, EPA has broad authority to require corrective action and other appropriate activities under RCRA Section 7003. Under RCRA Section 7003, EPA has the ability to waive both the requirement to obtain a permit and the substantive requirements that would be imposed through permits. When EPA uses RCRA Section 7003, however, the Agency seldom uses RCRA Section 7003 to waive substantive requirements. In rare situations where substantive requirements are waived, the Agency would impose alternative requirements (e.g, waste treatment or storage requirements) as necessary to ensure protection of human health and the environment. EPA may issue RCRA Section 7003 orders at, among other sites, facilities that have been issued RCRA permits and facilities that are authorized to operate under RCRA interim status. In discussing the use of 7003 orders, where other permit authorities are available to abate potential endangerments, EPA generally encourages use of those other permit authorities (e.g., 3005(c)(3) omnibus permitting authority) rather than RCRA Section 7003. Similarly, if RCRA Section 3008(h) or RCRA Section 3013 authority is available, EPA generally encourages use of these authorities rather than RCRA Section 7003. If permit authorities or non-RCRA Section 7003 enforcement authorities are inadequate, cannot be used to address the potential endangerment in a timely manner, or are otherwise inappropriate for the potential endangerment at issue, use of RCRA Section 7003 should be considered. See, "Guidance on the Use of Section 7003 of RCRA," U.S. EPA, Office of Enforcement and Compliance Assurance, October 1997.

In 1987, EPA issued guidance indicating that RCRA-authorized states with state waiver authorities comparable to CERCLA 121(e) or RCRA Section 7003 could use those state waiver authorities to waive RCRA requirements as long as the state did so in a manner no less stringent than that allowed under the corresponding Federal authorities. These waivers are most often

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[2] Note that, under certain circumstances, substantive requirements may be waived using CERCLA. See the ARAR waiver provisions at 40 CFR 300.430(f)(1)(ii)(C).

used, as are the Federal waivers, to obviate the need to obtain a RCRA permit, rather than to eliminate substantive requirements. See, EPA guidance memo from J. Winston Porter to EPA Regional Administrators, "RCRA Permit Requirements for State Superfund Actions," November 16, 1987, OSWER Directive 9522.00-2. ***(Go to Supplemental DOE Resources–Att. D)***

Exemption from 40 CFR Part 264 Requirements for People Engaged in the Immediate Phase of a Spill Response ***(Return to Att. A).*** Regulations at 40 CFR 264.1(g)(8) provide that people engaged in treatment or containment activities are not subject to the requirements of 40 CFR part 264 if the activities are carried out during immediate response to: (1) a discharge of hazardous waste; (2) an imminent and substantial threat of a discharge of hazardous waste; (3) a discharge of a materials which, when discharged, becomes a hazardous waste; or, (4) an immediate threat to human health, public safety, property or the environment from the known or suspected presence of military munitions, other explosive material, or an explosive device. This means that, during the immediate phase of a spill response, hazardous waste management activities do not require hazardous waste permits (or interim status) and hazardous waste management units used during immediate response actions are not subject to RCRA design, operating, closure or post-closure requirements.

Of course, if hazardous waste treatment activities or other hazardous waste management activities continue after the immediate phase of a spill response is over, all applicable hazardous waste management and permitting requirements would apply. In addition, if spills occur at a facility that is already regulated under 40 CFR part 264, the facility owner/operator must continue to comply with all applicable requirements of 40 CFR Part 264 Subparts C (preparedness and prevention) and D (contingency plan and emergency procedures). See regulations at 40 CFR 260.1(g) and associated preamble discussion at 45 FR 76626 (November 19, 1980). See also, Sept. 29, 1986 memo from J. Winston Porter (EPA Assistant Administrator) to Fred Hansen interpreting the 40 CFR 264.1(g) regulations. ***(Go to Supplemental DOE Resources–Att. D)***

Changes During Interim Status to Comply with Corrective Action Requirements ***(Return to Att. A).*** Under regulations at 40 CFR 270.72(a)(5), an owner or operator of an interim status facility may make changes to provide for treatment, storage and disposal of remediation wastes in accordance with an interim status corrective action order issued by EPA under RCRA Section 3008(h) or other Federal authority, by an authorized state under comparable state authority, or by a court in a judicial action brought by EPA or an authorized state. These changes are limited to treatment, storage and disposal of remediation waste managed as a result of corrective action for releases at the facility in question; however, they are exempt from the reconstruction ban under 40 CFR 270.72(b). Under this provision, for example, EPA could approve a corrective action management unit for treatment of remediation waste using a 3008(h) order (or an authorized state could approve a CAMU using a similar state authority), even if that unit would otherwise amount to "reconstruction." Of course, units added at interim status facilities in accordance with this provision must meet all applicable unit requirements; for example, in the case of a CAMU, the CAMU requirements apply. See, regulations at 40 CFR 270.72(a)(5) promulgated March 7, 1989 and associated preamble discussion at 54 FR 9599. ***(Go to Supplemental DOE Resources–Att. D)***

Emergency Permits ***(Return to Att. A).*** In the event of an imminent and substantial endangerment to human health or the environment, EPA, or an authorized state, may issue a temporary emergency permit for treatment, storage or disposal of hazardous waste. Emergency permits may allow treatment,

storage or disposal of hazardous waste at a non-permitted facility or at a permitted facility for waste not covered by the permit. Emergency permits may be oral or written. (If oral, they must be followed within five days by a written emergency permit.) Emergency permits must specify the hazardous wastes to be received and managed and the manner and location of their treatment, storage and disposal. Emergency permits may apply for up to ninety days, but may be terminated at any point if EPA, or an authorized state, determines that termination is appropriate to protect human health or the environment. Emergency permits must be accompanied by a public notice that meets the requirements of 40 CFR 124.10(b), including the name and address of the office approving the emergency permit, the name and location of the hazardous waste treatment, storage or disposal facility, a brief description of the wastes involved, the actions authorized and the reason for the authorization, and the duration of the emergency permit.

Emergency permits are exempt from all other requirements of 40 CFR part 270 and part 124; however, to the extent possible and not inconsistent with the emergency situation, they must incorporate all otherwise applicable requirements of 40 CFR part 270 and parts 264 and 266.

See, regulations at 40 CFR 270.61, originally promulgated as 40 CFR 122.27 on May 19, 1987 (45 FR 33326). EPA has also written a number of letters interpreting the emergency permit regulations, see, for example, November 3, 1992 letter to Mark Hansen, Environmental Products and Services Inc., from Sylvia Lowrance, Director Office of Solid Waste (available in the RCRA Permit Policy Compendium). ***(Go to Supplemental DOE Resources–Att. D)***

Temporary Authorizations at Permitted Facilities ***(Return to Att. A).*** Under regulations at 40 CFR 270.42(e), EPA, or an authorized state, may temporarily authorize a permittee for an activity that would be the subject of a class two or three permit modification in order to, among other things, facilitate timely implementation of closure or corrective action activities. Activities approved using a temporary authorization must comply with applicable requirements of 40 CFR part 264. Temporary authorizations are limited to 180 days, with an opportunity for an extension of 180 additional days. To obtain an extension of a temporary authorization, a permittee must have requested a class two or three permit modification for the activity covered in the temporary authorization. Public notification of temporary authorizations is accomplished by the permittee sending a notice about the temporary authorization to all persons on the facility mailing list and to appropriate state and local governments. See regulations at 40 CFR 270.42, promulgated on September 28, 1988, and associated preamble at 53 FR 37919. ***(Go to Supplemental DOE Resources–Att. D)***

Regulations and Policies that Apply to Contaminated Environmental Media Only

Contained-in policy ***(Return to Att. A).*** Contaminated environmental media, of itself, is not hazardous waste and, generally, is not subject to regulation under RCRA. Contaminated environmental media can become subject to regulation under RCRA if they "contain" hazardous waste. As discussed more fully below, EPA generally considers contaminated environmental media to contain hazardous waste: (1) when they exhibit a characteristic of hazardous waste; or, (2) when they are contaminated with concentrations of hazardous constituents from listed hazardous waste that are above health-based levels.

If contaminated environmental media contain hazardous waste, they are subject to all applicable RCRA requirements until they no longer contain hazardous waste. EPA considers

contaminated environmental media to no longer contain hazardous waste: (1) when they no longer exhibit a characteristic of hazardous waste; and (2) when concentrations of hazardous constituents from listed hazardous wastes are below health-based levels. Generally, contaminated environmental media that do not (or no longer) contain hazardous waste are not subject to any RCRA requirements; however, as discussed below, in some circumstances, contaminated environmental media that contained hazardous waste when first generated (i.e., first removed from the land, or area of contamination) remain subject to LDR treatment requirements even after they "no longer contain" hazardous waste.

The determination that any given volume of contaminated media does not contain hazardous waste is called a "contained-in determination." In the case of media that exhibit a characteristic of hazardous waste, the media are considered to "contain" hazardous waste for as long as they exhibit a characteristic. Once the characteristic is eliminated (e.g., through treatment), the media are no longer considered to "contain" hazardous waste. Since this determination can be made through relatively straightforward analytical testing, no formal "contained-in" determination by EPA or an authorized state is required. Just like determinations about whether waste has been adequately decharacterized, generators of contaminated media may make independent determinations as to whether the media exhibit a characteristic of hazardous waste. In the case of media that are contaminated by listed hazardous waste, current EPA guidance recommends that contained-in determinations be made based on direct exposure using a reasonable maximum exposure scenario and that conservative, health-based, standards be used to develop the site-specific health-based levels of hazardous constituents below which contaminated environmental media would be considered to no longer contain hazardous waste. Since this determination involves development of site-specific health-based levels, the approval of EPA or an authorized state is required.

In certain circumstances the, RCRA land disposal restrictions will continue to apply to contaminated media that has been determined not to contain hazardous waste. This is the case when contaminated media contain hazardous waste when they are first generated (i.e., removed from the land, or area of contamination) and are subsequently determined to no longer contain hazardous waste (e.g., after treatment), but still contain hazardous constituents at concentrations above land disposal restriction treatment standards. It is also the case when media are contaminated as a result of disposal of untreated (or insufficiently treated) listed hazardous waste after the effective date of an applicable LDR treatment requirement. Of course, if no land disposal will occur (e.g., the media will be legitimately recycled) the LDR treatment standards do not apply. In addition, contaminated environmental media determined not to contain any waste (i.e., it is just media, it does not contain solid or hazardous waste) would not be subject to any RCRA Subtitle C requirements, including the LDRs, regardless of the time of the "contained-in" determination.

The contained-in policy was first articulated in a November 13, 1986 EPA memorandum, "RCRA Regulatory Status of Contaminated Groundwater." It has been updated many times in Federal Register preambles, EPA memos and correspondence, see, e.g., 53 FR 31138, 31142, 31148 (Aug. 17, 1988), 57 FR 21450, 21453 (May 20, 1992), and detailed discussion in HWIR-Media proposal preamble, 61 FR 18795 (April 29, 1996). A detailed discussion of the continuing requirement that some soils which have been determined to no longer contain hazardous waste (but still contain solid waste) comply with land disposal treatment standards can be found in the

HWIR-Media proposal preamble, 61 FR 18804; the September 15, 1996 letter from Michael Shapiro (EPA OSW Director) to Peter C. Wright (Monsanto Company); and the preamble to the LDR Phase IV rule, 63 FR 28617 (May 26, 1998).

Note that the contained-in policy applies only to environmental media (soil, ground water, surface water and sediments) and debris. The contained-in policy for environmental media has not been codified. As discussed below, the contained-in policy for hazardous debris was codified in 1992. ***(Go to Supplemental DOE Resources–Att. D)***

RCRA Section 3020(b) Exemption for Reinjection of Contaminated Ground Water. ***(Return to Att. A)*** Under RCRA Section 3020(a), disposal of hazardous waste into or above a formation that contains an underground source of drinking water is generally prohibited. RCRA Section 3020(b) provides an exception for underground injection carried out in connection with certain remediation activities. Under RCRA Section 3020(b), injection of contaminated ground water back into the aquifer from which it was withdrawn is allowed if: (1) such injection is conducted as part of a response action under Section 104 or 106 of CERCLA or a RCRA corrective action intended to clean up such contamination; (2) the contaminated ground water is treated to substantially reduce hazardous constituents prior to reinjection; and, (3) the response action or corrective action will, on completion, be sufficient to protect human health and the environment. Approval of reinjection under RCRA Section 3020(b) can be included in approval of other cleanup activities, for example, as part of approval of a RCRA Statement of Basis or CERCLA Record of Decision. See, RCRA Section 3020(b), established as part of the 1984 HSWA amendments. See also, OSWER Directive 9234.1-06, "Applicable of Land Disposal Restrictions to RCRA and CERCLA Ground Water Treatment Reinjection Superfund Management Review: Recommendation No. 26," November 27, 1989. ***(Go to Supplemental DOE Resources–Att. D)***

LDR Treatment Standards for Contaminated Soils ***(Return to Att. A).*** On May 26, 1998, EPA promulgated land disposal restriction treatment standards specific to contaminated soils.[3] These treatment standards require that contaminated soils which will be land disposed be treated to reduce concentrations of hazardous constituents by 90 percent or meet hazardous constituent concentrations that are ten times the universal treatment standards (UTS), whichever is greater. (This is typically referred to as 90% capped by 10xUTS.) For contaminated soil that exhibits a characteristic of ignitable, reactive or corrosive hazardous waste, treatment must also eliminate the hazardous characteristic.

The soil treatment standards apply to all underlying hazardous constituents[4] reasonably expected to be present in any given volume of contaminated soil when such constituents are found at initial concentrations greater than ten times the UTS. For soil that exhibits a characteristic of toxic, ignitable, reactive or corrosive hazardous waste, treatment is also required for: (1) in the case of the toxicity characteristic, the characteristic constituent; and, (2) in the case of ignitability,

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[3] This rule, which also addresses a number of non-soil issues, has been challenged by a number of parties. To date, the parties have filed non-binding statements of issues only; however, based on those statements, it appears that, with the exception of the requirement that PCBs be included as an underlying hazardous constituent which has been challenged for both soil and non-soil wastes, the soil treatment standards are not included in the challenges.

[4] Except fluoride, selenium, sulfides, vanadium and zinc.

reactivity or corrosivity, the characteristic property. Although treatment is required for each underlying hazardous constituent, it is not necessary to monitor soil for the entire list of underlying hazardous constituents. Generators of contaminated soil can reasonably apply knowledge of the likely contaminants present and use that knowledge to select appropriate underlying hazardous constituents, or classes of constituents, for monitoring. As with the LDR treatment standards for hazardous debris (discussed below), generators of contaminated soil may use either the applicable universal treatment standards for the contaminating hazardous waste or the soil treatment standards.

See, soil treatment standard regulations at 40 CFR 268.49, promulgated May 26, 1998 and associated preamble discussion at 63 FR 28602-28622.

Note that the soil treatment standards supersede the historic presumption that an LDR treatment variance is appropriate for contaminated soil. LDR treatment variances are still available for contaminated soil, provided the generator can show that an otherwise applicable treatment standard (i.e., the soil treatment standard) is unachieveable or inappropriate, as discussed above, or can show that a site-specific, risk-based treatment variance is proper, as discussed below. ***(Go to Supplemental DOE Resources–Att. D)***

Site-Specific, Risk-Based LDR Treatment Variance for Contaminated Soils ***(Return to Att. A).*** On May 26, 1998, EPA promulgated a new land disposal restriction treatment variance specific to contaminated soil. Under 40 CFR 268.44(h)(3), variances from otherwise applicable LDR treatment standards may be approved if it is determined that compliance with the treatment standards would result in treatment beyond the point at which short- and long-term threats to human health and the environment are minimized. This allows a site-specific, risk-based determination to supersede the technology-based LDR treatment standards under certain circumstances.

Alternative land disposal restriction treatment standards established through site specific, risk-based minimize threat variances should be within the range of values the Agency generally finds acceptable for risk-based cleanup levels. That is, for carcinogens, alternative treatment standards should ensure constituent concentrations that result in the total excess risk to an individual exposed over a lifetime generally falling within a range from 10^{-4} to 10^{-6}, using 10^{-6} as a point of departure and with a preference for achieving the more protective end of the risk range. For non-carcinogenic effects, alternative treatment standards should ensure constituent concentrations that an individual could be exposed to on a daily basis without appreciable risk of deleterious effect during a lifetime; in general, the hazard index should not exceed one (1). Constituent concentrations that achieve these levels should be calculated based on a reasonable maximum exposure scenario -- that is, based on an analysis of both the current and reasonable expected future land uses, with exposure parameters chosen based on a reasonable assessment of the maximum exposure that might occur; however, alternative LDR treatment standards may not be based on consideration of post-land disposal controls such as caps or other barriers.

See, regulations at 40 CFR 268.44(h)(4), promulgated May 26, 1998 and associated preamble discussion at 63 FR 28606-28608. ***(Go to Supplemental DOE Resources–Att. D)***

Regulations and Policies that Apply Only to Debris

LDR Treatment Standards for Contaminated Debris ***(Return to Att. A).*** In 1992, EPA established land disposal restriction treatment standards specific to hazardous contaminated debris. The debris-specific treatment standards established by these regulations are based on application of common extraction, destruction, and containment debris treatment technologies and are expressed as specific technologies rather than numeric criteria. As with the contaminated soil treatment standards discussed earlier, generators of hazardous contaminated debris may choose between meeting either the debris treatment standards or the numerical treatment standard promulgated for the contaminating hazardous waste. See, regulations at 40 CFR 268.45, promulgated August 18, 1992, and associated preamble discussion at 57 FR 37194 and 27221. ***(Go to Supplemental DOE Resources–Att. D)***

Interpretation that Debris Treated to the LDR Debris Treatment Standards Using Extraction or Destruction Technologies no Longer Contain Hazardous Waste ***(Return to Att. A).*** With the land disposal restriction treatment standards for hazardous contaminated debris, in 1992, EPA determined that hazardous debris treated to comply with the debris treatment standards using one of the identified extraction or destruction technologies would be considered no longer to contain hazardous waste and would, therefore, no longer be subject to regulation under RCRA, provided the debris do not exhibit any of the hazardous waste characteristics. This "contained-in determination" is automatic; no agency action is needed. Note that this automatic contained-in determination does not apply to debris treated to the debris treatment standards using one of the identified immobilization technologies. See, regulations at 40 CFR 261.3(f) and treatment standards at Table 1 of 40 CFR 268.45, promulgated August 18, 1992, and associated preamble discussion at 51 FR 37225. ***(Go to Supplemental DOE Resources–Att. D)***

cc: Barbara Simcoe, Association of State and Territorial Solid Waste Management Officials

ATTACHMENT D

Supplemental DOE Guidance Pertaining to the Management of Remediation Waste Under RCRA

This attachment constitutes the last of four attachments to an Office of Environmental Policy and Assistance (OEPA), RCRA/CERCLA Division (EH-413) Information Bulletin titled ***Policies and Regulations Governing the Management of Remediation Waste Under the Resource Conservation and Recovery Act (RCRA)***. It consists of a table that identifies the following:

- Individual remediation waste-related policies/regulations; presented in the same order and using the same conventions as the related tabular discussions appearing in ***Attachment A***;[1]
- The six types of supplemental DOE resources that potentially address each policy/regulation including:
  1. Information Brief: This type of guidance provides summaries of regulations or concise presentations of technical information. Information Briefs are designed to clarify, highlight, and/or update aspects of existing environmental requirements or processes through a question-and-answer format.
  2. Guide: This category includes four types of guidance. *Guidance Manuals* provide a detailed description and explanation of the process for implementing an operations/facility-based environmental program, addressing a particular environmental topic. They also may include a policy statement and/or rationale for the current approach to program implementation. *Graphical Approach to Environmental Guidance (GAeG)* packages use graphical methods including diagrams, flowcharts, step-by-step instructions, and checklists to communicate the applicable requirements and procedures needed to implement and oversee an operations/facility-based program on a particular environmental topic. *Technical Assistance Projects* (*TAPs*) report on real-world, situation-specific environmental compliance issues that have arisen within the DOE community, the resolution of which has been assisted and/or documented by EH-413. *"Cross-Cut" Handbooks* focus on procedural requirements that derive from various environmental laws and their implementing regulations. A handbook is designed to inventory and summarize all the requirements for all the laws concerning a given type of procedure (e.g., reporting requirements, permitting, inspection requirements, etc.).
  3. Memorandum: Individual memoranda, including EH-413 Information Maps (I-Maps), which are designed to announce, define, and clarify environmental policy and guidance issues. They may be issued in response to an EPA rulemaking, policy directive, or statutory change, as clarification of a Departmental Order, or as an interpretation of current events. Memoranda also are used to transmit EPA guidance to the field to explain how the EPA guidance applies to DOE operations and facilities.
  4. Regulatory Bulletin: These guidance products provide concise summaries of newly promulgated environmental regulations. They describe the legislative history underlying the rule, as well as its requirements and implications for DOE operations and facilities. Regulatory Bulletins are developed for rulemakings that are not so complex or voluminous as to require development of a GAeG or Manual.
  5. Training: This category includes activities providing instruction that promotes an understanding of RCRA statutory/regulatory requirements and DOE policy decisions and/or facilitates the use of associated guidance documents. Formats may include, but are not limited to, classroom lecture, videotape, video-teleconference, interactive computer, etc.
  6. Other: This category was included to recognize the range of emerging, evolving, and/or "hybrid" formats that may prove useful for providing guidance in the future. It could include but not be limited to formats such as hardcopy or computerized catalogs/brochures, computerized (automated) guidance programs, TeleVideo conferences, or environmental forums on the EH-41 Internet Website
- A two-step classification system, which indicates: 1) whether the resource has been completed ("☑") or is under development ("❖") and 2) whether the resource is Internet-accessible ("*")
- A footnote (e.g., "[1]") corresponding to the name of a supplemental DOE resource.

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[1] *Attachment A* includes hypertext links to separate remediation waste regulatory/policy information presented in the EH-413 narrative discussions (*Attachment B*) or EPA's October 1998 memorandum titled *Management of Remediation Waste Under RCRA* (EPA530-98-026) (*Attachment C*).

For each supplemental DOE resource that is identified as Internet-accessible, the name appearing in the footnote section (following table) has been equipped with a hypertext link to the corresponding resource. Internet-accessible resources are identified using blue, italicized text. For those remediation waste-related DOE resources that are not Internet-accessible, users are encouraged to obtain a hard copy of the supplemental resource through DOE's:

1. Office of Environment, Safety and Health Information Center by:
   - Calling Toll-Free: 1-800-473-4375 or in D.C.: 301-903-8358
   - Faxing: (301) 903-9823
   - Communicating electronically, via Internet, esh-infocenter@eh.doe.gov; or

2. Center for Environmental Management Information by:
   - Calling Toll-Free: 1-800-736-3282, or in D.C.: 202-863-5084;
   - Submitting written requests to: P.O. Box 23769, Washington, D.C. 20026-3769; or
   - Communicating electronically, via Internet, to eminfo@erols.com.

	Supplemental DOE Resource					
	Info Brief	Guide	Memo/ I-Map	Reg. Bulletin	Training	Other
Remediation Waste-Related Policy/Regulation:						
Section 1. Regulations and Policies that Apply to All Remediation Wastes						
Area of Contamination (AOC)	☑ (1)∗	☑ (2)∗		☑ (3)∗	☑ (4)∗	☑ (5)∗
Corrective Action Management Units (CAMUs)	☑ (6)∗ ☑ (7)∗ ☑ (8)∗ ☑ (9)∗ ☑ (10)∗	☑ (11)∗ ☑ (12)∗	☑ (13)∗	☑ (14)∗ ☑ (15)∗		☑ (16)∗
Corrective Action Temporary Units (TUS)	☑ (6)∗ ☑ (8)∗ ☑ (9)∗ ☑ (10)∗			☑ (14)∗		
Determination of When Contamination Is Caused by Listed Hazardous Waste	☑ (17)∗	☑ (2)∗ ❖ (18)	☑ (19)∗			
Site-Specific LDR [Land Disposal Restrictions] Treatment Variances	☑ (17)∗	☑ (20)∗ ☑ (21)	☑ (22)∗ ☑ (23)∗	❖ (24)		
Treatability Studies Exemption	☑ (25)∗ ☑ (26)∗	☑ (2)∗ ☑ (11)∗ ☑ (27)∗		☑ (28)∗		
Exemption for Ninety Day Accumulation	☑ (29)∗ ☑ (30)∗	☑ (31)∗ ☑ (32)∗				
Permit Waivers		☑ (2)∗				

☑ Completed **❖ Under development** *** On Website**

	Supplemental DOE Resource					
	Info Brief	Guide	Memo/ I-Map	Reg. Bulletin	Training	Other
Remediation Waste-Related Policy/Regulation:						
Exemption from 40 CFR Part 264 Requirements for People Engaged in Immediate Phase of Spill Response	☑ (30)*	☑ (33)*				
Changes During Interim Status to Comply with Corrective Action Requirements	☑ (34)* ☑ (35)*	☑ (36)*				
Emergency Permits	☑ (30)*	☑ (33)* ☑ (37)*				
Temporary Authorization at Permitted Facilities		☑ (38)*				
Exemption for On-site Management of Corrosive Wastes in Elementary Neutralization Units (ENUs) and Remediation Liquids and Sludges in Wastewater Treatment Units (WWTUs)	☑ (39)*	☑ (2)* ☑ (40)* ☑ (41)*				
Exemption from Air Emission Standards (Subpart CC) for Remediation Waste Storage Units		☑ (42)*	☑ (43)*	☑ (44)* ☑ (45)*		
Exemption from RCRA Permitting and Facility-Wide Corrective Action when Managing Remediation Waste			☑ (22)*	☑ (15)*		
Off-site Management of Remediation Wastes during CERCLA Response Actions	☑ (46)* ☑ (47)*	☑ (2)* ☑ (48)*		☑ (49)*	☑ (4)*	
Petroleum-Contaminated Media and Debris from Underground Storage Tank (UST) Corrective Actions	☑ (50)*			☑ (15)*		☑ (51)*
Recovered Commercial Chemical Products Sent for Use/Reuse or Recycling	☑ (52)* ☑ (53)*					☑ (51)*
Reduced Information Requirements for and/or Relief from RCRA Permitting during Cleanup and Post-Closure Care	☑ (54)* ☑ (55)*			☑ (3)*		
Exclusion for Samples of Remediation Waste	☑ (50)*	☑ (2)* ☑ (28)*				☑ (51)*
Use of Staging Piles for Temporary Storage of Solid, Non-Flowing Remediation Waste				☑ (14)*		
Section 2. Regulations and Policies that Apply to Contaminated Environmental Media Only						
Contained-In Policy	☑ (9)* ☑ (56)* ☑ (57)*	☑ (2)* ❖ (18)		☑ (58)*		
RCRA Section 3020(b) Exemption for Reinjection of Contaminated Ground Water		☑ (2)* ❖ (18)				
LDR Treatment Standards for Contaminated Soils	☑ (17)*	❖ (18)	☑ (59)*	❖ (60)		

☑ Completed **❖ Under development** *** On Website**

	Supplemental DOE Resource					
	Info Brief	Guide	Memo/ I-Map	Reg. Bulletin	Training	Other
Remediation Waste-Related Policy/Regulation:						
Site-Specific, Risk-Based LDR Treatment Variance for Contaminated Soils				❖ (60)		
Exclusion for Dredge Material (i.e., Sediment) that Contains a Listed Hazardous Waste or Exhibits a Characteristic				☑ (14)∗		
Management of Investigation-Derived Waste (IDW)		☑ (2)∗ ☑ (27)∗				
Section 3. Regulations and Policies that Apply Only to Debris						
LDR Treatment Standards for Contaminated Debris	☑ (17)∗	❖ (18)		☑ (58)∗ ❖ (61)		
Interpretation that Debris Treated to the LDR Debris Treatment Standards Using Extraction or Destruction Technologies No Longer Contain Hazardous Waste		❖ (18)		☑ (58)∗ ❖ (61)		
Exemption for "Empty" Containers and Residues from Empty Containers	☑ (50)∗ ☑ (62)∗	☑ (63)∗				☑ (64)∗
Exclusion for Scrap Metal that Is Being Recycled	☑ (50)∗			❖ (65)		☑ (64)∗
Exemption for Certain Polychlorinated Biphenyl (PCB) Wastes	☑ (50)∗ ☑ (66)∗	☑ (67)∗		☑ (68)∗		☑ (51)∗

Footnotes

1 *RCRA Facility Assessment*, DOE/EH-231-014/0794, July 1994 http://tis.eh.doe.gov/oepa/guidance/rcra/assess.pdf

2 *Guide to Ground Water Remediation at CERCLA Response Action and RCRA Corrective Action Sites* (Pocket Guide), DOE/EH-0505, October 1995 http://tis.eh.doe.gov/oepa/guidance/gw/grndh2o.pdf

3 *Standards Applicable to Owners and Operators of Closed and Closing Hazardous Waste Management Facilities: Post-Closure Permit Requirement and Closure Process (63 FR 56710)*, May 10, 1999 http://tis.eh.doe.gov/oepa/guidance/rcra/hwmu.pdf

4 *Applicable or Relevant and Appropriate Requirements (ARARs) Training Workshop* - Sect. IV F: On-Site/Off-Site, http://tis.eh.doe.gov/oepa/arars/pdfs/IV-F-note.pdf

5 *Compendium of CERCLA ARARs Fact Sheets and Directives* [OEG(CERCLA)-005/1091] - *Superfund LDR Guide 5 Determining When Land Disposal Restrictions Are Applicable to CERCLA Response Actions* http://tis.eh.doe.gov/oepa/guidance/cercla/compendium/Sect26.pdf

6 *Corrective Action Management Units and Temporary Units*, DOE/EH-231-043/0394, March 1994 http://tis.eh.doe.gov/oepa/guidance/rcra/camu.pdf

7 *RCRA Facility Investigation*, DOE/EH-231-046/1194, November 1994 http://tis.eh.doe.gov/oepa/guidance/rcra/invest.pdf

8 *RCRA Corrective Action Definitions Under Subpart F and Proposed Subpart S*, DOE/EH-231-044/0394, March 1994 http://tis.eh.doe.gov/oepa/guidance/rcra/definit.pdf

9 *Management of Corrective Action Wastes Pursuant to Proposed Subpart S*, DOE/EH-231-029/0295, February 1995 http://tis.eh.doe.gov/oepa/guidance/rcra/ca_waste.pdf

10 *Conditional Remedies Under RCRA Corrective Action* (EH-413-064/0696) June 1996 http://tis.eh.doe.gov/oepa/guidance/rcra/cor.pdf

11 *Resource Conservation and Recovery Act Corrective Action Program Guide (Interim)*-Chapter 3, DOE/EH-0323, May 1993 http://tis.eh.doe.gov/oepa/guidance/rcra/Program/program3.pdf

12 *Resource Conservation and Recovery Act Corrective Action Program Guide (Interim)*-Chapter 4, DOE/EH-0323, May 1993 http://tis.eh.doe.gov/oepa/guidance/rcra/Program/program4.pdf

13 *Departmental Response to "Subpart S" Corrective Action ANPRM*, Office of Environmental Policy and Assistance(EH-413):Coalgate:6-6075, August 9, 1996 http://tis.eh.doe.gov/oepa/comments/rcra/Ca-cmts.pdf

14 *CAMU/TU Final Rule Issued*, May 12, 1993 http://tis.eh.doe.gov/oepa/guidance/rcra/Camu_tu.pdf

15 *Hazardous Remediation Waste Management Requirements (HWIR-Media): Final Rule* [DOE guidance - Regulatory Bulletin, June 1999 http://tis.eh.doe.gov/oepa/guidance/rcra/rbfin-tt.pdf

16 *Guide to the Corrective Action Management Unit - Final Rule* (Video), (No Date)

17 *Complying with Land Disposal Restrictions (LDR) for CERCLA Remedial Actions Involving Contaminated Soil and Debris*, DOE/EH-231-002/0191, January 1991 http://tis.eh.doe.gov/oepa/guidance/cercla/soildbrs.pdf

18 *Environmental Restoration Waste Management Guide*– Under development

19 *Guidance on Testing Requirements for Mixed (Radioactive and Hazardous) Waste*, December 23, 1997 http://tis.eh.doe.gov/oepa/guidance/rcra/mixed.pdf

20 *Land Disposal Restrictions Treatment (LDR) Program Overview*, DOE/EH-231/005-0293, April 1993 http://tis.eh.doe.gov/oepa/guidance/rcra/ldr-over.pdf

21 *Obtaining Variances from the Treatment Standards of the RCRA Land Disposal Restrictions,* DOE/EGD-001/0590, May 1990

22 *Consolidated Departmental Response to Proposed Hazardous Waste Identification Rule for Contaminated Media (HWIR-Media)*, dated September 17, 1996 http://tis.eh.doe.gov/oepa/comments/rcra/hwir2.pdf

23 *62 FR 26041, Land Disposal Restrictions Phase IV: Second Supplemental Proposal on Treatment Standards for Metal Wastes and Mineral Processing Wastes, Mineral Processing and Bevill Exclusion Issues, and the Use of Hazardous Waste as Fill*, dated August 15, 1997 http://tis.eh.doe.gov/oepa/comments/rcra/ldr-cmt.pdf

24 *Clarification of LDR Standards for Treatment Variances*– Under development

25 *Treatability Study Sample Exemption - Update*, DOE/EH-413-071/0197 http://tis-nt.eh.doe.gov/oepa/guidance/rcra/treat-ib.pdf

26 *The Small-Scale Treatability Study Sample Exemption*, DOE/EH-231-002/0191 http://tis.eh.doe.gov/oepa/guidance/rcra/treat.pdf

27 *Remedial Investigation/Feasibility Study (RI/FS) Process, Elements and Techniques*, DOE/EH 94007658, December 21, 1993 http://tis.eh.doe.gov/oepa/guidance/cercla/ri_fs/module2.pdf

28 *Hazardous Waste Treatability Studies Sample Exclusion – Revised Rule Issued*, October 20, 1994 http://tis.eh.doe.gov/oepa/guidance/rcra/treat2.pdf

29 *Hazardous Waste Generator Requirements*, DOE/EH-231-055/1194, November 1994, [Revised August 1997; Subpart CC Update, June 1999] http://tis-nt.eh.doe.gov/oepa/guidance/rcra/gener_rv.pdf

30 *Types of RCRA Permits*, DOE/EH-413/9715 http://tis.eh.doe.gov/oepa/guidance/rcra/permits.pdf

31 *Resource Conservation and Recovery Act Corrective Action Program Guide (Interim)*-Chapter 7, DOE/EH-0323, May 1993 http://tis.eh.doe.gov/oepa/guidance/rcra/Program/program7.pdf

32 *RCRA Permitting Guide for Hazardous and Radioactive Mixed Waste Management Facilities*-Introduction, DOE/EH(RCRA)9705 http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permit_intro.pdf

33 *RCRA Permitting Guide for Hazardous and Radioactive Mixed Waste Management Facilities*-Chapter 5, DOE/EH(RCRA)9705 http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permit_ch5.PDF

34 *Loss Of Interim Status (LOIS) Under RCRA*; DOE/EH-231-0181/0992, September 1992 http://tis.eh.doe.gov/oepa/guidance/rcra/lois.pdf

35 *Transfer of Environmental Permits After the Sale or Transfer of DOE Property*, (EH-413-061/1195) November 1995 http://tis.eh.doe.gov/oepa/guidance/rcra/transfer.pdf

36 *RCRA Permitting Guide for Hazardous and Radioactive Mixed Waste Management Facilities*-Chapter 1, DOE/EH(RCRA)9705 http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permit_ch1.PDF

37 *Military Munitions Rule for Hazardous & Radioactive Mixed Waste - Military Munitions Rule Supplement* (DOE/EH [RCRA] 9705 Supplement), October 1997 http://tis.eh.doe.gov/oepa/guidance/rcra/permitting.pdf

38 *RCRA Permitting Guide for Hazardous and Radioactive Mixed Waste Management Facilities*-Chapter 4, DOE/EH(RCRA)9705 http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permit_ch4.PDF

39 *Federal Facility Compliance Act Implications for RCRA Corrective Action*, DOE/EH-231-015/0994, September 1994 http://tis.eh.doe.gov/oepa/guidance/rcra/impl.pdf

40 *RCRA Permitting Guide for Hazardous and Radioactive Mixed Waste Management Facilities*-Chapter 3, DOE/EH(RCRA)9705 http://tis-nt.eh.doe.gov/oepa/guidance/rcra/permit_ch3.PDF

41 *Application of Best Available Technology for Radioactive Effluent Control* [DOE-STD-, DOE Standard-Draft] http://tis-nt.eh.doe.gov/oepa/guidance/aea/batw.pdf

42 *RCRA Subpart CC Organic Air Emission Standards: Questions and Answers Update*, DOE/EH-413/9813, August 1998 http://tis.eh.doe.gov/oepa/guidance/rcra/subpartcctap.pdf

43 *Organic Air Emission Standards for Tanks, Surface Impoundments, and Containers; Final Rule, Clarification and Technical Amendments*, March 24, 1999 http://tis.eh.doe.gov/oepa/guidance/rcra/subccinfomap.pdf

44 *Organic Air Emission Standards; Revised Final Rule Issued*, September 1997 http://tis-nt.eh.doe.gov/oepa/guidance/rcra/ccregbl2.pdf

45 *Organic Air Emission Standards; Final Rule Issued*, August 1995 http://tis.eh.doe.gov/oepa/guidance/rcra/subccreg.pdf

46 *The Off-Site Rule*, DOE/EH-231-020/0394, March 1994 http://tis.eh.doe.gov/oepa/guidance/cercla/off-site.pdf

47 *Determinations of TSD Facility Acceptability Under the CERCLA Off-Site Rule*, DOE/EH-413/9707, June 1997 http://tis.eh.doe.gov/oepa/guidance/cercla/off-site2.pdf

48 *Guide to Selecting Compliant Off-Site Hazardous Waste Treatment, Storage and Disposal Facilities*, DOE/EH-0427, September 1994 http://tis.eh.doe.gov/oepa/guidance/cercla/sel_tsdf.pdf

49 *Transporting CERCLA Wastes Off-site; Final Off-Site Rule*, December 1994 http://tis.eh.doe.gov/oepa/guidance/cercla/transp.pdf

50 *Exclusions and Exemptions from RCRA Hazardous Waste Regulations*, DOE/EH-231-034/0593, May 1993 http://tis.eh.doe.gov/oepa/guidance/rcra/exclude.pdf

51 *Definitions of Solid and Hazardous Wastes* (Computer Automated Guidance), Version 1, April 1997 [Supersedes DOE/EH-0273, August 1992] http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html

52 *Identification of Certain RCRA Wastes — the F-Spent Solvent, P, and U Listings*; DOE/EH-231-008/1291; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/spent.pdf

53 *Requirements for the Recycling of Hazardous Waste*; DOE/EH-231-001/0990; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf

54 *Planning and Implementing RCRA/CERCLA Closure and Post-Closure Care When Wastes Remain Onsite*, (DOE/EH-413-9910), October 1999 http://tis.eh.doe.gov/oepa/guidance/rcra/closur2.pdf

55 *RCRA Closure and Post-Closure Plans* (EH-231-009/1291), December 1991 http://tis.eh.doe.gov/oepa/guidance/rcra/pcplans.pdf

56 *Overview of the Identification of Hazardous Waste Under RCRA*; DOE/EH-231-007/1291; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/define.pdf

57 *The Mixture Rule Under the Resource Conservation and Recovery Act*, DOE/EH-231-005/0991; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/mixture.pdf

58 *Renewal of Hazardous Debris Case-by-Case Capacity Variance*, July 28, 1993 http://tis.eh.doe.gov/oepa/guidance/rcra/renewal.pdf

59 *LDR Phase IV Effective Date/State Authority Issues*, December 7, 1998 http://tis.eh.doe.gov/oepa/guidance/rcra/ldrivdate.pdf

60 *Land Disposal Restrictions: Phase IV: Final Rule (Second Major Component)* – Under development

61 *Land Disposal Restrictions (LDR): Phase I Regulatory Bulletin*– Under development

62 *Identification of Certain RCRA Wastes — the F-Spent Solvent, P, and U Listings*; DOE/EH-231-008/1291; http://tis-nt.eh.doe.gov/oepa/guidance/rcra/spent.pdf

63 *Management of Hazardous Waste Containers and Container Storage Areas Under RCRA*, DOE/EH-0333, August 1993 http://homer.ornl.gov/oepa/guidance/listsubdocs.cfm?ID=221&Home=TIS

64 *RCRA Special Requirements Applicable to Hazardous Waste Automated Guidance* (Windows Version) http://tis-nt.eh.doe.gov/oepa/programs/special.html OR http://tis-nt.eh.doe.gov/oepa (see "TOOLS")

65 *Land Disposal Restrictions: Phase IV: Final Rule (First Major Component)* – Under development

66 *Disposal Requirements for PCB Waste*, DOE/EH-231-056/1294, December 1994 : http://tis.eh.doe.gov/oepa/guidance/tsca/pcb-disp.pdf

67 *Guidance Booklet On Storage and Disposal of Polychlorinated Biphenyl (PCB) Waste* , DOE/EH-413-9914, November 1999 http://tis-nt.eh.doe.gov/oepa/guidance/tsca/PCBGuid4.pdf

68 *PCB Disposal Amendments: Final Rule, September 1999* http://tis-nt.eh.doe.gov/oepa/guidance/tsca/PCBDisposal.pdf