This document is part of the training materials for the RCRA Corrective Action Workshop on Results-Based Project Management. It contains summaries of EPA statutory authorities, regulations, and guidance materials. This document does not substitute for any of these authorities or materials. In addition, this document is not an EPA regulation and therefore cannot impose legally binding requirements on EPA, States, or the regulated community. EPA may change this document in the future, as appropriate.

Objectives

Participants will be able to:

- Identify the subset of remediation waste that is subject to RCRA hazardous waste requirements
- Apply some commonly used Federal remediation waste regulations and policies to tailor RCRA hazardous waste requirements to the circumstances of remediation

What Are We Going to Do?

- Discuss regulations and policies that guide your decisions about whether remediation waste is subject to regulation under RCRA
- Discuss regulations and policies that allow you to tailor RCRA requirements to the circumstances of remediation
- Give you an opportunity, working in small groups, to apply these remediation waste regulations and policies to an example from your work experience or a case study

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Early Identification of Remediation Waste Requirements

- Typically, cleanup sites generate cleanup wastes commonly called “remediation wastes”
- Failure to identify the subset of remediation waste that is subject to RCRA requirements early in cleanup often leads to delay
- What types of remediation waste are usually regulated as hazardous waste under RCRA?

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Notes:
Project Managers for cleanup sites typically have to oversee management of contaminated soil, groundwater or other environmental media, contaminated debris, and other cleanup wastes. These materials are commonly called "remediation wastes." Some remediation wastes are subject to regulation as hazardous waste under RCRA. The subset of remediation waste that is subject to regulation as hazardous waste under RCRA is commonly called "hazardous remediation waste.”

Because of the nature of the RCRA requirements, many project managers find that a small volume of hazardous remediation waste drives their cleanup decisions, often to the detriment of the larger cleanup action. For many years, EPA has recognized the barriers the RCRA requirements can present during cleanup actions. In an effort to overcome these barriers, EPA has established many rules and policies specific to hazardous remediation waste. These include: (1) the contained-in policy, (2) the area of contamination policy, (3) site-specific land disposal restriction treatment variances, and (4) the recently promulgated hazardous waste identification rule.

We will focus on successful early identification of hazardous remediation waste and appropriate application of EPA’s regulations and policies for remediation waste.

For Waste: Normal RCRA Applies

- Use the waste designation process under RCRA to determine if non-media, non-debris remediation wastes are hazardous
- Remember retroactivity of listings

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Notes:

As with any other waste designation, first evaluate whether the material is considered solid waste, then, if solid waste, evaluate whether it is hazardous waste.

Look at: listings; characteristics.

For wastes disposed of prior to 1980, that were then treated, stored, disposed of or otherwise handled after 1980 (e.g., removed from the land and re-disposed off-site), RCRA listings may apply depending on the specifics of the handling.

See 55 FR 8762-8763 (March 8, 1990)

For Environmental Media and Debris: Contained-In Policy

- Contaminated environmental media is not solid waste so it cannot be hazardous waste
- Is subject to regulation if it "contains" hazardous waste
- EPA and authorized States make "contained-in" decision
- Environmental media and debris that do not or no longer contain hazardous waste are generally not subject to RCRA requirements except, under certain circumstances, the land disposal restrictions

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Notes:
Contaminated environmental media (soil, groundwater, surface water, sediments) are not solid wastes and therefore cannot be hazardous wastes. However, when contaminated environmental media "contain" hazardous waste, EPA's policy is that the media must be managed as if they were hazardous waste unless and until they no longer contain hazardous waste. This is known as the "contained-in policy." The contained-in policy therefore governs when contaminated environmental media must be managed as if they were hazardous waste. EPA's policy is that contaminated environmental media generally contain hazardous waste when: (1) the media exhibit one of the characteristics of hazardous waste (usually one of the toxicity characteristics), or (2) when hazardous constituents from listed hazardous waste are present in the media at concentrations greater than health-based levels calculated using a reasonable maximum exposure scenario (for example, protective, site-specific, risk-based cleanup levels). It is critical that contained-in decisions be made as early as possible in a cleanup. Ideally, the decisions should be made before or at the same time as contaminated environmental media are removed from the land. The contained-in policy also applies to man-made and environmental debris.

Environmental media and debris that do not or no longer contain hazardous waste are generally not subject to RCRA requirements (except, under certain circumstances, the land disposal restrictions).

References: 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).

Do Media Contain Hazardous Waste?

1 ALL MEDIA REGARDLESS OF SOURCE OF CONTAMINATION	If media fails one or more characteristic test	Yes
	If media does not exhibit a hazardous characteristic	No
2 MEDIA CONTAMINATED WITH LISTED HAZARDOUS WASTE	If concentrations of hazardous constituents are determined to be above health based levels	Yes
	If concentrations of hazardous constituents are determined to be below health based levels	No
3 MEDIA CONTAMINATED WITH CHARACTERISTIC HAZARDOUS WASTE ONLY	If media fails one or more characteristic test	Yes
	If media does not exhibit a hazardous characteristic	No

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Do Media Contain Hazardous Waste?

1

ALL MEDIA REGARDLESS OF SOURCE OF CONTAMINATION

If media fails one or more characteristic test	Yes
If media does not exhibit a hazardous characteristic	No

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Do Media Contain Hazardous Waste?

2

MEDIA CONTAMINATED WITH LISTED HAZARDOUS WASTE

If concentrations of hazardous constituents are determined to be above health based levels	Yes
If concentrations of hazardous constituents are determined to be below health based levels	No

Do Media Contain Hazardous Waste?

3

MEDIA CONTAMINATED WITH CHARACTERISTIC HAZARDOUS WASTE ONLY

If media fails one or more characteristic test	**Yes**
If media does not exhibit a hazardous characteristic	**No**

Do Media Contain Hazardous Waste?

1 ALL MEDIA REGARDLESS OF SOURCE OF CONTAMINATION	If media fails one or more characteristic test	Yes
	If media does not exhibit a hazardous characteristic	No
2 MEDIA CONTAMINATED WITH LISTED HAZARDOUS WASTE	If concentrations of hazardous constituents are determined to be above health based levels	Yes
	If concentrations of hazardous constituents are determined to be below health based levels	No
3 MEDIA CONTAMINATED WITH CHARACTERISTIC HAZARDOUS WASTE ONLY	If media fails one or more characteristic test	Yes
	If media does not exhibit a hazardous characteristic	No

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Do Media Contain Hazardous Waste?

FOUR CRITERIA TO DETERMINE CONTAMINATED MEDIA STATUS	ARE CONTAMINATED MEDIA CONSIDERED TO "CONTAIN" HAZARDOUS WASTE?	
1 CONTAMINATED MEDIA WITH LISTED HW LAND DISPOSED BEFORE EFFECTIVE DATE OF APPLICABLE LDR TREATMENT STANDARD	If concentrations of hazardous constituents are determined to be above health based levels	Yes
	If concentrations of hazardous constituents are determined to be below health based levels	No
2 CONTAMINATED MEDIA WITH LISTED HW LAND DISPOSED AFTER EFFECTIVE DATE OF APPLICABLE LDR TREATMENT STANDARDS	If concentrations of hazardous constituents are determined to be above health based levels	Yes
	If concentrations of hazardous constituents are determined to be below health based levels	No
3 CONTAMINATED MEDIA EXHIBIT ONE OR MORE HAZARDOUS WASTE CHARACTERISTICS	Because the presence of one or more characteristic indicates the contaminated media still contain hazardous waste	Yes
4 MEDIA CONTAMINATED WITH CHARACTERISTIC WASTE, THAT DOES NOT EXHIBIT ANY CHARACTERISTICS	Contaminated media that exhibits no hazardous characteristics and contains no listed hazardous waste are not considered to contain hazardous waste	No

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For Waste: Do LDRs Apply?

- Use the normal process for LDRs
  - Check to see if waste prohibited (by waste code)
  - Look up treatment standards

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Notes:

Waste prohibitions are listed, by waste code, in 40 CFR part 268 Appendix VIII, Table 1.

This table also lists the dates the prohibitions become effective.

Treatment standards are generally listed in 40 CFR 268 40.

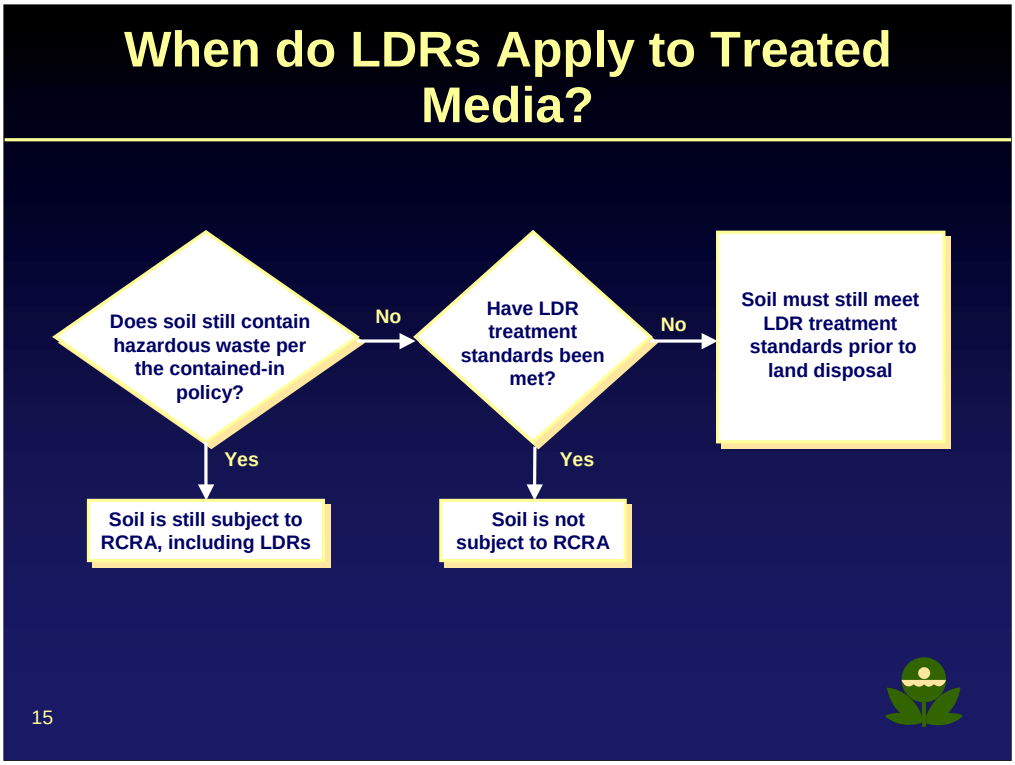
Notes:

Three principles informed EPA's policies on application of LDRs to contaminated media.

First – LDRs attach only to prohibited hazardous waste (including hazardous waste contained in environmental media) when it is (1) "generated," and (2) subsequently placed in a land disposal unit. Therefore, if contaminated environmental media is not removed from the unit (i.e., "generated") LDRs do not apply. Similarly, if contaminated environmental media is removed from the land (i.e., "generated") yet never placed in a land disposal unit, LDRs do not apply.

Second – once a decision has been made to "generate" and land-dispose contaminated environment media, LDRs generally apply only to contaminated environmental media that contain hazardous waste. Exception to this rule flows from principle three.

Third – once LDRs attach to any given hazardous waste (including hazardous waste contained in environmental media) the LDR treatment standards continue to apply until they are satisfied and elimination of the "hazardousness" of the waste or contaminated environment media does not automatically satisfy LDRs. Application of this principal is covered in more detail on the next slide.



Notes:

One of the principles that governs EPA's policies on application of LDRs to contaminated environmental media is that once LDRs attach to any given volume of hazardous waste (or environmental media that contain hazardous waste) the LDR treatment standards continue to apply until they are satisfied. In other words, elimination of the property that caused the waste to be hazardous in the first instance (or the environmental media to contain hazardous waste in the first instance) does not automatically satisfy LDRs and the LDR treatment standards may, in fact, continue to apply to the decharacterized waste or to the environmental media that no longer contains hazardous waste.

This principle comes from application of the logic of the Chemical Waste opinion #l. In that opinion the D.C. Circuit held that land disposal prohibitions attach at the point that a hazardous waste is generated and continue to apply until threats posed by land disposal of the waste are minimized. (Chemical Waste Management v. EPA, 976 F.2d at 13, 14, and 24.) In illustration of this principle, the court held that (in the case of characteristic hazardous waste) elimination of the property that caused EPA to identify a waste as hazardous in the first instance does not automatically eliminate a duty to comply with LDRs.

For a detailed discussion of application of LDRs to contaminated environmental media (in the context of contaminated soil) see the preamble to the Soil Treatment Standards Regulations, 63 FR 28671 – 28620 (May 26, 1998).

Alternative LDR Treatment Standards

If LDRs	And If LDRs	And If	Then you
Applied to the listed waste when it contaminated the soil*.	Apply to the listed waste now	.....	Must comply with LDRs.
Didn't apply to the listed waste when it contaminated the soil*.	Apply to the listed waste now	The soil is determined to contain the listed waste when the soil is first generated.	Must comply with LDRs.
Didn't apply to the listed waste when it contaminated the soil*.	Apply to the listed waste now	The soil is determined not to contain the listed waste when the soil is first generated.	Needn't comply with LDRs.
Didn't apply to the listed waste when it contaminated the soil*.	Don't apply to the listed waste now	.....	Needn't comply with LDRs.

* For dates of LDR applicability, see 40 CFR Part 268 Appendix VII. To determine the date any given listed hazardous waste contaminated any given volume of soil, use the last date any given listed hazardous waste was placed into any given land disposal unit or, in the case of an accidental spill, the date of the spill.

Review

- Cleanup sites will typically generate remediation waste
- Not all remediation waste is hazardous, even at a TSDF
- To figure out if remediation waste is hazardous, it helps to divide it into media and non-media
- LDRs generally apply only to hazardous remediation waste
- Early identification of the subset of remediation waste that's hazardous at any given site is important

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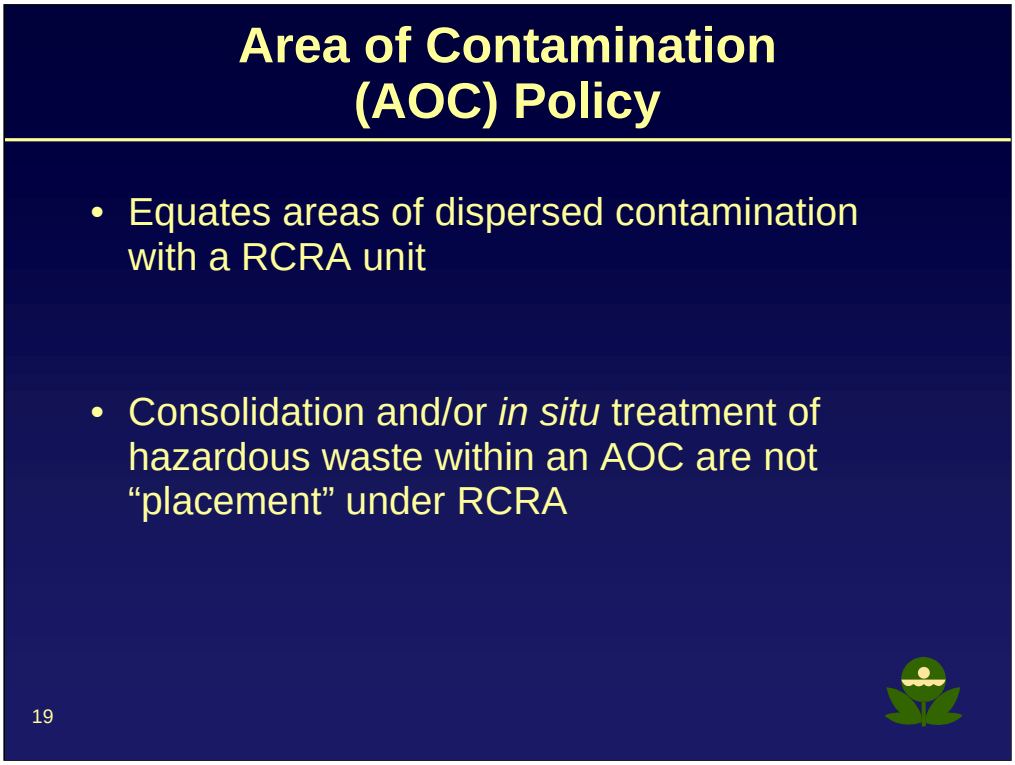
You've Got Hazardous Remediation Waste - Now What

- Waste can be managed in certain types of units that limit or tailor RCRA requirements
- Special LDRs for some hazardous remediation waste, and LDR treatment variences
- Permit waivers and other special forms of permits and approvals are available



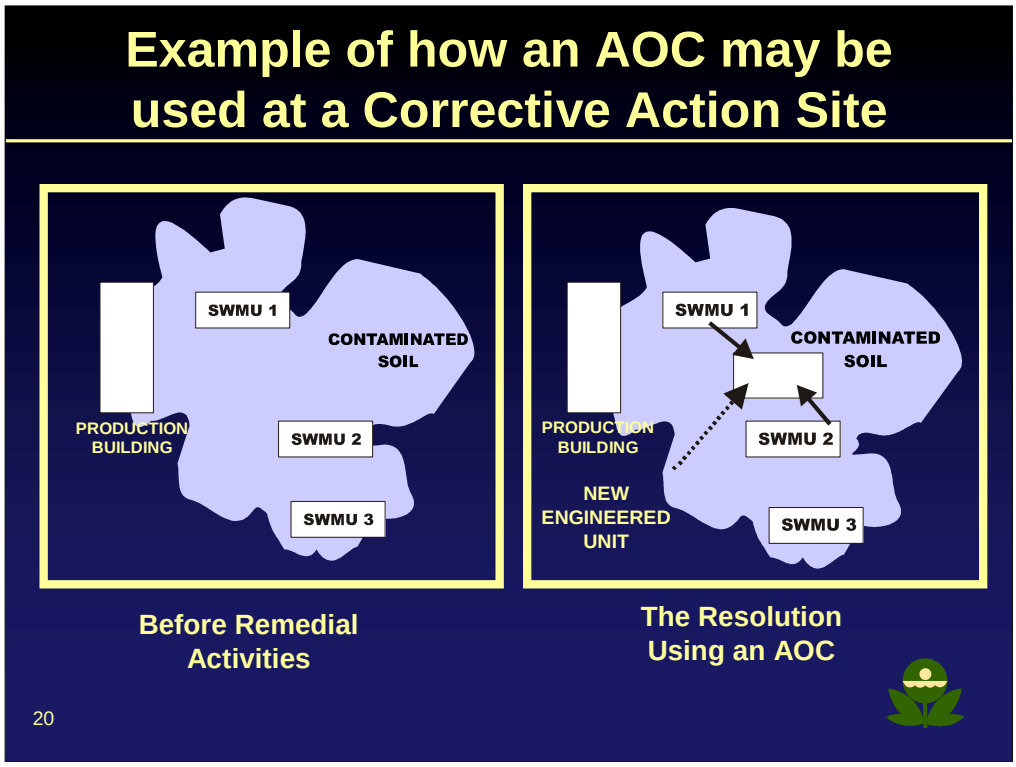
Notes:

The "Area of Contamination Policy" equates areas of dispersed contamination with a RCRA unit.

Consolidation of waste within an AOC and treatment of waste *in situ* within an AOC are not considered "placement" of hazardous waste, therefore a duty to comply with LDRs is not triggered.

Many people confuse the AOC policy with the regulations for Corrective Action management units (CAMU). Generally, wastes must be managed in situ to be covered by the AOC policy. With CAMUs wastes may be treated in non-land-based units, then placed or replaced in a CAMU. The differences between CAMUs and AOCs will be covered in more detail later.

References: The AOC policy was first articulated in the National Contingency Plan (NCP). See 53 FR 1444 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 Area of Contamination Concept During RCRA Cleanups."



Notes:

Before remedial activities:
Remediation waste, in the form of old, weathered sludges, is distributed among three solid waste management units. Each unit has an apron of contaminated soil. There is also contaminated soil outside of the process building. This soil contamination overlaps with the contamination from some of the solid waste management units, creating a large area of dispersed soil contamination by various organic constituents, from various sources, at various concentrations.

The remediation goal at the facility is to consolidated all contaminated soil and other remediation waste into a land-based, lined unit, cap, and leave in place.

The resolution using AOC:
A land-based, lined unit is constructed within the area of soil contamination. Sludges from SWMUs 1, 2, and 3 are consolidated into the unit. Contaminated soil is also consolidated into the unit.
The unit is capped.

Corrective Action Management Unit (CAMU)

- A specific type of land-based unit that can be used to treat, store, or dispose of hazardous remediation wastes
- Minimum technological requirements may be tailored to site- and waste-specific circumstances

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Notes:

The CAMU rules went into effect in 1993.

CAMUs may be approved at any cleanup site where hazardous remediation waste will be treated, stored, or disposed. EPA recently clarified the CAMU definition to emphasize that CAMUs are available for all hazardous remediation waste.

CAMUs do not have to meet the existing minimum design, operating, closure, and post-closure requirements for hazardous waste units; instead, they have to meet design, operating, closure, and post-closure performance standards in the CAMU rule.

Corrective Action Management Unit (Cont.)

- Placement of waste in a CAMU does not trigger a duty to comply with LDR treatment standards
- CAMUs must be approved by EPA or a State in a permit, order, or other enforceable document

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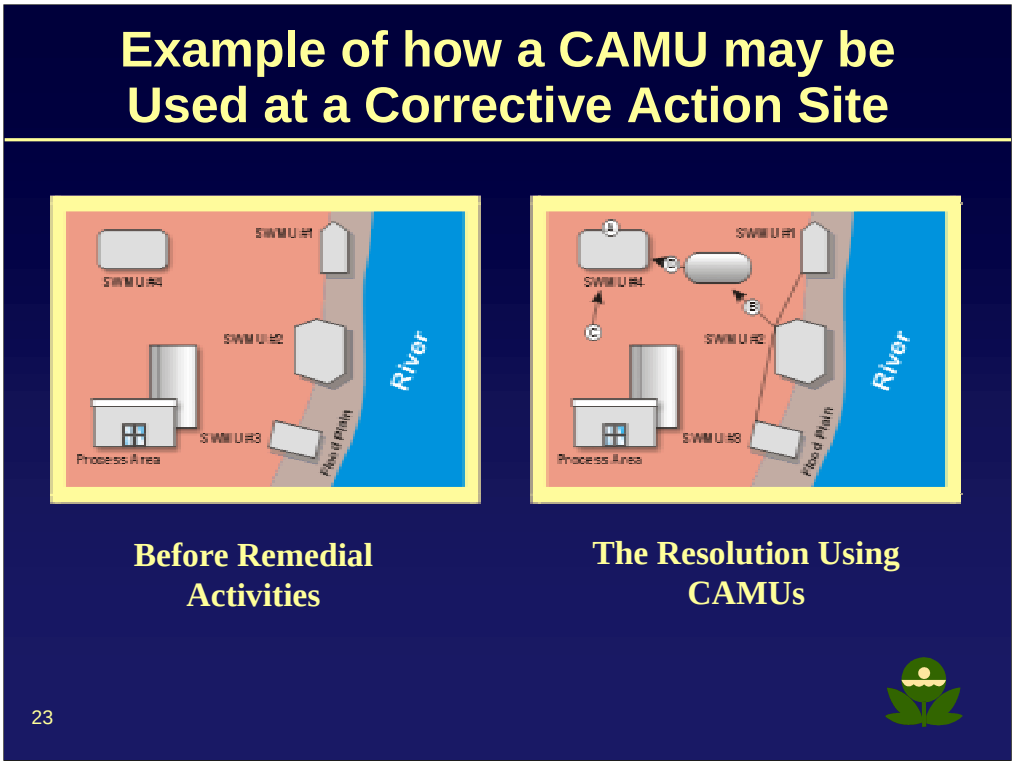
Notes (Cont'd):

Although there is a preference for use of CAMUs to facilitate treatment, placement of remediation waste into a CAMU does not trigger a duty to comply with land disposal restriction treatment standards.

CAMUs must be approved by EPA or a State in a permit, order, or other enforceable document. For example, the CAMU requirements can also be applied as applicable, relevant, and appropriate requirements under CERCLA and approved in records of decision or applied as ARARs under a State cleanup program similar to CERCLA and approved in enforceable State documents.

References: See 58 FR 8677, February 16, 1993; appropriate use of RCRA Section 7003 orders and comparable state orders are discussed 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. 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."



Notes:

Before Remedial Activities

The remedial goal at this facility is to treat the waste in each of the solid waste management units and consolidate the wastes from the SWMUs in the flood plain to a more protective location.

The Resolution Using CAMUs

(A) The Regional Administrator or State Director designates SWMU #4 as a CAMU.

(B) The remediation waste from the four SWMUs are then removed and treated in a temporary on-site treatment unit.

(C) SWMU #4 is retrofitted with a liner.

(D) The treatment residuals can be placed in the CAMU without meeting the land disposal restrictions. Specific treatment standards and other design, operation, closure, and post-closure requirements for CAMU would be specified according to the criteria in the CAMU regulation. EPA strongly encourages use of CAMUs for treatment.

Reference: Fact Sheet, "EPA Issues Final Rules for Corrective Action Management Units and Temporary Units" (Washington, D.C.: United States Environmental Protection Agency, EPA/530-F93-001, 1993), p.4.

What is a Corrective Action Temporary Unit (TU)

- A specific type of RCRA unit for non-land-based treatment or storage of hazardous remediation waste
- Allows tailoring of the design and operating requirements for tanks and containers (e.g., secondary containment)
- Must be approved by EPA or a State in a permit, order, or other enforceable document

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Notes:

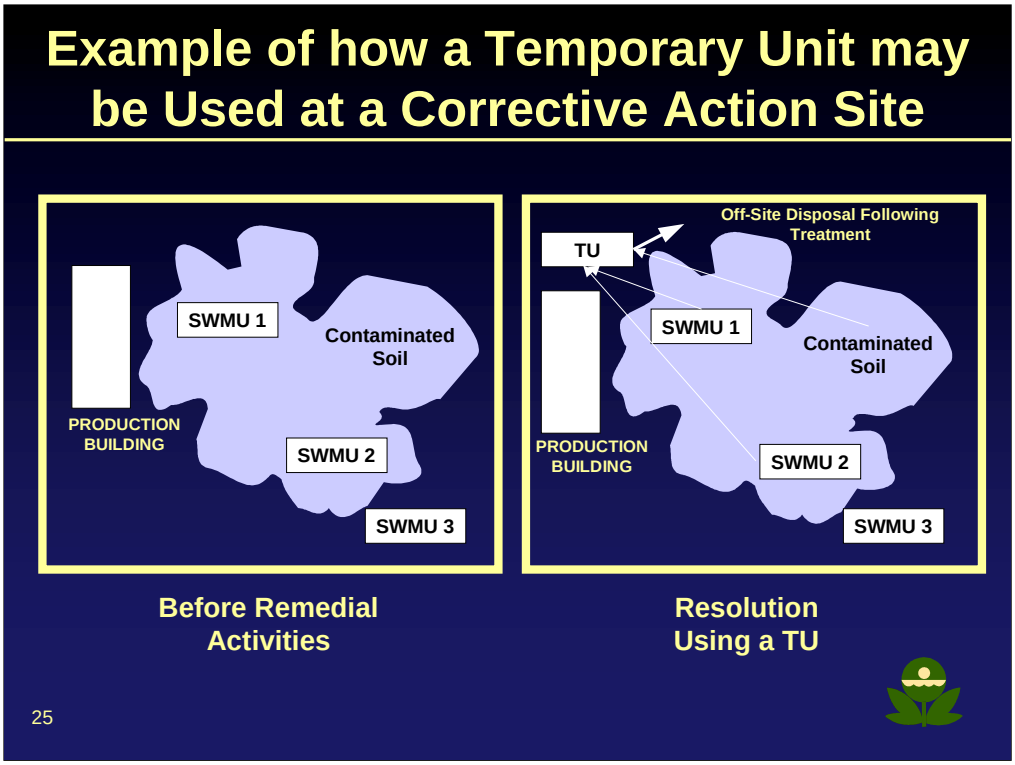
The TU regulations were published with the CAMU regulations and went into effect in 1993.

TUs may be approved at any site where hazardous remediation waste will be stored in tanks or containers.

A Temporary Unit (TU) is a tank or container storage unit used for treatment or storage of remediation wastes.

EPA or a State may determine that a design, operating, or closure standard normally applicable to a tank or container storage unit does not apply to a TU provided they replace the requirement with an alternative requirement that is protective of human health and the environment.

References: See, 58 FR 8677, February 16, 1993; appropriate use of RCRA Section 7003 orders and comparable state orders is discussed 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. The TU regulations are at 40 CFR 264.553, promulgated February 16, 1993 (58 FR 8658).



Notes:

Before remedial activities:
Remediation waste, in the form of old, weathered sludges, is distributed among three solid waste management units. Each unit has an apron of contaminated soil. There is also contaminated soil outside of the process building. This soil contamination overlaps with the contamination from some of the solid waste management units, creating a large area of dispersed soil contamination by various organic constituents, from various sources, at various concentrations.

The remediation goal at the facility is to treat all contaminated soil and other remediation waste on-site in a tank until the applicable land disposal restriction treatment standards have been achieved, then to send the treated remediation waste off-site for disposal.

The resolution using TU:
A tank-based treatment unit is constructed in an area of the site that is already contaminated.
Contaminated soil and other remediation wastes are treated, by batch, in the treatment unit. The treatment results in compliance with applicable LDR treatment standards.
Following treatment the material is manifested and sent off-site for final disposal.

Generator 90-Day Units

- Generator 90-day units do not need interim status or a hazardous waste permit
- Generator 90-day units include:
  - Tanks
  - Containers
  - Containment buildings
  - Drip pads
- Hazardous waste removed from generator 90-day units must meet applicable land disposal restriction treatment standards prior to land disposal

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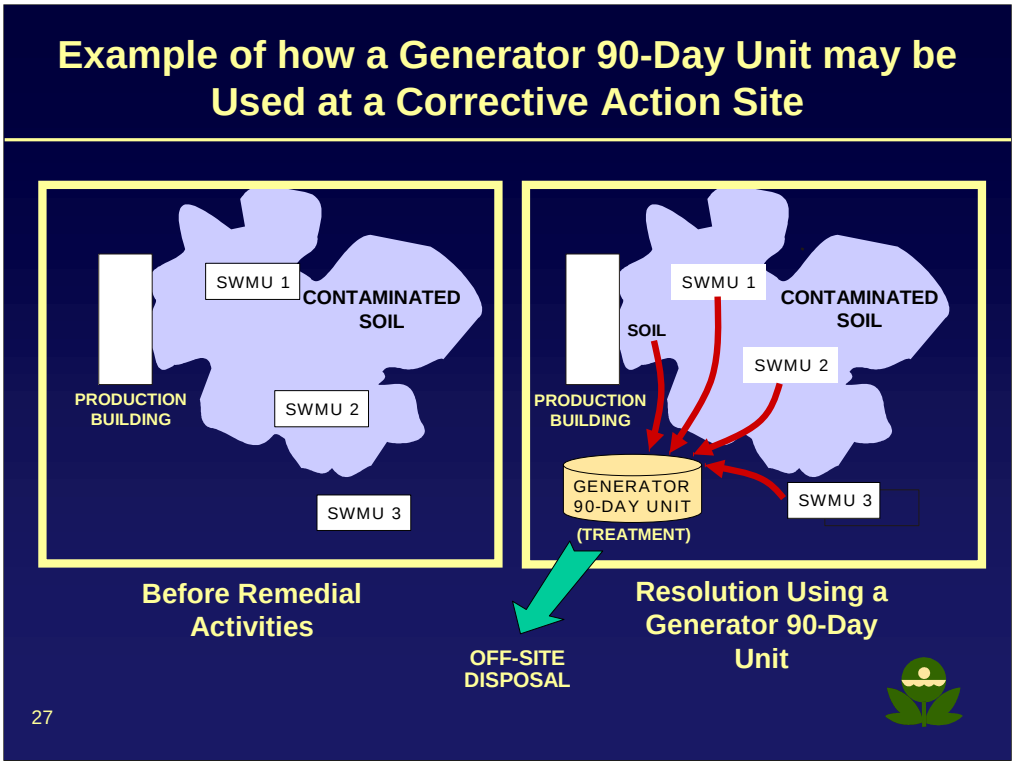
Notes:

Generators of hazardous waste may accumulate (treat, store) hazardous waste on-site in such units for up to 90 days without interim status or a hazardous waste treatment storage or disposal permit.

Because they are not considered land disposal units, placement of hazardous waste, including hazardous remediation waste, into a generator 90-day unit does not constitute land disposal. Therefore, wastes may be placed in generator 90-day units without first being treated to comply with land disposal restriction treatment standards.

If hazardous waste is removed from generator 90-day units it must be treated to comply with applicable land disposal restriction treatment standards prior to land disposal.

Reference: 40 CFR 262.34, associated preamble at 51 FR 10168 (March 24, 1986).



Notes:

Before Remedial Activities

The remedial goal at this facility is to treat material on-site and ship off-site for disposal at a Subtitle D facility.

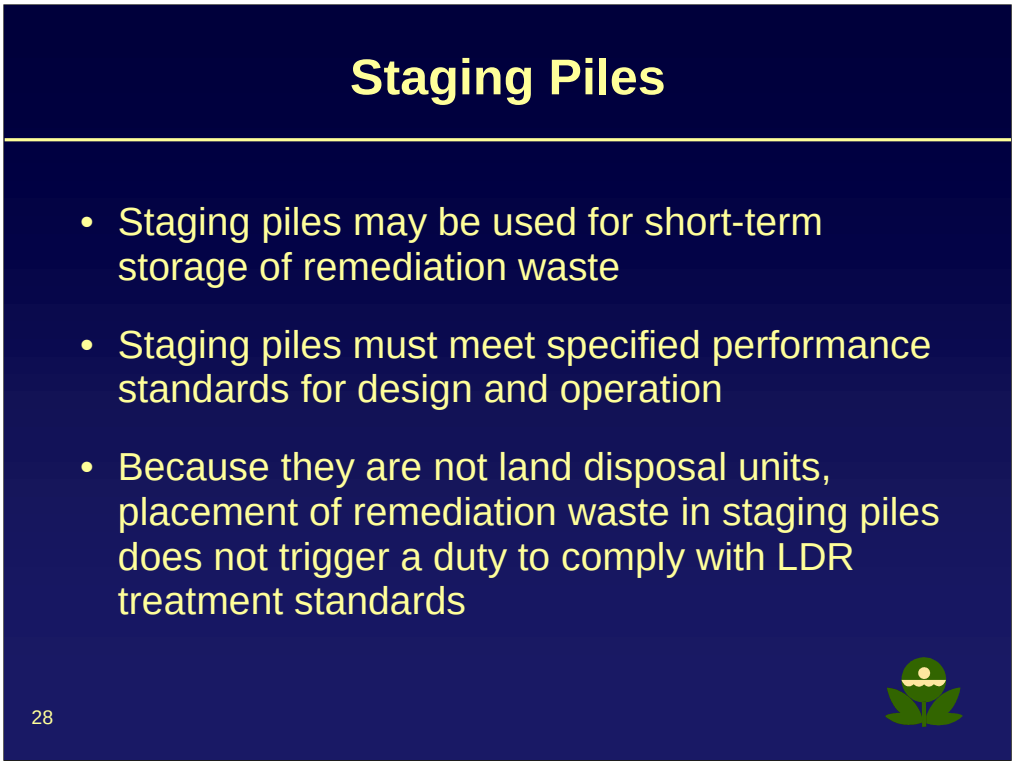
The Resolution Using a Generator 90-Day Unit

(A) A soil washing unit is constructed using a tank that meets the requirements for a generator 90-day unit.

(B) Remediation waste from throughout the facility is sent to the unit in batches. Each batch is treated for 90 days or less.

(C) Following treatment, the remediation waste is determined no longer to contain hazardous waste and to comply with LDR treatment standards.

(D) Treated material is sent off-site as non-hazardous waste for disposal in Subtitle D facility.



Notes:
The HWIR-Media Rule established a new type of unit for remediation waste – the staging pile. Staging piles may be used for short-term, land-based storage of remediation waste.

A staging pile is defined as an accumulation of solid, non-flowing remediation waste that is not a containment building and is used only during remediation.

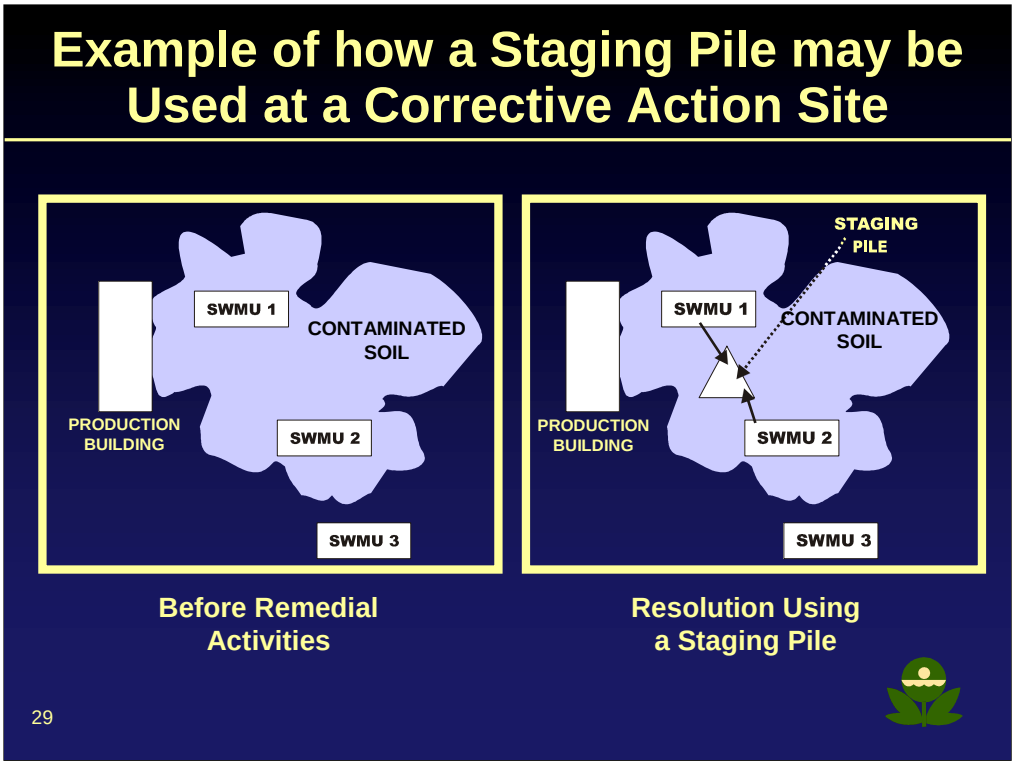
Because staging piles are not considered land disposal units, placement of remediation waste in a staging pile does not trigger a duty to comply with land disposal restriction treatment standards.

Staging piles do not have to meet the existing minimum technology requirements for hazardous waste units (e.g., groundwater monitoring requirements); instead, they have to meet design, operating, and closure performance standards established in the HWIR-Media rule. Staging piles must be clean closed.

Staging piles may be used only for storage. They cannot be used for treatment.

Staging piles may be used for up to 2 years, with an opportunity for one 180-day extension.

References: The regulations for staging piles are at 40 CFR 264.554 promulgated on November 30, 1998 (63 FR 65909).



Notes:

Before Remedial Activities

The remedial goal at this facility is to treat material on-site and ship off-site for disposal at a Subtitle D facility.

The Resolution Using a Staging Pile

(A) A Staging Pile is constructed within the area of contaminated soil.

(B) Remediation wastes from throughout the site are consolidated into the staging pile.

(C) A soil washing unit is constructed using a tank that meets the requirements for a generator 90-day unit.

(D) Remediation waste from the staging pile is treated in batches in the generator 90-day unit.

(E) Following treatment, the remediation waste is determined no longer to contain hazardous waste and to comply with LDR treatment standards.

(F) Treated material is sent off-site as non-hazardous waste for disposal in Subtitle D facility.

Some Differences Between CAMUs, TUs, Generator Accumulation Units and AOCs

Some Differences Between CAMUs, TUs, Generator Accumulation Units and AOCs.

	CAMU	TU	Gen. Acc. Unit	AOC
Advance Agency approval required.	X	X		
Land-based unit for treatment, storage, or disposal.	X			
Tank or container unit for treatment or storage.		X	X	
Material is located in different areas of a facility and not connected by contiguous contamination and will be consolidated on-site.	X	X	X	
Material is located in contiguous area of contamination and will be consolidated on-site.				X
Material was generated on-site and will be treated in tank or container.	X	X	X	
Material will be treated on-site *in situ*.	X			
Material was generated off-site and will be treated, stored or disposed at your site.				
Material was generated on-site and treated in a tank or container on-site and will be returned to the land on-site.	X	X	X	
Treatment or storage limited to 90 days or less			X	
Operation of unit (and treatment and storage) limited to 1 year or less with opportunity for one extension of an additional year.		X		
Treatment, storage, and disposal timeframe unlimited.	X			

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Notes:

This table illustrates some differences between:

Corrective Action Management Units (CAMU): land-based unit that can be used to treat, store, or dispose of hazardous remediation waste.

Temporary Units (TU): tanks and container storage units used for the treatment and storage of remediation wastes.

Generator Accumulation Units: tanks, containers, containment buildings, and drip pads used for accumulation (including treatment) of hazardous waste, including remediation waste.

Areas of Contamination (AOC): areas of generally dispersed contamination that can be used for consolidation and other *in situ* management approaches.

LDR Treatment Standards – Debris

- Established in 1992
- Optional
- Based on application of common extraction, destruction, and containment debris treatment technologies
- Expressed as specific technologies rather than numeric criteria

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See regulations at 40 CFR 268.45, promulgated August 18, 1992 and associated preamble discussion at 57 FR 37194 and 27221.

LDR Treatment Standards – Soil

- Established 1998
- Optional
- Based on performance of remediation technologies
- Achieve either 90% reduction from initial concentrations of hazardous constituents or 10 times the universal treatment standard, whichever is higher

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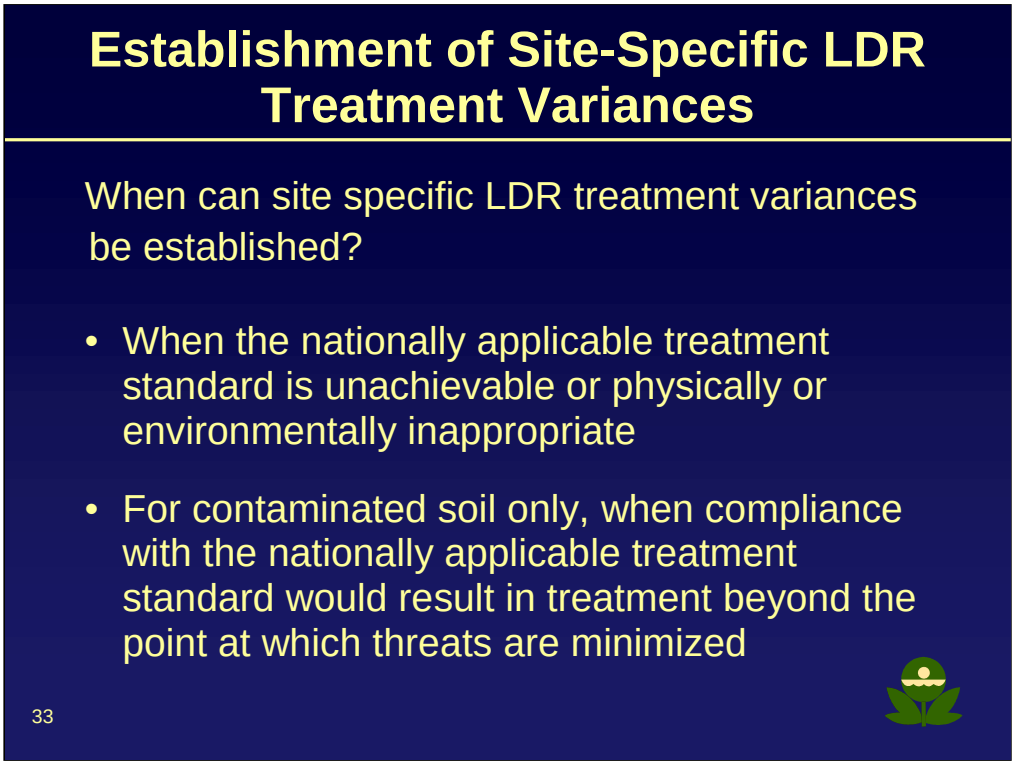
See regulations at 40 CFR 268.49 promulgated May 26, 1998 and associated preamble discussion at 63 FR 28602 - 28622.



Notes:
Site-specific LDR treatment variances allow establishment of an LDR treatment standard that is site- and waste-specific. Site-specific LDR treatment variances can be approved only if the following eligibility criteria are met: the nationally applicable treatment standard must be either unachievable for the waste in question or must be physically or environmentally inappropriate for the waste in question.

Alternative treatment standards established through site-specific LDR treatment variances must meet the statutory standard of minimizing short- and long-term threats to human health and the environment. Site-specific LDR treatment standards may be risk- or technology-based.

For contaminated soil only, a site-specific LDR treatment variance can be approved if application of the nationally applicable treatment standard will result in treatment beyond the point at which short- and long-term threats to human health and the environment are minimized. This is commonly known as the "site-specific minimize threat variance."

Site-specific LDR treatment variances can be used to bring LDR treatment requirements into closer harmony with other remediation requirements. The site-specific minimize threat variance for soil is especially helpful since it can be used to cap LDR treatment requirements for soil at health-based levels.

References: 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).

Process for Approval of a Site-Specific LDR Variance

- Non-rulemaking variance
- Approval process should be streamlined, and integrated into ongoing cleanup processes
- Public notice/opportunity for comment required
- Documentation that alternative LDR treatment standard "minimizes threats"

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Notes:
Decisions to approve site-specific LDR treatment variances must undergo public notice and an opportunity for public comment.

The application process for a site-specific LDR treatment variance, if any, should be as streamlined as possible. The public notice and comment associated with LDR treatment variances should be combined with other public notices and opportunities for comment that are associated with cleanups.

References: 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 clarified 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).

EPA's Policy on Groundwater Reinjection

Contaminated groundwater can be reinjected without meeting LDR treatment standards if:

- Reinjection is part of a CERCLA cleanup or RCRA Corrective Action, and
- The groundwater is substantially treated prior to reinjection, and
- Upon completion, the cleanup is protective of human health and the environment

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Notes:

Generally, disposal of hazardous waste (including ground water that contains hazardous waste) by underground injection into or above formations which contain an underground source of drinking water is prohibited by RCRA Section 3020(b)

Contaminated groundwater that contains hazardous waste may be reinjected into the aquifer from which it was withdrawn without first being treated to meet LDR treatment standards if it meets the above requirements.

RCRA Section 3020(b) can be especially useful for groundwater pump and treat sites.

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.

References: See, RCRA Section 3020(b), established as part of the 1984 HSWA amendments. See also, OSWER Directive 9234.1-06, "Application of Land Disposal Restrictions to RCRA and CERCLA Ground Water Treatment Reinjection Superfund Management Review: Recommendation No. 26," November 27, 1989.

Two Commonly Used Federal Permit Waiver Authorities

- CERCLA Section 121(e)
- RCRA Section 7003
- Permit waivers are good for streamlining cleanups by avoiding application of a duplicative administrative process

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Notes:

Two types of permit waivers are most commonly used: the CERCLA permit waiver under CERCLA Section 121(e) and RCRA Section 7003.

Under CERCLA Section 121(e), EPA does not have to obtain permits for CERCLA actions. The Agency does have to ensure that the substantive requirements that would have been imposed through permits are met.

Under RCRA Section 7003, in situations which may present imminent and substantial endangerment to human health or the environment, EPA can waive both the requirement to obtain a permit and any substantive requirement that would have been imposed through a permit (EPA, however, seldom waives substantive requirements).

References: See, "Guidance on the Use of Section 7003 of RCRA," U.S. EPA, Office of Enforcement and Compliance Assurance, October 1997. 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.

State Permit Waivers

States that have permit waiver authorities similar to CERCLA Section 121(e) and RCRA Section 7003 may waive permits if:

- the State is authorized for the RCRA permitting program, and
- the State applies its permit waiver authorities in a manner no less stringent than that allowed under corresponding Federal authorities

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Notes:
States that have a State Superfund-like program or other State program with a permit waiver authority analogous to CERCLA Section 121(e) and that are authorized to implement the RCRA permitting program can exercise their State permit waiver authority to waive the requirement to obtain a RCRA permit, provided the State uses its CERCLA 121(e)-like permit waiver authority in a manner no less stringent than the manner in which EPA uses CERLA Section 121(e).

Similarly, States that have a State authority analogous to RCRA Section 7003 and are authorized to implement the RCRA permitting program can exercise their RCRA Section 7003-like authority, provided the State uses its authority in a manner no less stringent than the manner in which EPA uses RCRA Section 7003.

References: See 58 FR 8679 (February16, 1993); 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.

Streamlined Permit / Remedial Action Plan (RAP)

- In final HWIR-Media Rule, EPA established a new type of RCRA permit for remediation waste treatment, storage, and disposal
- This new type of RCRA permit is called a Remedial Action Plan or RAP
- RAP approval process is more streamlined than the generally applicable RCRA permitting process

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Notes:
RAPs may be used only to permit treatment, storage, and disposal of remediation waste. They cannot be used for non-remediation hazardous wastes.

RAPs are a type of RCRA permit. For that reason, RAPs must comply with the minimum statutory requirements for RCRA permits, most notably, the statutory public participation requirements. EPA or the authorized State must publish a notice of its intent to approve or deny a RAP in a major local newspaper of general circulation; broadcast its intention to approve or deny a RAP over a local radio station; and send a notice of its intention to approve or deny a RAP to each unit of local government having jurisdiction over the are in which the facility is located, to each State agency having any authority under State law with respect to any construction or operations at the site, and to the applicant. The public notice/comment period must be at least 45 days. If a hearing is requested, it must be held. See 40 CFR 270.145.

RAPs do not provide an opportunity to waive applicable RCRA requirements. They provide only a streamlined permitting mechanism for imposing/defining applicable RCRA requirements.

The information submission requirements for RAP applications are reduced compared to the information submission requirements for other RCRA permits. Generally, RAP applications must only: (1) identify the facility and remediation wastes that the RAP will cover; (2) describe the treatment, storage, and disposal practices that the RAP will cover; and, (3) include information demonstrating that facility operations will comply with applicable RCRA requirements. RAPs can be used to approve Corrective Action management units, temporary units, and staging piles and can be used to record site-specific land disposal restriction treatment variances and contained-in determinations. Any document that meets RAP requirements can function as a RAP. RAPs can be included in any cleanup document or can be stand-alone documents.

References: Regulations governing RAPs are at 40 CFR 270.2, 270.68, and 270.80 – 270.230, promulgated November 30, 1998 (63 FR 229).

Other Approvals

- Changes during interim status to comply with corrective action requirements 40 CFR 270.72(a)(5)
- Emergency permits 40 CFR 270.61
- Temporary authorization at permitted facilities 40 CFR 270.42(e)
- Treatability studies 40 CFR 261.4(e)

Review

- When treating, storing, or disposing of hazardous remediation waste you generally need a unit (AOC, CAMU, e.g.) and an approval (permit, permit waiver, order, e.g.)
- LDRs can be tailored. LDR treatment variences can be approved without rulemaking
- You generally have many options, try to work backwards from your desired remedial action to find the RCRA compliance approach that best supports your cleanup

Practice/Case Study

- You will now have an opportunity, working in your table group, to practice deciding whether remediation waste is hazardous and developing a remediation waste management strategy
- As a table, decide whether you are going to work on an example from someone's experience or a case study. You may have time to do both.
- Tomorrow, each table will report to the group and we'll discuss.

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Tips

- Not all remediation waste is hazardous
- Good decisions about remedy selection should drive cleanups. When thinking about hazardous remediation waste management options work backwards from desired result.

Tips (Cont.)

- These are site-specific choices that will be influenced by:
  - Regulatory and policy factors
  - Owner/operator concerns and preferences
  - Community concerns and preferences
- Consider “radical” options/approaches if you need to support timely implementation of good remedies