

RCRA Compliance at Cleanup Sites: Onsite Management of Remediation Waste

A NEWMOA Waste Site Cleanup Group
Webinar



January 24, 2019
1:00 – 2:30 p.m.

Topics Covered in Previous Webinars



- Characterization of Contaminated Environmental Media (including listed waste).
 - Point of generation.
 - Generator responsibility to perform a hazardous waste determination.
 - Characteristic vs. listed hazardous waste.
 - “Contained in” principle for listed hazardous waste.
 - Exemptions for certain types of environmental media.
- Contained-In Policy.
- Area of Contamination (AOC) Policy.

Topics for Today's Webinar

- On-Site Storage:
 - Types of units.
 - What's allowed, what's not allowed.
- On-Site Treatment.
 - Types of units.
 - Permit exemptions.
 - What's allowed, what's not allowed.
- Responsibility of the generator to comply with HW requirements.
- Other on-site waste management issues at cleanup sites.



“Area of Contamination” Policy

- EPA policy supported by most NEWMOA States (check w/ your state).
- AOC = a single, contiguous area of continuous contamination.
- Policy allows certain activities to occur within the AOC without triggering “generation” and the associated RCRA treatment and LDR requirements:
 - Consolidation of waste within the AOC.
 - In-situ treatment within the AOC.
- Does not cover:
 - Movement of waste outside the AOC.
 - Movement of waste between AOCs.
 - Ex-Situ treatment.



On-Site Storage of HW Media: What's Allowed w/o a HW permit?



- Storage within the AOC under the AOC policy.
 - Utility trench interpretation. [RO 11671](#)
- Storage outside the AOC:
 - In containers or tanks under HW generator requirements. [40 CFR 262](#)
 - Container are portable. Tanks are stationary. [40 CFR 260.10](#)
 - Generator requirements: labeling/marketing, condition, covered, etc.
 - Satellite containers. [RO 11442](#)
 - In “containment buildings” under HW generator requirements in §262, and special requirements in [40 CFR 265 Subpart DD](#).
 - HW rules do not allow generators to store HW media in any other type of units without a permit.

Storage - What's Allowed (Cont.)



3 Types of Units Specific to RCRA Corrective Action Sites

- Require approval by EPA or an Authorized State.
 - Typically approved via a RCRA permit, closure plan, order, or RAP.
 - Approval specifies design, operating, and closure requirements.
1. Corrective Action Management Unit (CAMU). 40 CFR 264.552
 - Only allowed for "CAMU-eligible wastes."
 - Can be approved for many different types of units for the storage or treatment of remediation waste.
 2. Temporary Unit (TU). 40 CFR 264.553
 - Limited to tanks and containers used for the storage or treatment of remediation waste.
 - Can be approved for up to one year (extendable).

Storage - What's Allowed (Cont.)



- 3. Staging Pile. [40 CFR 264.554](#)
 - Used primarily for the storage of remediation wastes.
 - Also limited waste management activities:
 - Mixing, sizing, blending, and other physical operations.
 - But not treatment.
 - Cannot be used to store ignitable or reactive wastes.
 - Can be approved for up to two years (extendable).
- For information about design, approval, etc., contact your State or [EPA Corrective Action site lead](#).

On-Site Storage of HW Media: What's **NOT** Allowed w/o a HW permit?



- Storage in ordinary waste piles outside of the AOC.
- Why not?
 - The HW media is not contained.
 - Exposed to sun, wind, rain - facilitates releases of the media and the HW constituents they contain.
 - Despite best efforts to cover them, waste piles tend to become exposed.
 - This is why waste piles are only allowed in special circumstances:
 - Under a RCRA Part B (TSDF) Permit.
 - An approved "Staging Pile" as described on prior slide.
- Geotubes are not a RCRA generator unit (i.e., a tank or ctr.).
 - They can be managed within a RCRA generator unit, however.

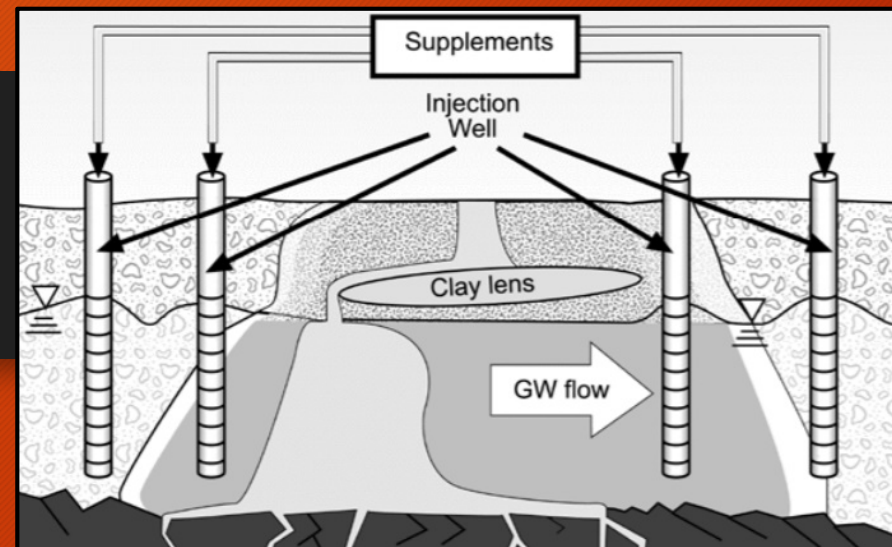
On-Site Treatment of HW Media: General Principles



- General rule: treatment of HW requires a HW permit.
 - However there are some exceptions.
- Even if treatment is allowed w/o a HW permit, other permit requirements may apply:
 - State permits (e.g., mobile soil treatment company).
 - Water permits (e.g., GW pump-and-treat system).
 - Air permits (e.g., soil venting through GAC filters).

On-Site Treatment of HW Media: What's Allowed w/o a HW Permit?

- Treatment in-situ within the AOC.
 - Soil venting/GAC filtration.
 - Injection of bioremediation agents.
- Treatment in containers, tanks, or containment buildings under the “generator treatment” interpretation (check your state for applicability). [RO 11209](#) [RO 14471](#) [RO 14662](#)
 - Example: Soil stabilization in a roll-off container.
 - Caution! Only chemical/physical treatment is allowed. Generators are not allowed to conduct thermal treatment (e.g., incineration, thermal desorption, etc.).



Treatment - What's Allowed (Cont.)



- Wastewater Treatment Units and Elementary Neutralization Units. [40 CFR 270.1\(c\)\(2\)\(v\)](#), [40 CFR 260.10](#) (definition)
 - WWTU must be a tank. ENU can be a container or a tank.
 - Example: GW pump-and-treat system operated under a CWA permit.
 - Caution! Does not exempt the entire treatment process or facility!
 - Note: Geotubes are not WWTUs in their own right. However, they can be managed with a WWTU (i.e., a tank).
- Corrective Action units (CAMUs & TUs only, not Staging Piles).
- Spill Response Actions. [40 CFR 270.1\(c\)\(3\)](#)
- Emergency Permits. [40 CFR 270.61](#)

On-Site Treatment of HW Media: What's **NOT** Allowed w/o a HW permit?



- Treatment in waste piles outside the AOC (unless approved as a CAMU). Reasons:
 - It constitutes ex-situ treatment.
 - A waste pile is not a unit generators are allowed to operate without a permit.
 - Includes "Wind-rowing."
- Thermal treatment (i.e., incineration or thermal desorption).

Contained-In Determinations: Timing is Everything

- Timing of “Contained-In” determinations is critical to applicability of RCRA requirements.
- If made before the point of generation:
 - RCRA storage and treatment requirements don’t apply.
 - LDR standards may or may not apply:
 - Do not apply if contamination is “pre-RCRA.”
 - Do apply if contamination is “post-RCRA.”
- If made after the point of generation:
 - RCRA storage and treatment requirements apply until determination is completed.
 - LDR standards do apply, regardless of date of contamination.



Responsibility for Compliance with HW Generator Requirements



- Generator is responsible for complying with all applicable HW generator requirements:
 - Hazardous waste determinations.
 - On-site storage/treatment.
 - Personnel training, emergency response, manifest, biennial report.
- Compliance is required beginning at the point of generation.
- “Generator” = “any person, by site, whose act or process produces hazardous waste identified or listed in part 261 of this chapter or whose act first causes a hazardous waste to become subject to regulation.” 40 CFR 260.10
- There can be multiple generators at a site (“co-generators”).

On-Site Management: Other Things to Think About



- Reuse of media as fill (on- or off-site) may be restricted.
- Contaminants other than HW:
 - PCBs, asbestos, non-HW chemicals. May be subject to:
 - EPA requirements other than RCRA (i.e., TSCA, NESHAPs); and/or
 - State requirements (e.g., “special waste”).
- Other types of waste generated at cleanup sites:
 - Remediation-derived waste that is not media (e.g., GAC and other types of filters, PPE, wastewaters, etc.).
 - Old product, lab chemicals, etc.
 - Contents of tanks, piping, ductwork.
 - Demolition waste.

RCRA Compliance Should Be an Integral Part of Site-Wide Remediation Project Management

- It's tempting to focus on cleanup and worry about RCRA compliance later.
- Allows Law of Unintended Consequences to kick in:
 - Enforcement actions/penalties.
 - Unexpected need for approvals/permits.
 - Unnecessary delays and cost overruns.
- Opportunities to minimize disposal cost can be missed:
 - Timing of "Contained-in" determinations.
 - Contaminated soil management and staging.
 - In-situ vs. ex-situ treatment.
- Consider including a RCRA expert in the design team.
 - Could be in-house, or contracted out.
 - Consult with State/EPA.



Resources for Further Information



- [Managing Remediation Waste Under RCRA](#)
- [Contained-In Policy](#)
- [RCRA Area of Contamination Policy](#)
- [Guidance for Remediation Waste Management at Resource Conservation and Recovery Act \(RCRA\) Corrective Action Sites](#)
- [EPA Guidance on CAMUs and TUs](#)
- [RCRA Online](#) - EPA Policy letters and memoranda.
- State Agency RCRA & Site Cleanup web pages

Future NEWMOA Training on Remediation Waste Management



- Original in-person training provided in May/June 2019 in CT, MA, NH.
 - Available on [NEWMOA website](#) (see 1:15 p.m. time slot).
- Webinar #1 of 4: [Waste Characterization & Listed Hazardous Waste](#) (10/24/2019).
- Webinar #2 of 4: ["Area of Contamination" and "Contained-In" Policies](#) (11/13/2019).
- Today: Webinar #3 of 4 (slides, recording to be posted).
- Webinar #4 of 4: [Waste Treatment and Land Disposal Restrictions](#) (2/25/2019).
- Other ideas? Let us know!


Questions?



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CASE STUDIES

ACCUMULATION OF REMEDICATION WASTE ONSITE

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NJDEP

NEWMOA Webinar - January 24, 2019

Cases Studies:

Case #1: PSE&G
Substation
Construction

Case #2: Inman
Sports Club cleanup

Case #3: Cramer
Plating - cleanup of
former Lagoon



Case Study #1 – Substation Construction

- As a result of upgrading substation, PSE&G generated waste excavated soils.
- The excavated soils were accumulated in piles and then sampled for determination. The soil piles were found to be above RCRA regulatory levels (TCLP) for lead.
- The substation generated Large Quantity Generator (LQG) amounts of D008 hazardous waste (>2,200 lbs./month).
- As per RCRA, LQGs can accumulate hazardous waste for no more than 90 days without applying for Part A/Part B RCRA permit. Generators can only accumulate in containers, tanks, containment buildings and drip pads.
- PSE&G Response: Excavated soil handled in accordance with the NJDEP linear construction guidance document allows soil to be stockpiled and contained while being tested for disposal. Also the site was undergoing remediation and RCRA requirements are not applicable.

Case Study #1 – Substation Construction



Case Study #1 – Substation Construction

NJDEP Response and Outcome

- Excavated soils from the substation are not subject to the Linear Construction Technical Guidance but are a traditional LSRP case if the soils are found contaminated at a construction project.
- Contamination found must be reported to the DEP Hotline.
- Since excavated soils were found to be above RCRA regulatory levels (TCLP) for lead, the substation is a hazardous waste generator and all applicable RCRA requirements apply.
- Notice of Violation was issued: 1) Failed to determine the waste excavated soils were D008 hazardous waste prior accumulation in waste piles, 2) Failed to place Waste lead contaminated soil (D008 hazardous waste) in containers instead of waste piles & 3) Constructed and accumulated Waste lead contaminated soil (D008 hazardous waste) in waste piles without submitting a Part A or Part B permit application.
- Penalty settlement was reached with Company after the violations corrected.

Case Study #2 – Inman Sports Club (ISC) Cleanup

- Memorandum of Agreement (MOA) was initiated by ISC & NJDEP-SRP for further remedial activity of the buried wastes at the site.
- On 2/28/00, without notice to NJDEP-SRP, excavation and removal of paint waste, drums, debris and contaminated soils were initiated by ISC and Env. Consultants
- Excavation of the area near the driving range produced seven roll-off containers (varied sizes) holding debris, old paint drums, & soil and approximately 7,500 cubic yards of contaminated soil and placed in a pile.
- The analysis provided by ISC & Consultants (3/27/00) showed that the waste pile and the waste material in the roll-offs failed for TCLP Lead and Benzene.
- On 5/25/00, NJDEP-SRP terminated ISC's MOA. ISC had been managing the remediation wastes in a hazardous waste pile without a RCRA TSD permit.

Case Study #2 – ISC Cleanup





Case Study #2 – ISC Cleanup

NJDEP Response and Outcome

- A Notice of Violation was issued:
- Failure to design, construct, maintain or operate a facility to minimize the possibility of any unplanned sudden or non-sudden release of D008 hazardous waste accumulated in a pile to soil or surface water which could threaten human health and the environment (40 CFR 265.31); and
- ISC accumulated approximately 7,500 cubic yards of D008 hazardous waste for greater than 90 days and constructed a pile holding the D008 hazardous waste, without submitting a Part A or Part B permit application (40 CFR 270.10(e-f)).
- Penalty settlement was reached with Company after the violations corrected.

Case Study #3 – Cramer Plating Former Lagoon Cleanup

- Cramer was undergoing a remediation of a former unlined lagoon used to collect process sludges, untreated rinsewaters and spent plating solutions (1959 – 1980) and treated rinsewaters (1980-2001).
- NJDEP SRP Investigation Unit (1/24/12) discovered that the area of lagoon was excavated, material stockpiled on-site and later sampled Consultant hired by Cramer.
- The cleanup was initiated without a License Site Remediation Professional (LSRP).
- The excavated material was placed in two (2) piles (approx. 1,381 tons) and each sampled. Both samples were above RCRA regulatory levels for TCLP Cadmium. The pile was uncovered and on bare ground.
- Cramer was Large Quantity Generator of hazardous waste.

Case Study #3 – Cramer Cleanup



Case Study #3 –Cramer Plating Former Lagoon Cleanup

NJDEP Response and Outcome

- A Notice of Violation was issued:
- Failure to design, construct, maintain or operate a facility to minimize the possibility of any unplanned sudden or non-sudden release of D006 hazardous waste accumulated in a pile to soil or surface water which could threaten human health and the environment (40 CFR 265.31); and
- ISC accumulated approximately 1,381 tons of D006 hazardous waste for greater than ninety days and constructed a pile holding the D006 hazardous waste, without submitting a Part A or Part B permit application (40 CFR 270.10(e-f)).
- Settlement was reached with Company after the violations corrected.

Contact Info:

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