

# RCRA Orientation for Remediation Staff

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# Part I

## Introduction

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# Why Are We Here Today?

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- Many site cleanups in Connecticut have some sort of RCRA component:
  - Generator Closure.
  - Treatment Storage and Disposal Facility (TSD) Closure.
  - Post-Closure Care (land disposal units **or long-term stewardship obligations**).
  - Corrective Action (sitewide investigation and remediation).
- The RCRA component(s) will almost always overlap with any non-RCRA site cleanup activities (e.g., Transfer Act).
- Other RCRA issues that come up (e.g., management of remediation waste).



# About this Presentation

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- This presentation has been designed both as a vehicle for today's training and a resource for future use.
  - Embedded links useful to access regulations, references, and other info.
- If you have questions:
  - Type them into the question box anytime you want.
  - We will address the questions at the end of each section.

# Part II

## RCRA Background

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# Why Does RCRA Exist?

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- By the 1970s, we had two important “end of pipe” federal laws to curb pollution – the Clean Water Act and the Clean Air Act.
- However this left a gap that resulted in major environmental damage incidents:
  - Mismanagement of municipal and industrial wastes (think Love Canal).
- Congress passed RCRA in 1976 to address the “waste problem.”
  - RCRA Subtitle C – industrial wastes (“hazardous waste”).
    - Provides for the “cradle to grave” management of hazardous waste.
  - RCRA Subtitle D – municipal wastes (“solid waste”).
- RCRA vs. CERCLA (“Superfund”): prevents contamination vs. respond to it.

# Why Does RCRA Have Requirements for Closure and Post-Closure?

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- Recognized a need to do more than just ensure that waste was properly managed and disposed.
- Need to ensure that sites that handle hazardous waste are properly cleaned up (“closed”) at end of a HW unit’s operation or at closure of the entire facility. Includes requirements for:
  - Generator closure.
  - Closure of TSDFs.
  - Post-Closure care of land-disposal facilities (e.g., landfills, surface impoundments).



# What is the Purpose of the RCRA Corrective Action Requirements?

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- EPA recognized that closure and post-closure weren't capturing all of the contamination caused by TSDFs:
  - Did not address units that were operated prior to the effective date of RCRA.
  - Did not address units that managed wastes that were not "hazardous wastes."
- Corrective Action Program established in 1990s to address these problems.
  - Required comprehensive, site-wide cleanup of TSDF sites.
  - To prevent creation of Superfund sites.



# Part III

## Overview of RCRA Regulations

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A guided tour of the Sections that Apply to RCRA Closure,  
Post-Closure, and Corrective Action

# Federal vs. State RCRA Regs

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- CT's Hazardous Waste Management Regulations:
  - “Incorporation by Reference” format.
  - Currently incorporate the July 1, 2000 version of the federal HW regs (40 CFR 260 through 279).
  - Also include certain more stringent and broader in scope provisions.
  - Currently being updated to pick up EPA rules through 7/1/2008.
- Federal Regs: links are included for reference purposes.
  - 7/1/2000 federal regs that the CT regs incorporate are available on the [DEEP's HW Regulations web page](#).



# 40 CFR 260

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- First section of RCRA Subtitle C (HW).
- Sets the groundwork and “rules of the road” for RCRA.
- Important section for site cleanup: [§260.10](#) (definitions).
  - Types of HW units (e.g., “container,” “tank,” “surface impoundment,” “landfill,” etc.).
  - Technical terms: “aquifer,” “groundwater,” “well,” “sludge,” “liner,” “representative sample,” “treatment,” “disposal,” etc.
  - General terms used elsewhere in the regs: “solid waste,” “hazardous waste,” “on-site,” “facility,” “owner,” “operator,” “active life,” “partial closure,” “final closure,” etc.

# 40 CFR 261

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- Defines which materials are “hazardous waste” under RCRA.
  - Determines which units are subject to closure and post-closure.
  - Important for determining Constituents of Concern (COCs) at RCRA sites.
- §§ [261.1](#), [261.2](#), [261.3](#), and [261.4](#): definitions of solid and hazardous waste.
- §§ [261.21](#), [261.22](#), [261.23](#), and [261.24](#): characteristic hazardous wastes.
- §§ [261.31](#), [261.32](#), and [261.33](#): listed hazardous wastes.
- [Appendix VIII](#): Hazardous Waste Constituent List.
- Another resource: DEEP web page [What is Hazardous Waste?](#)



# 40 CFR 262

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- Hazardous Waste Generator Requirements – [§262.34](#).
- Includes a “Generator Closure” requirement (**not as involved as for TSDFs**).
  - CT’s generator closure rules are more stringent than the federal rules in the following ways:
    - Small Quantity Generators are subject to generator closure (not just LQGs).
    - 90-day timeframe to remove all waste.
    - 180-day timeframe to complete generator closure.
    - DEEP generator closure guidance documents on the [HW Home Page](#) (near bottom).
  - Additional requirements being added as part of DEEP’s current HW regulation update.
- Site cleanup activities can generate HW that are subject to generator rules.

# 40 CFR 264 and 265

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- Requirements for TSDFs.
  - Part 264 applies to TSDFs that have final “Part B” permits.
    - For permitted facilities, the permit operates in lieu of Part 264 requirements.
  - Part 265 applies to “Interim Status” TSDFs.
    - What is Interim Status?
      - Original purpose (1980) was to provide existing facilities to continue to operate until a final permit was issued.



# Interim Status

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- Why does Interim Status still exist?
  - Many facilities decided not to pursue operating permits to treat or dispose of hazardous waste onsite.
  - However TSDFs must still complete their obligations to close areas where wastes were managed and to investigate and remediate site-wide, and manage long-term stewardship obligations such as post-closure care of remaining wastes and contamination, or monitoring engineered or institutional controls.
  - In addition, TSDFs still have an obligation to “complete corrective action or to follow a compliance schedule for any corrective action remaining to be completed by the time of permit issuance.”

# 40 CFR 264/265 Subpart G: Closure and Post-Closure

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- Closure requirements for HW units where waste was treated, stored or disposed:
  - [§265.111](#): Closure performance standard.
  - [§265.112](#): Closure plan.
  - [§265.113](#): Closure/Time allowed for closure.
  - [§265.114](#): Disposal or decontamination of equipment, structures and soils.
  - [§265.115](#): Certification of closure.
  - [§265.116](#): Survey plat.



# Closure/Post-Closure (Cont.)

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- Post-Closure:
  - [§265.117](#): Post-closure care and use of property.
  - [§265.118](#): Post-closure plan; amendment of plan.
  - [§265.119](#): Post-closure notices.
  - [§265.120](#): Certification of completion of post -closure care.
  - [§265.121](#): Post-closure requirements for facilities that obtain enforceable documents in lieu of post-closure permits. (not yet adopted by CT, simply adds flexibility for state).

# Additional Unit-Specific Closure Requirements

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- Containers: §[264.178](#)
- Tanks: §§ [264.197](#) & [265.197](#).
- Surface Impoundments: §§ [264.228](#) & [265.228](#).
- Waste Piles: §§ [264.258](#) & [265.258](#).
- Landfills: §§ [264.310](#) & [265.310](#).
- Incinerators: §§ [264.351](#) & [265.351](#).
- Chemical/Physical/Biological Treatment: §§ [265.404](#).
- Subpart X/Miscellaneous Units: §§ [264.603](#).
- Boilers/Industrial Furnaces: §§ [266.102\(e\)\(11\)](#), [266.103\(l\)](#) & [266.111\(e\)\(6\)](#).



# 40 CFR 264/265 Subpart H: Financial Assurance Requirements

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- Past and present TSDFs must have FA for closure and post-closure care of RCRA units and for Corrective Action.
  - TSDFs must maintain FA for closure until closure is complete and DEEP has approved the closure certification.
  - TSDFs must maintain FA for post-closure throughout the entire 30-year post-closure period, although they may ask to have the amount reduced as the cost decreases over time.
  - Cost estimates and FA must be updated annually for inflation.
  - Can also be used for corrective action, and engineered controls under the RSRs.
  - FA documents need to be checked when changed, issuing permits, and approving cleanup plans.
- Liability Insurance.
  - Must be maintained until closure of the regulated waste management unit(s) has been completed.

# Financial Assurance: Specific Sections

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- §§ [264.142](#) & [265.142](#): Cost Estimate for Closure.
- §§ [264.143](#) & [265.143](#): Financial Assurance for Closure.
- §§ [264.144](#) & [265.144](#): Cost estimate for post-closure care.
- §§ [264.145](#) & [265.145](#): Financial Assurance for Post-Closure Care.
- §§ [264.147](#) & [265.147](#): Liability Requirements.
- [§264.151](#): Wording of the Financial Instruments.
  - Note that DEEP has [required formats for Financial Instruments](#).



# 40 CFR 264 Subpart S: Corrective Action and Site Cleanup Provisions

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- [RCSA 22a-104\(a\)\(2\)\(O\)](#), incorporating with changes [40 CFR 264.101](#):
- Requires TSDFs “to institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents at the facility, regardless of the time such release occurred.”
- This is THE “corrective action” requirement. *Any corrective action that cannot be completed prior to permit issuance will be included in the permit’s “schedule of compliance.”* This means TSDFs should not wait until permit issuance to begin site cleanup.

# 40 CFR 264 Subpart S: Special Units for Site Cleanup

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- [§264.552](#): Corrective Action Management Units (CAMUs).
  - Only allowed for “CAMU-eligible wastes” (i.e., waste, media, and debris from site cleanup).
  - Can be approved for many different types of units for the storage or treatment of remediation waste.
- [§264.553](#): Temporary Units (TUs).
  - Limited to tanks and containers used for the storage or treatment of remediation waste.
  - Can be approved for up to one year (extendable).
- [§264.554](#): Staging Piles.
  - Have not adopted this provision – yet. Included in DEEP’s current HW regulation update.



## 40 CFR 264 Subpart S: CAMUs and TUs

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- Require approval by EPA or an Authorized State.
- Can be approved via a Stewardship Permit, closure plan, or order.
- Approval specifies design, operating, and closure requirements.

# 40 CFR 264/265 Subpart F: Groundwater Monitoring

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- CT has its own groundwater monitoring requirements under RCRA Section 22a-449(c)-105(c) and the RSRs, integrated in a GWM Plan.
- [40 CFR 264 Appendix IX](#): RCRA Groundwater monitoring list.
- Easy to confuse with [40 CFR 261 Appendix VIII](#).
  - Lists are slightly different.
  - Appendix VIII – used for determining COCs at RCRA sites.
    - “Appendix VIII analysis” – a total analysis of the HW in, or on the surface of, a HW unit.
  - Appendix IX – includes constituents for which there are approved GW test methods.



# 40 CFR 270

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- Contains RCRA permitting procedures and requirements.
- §270.1-requirement to obtain a permit for all TSDFs, including requirement for post-closure permit if long-term stewardship obligations needed for post-closure care of LDF units and for corrective action remedies to remain effective.
- [§270.2](#) – additional definitions specific to Part 270.
- [§270.13](#): Contents of [Part A](#) of the RCRA Permit Application.
  - Identifies the HW units subject to permitting, closure, and post-closure.
  - Sometimes need to be revised – e.g., during review of a closure plan.
  - Part A info available through [RCRAInfo](#):
    - Access requires UN and PW from EPA.

# 40 CFR 270 (Cont.)

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- 40 CFR 270 Subpart G: Interim Status.
  - §270.72: Changes During Interim Status.
    - Defines what kinds of changes a TSDF can make during interim status.
    - A TSDF can't just cut HW units out of its Part A without going through closure.



# 40 CFR 270 (Cont.)

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- [§270.73](#): Termination of Interim Status.
  - The very last step in the closure/post-closure/corrective action process if all obligations have been completed.
  - If all releases have been cleaned up to default numeric criteria in Remediation Standard Regulations and there are no active remediation systems, engineered controls, institutional controls (except the simplest institutional control) the Remediation is Complete without Controls.
  - This means no further remediation is needed, no long-term stewardship obligations are required to ensure the effectiveness of the remedy into the future, and therefore no permit is needed.
  - The facility is released from designation as a TSD. “Done done done.” [RCRIS CA 999]
  - If obligations continue, then a [Stewardship Permit](#) is issued.

# CT Requirements for Corrective Action at Interim Status Disposal Facilities

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- CT HW Regs do not incorporate:
  - Remedial Action Plan (“RAP”) provisions of §270.68 and 40 CFR 270 Subpart H.
    - Used under the federal regs as a vehicle for Corrective Action cleanups.
  - 1998 “Post-Closure Rule” (various sections of 40 CFR 264, 265, and 270)
    - Added by EPA to allow options other than Post-Closure Part B permits for CA sites.
    - DEEP plans to adopt this rule in its current regulation update.



# CT Requirements for Corrective Action (Cont.)

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- CT issues Stewardship Permits under RCSA 22a-110, incorporating 40 CFR 270, and has RCSA Section 22a-449(c)-105(h) to compel cleanup **during** interim status, **prior** to post-closure permit (Stewardship Permit) issuance.
  - Allows us to integrate corrective action with cleanup requirements under the RSRs.
  - The “105(h)” regulation is intended to catalyze action at interim status Land Disposal Facilities that have not pursued their Post-Closure Part B Permit yet—Submit an ECAF & remediation schedule.
  - If all site-wide cleanup is complete, meeting the default numeric criteria of the Remediation Standard Regulations, without the need for engineered or most institutional controls, then a Post-Closure Part B Permit (“Stewardship Permit”) is not needed, and interim status will be terminated without permit issuance.
  - “One cleanup program” in CT. RSRs are endpoints for all cleanups.

Part IV

RCRA Authorization and the  
Relationship between EPA and DEEP

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# RCRA Authorization

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- DEEP sought and obtained “authorization” from EPA for the RCRA program. This means:
  - DEEP operates the federal RCRA program (including closure, post-closure, and corrective action) in lieu of EPA.
  - DEEP’s HW regulations supersede EPA regulations.
- DEEP must update its authorization from EPA when it adopts new rules.
- Key documents include a “[Program Description](#),” a [Memorandum of Agreement](#) between CT DEEP and US EPA, and EPA publishing the authorization in the Federal Register.

# Relationship to EPA

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- Despite having primary authority in CT for RCRA, DEEP still closely coordinates with EPA.
  - EPA has an oversight role.
  - Periodic program reviews.
  - DEEP has to meet grant commitment obligations, such as number of corrective action sites that have been addressed.
  - EPA has the power to suspend or revoke DEEP's authorization.



Part V

Tools for Understanding and  
Implementing RCRA Requirements

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# Guidance & Reference Documents

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- [EPA RCRA Orientation Manual](#) – see especially pp. III-74 to III-83, and III-119 to III-125.
- [EPA RCRA Training Module – Closure and Post-Closure](#)
- [EPA RCRA Training Module – Corrective Action](#)
- [EPA's Guidance on Completion of Corrective Action Activities at RCRA Facilities](#)
- [DEEP RCRA TSDF Closure Guidance](#)



# DEEP and EPA Web Pages

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- [DEEP RCRA Closure and Corrective Action web page](#)
- [DEEP Corrective Action and Financial Assurance Links web page](#)
- [DEEP Financial Assurance web page](#)
- [EPA Closure and Post-Closure web page](#)
- [EPA Corrective Action web page](#)
- [EPA Corrective Action Training Presentations](#)

# RCRA Data Resources

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- RCRAInfo: Main EPA database on HW generators, transporters, and TSDFs.
  - Requires a user name and password (provided by EPA).
  - Used by EPA and DEEP to log important info about RCRA closure, post-closure, and corrective action.
  - Also allows access to e-manifests (required to be used as of 6/30/2018).
- Manifest Data (1984-2008): CT Open Data Portal and “Manifest RCRA.”
- Scanned Manifests (1980-2018):  
<https://filings.deep.ct.gov/DEEPDocumentSearchPortal>.



# Information Resources for Remediation Waste Management

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- [DEEP Remediation Waste web page](#) – guidance, links, **training slides/videos**.
- [Managing Remediation Waste Under RCRA](#) – EPA Guidance document.
- [EPA Contained-In Policy](#) – States can develop their own policies ([DEEP has one](#)).
- [EPA RCRA Area of Contamination Policy](#) (“AOC 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.

# Contact Info

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