Welcome to the CLU-IN Internet Seminar

CEC Training for OSCs...RCRA for OSCs

Sponsored by: EPA Office of Superfund Remediation and Technology Innovation

Delivered: September 25, 2013, 1:00 PM - 3:00 PM, EDT (17:00-19:00 GMT)

Instructors:

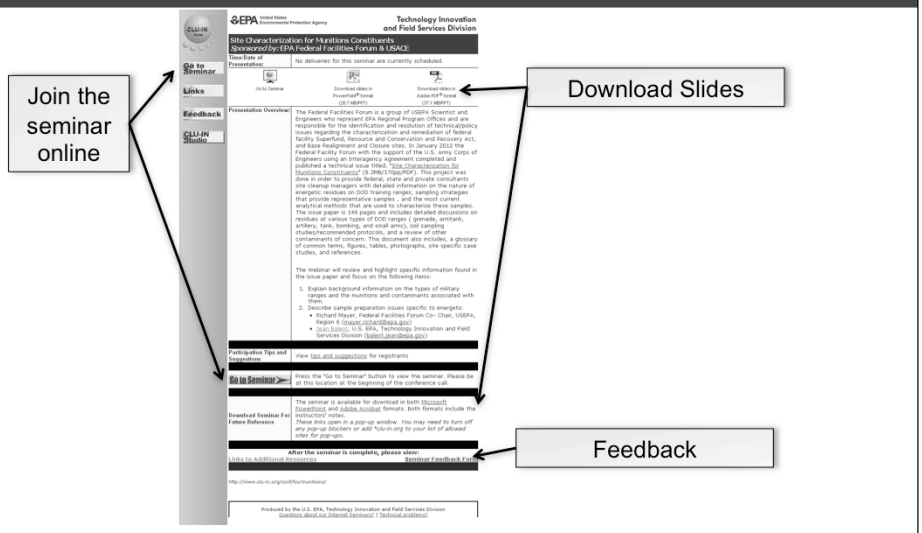
- *Paul Peronard, EPA Region 8 (peronard.paul@epa.gov)*
- *Dave Phillips, Tetra Tech, Inc. (dave.phillips@tetratech.com)*

Moderator:

- *Jean Balent, U.S. EPA Technology Innovation and Field Services Division (balent.jean@epa.gov)*

Visit the Clean Up Information Network online at www.cluin.org

Seminar Homepage



Housekeeping

- Entire broadcast offered live via Adobe Connect
  - participants can listen and watch as the presenters advance through materials live
  - *Some materials may be available to download in advance, you are **recommended to participate live via the online broadcast***
- Audio is streamed online through by default
  - Use the speaker icon to control online playback
  - If on phones: all lines will be globally muted

- Q&A – use the Q&A pod to privately submit comments, questions and report technical problems
- This event is being recorded and shared via email shortly after live delivery
- Archives accessed for free **http://cluin.org/live/archive/**

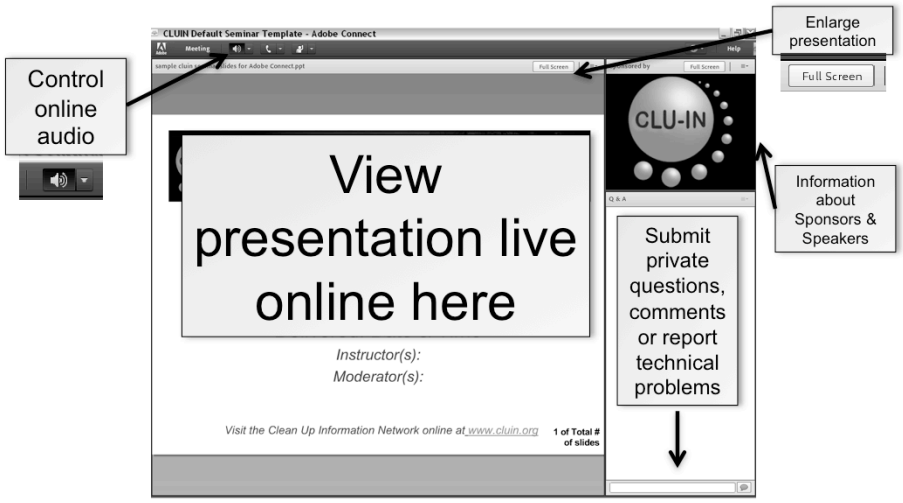
Although I'm sure that some of you have these rules memorized from previous CLU-IN events, let's run through them quickly for our new participants.

Please mute your phone lines during the seminar to minimize disruption and background noise. If you do not have a mute button, press *6 to mute #6 to unmute your lines at anytime. Also, please do NOT put this call on hold as this may bring delightful, but unwanted background music over the lines and interupt the seminar.

You should note that throughout the seminar, we will ask for your feedback. You do not need to wait for Q&A breaks to ask questions or provide comments. To submit comments/questions and report technical problems, please use the ? Icon at the top of your screen. You can move forward/backward in the slides by using the single arrow buttons (left moves back 1 slide, right moves advances 1 slide). The double arrowed buttons will take you to 1st and last slides respectively. You may also advance to any slide using the numbered links that appear on the left side of your screen. The button with a house icon will take you back to main seminar page which displays our agenda, speaker information, links to the slides and additional resources. Lastly, the button with a computer disc can be used to download and save today's presentation materials.

With that, please move to slide 3.

New online broadcast screenshot



Module 1: RCRA Overview

Why RCRA Requirements are Important to OSCs

- Define what are hazardous and non-hazardous wastes
- Establish many action-specific applicable or relevant and appropriate requirements (ARARs) for on-site waste management
- Establish applicable requirements for off-site waste management
- Affect your strategy and costs for characterizing, treating, storing, and disposing wastes generated during response actions

6

Overview of RCRA

- Enacted in 1976 to address problems with improper management of solid and hazardous waste
- Goals:
  - Protect human health and environment from hazards posed by waste disposal
  - Conserve energy and natural resources through recycling and recovery
  - Reduce the amount of waste generated
  - Ensure wastes are properly managed

7

Statutory Framework of RCRA

- Amended the Solid Waste Disposal Act
- Major amendments have included the:
  - Hazardous and Solid Waste Amendments of 1984 (HSWA)
  - Federal Facilities Compliance Act of 1992 (FFCA)
  - Land Disposal Program Flexibility Act of 1996
- Includes 10 subtitles; created three major regulatory programs
  - Solid waste (Subtitle D)
  - Hazardous waste (Subtitle C)
  - Underground storage tanks (Subtitle I)

8

Regulatory Framework for Implementing Subtitle C of RCRA

- Subtitle C provides the statutory framework for the hazardous waste regulatory program
- EPA is authorized to issue regulations on hazardous waste identification, management, and corrective action
- Regulations are set forth in 40 CFR Parts 260-279

9

Applicability of State Hazardous Waste Laws and Regulations

- States may be delegated authority to implement RCRA requirements
- Regulations promulgated by EPA under RCRA and HSWA authorities have different effective dates in authorized states
- If the state is authorized, the state's RCRA regulations are applicable
- Other state environmental laws and regulations may be applicable to non-hazardous wastes

10

Module 2: Hazardous Waste Determination

Hazardous Waste Determination Basics

- An issue that almost always must be addressed during CERCLA responses
- A prerequisite for RCRA applicability
- The basic process involves four steps
- Answer three questions first
- Be careful of words or terms with special definitions

12

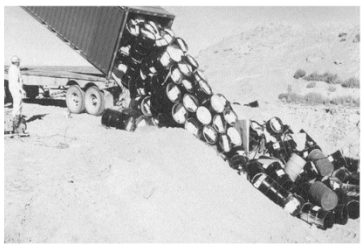
Major Regulations Used to Identify Hazardous Waste

- Exclusions from definition of solid waste
- Definition of solid waste
- Exclusions from definition of hazardous waste
- Definition of hazardous waste
- Variances and rule-making petitions

13

Exclusions From the Definition of Solid Waste

- Congress and EPA have excluded certain materials from regulation under RCRA by not defining them as “solid waste”
- A list of materials excluded from RCRA regulation is set forth in 40 CFR 261.4(a)



14

The Definition of Solid Waste

- The definition of solid waste is set forth in 40 CFR 261.2
- Solid wastes are “discarded” materials
- “Discarded” includes materials that are:
  - “Abandoned”
  - Recycled in certain ways
  - Considered “inherently waste-like”
  - “Military Munitions”

15

Exclusions From the Definition of Hazardous Waste

- Congress and EPA have excluded certain solid wastes from the definition of hazardous waste
- A list of solid wastes excluded from RCRA regulation is set forth in 40 CFR 261.4(b)



16

Definition of Hazardous Waste
40 CFR 261.3

- Includes solid waste that:
  - Is listed as hazardous waste by EPA ("listed waste")
  - Exhibits any of four characteristics of hazardous waste ("characteristic hazardous waste")
  - Is a mixture of solid waste and a listed hazardous waste ("mixture rule")
  - Is derived from the treatment, storage, or disposal of other hazardous waste ("derived-from rule")

17

Listed Hazardous Wastes

- Wastes from non-specific sources (40 CFR 261.31, F-codes)
- Wastes from specific sources (40 CFR 261.32, K-codes)
- Discarded commercial chemical products (40 CFR 261.33, P- and U-codes)

(continued)

18

Listed Hazardous Wastes

- Differences between listed and characteristic hazardous wastes
- Determination whether a waste is listed at CERCLA sites
- Basis for listing wastes
- Acutely hazardous wastes

19

Characteristics of Hazardous Wastes

- Ignitability (40 CFR 261.21)
- Corrosivity (40 CFR 261.22)
- Reactivity (40 CFR 261.23)
- Toxicity (40 CFR 261.24)
- Determination whether a waste exhibits any characteristic

20

Definition of Hazardous Waste Mixture and Derived-From Rules

- Legal history
- Mixture rule
- Derived-from rule

21

The Contained-In Policy

- Requires contaminated environmental media, such as contaminated soils, to be managed as hazardous waste if it contains listed hazardous wastes or exhibits a characteristic of hazardous waste
  - Is an ARAR at CERCLA responses
- Occurs on a case-by-case basis
- Lacks definitive federal guidance or regulations determining appropriate contained-in levels

22

Variances and Petitions

- "Delisting" listed hazardous waste
- "Contained-out" determination

23

Alternative Regulatory Program for Certain Hazardous Wastes

- "Universal wastes" are hazardous waste subject to an alternative regulatory program set forth in 40 CFR Part 273
- Universal wastes include:
  - Batteries
  - Pesticides
  - Mercury-containing equipment
  - Lamps

24

Module 3: Land Disposal Restrictions

Land Disposal Restrictions Basics

- Purpose of the LDRs
- Definition of land disposal for purposes of the LDRs
- LDRs “attach” to the hazardous waste at the point of generation

26

Land Disposal Restrictions

- Major regulations involved (40 CFR Part 268):
  - Identification of restricted wastes
  - Determination of treatment standards
  - Prohibitions against dilution and storage
  - Compliance with tracking and recordkeeping requirements
  - Variances and petitions from the LDR treatment standards

27

Identification of Restricted Wastes

- Hazardous wastes subject to the LDR program are identified under 40 CFR Part 268 Subpart C
- Hazardous wastes subject to the LDR program are referred to as “restricted wastes,” and wastes that cannot be land disposed are called “prohibited wastes”
- Most hazardous wastes are covered under the LDR program

28

Treatment Standards

- Generators must determine whether the waste must be treated before it can be land disposed
- Definition of treatment standard
- Treatment standards are established based on BDAT and expressed in several manners
- “Treatability groups” and “treatment subcategories”
- Treatment standards are set forth at 40 CFR Part 268 Subpart D

(continued)

(continued)

29

Treatment Standards

- Universal Treatment Standards (UTS)
- Treatments standards for Underlying Hazardous Constituents (UHC)
  - Applicable to characteristic hazardous wastes
- Alternative treatment standards are available for:
  - Lab packs
  - Hazardous debris
  - Contaminated soils

30

Determination of Treatment Standards

- Identify each applicable RCRA hazardous waste code for the waste
- Determine the waste's treatability group, subcategory (if applicable), and alternative treatment standard (if applicable)
- Determine the regulated constituents if the waste is F001-F005 and F039
- Determine if UHCs require treatment for characteristic wastes

31

Alternative Treatment Standards for Contaminated Soil

- Creates a new treatability group: contaminated soils
- Provides the option of meeting LDR standards for contaminated soil versus the standard established for existing industrial wastes
- Treatment standard requires that the concentrations of hazardous constituents be reduced by 90 percent, capped at 10 times the UTS

(continued)

32

Alternative Treatment Standards for Contaminated Soil

- Measurement of the 90 percent reduction must be consistent with UTS
- A treatability variance for soils is not required
- Treatment required for UHCs present at 10 times their respective UTS

33

Prohibitions Against Dilution and Storage

- Dilution prohibition (40 CFR 268.3)
- Storage prohibition (40 CFR 268 Subpart E)

34

Variances and Petitions From the LDR Treatment Standards

- Treatability variance
- Alternative treatment method petition
- No-migration petition
- Delisting

35

Treatability Variance

- Allowance for treatability variance from treatment standard
- Requirement that waste be physically or chemically different
- Applicability to waste mixtures, derived-from residues, and environmental media

36

Tips on Treatability Variances

- Authority to grant a treatability variance is delegated to EPA regional offices
- No public comment period is required for removal actions, but the variance should be included in the Administrative Record
- A variance can be a stand-alone document or can be included in an Action Memorandum or Record of Decision
- A concurrence memorandum issued by the RCRA program usually is required

37

Module 4: Common RCRA Requirements for Managing Hazardous Waste On-Site and Off-Site

On-Site and Off-Site Management of Hazardous Waste

- Typical RCRA requirements or policies that apply to the on-site management of hazardous waste and hazardous remediation waste, include:
  - Container standards
  - Temporary unit
  - Area of Contamination (AOC)
  - Corrective Action Management Unit (CAMU)
  - Staging pile
  - Reinjection of hazardous ground water
  - Closure and post-closure care requirements
- Off-site requirements include:
  - Pre-transport standards
  - Manifests
  - EPA identification numbers
  - LDR tracking requirements
  - Biennial reports

39

Containers

- Standards are in 40 CFR Parts 264 and 265 Subpart I
- Containers must be in good condition, compatible with the waste, closed during storage, and provided with secondary containment
- Special regulations apply for managing ignitable, reactive, and incompatible wastes
- Spilled or leaked waste must be removed as needed
- Residues, remaining containers, liners, bases, and contaminated soil must be decontaminated or removed at closure

40

Temporary Unit

- Accommodates the non-land-based storage of remediation waste
  - Allows alternative standards to requirements for hazardous waste tank systems or containers
- Time of operation is limited

41

Area of Contamination Concept

- Discrete area of contamination that equates to a single RCRA land-based unit
- Movement of wastes within an AOC does not trigger LDRs or minimum technology requirements (MTR)
- AOC concept is only applicable to remediation wastes

42

Corrective Action Management Unit

- A special type of land-based unit created for the management of remediation waste
- Only certain wastes are eligible for management in CAMUs
- Design standards for CAMUs where waste will remain after closure include:
  - Liner requirements
  - Caps
  - Corrective action for any releases

(continued)(continued)

43

Corrective Action Management Unit

- Principal hazardous constituents (PHCs) in wastes must meet treatment standards before placement in a CAMU
- CAMUs that are used for treatment or storage only are subject to requirements for staging piles
- A CAMU must be designated in an AM or ROD

44

Differences Between an AOC and CAMU

- Waste may be treated ex-situ and placed in a CAMU
- A CAMU may be located in an uncontaminated area
- Wastes may be consolidated in CAMUs from areas not contiguously contaminated
- The recent CAMU rulemaking does not affect use of AOCs

45

Staging Pile

- A staging pile is a new unit for managing remediation waste created by the HWIR-Media rule
- Waste managed in a staging pile is not subject to LDRs or MTRs
- Mixing, sizing, blending, or other physical operations are allowed, but no "treatment"
- Requirements

46

Reinjection of Contaminated Ground Water During Cleanups

- Underground injection of ground water contaminated with hazardous waste frequently occurs as part of CERCLA response actions
- Underground injection is defined as “land disposal” for purposes of the LDR program
- Section 3020 of RCRA addresses the underground injection of hazardous waste in the context of RCRA and CERCLA cleanups

(continued)

(continued)

47

Reinjection of Contaminated Ground Water During Cleanups

- Under EPA policy, reinjected ground water is exempt from compliance with LDRs provided:
  - It is treated before reinjection (both ex-situ and in-situ)
  - The cleanup is protective of human health and the environment
  - The injection is part of response action under CERCLA 104 or 106 or RCRA corrective action

48

Closure and Post-Closure Care Requirements

- Apply to RCRA hazardous waste management units at facilities that operated under a RCRA permit or interim status (TSDFs)
- Two approaches to closure:
  - Clean closure
  - Closure with waste in place
- Post-closure care applies to units that close with waste in place

49

Off-site Management of Hazardous Waste

- RCRA pre-transport regulations
  - Refer to and require compliance with the Department of Transportation (DOT) hazardous material regulations
- Hazardous Waste Manifest
- EPA identification numbers
- LDR tracking requirements
- Biennial Reports

50

New Ways to stay connected!

- www.cluin.org
- Follow CLU-IN on Facebook, LinkedIn, or Twitter

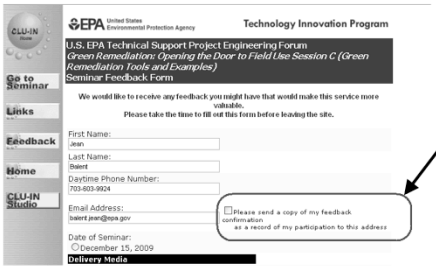

https://www.facebook.com/EPACleanUpTech


https://twitter.com/#!/EPACleanUpTech


http://www.linkedin.com/groups/Clean-Up-Information-Network-CLUIN-4405740

Resources & Feedback

- To view a complete list of resources for this seminar, please visit the **Additional Resources**
- Please complete the **Feedback Form** to help ensure events like this are offered in the future



Need confirmation of your participation today?

Fill out the feedback form and check box for confirmation email.