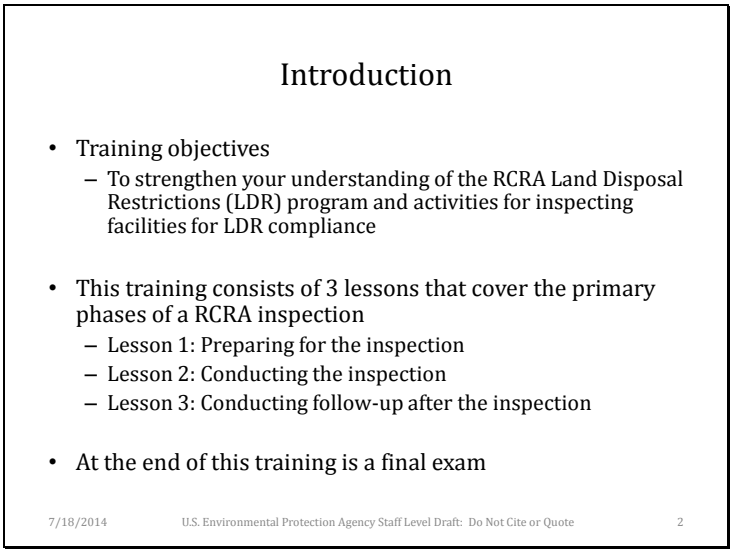
Script for Land Disposal Restrictions (LDR) Program
July 31, 2014

Slide 1

Welcome to the RCRA Inspector Training on the Land Disposal Restrictions (LDR) Program.

Slide 2



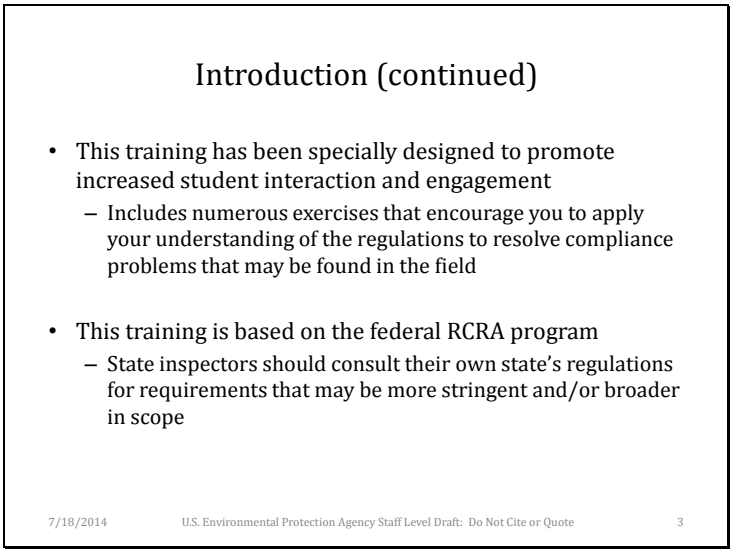
This training is designed to strengthen your understanding of the LDR requirements that apply to generators and treatment, storage and disposal facilities (TSDFs), as well as activities for inspecting them. This training assumes that you already have taken the "Fundamentals for RCRA Inspectors" training, which includes an introductory lesson on the LDR program (see Lesson 6).

The training you will receive today aims to give you a working knowledge of the LDR regulations. Essentially, this means that, by the end of the training, you will be able to determine more effectively if a hazardous waste meets the LDR treatment standards, including the alternative standards (e.g., for contaminated soils). You also will become more familiar with the LDR paperwork that is required of generators and treaters. This training does not focus on less common aspects of the LDR program, such as no-migration petitions or case-by-case variances.

This training is organized into three lessons that cover the primary phases of a typical RCRA inspection. Each lesson focuses on key information that an inspector should know, as well as activities that an inspector may want to perform during that phase of the inspection. For example, Lesson 1 covers preparing for an inspection. In that lesson, we discuss the LDR regulations and describe information to review in preparing for the inspection (e.g., facility permit). In addition, we provide exercises that ask you to prepare for a hypothetical inspection, such as reviewing facility reports.

At the end of the training is a final exam that will evaluate your understanding of the subject matter. If you are taking this training for your RCRA Inspector Certification, you must pass the exam with a 90% score or higher.

Slide 3

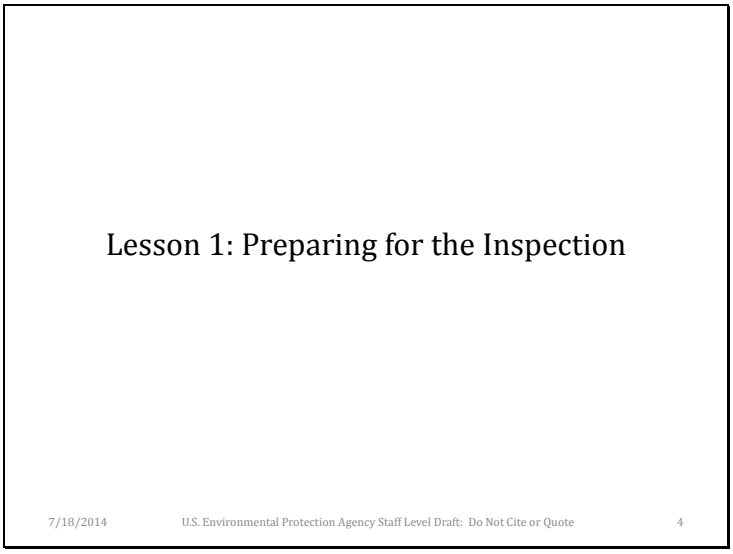


This training may differ somewhat in format and design from previous trainings that you have had. Rather than relying heavily on slide presentations to discuss the fundamentals of the RCRA program, this training offers significantly more student exercises to supplement your learning experience; in other words, the training encourages "learning by doing." The exercises set forth compliance scenarios that you may encounter in the field, followed by one or more questions for you to answer. Most of the time, you will be able to answer the questions based on information provided in the exercise. In a few cases, you will be asked to make an informed guess as to the correct answer; this is perfectly acceptable because you will find out the correct answer in any case. In brief, choose the best answer based on all of the information provided to you.

The exercises have been developed to strengthen and re-enforce your understanding of the subject matter. Specifically, when you answer a question in an exercise, a pop-up box will tell you whether your answer is correct or incorrect. If it is correct, the pop-up box will explain why it is correct, to validate and re-enforce your understanding. If it is incorrect, the pop-up box will explain why it is incorrect, to strengthen and improve your understanding.

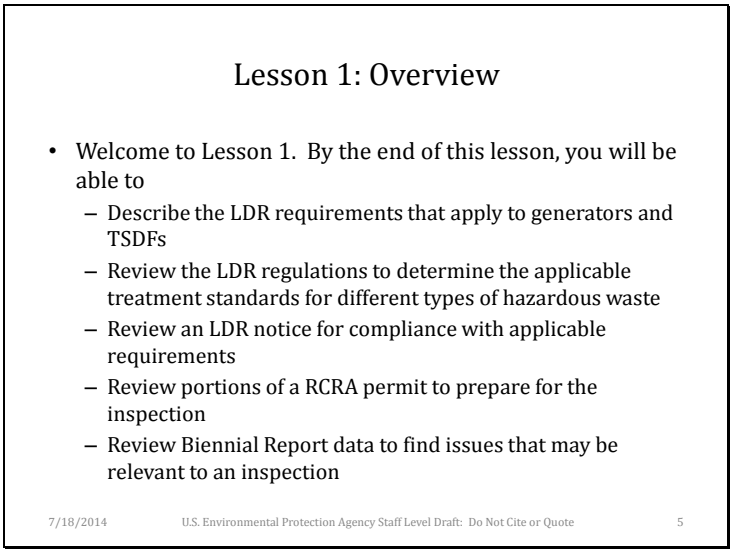
Keep in mind that, at the end of this training, there is an exam to confirm that you have read and understand the contents of this training, including presentation slides and exercises. Therefore, as you complete each exercise in a lesson, be sure to read the answers in the pop-up boxes fully, irrespective of whether you answered correctly or not. The answers provide important information and are an integral part of this training. In addition, for any incorrect answers, we strongly encourage you to go back and review the relevant requirements in Part 268 before exiting the exercise.

Slide 4



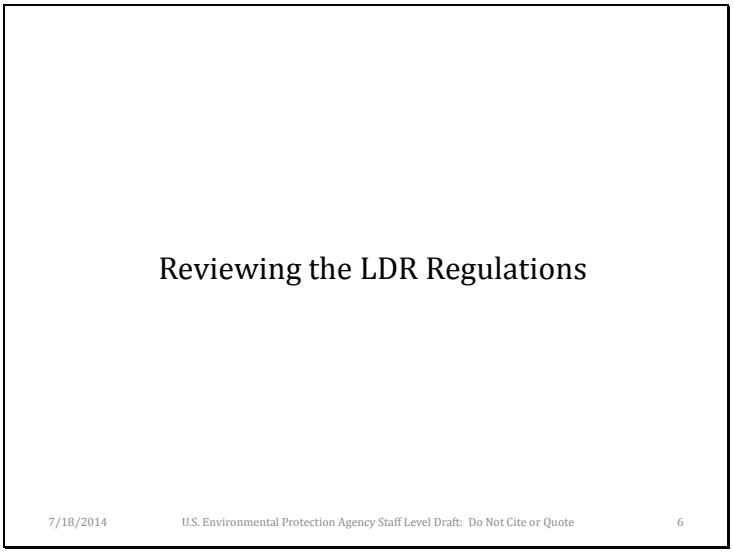
Lesson 1 addresses how to prepare for an inspection.

Slide 5



Welcome to Lesson 1. By the end of this lesson, you will be able to describe the LDR requirements for generators and TSDFs, determine the applicable treatment standards for hazardous waste, review an LDR notice for compliance, review portions of a RCRA permit and reporting data to prepare for the inspection.

Slide 6



This portion of the training will ask you to re-familiarize yourself with the LDR regulations.

Narrator Notes on LDR Program

Narrator: Let's review the LDR regulations, which are codified at 40 CFR Part 268. EPA established the LDR program under the authority of the 1984 Hazardous and Solid Waste Amendments (HSWA) to RCRA. HSWA prohibits the land disposal of hazardous wastes that do not meet applicable treatment standards, except as otherwise specified. Among other things, it essentially required EPA to specify either concentration levels or methods of treatment for hazardous constituents to either substantially decrease the toxicity of a waste or decrease the likelihood that contaminants would migrate from a waste and cause contamination of land and groundwater. EPA responded by establishing Part 268. The LDR program identifies treatment standards for hazardous wastes and specifies requirements that generators, transporters, and owners or operators of treatment, storage, and disposal facilities (TSDFs) that manage restricted wastes destined for land disposal must meet. EPA has amended Part 268 many times over the years to establish treatment standards for newly listed wastes and address other needs.

Please take some time now to review the regulations and re-familiarize yourself with them. Although we encourage you to review as many of the provisions as possible, we recommend that at a minimum you review the following:

- [Highlight 268.1 in TOC] Section 268.1, which clarifies the overall purpose and scope of the program. Among other things, it discusses some exemptions from the LDR provisions for specified types of wastes.
- [Highlight 268.2 in TOC] Section 268.2, which defines terms used under the program.
- [Highlight 268.3 in TOC] Section 268.3, which sets forth provisions that prohibit the dilution of hazardous waste as a substitute for adequate treatment to the meet the LDR treatment standards. Adding water or soil to a waste to dilute it, combining wastes not amenable to the same type of treatment, and incinerating certain metal wastes are all examples of impermissible dilution. As part of your review, take a look at Appendix XI for metal-bearing wastes that are generally prohibited from dilution in a combustion unit.
- [Highlight 268.7 in TOC] In addition, we recommend that you review section 268.7, which sets forth testing, tracking and recordkeeping requirements for generators (in 268.7(a)), treaters (in 268.7(b)) and disposers (in 268.7(c)). These provisions are designed to ensure that wastes that do not meet the treatment standards when generated are not land disposed until they have been treated to meet the standards. Be sure to review these provisions, including the Paperwork Requirements Tables for generators and treaters in section 268.7(a) and (b), so that you know the types of waste determinations and paperwork activities required of them.
- [Highlight 268.9 in TOC] You should also review 268.9 because it addresses requirements for characteristic waste, such as the requirement to monitor for and treat underlying hazardous constituents. Several exercises in this training will test your knowledge of these provisions.

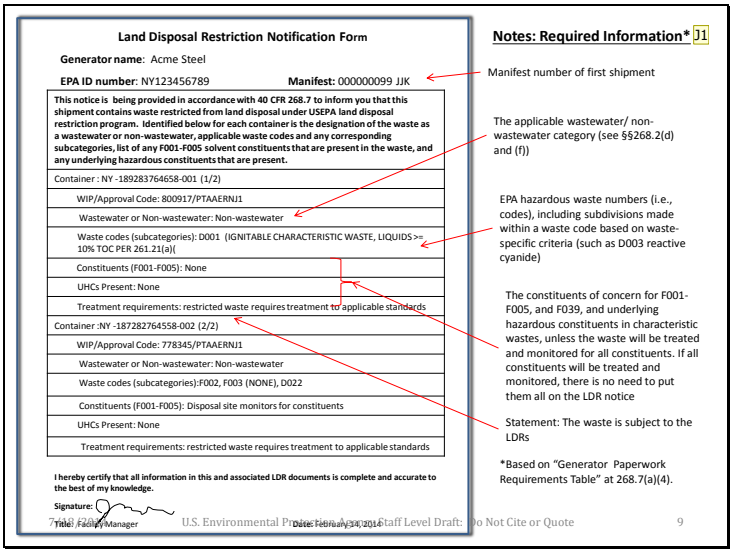
- [Highlight 268.40 in TOC] In addition, review section 268.40, which sets forth treatment standards for characteristic and listed wastes in a table called, "Treatment Standards for Hazardous Wastes." A waste identified in the table may be land disposed only if it meets the requirements found in the table (or the alternative standards discussed below). For each waste, the table identifies one of three types of treatment standard requirements:
  - 1) A "total waste standard, " which specifies that all hazardous constituents in the waste must be at or below the values found in the table for that waste; **or**
  - 2) A "waste extract standard," which specifies that the hazardous constituents in the extract of the waste must be at or below the values found in the table; **or**
  - 3) A "technology standard," which specifies that the waste must be treated using the technology specified in the table, which are described in detail in section 268.42, Table 1. The table is called "Technology Codes and Description of Technology-Based Standards."
- In addition to the requirements in section 268.40, EPA established alternative treatment standards for lab packs, hazardous debris, and contaminated soil. Be sure to review these alternative standards at:
  - [Highlight 268.42 in TOC] 268.42(c) for lab packs. As part of your review, also look at the Appendix IV for waste excluded under this alternative standard.
  - [Highlight 268.45 in TOC] 268.45 for debris, and
  - [Highlight 268.49 in TOC] 268.49 for soil.
- [Highlight 268.50] Finally, we recommend that you review 268.50, which establishes prohibitions on the storage of hazardous waste. Note that 268.50 allows no storage for any length of time – including less than a year -- unless solely for the purpose of accumulating sufficient quantities for proper recovery, treatment, or disposal. (The one-year threshold is simply when the burden of proof shifts from EPA to the facility.)

Reviewing these requirements among others will help to develop and strengthen your "working understanding" of the LDR regulations. It also will help you to complete the exercises presented later in this training.

Slide 8

[No narration. This slide is simply a placeholder to remind the IT designers to insert the Part 268 regulations to accompany the narration on the previous page.]

Slide 9



Before moving on, let's take a closer look at LDR notices because they are an important tool for evaluating compliance. As you may know, there is no standard format for an LDR notice. Waste handlers can determine their format so long as they contain all of the required information. For large shipments or shipments including lab packs, the LDR notice may go on for many pages, and some notices may include accompanying documentation.

The sample notice that you're looking at was prepared by Acme Steel for wastes that do not meet the LDR treatment standards. Acme prepared the notice in accordance with 268.7(a)(2) and the "Generator Paperwork Requirements Table" at 268.7(a)(4). As you can see, the notice includes information about 2 containers of waste.

At the top of the form is the manifest number of this first shipment of this waste. The manifest number is found in Item 4 of the uniform hazardous waste manifest – in the block titled "Manifest Tracking Number." Each manifest number is unique, in that each manifest produced or made available to the public must have a unique number.

In addition, for each waste, the notice must include:
-- The applicable wastewater or non-wastewater category. "Wastewaters" are wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS). "Non-wastewaters" are wastes that do not meet the criteria for wastewaters.
-- The EPA hazardous waste codes, including subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanide). This notice includes the high TOC subcategory for ignitable waste D001.

-- The constituents of concern for F001-F005, and F039, and underlying hazardous constituents in characteristic wastes, unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice. Note that additional documentation may accompany the notice to describe these constituents, such as a form listing each UHC and describing how the constituent(s) must be managed under 40 CFR 268.7.
-- The notice must state that the waste is subject to the LDRs.

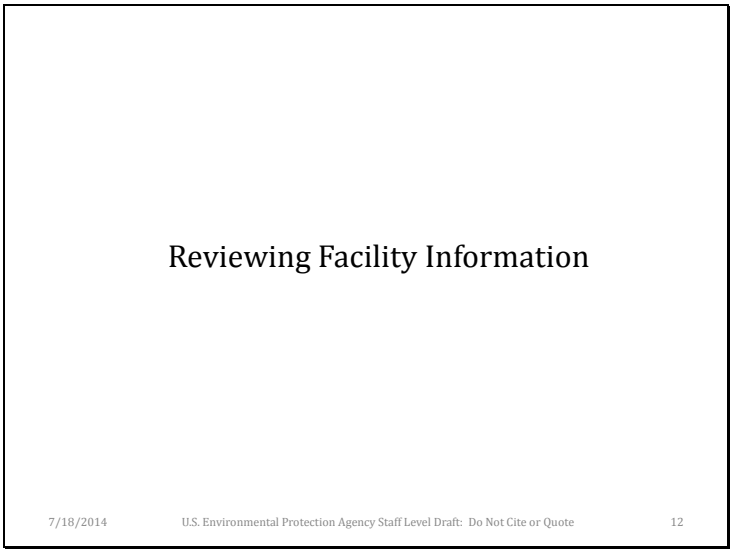
Land Disposal Restrictions Training
Lesson 1: Preparing for Inspection
Exercise 1: Reviewing Facility Information

[No narration.]

Land Disposal Restrictions Training
Lesson 1: Preparing for Inspection
Exercise 2: Completing LDR Notices

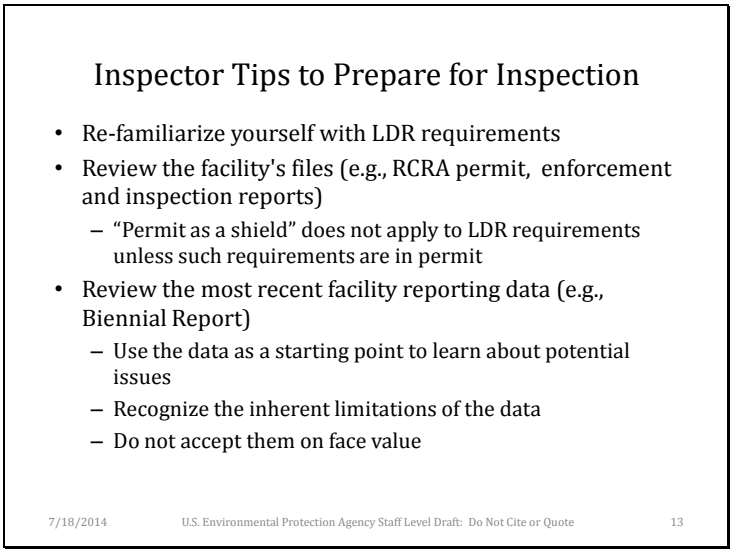
[No narration.]

Slide 12



The next series of slides will familiarize you with reviewing facility information in preparing for an inspection.

Slide 13

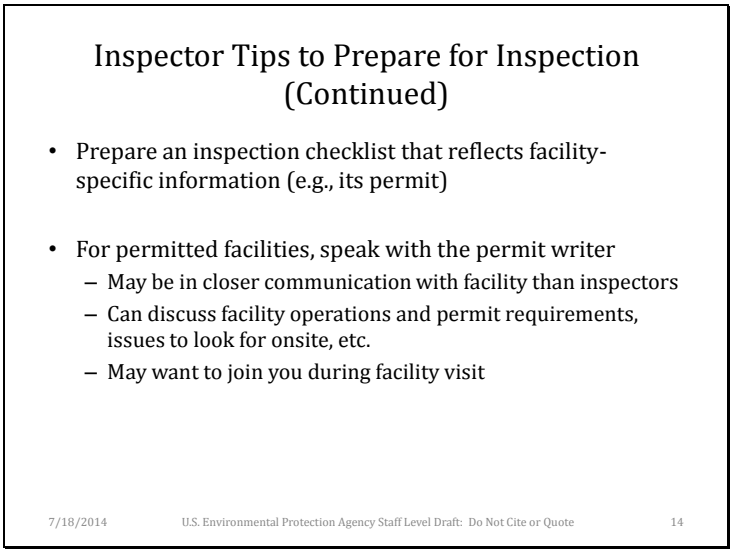


Adequate preparation is critical to the effective performance of a RCRA inspection. This slide offers some tips for when you are preparing for an inspection. In addition to reviewing the regulations, you can refer to applicable guidances and Agency policy (e.g., interpretive letters) to research difficult compliance issues that could arise at the facility.

In the facility's files, be sure to review the facility's permit if applicable, past correspondence, as well as enforcement and inspection reports for past or pending violations that need to be followed up on. Keep in mind that permitted TSDFs must comply with the LDR regulations regardless of whether their permit says so (e.g., no placement of waste on the land if it does not meet applicable LDR treatment standards). "Permit as a shield" does not apply to LDR requirements unless such requirements are in the permit.

Consider reviewing EPA or state databases so that you have up-to-date information on the facility, such as the types of wastes generated and received at the facility. This can help you anticipate the types of issues that could arise during your inspection. **However, please be aware of the limitations of EPA and state databases (e.g., out-of-date data)**. Notwithstanding the limitations, the data can be useful for getting an idea of activities taking place at a facility. For example, Biennial Report data could reveal that: a generator sent lab packs for incineration, but the lab packs contained prohibited constituents (e.g., mercury) in Appendix IV; or a generator sent hazardous waste for incineration, but the waste contained metal-bearing waste listed in Appendix XI; or a facility received offsite wastes that are prohibited in its permit. These issues might be reflected in data reported on the GM Forms submitted by the generators and/or WR Forms submitted by the TSDFs.

Slide 14



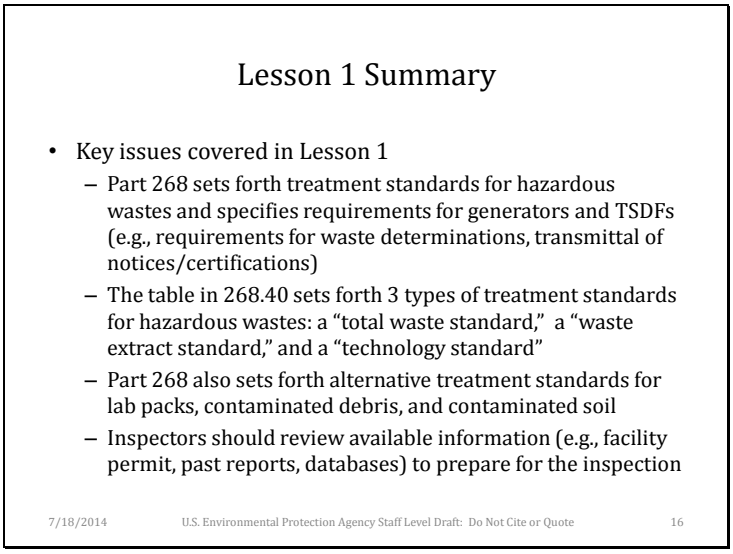
Further, use your knowledge of the facility to prepare a checklist and plan to guide you during the inspection. Refer to Chapter 5 of the RCRA Inspection Manual for additional information.

Also, for permitted facilities, speak with the permit writer, because he or she may be in closer communication with facility than inspectors and can discuss facility operations and permit requirements and other relevant issues. The permit writer may even want to join you during facility visit

Land Disposal Restrictions Training
Lesson 1: Reviewing Facility Information
Exercise 3: Reviewing Facility Information

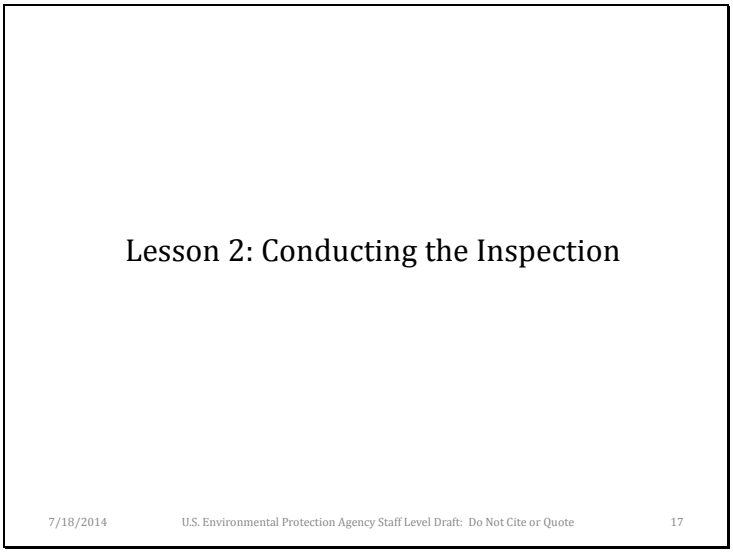
[No narration.]

Slide 16



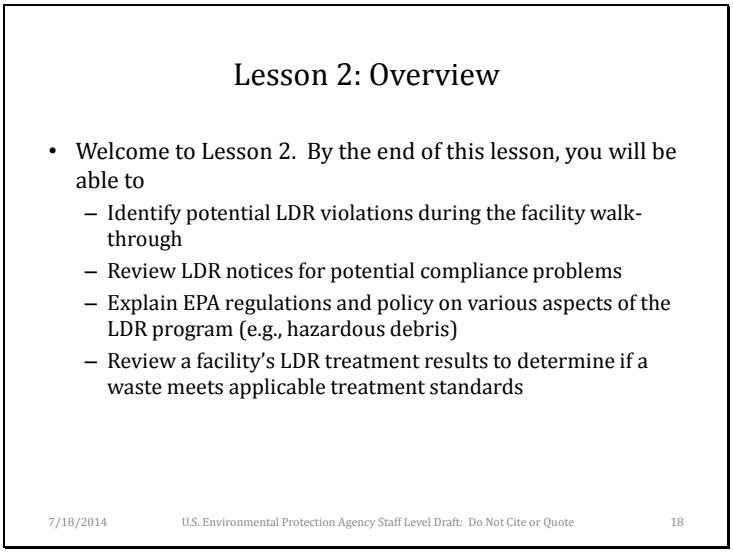
In summary, Part 268 sets forth treatment standards for hazardous wastes and specifies requirements for generators and TSDFs. The table in 268.40 sets forth 3 types of treatment standards for hazardous wastes: a "total waste standard," a "waste extract standard," and a "technology standard." Part 268 also sets forth alternative treatment standards for lab packs, contaminated debris, and contaminated soil. Further, inspectors should review available information (e.g., facility permit, past reports, databases) to prepare for the inspection.

Slide 17



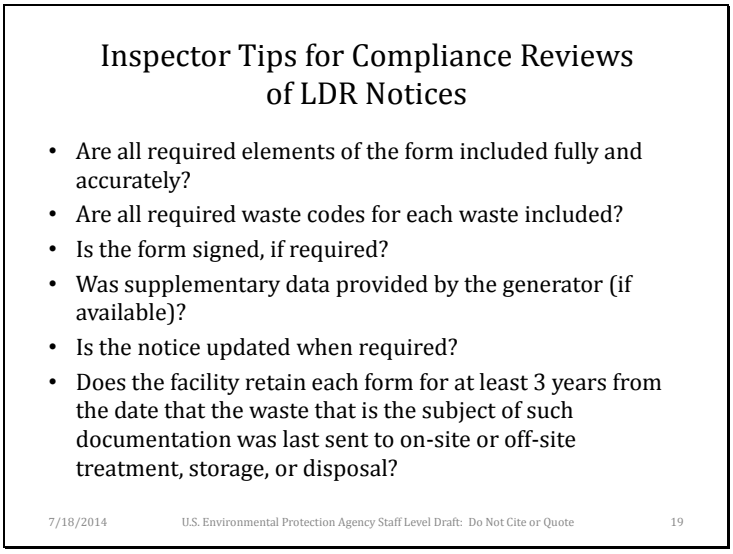
This lesson addresses how to conduct the inspection.

Slide 18



Welcome to Lesson 2. By the end of this lesson, you will be able to identify potential LDR violations during the facility walk-through, review LDR notices for potential compliance problems, explain EPA regulations and policy on the LDR program, and review a facility's LDR treatment results to determine if a waste meets applicable treatment standards.

Slide 19



In the next several slides, we'll give you some tips for evaluating compliance with the LDR requirements. After these slides, you will be given an exercise to complete. The exercise will involve some of the inspector tips raised here as well as new ones.

There are many aspects of the LDR Program that an inspector can investigate during the onsite visit. This includes, for example, a facility's treatment operations (e.g., is the treater treating the waste to meet applicable standards consistently? If some batches failed the standards, why and what measures have been taken to prevent failures in the future?).

Another important aspect of LDR compliance evaluation revolves around the review of facility records. This first slide applies to the review of LDR notices prepared under 268.7 by generators and treaters. When reviewing an LDR notice for compliance, note the following:

--Are all required elements of the form provided? See the Generator Paperwork Requirements Table and Treatment Facility Paperwork Requirements Table for these elements.

--Are all required waste codes provided? The LDR notice should include all waste codes for listed waste and characteristic waste. Note that, where a prohibited waste is both listed and exhibits a characteristic, the treatment standard for the listed waste code operates in lieu of the characteristic code, provided that the treatment standard for the listed waste includes a treatment standard for the constituent that causes the waste to exhibit the characteristic. Otherwise, the waste must meet the treatment standards for all applicable listed and characteristic waste codes. (See 55 FR 22659.) See also the RCRA/Superfund Hotline Monthly Summary (RCRA Online Number 13455).

A helpful practice is to compare the waste codes on the manifest and LDR notice to find problematic discrepancies (e.g., waste codes on the manifest that are not on the LDR notice but should be). In some cases, the waste codes on both forms should be the same. In other cases, there will be justifiable discrepancies. Keep in mind that there are few requirements governing wastes codes that a generator must put on the manifest. Note that up to six waste codes may be included on the manifest, but all waste codes must be on the LDR notice. EPA has clarified that manifest users "should ascertain the waste codes that are most representative of the waste, giving due regard to the degree of the hazardous properties presented (i.e., toxicity, reactivity, ignitability), the waste properties that are most material to the chosen management process, and the volume or relative quantity of the material associated with the waste code in question. We believe it is more practical to rely upon waste handler judgment, rather than develop a rigorous rule that presumes a precise toxicity-based ordering that is neither practical nor credible." For more information, see 70 FR 10790 (March 4, 2005).

Additional issues to look for include the following:

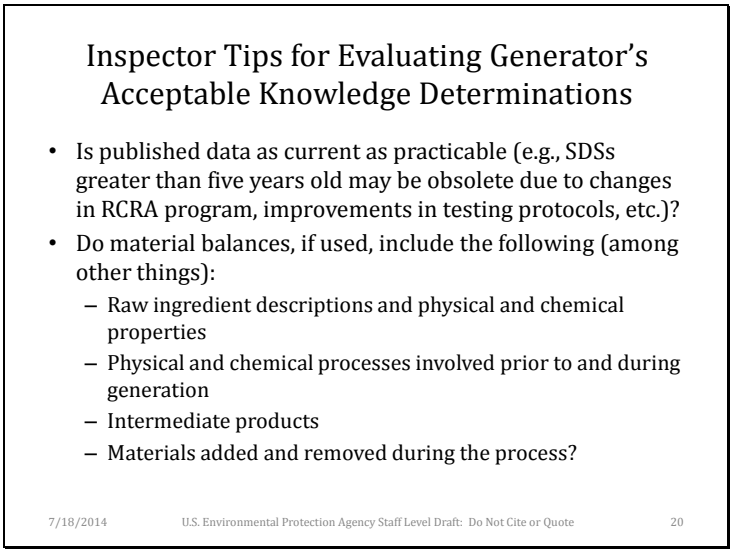
--Is the form signed, if required?

--Is the facility keeping the forms for at least 3 years?

--Was supplementary data provided, such as waste analysis data?

-- Is the noticed updated as required (e.g., when the waste changes)?

Slide 20



This slide discusses tips for evaluating a generator's use of acceptable knowledge. Under RCRA, generators can use acceptable knowledge or test their waste to make hazardous waste determinations under 262.11 and LDR determinations under 268.7. Acceptable knowledge can include, but is not limited to:

-- Process knowledge, whereby detailed information on the wastes is obtained from existing published or documented waste analysis data or studies conducted on hazardous wastes generated by processes similar to that which generated the waste (process knowledge is supported with technical data);

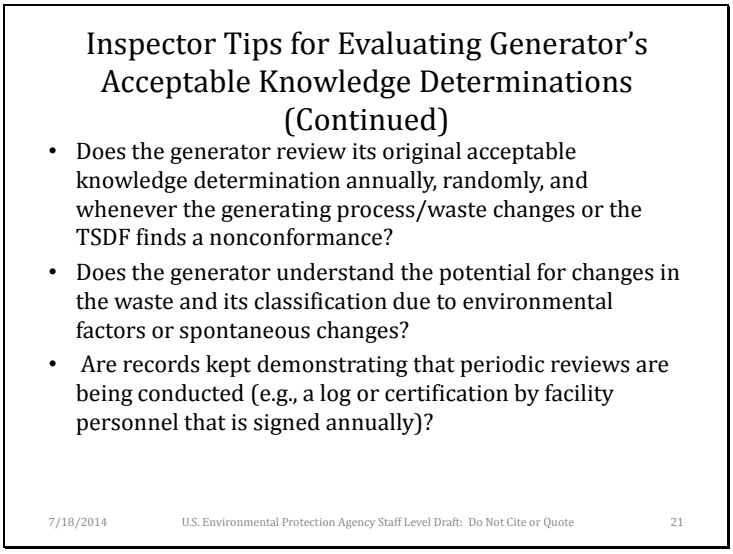
-- Data from analysis or testing performed by the generator; or

-- In cases of newly listed wastes, data from recent waste analyses performed prior to the effective date of the listings.

For additional discussion of acceptable knowledge, see 58 FR 48111 (September 14, 1993), 59 FR 62916 (December 6, 1994), and 62 FR 62081 (November 20, 1997).

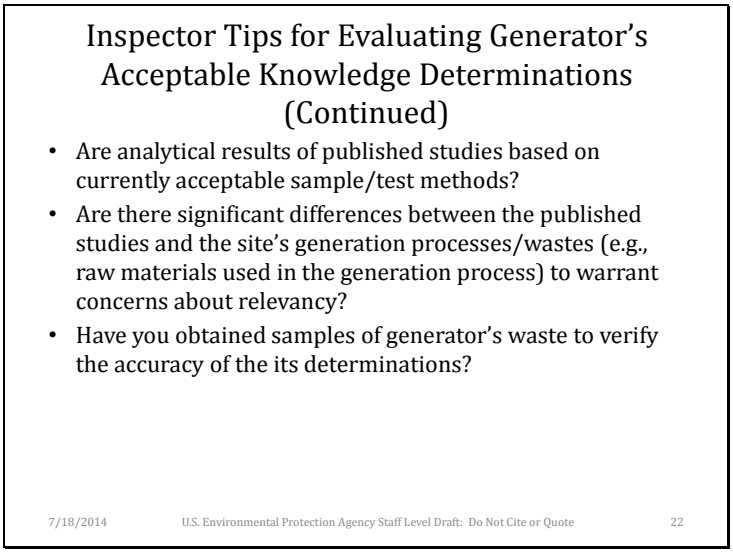
Some key questions for evaluating a generator's acceptable knowledge determinations include the following: If the generator uses published data to support its determination, is the data as current as practicable? Do material balances, if used, include the following (among other things): Raw ingredient descriptions and physical and chemical properties; physical and chemical processes involved prior to and during generation; intermediate products; and materials added and removed during the process?

Slide 21



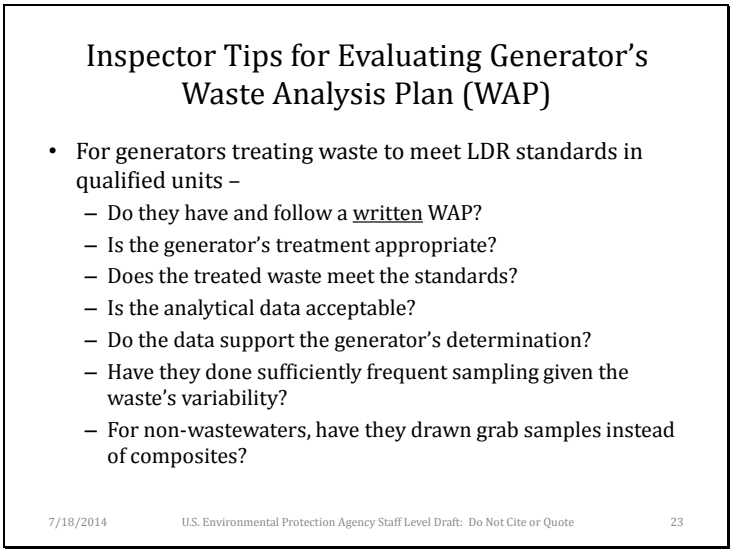
Also, does the generator review its original acceptable knowledge determination annually, randomly, and whenever the generating process/waste changes or the TSDF finds a nonconformance? Does the generator understand the potential for changes in the waste and its classification due to environmental factors or spontaneous changes? Are records kept demonstrating that periodic reviews are being conducted (e.g., a log or certification by facility personnel that is signed annually)?

Slide 22



Further, are analytical results of published studies based on currently acceptable sample/test methods? Are there significant differences between the published studies and the site's generation processes/wastes (e.g., raw materials used in the generation process) to warrant concerns about relevancy? And finally, have you obtained samples of the generator's waste to verify the accuracy of the determinations?

Slide 23



Inspectors may come across a generator who is treating its hazardous waste in qualified containers, tanks, or containment buildings to meet the LDR standards. The generator must have a waste analysis plan (WAP) in accordance with 268.7(a)(5). An inspector can evaluate compliance by considering the following:

-- Does the generator have and follow a written WAP?

-- Is the generator's treatment appropriate? For example, is the generator using the appropriate type of treatment (e.g., if the treatment method is specified) and is it being performed in conformance with EPA guidance and industry best practices? Is the type of treatment a prohibited type of treatment, such as dilution at 268.3?

--Does the treated waste meet the standards?

-- Is the analytical data acceptable? Note that some states require that analyses be done by a certified lab, including analyses done by a generator's onsite lab. As stated previously, state inspectors should consult their own state's regulations for requirements that may be more stringent and/or broader in scope than the federal program.

-- Do the data support the generator's determination?

-- Has the generator done sufficiently frequent sampling given the waste's variability?

-- For non-wastewaters, has the generator drawn grab samples instead of composites?

Slide 24

Land Disposal Restrictions Training
Lesson 2: Conducting the Inspection
Exercise 1: Conducting the Opening Meeting and Walk-Through

1. Opening Meeting

Voice of facility representative: Well, as you've requested, let me start by giving you an overview of our facility operations and touch on some things that have happened since your last visit. Feel free to jump in with questions if you feel the need.

As you know, our facility is a commercial TSD that receives shipments from sites up and down the east coast. We provide commercial storage, along with some consolidation and re-shipment. We also do waste stabilization at our STU and have a landfill. We receive both treated wastes that go straight to the landfill, as well as untreated wastes that we stabilize and put into the landfill. Occasionally, we have to reject a shipment, or we'll treat it but find we can't sufficiently stabilize it. We're one of seven WD facilities up and down the east coast. If we can't process it, we'll find another facility that can.

We really haven't had any major problems. We had a shutdown of our STU for a few weeks or a month last summer but we worked around it. We re-paved our WRUA and installed some run-on controls. Other than that, there's not much to speak of.

As you've requested, our walk-through today will cover all of our major operations, starting at the very beginning, which is basically our unloading area, and following the wastes as they move onsite from one unit or process to the next. Let me briefly touch on the basics of our operations, and then we can do the walk-through:

- We've got a waste receipt and unloading area where we receive wastes from offsite and initiate shipments offsite. We do the usual processing of shipments. You know – inspecting and weighing the shipment, closing out the manifest.

- After acceptance, wastes are moved to the DSHA. Our DSHA is divided into six compartments, with a pretty big capacity. Wastes are stored in containers and tanks.

- It's at our STU where treatment takes place. It's basically a concrete floor with a roof and it's located in the middle of our facility. The wastes are brought in by conveyor or truckload. We mix the wastes with additives and what have you, to get it to the right level

of consistency – you know, stabilized. We haul the treated load to a temporary staging area until we verify that it meets the LDRs. We put it in cell 3 of our landfill.

- That's pretty much our process. We've got some administrative buildings on site – our laboratory and some office buildings, which I can take you to. As a matter of fact, I've got a person pulling some treatment records for you right now.

All in all, we did good business last year. We hit our annual through-put capacity limit for the year. That's 100 tons/hr of through-put in the STU times the total number of operational hours in the year – that's a lot of waste! We've talked about expanding to meet increasing demand but haven't put our plans together yet.

By the way, we've also seen a huge upsurge in shipments of hazardous debris…C&D debris, glass, concrete, bricks, crushed drums, some scrap metal, animal carcasses, process residuals, tree stumps and other plant matter, rocks, plastics, rubber.

We handle all of the debris under the alternative treatment standards, and most treatment is done in our STU. At times of excess supply, we've been treating debris in cell 3 – you know, immobilization. For the really large debris, we use macro-encapsulation – basically applying a sealant around the entire item so nothing can get in or out. For smaller debris, we use microencapsulation – Portland cement or fly ash. We may apply other reagents like iron salts or clays. We sometimes grind up the debris into small bits to facilitate microencapsulation and reduce volume requirements. So, it's working out well for us…..(fade out) **(Pause)**

1.1 Based on the facility representative's statements, what potential concerns do you have?

Voice of facility representative: Actually, I have a question in connection with hazardous debris that we're getting. If the debris is contaminated with a hazardous waste that carries a waste code which requires a specified method of treatment in 268.40, can the alternative treatment standards for debris be used to treat the debris, or must the specified method of treatment for that waste code be used? **(Pause)**

1.2 What is your response?

Voice of facility representative: Ok, if the alternative treatment standards for debris are used to treat debris contaminated with D012-D043 wastes, must the universal treatment standards for UHCs also be met? **(Pause)**

1.3 What is your response?

2. Waste receipt/acceptance

- (Show Photo 1)

Photo 1: Example of Heavy Equipment

Voice of facility representative:

- Here we are at our waste receipt and unloading areas.
- Over to your right is our bulk unloading area. We use heavy equipment/front-end loaders to move bulk solids from trucks into accumulation tanks. Our equipment is operated by trained personnel with years of experience.

- (Show Photo 2)

Photo 2: Tanker Truck

Voice of facility representative:

- Now, straight ahead is where we receive containers, liquids in tanker trucks, and what have you, as well as send wastes offsite. When a shipment comes in, we inspect it and do our fingerprint tests. For example, for a shipment of containers of untreated waste, we'll fingerprint ten percent of the containers within each waste profile. So, if the shipment includes 10 containers of a profiled waste, we'll sample 1 container. If, on that same shipment, there's a single container of another profiled waste, we'll sample it too. Our routine fingerprint tests look at pH, sulfides and oxidizers. We may also screen for cyanides if the generator's waste profile or other information indicates their presence.

  Of course, we don't do fingerprinting on certain types of wastes that we receive for various reasons, such as safety concerns or just the plain infeasibility of getting a sample, such as lab packs, personal protective equipment, PCB drainings and flushings from PCB articles, plant and animal debris, C&D debris.

  For containers and bulk shipments of treated waste that will be direct landfilled, we'll do a thorough visual inspection, but generally tests aren't done. Of course, we receive LDR notices from the generator or treater certifying that they meet all applicable LDR treatment standards….fade out. **(Pause)**

2.1 Do you have any potential compliance concerns with WD's management of the following wastes?

3. Temporary Staging Piles of STU

- (Show Photo 1)

Photo 1 : Waste Piles

Voice of facility representative: Here we are at the part of the STU where we sample our treated wastes. These are our temporary staging piles.

- As you know, the STU receives and processes hazardous wastes that cannot be directly disposed into a landfill. The STU treatment process modifies chemical and physical characteristics of the wastes to meet applicable LDR standards. The wastes are mixed with various process additives, such as Portland cement, for stabilization.

- Treated waste from the STU is discharged to a hauling truck. When the hauling truck is full, the batch is transported to a temporary staging area within the STU. You can see the staging area straight ahead as we're approaching it – essentially, they're waste piles.

- (Show Photo 2)

Photo 2: Waste Piles (close up)

Voice of facility representative:

- Let's take a closer look at the piles. The piles are placed on plastic and covered with plastic. The piles remain in the staging area until treatment verification sampling is performed.

- (Show Photo 3)

Photo 3: Field Technician

Voice of facility representative:

- One of our field technicians is sampling a pile. As you can see, he is taking a single grab sample from each pile for verification. If the verification sampling shows that one or more treatment standards are not met, the waste is re-treated. **(Pause)**

3.1 True or False: The field technician's sampling is being performed in compliance with LDR requirements.

3.2 True or False: A waste pile that failed the verification is in violation of the LDR storage prohibition at 268.50.

Voice of facility representative: Here are the treatment results that you asked for. They show the results of our initial verification testing for some of our piles. Keep in mind that we assign a unique tracking number to each pile. Specifically, each pile is an individual truckload from the STU's stabilization area, and each truckload is given a batch number. The batch number reflects the date (i.e., the first six numbers) and treatment run (i.e., last three numbers). For example, a batch number of 120803-001 translates to batch number 001, treated on August 3, 2012….fade out (**Pause)**

3.3 Which constituents meet the LDR's constituent-specific treatment standards?

3.4 Does either batch pass the verification?

Second Verification Results	
Constituent	Result
Batch 120803-001	
Lead	0.15 mg/L TCLP
Arsenic	4.9 mg/L TCLP
Vanadium	1.5 mg/L TCLP
Cyanides (Total)	720 mg/kg
Cyanides (Amendable)	45 mg/kg
Nickel	20 mg/L TCLP
Batch 120803-002	
Lead	0.18 mg/L TCLP
Arsenic	4.6 mg/L TCLP
Vanadium	1.2 mg/L TCLP
Cyanides (Total)	720 mg/kg
Cyanides (Amendable)	32 mg/kg
Nickel	9 mg/L TCLP

Voice of facility representative: As you can see, both batches failed the post-treatment verification which, for purposes of this discussion, we can refer to as the "first" verification. So,

we re-treated them and performed a second verification. Here are the results of the second verification. **(Pause)**

3.5 Does either batch pass the second verification?

3.6 Based on the first and second verifications, which constituents indicate a potential problem?

4. 90-Day Accumulation Area/Recordkeeping

Land Disposal Restriction (LDR) Notice	
Generator name: WD Facility **EPA ID Number:** NY982394827	**Manifest Number:** 185739020 JJK
This notice is being provided in accordance with 40 CFR 268.7 to inform you that this shipment contains waste restricted from land disposal under USEPA land disposal restriction program. Identified below for each container is the designation of the waste as a wastewater or non-wastewater, applicable waste codes and any corresponding subcategories, list of any F001-F005 solvent constituents that are present in the waste, and any underlying hazardous constituents that are present.	
Container: NY -189283764668-001 (1/1)	
WIP Approval Code: 800918/PTAAERNJ1	
Wastewater or Non-wastewater: Non-wastewater	
Waste codes (subcategories): F005 (None)	
Constituents (F001-F005): Toluene	
UHCs Present: N/A	
Treatment requirements: restricted waste requires treatment to applicable standards	

Voice of facility representative: Well, here's a page from the notice you asked for. We generated some spent solvent here onsite, drummed it and sent it for offsite treatment. It's an F005 solvent. I can show you the manifest afterwards. As you'll see on the manifest, we listed F005 as the sole waste code in box 13. So, I think the two forms are comparable in that regard….fade out. **(Pause)**

Questions

4.1 Suppose the F005 waste failed the TC for lead (D008). True or False: The waste code for lead (D008) must be added to the LDR notice.

4.2 Suppose the F005 waste exhibited the ignitability characteristic solely because of toluene. True or False: The waste would be subject to the requirement to monitor for and treat UHCs because of ignitability.

Land Disposal Restriction (LDR) Notice	
Generator name: WD Facility **EPA ID Number:** NY982394827	**Manifest Number:** 185738111 JJK
This notice is being provided in accordance with 40 CFR 268.7 to inform you that this shipment contains waste restricted from land disposal under USEPA land disposal restriction program. Identified below for each container is the designation of the waste as a wastewater or non-wastewater, applicable waste codes and any corresponding subcategories, list of any F001-F005 solvent constituents that are present in the waste, and any underlying hazardous constituents that are present.	
Container: : NY -1892837643458-001 (1/1)	
WIP Approval Code: 800919/PTAAERNJ1	
Wastewater or Non-wastewater: Non-wastewater	
Waste codes (subcategories): F006	
Constituents (F001-F005): None	
UHCs Present: None	
Treatment requirements: restricted waste requires treatment to applicable standards	

Voice of facility representative: Here's another notice you asked for. It's F006 generated from a facility that performs metals plating. It was shipped to us, and we re-packaged it and sent it to the treater. Based on documentation provided by the generator, it failed the TCLP for silver. Since silver is addressed in the F006 treatment standard, we didn't list D011 for silver on the manifest or LDR notice. **(Pause)**

4.3 True or False: WD is correct for not listing silver on the LDR notice.

Voice of facility representative: Also, I realize that these notices need to be sent out only for the initial shipment and don't need to be sent again unless the waste or treatment facility changes. When this happens, which manifest number do we put on that updated notice: the original manifest number or the new one? **(Pause)**

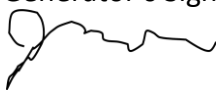
4.4 What is your response?

Land Disposal Restrictions Lab Pack Notification/Certification (268.7(a)(9)

Generator ID: NY982394827 Sales Order Number: 144443299
Manifest No: 185738222 JJK

Lab pack instructions: Hazardous wastes placed in a lab pack that will be incinerated under the alternative LDR treatment standards in 268.42(b) should be identified below. The lab pack cannot contain any of the wastes listed in Appendix IV to Part 268.

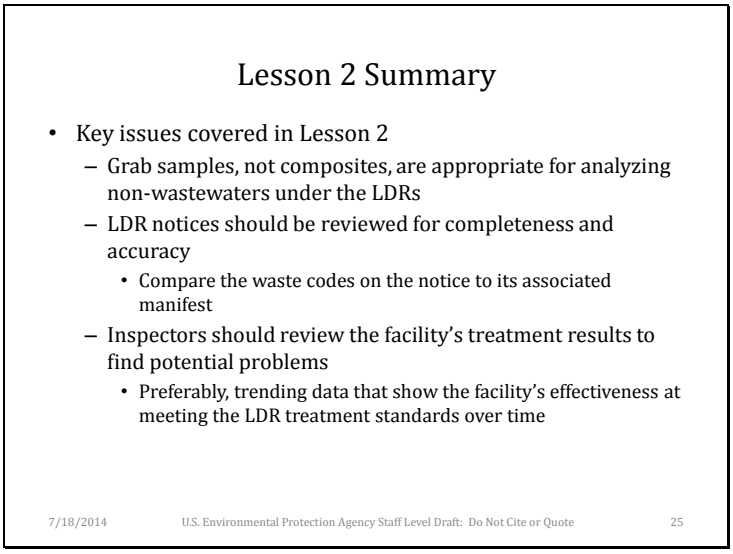
Line #	Container	EPA Waste Codes	Customer Container #	Container Size & Type
1	CH Container # C000000100	D001, D002, D005	CDR#4011	05DF
2	CH Container # C000000101	D002, D005, D008, D011, U106, U159, U162, U213	CDR#4016	55DM
3	CH Container # C000000102	K003, K004	CDR#4012	05DF
4	CH Container # C000000105	D001, D002, D011	CDR#4087	55DM
5	CH Container # C000000106	D001, D003, D009	CDR#4025	05DF
6	CH Container # C000000102	D001, D003, D035	CDR#4009	05DF

I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only wastes that have not been excluded under appendix IV to 40 CFR part 268 and that this lab pack will be sent to a combustion facility in compliance with the alternative treatment standards for lab packs at 40 CFR 268.42(c). I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment.		
Generator's Signature: 	Generator's Name and Title: Joe Smith, Facility Manager	Date: February 14, 2014

Voice of facility representative: Here's another notice you asked for. This is an LDR notice for lab packs that we sent for incineration under the alternative standards. Essentially, we received several shipments of lab packs, broke them up into different shipments and sent for incineration at various sites. There's a bunch of wastes reflected on this notice, such as metals like barium, lead, silver, cadmium; corrosives like spent sulfuric acid, oleum, ammonium hydroxide, nitric acid; lab samples from K-listed wastewater treatment sludges…fade out. **(Pause)**

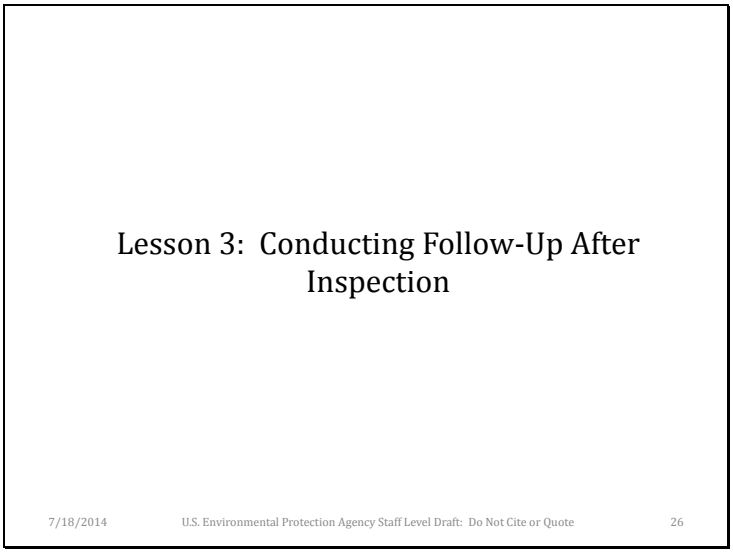
4.5 Based on the facility representative's statements and LDR notice, do you have any concerns with the following waste codes?

Slide 25



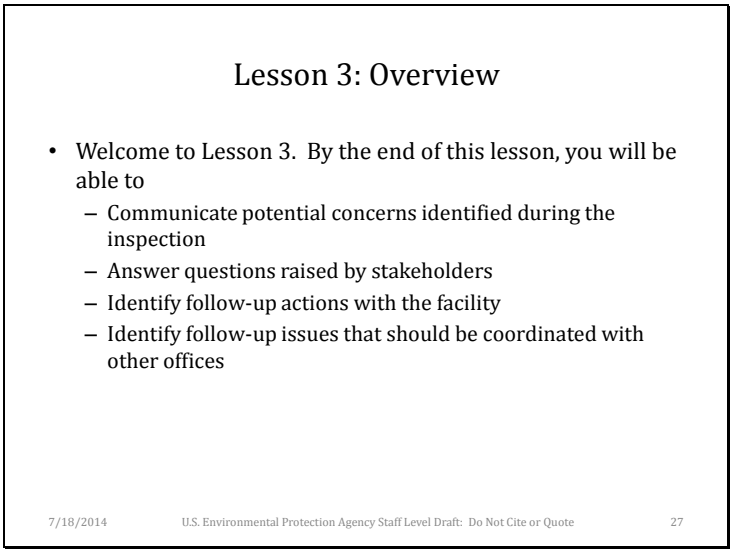
In summary, grab samples, not composites, are appropriate for analyzing non-wastewaters under the LDRs. Further, LDR notices should be reviewed for completeness and accuracy. You should, among other things, compare the waste codes on the notice to its associated manifest if applicable. In addition, inspectors should review the facility's treatment results to find potential problems, such as trending data that show the facility's effectiveness at meeting the LDR treatment standards over time.

Slide 26



This lesson addresses how to conduct follow-up after the inspection.

Slide 27



Welcome to Lesson 3. By the end of this lesson, you will be able to communicate potential concerns identified during the inspection, answer questions raised by stakeholders, identify follow-up actions with the facility, and identify follow-up issues that should be coordinated with other offices.

Land Disposal Restrictions Training
Lesson 3: Conducting Follow-Up After Inspection
Exercise 1: Communicating with Stakeholders

Voice of your supervisor: Well, I heard you had a good visit to the WD facility. I've already spoken to others about the inspection and heard about the compliance issues. What were some compliance concerns that you found? **(pause)**

3.1 Which of the following issues are of compliance concern at the WD facility?

Voice of your supervisor: I heard that some of the treatment batches failed for cyanides. This has been an on-going problem with them. Did you gather any information that might suggest a cause? **(pause)**

3.2 Based on facility personnel statements during the visit, which of the following could be a likely cause of the cyanide failures?

Voice of your supervisor: Interesting, WD's failure to perform the cyanide screening consistently on incoming shipments could be the cause of their downstream treatment failures. Did your process-based inspection approach – where you inspected wastes as they moved onsite from one operation to the next -- help to uncover such problems and their potential consequences? **(pause)**

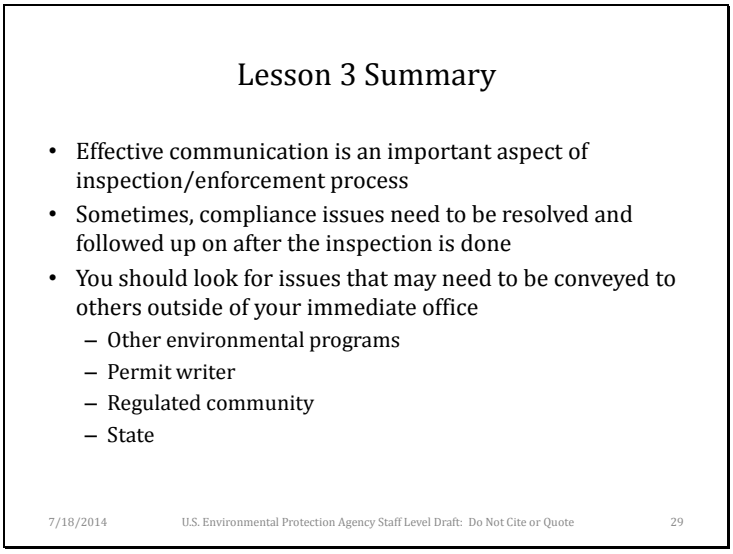
3.3 What is your response?

Voice of your supervisor: I also heard that there were some troubling test results for arsenic in the treated waste piles. The first TCLP test for both batches showed a very low arsenic concentration, whereas the second round of tests showed very high concentrations – pretty much a 10-fold increase from the first verification to the second. Do you have any ideas on how to remedy this? **(pause)**

3.4 True or False: Although the permit calls for one grab sample from each pile, the inconsistent test results suggest that one grab sample may be insufficient for accurate measurement.

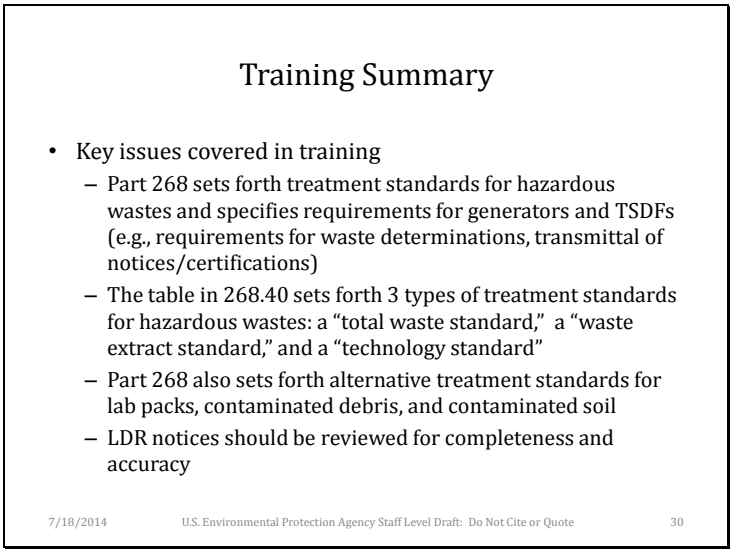
3.5 The table below presents a list of concerns found during your inspection in one column and primary stakeholders in the other. Click on each concern and drag it to the stakeholder who is in the best position to take follow up action if necessary.

Slide 29



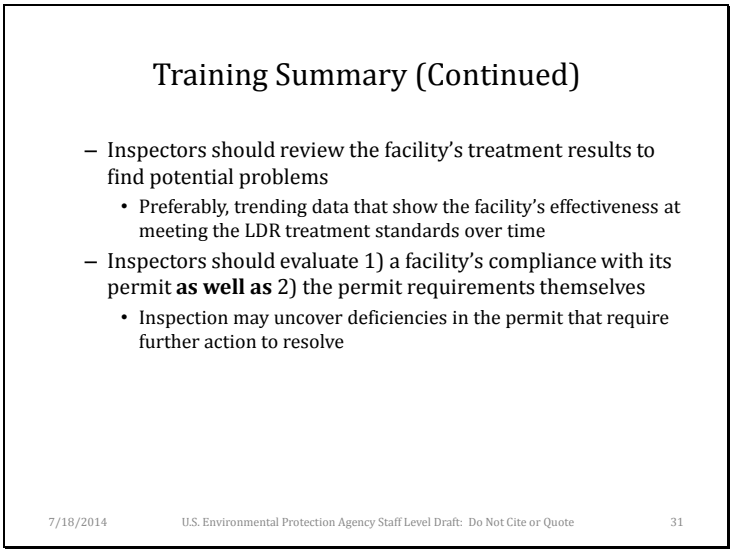
In summary, effective communication is an important aspect of the inspection and enforcement process. Sometimes, compliance issues need to be resolved and followed up on after the inspection is done. You should look for issues that may need to be conveyed to others outside of your immediate office, such as with other environmental programs, the permit writer, regulated community, or state.

Slide 30



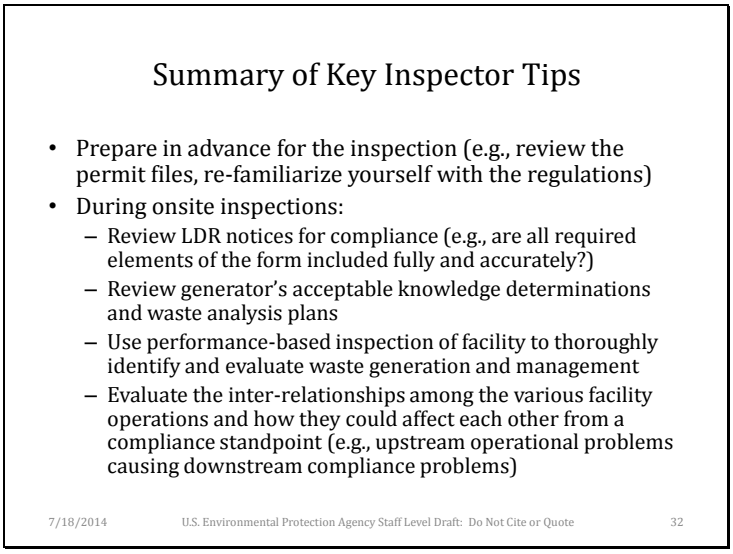
This training has covered several key points. For example, Part 268 sets forth treatment standards for hazardous wastes and specifies requirements for generators and TSDFs (e.g., requirements for waste determinations, transmittal of notices/certifications). The table in 268.40 sets forth 3 types of treatment standards for hazardous wastes: a "total waste standard," a "waste extract standard," and a "technology standard." Part 268 also sets forth alternative treatment standards for lab packs, contaminated debris, and contaminated soil. Also, LDR notices should be reviewed for completeness and accuracy.

Slide 31



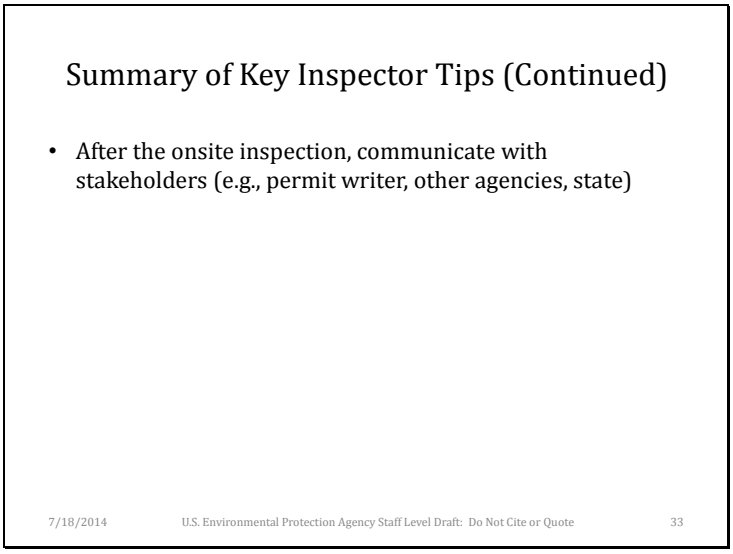
Further, inspectors should review the facility's treatment results to find potential problems. They also should evaluate 1) a facility's compliance with its permit, such as the WAP, **as well as** 2) the permit requirements themselves. Inspection may uncover deficiencies in the permit that require further action to resolve.

Slide 32



Among the inspector tips offered in this training is the recommendation to prepare thoroughly for the inspection, such as by reviewing the permit files, facility reports, and the regulations. During onsite inspections, inspectors should, among other things, review LDR notices for compliance (e.g., are all required elements of the form included fully and accurately?); evaluate generator's acceptable knowledge determinations and facility implementation of waste analysis plans; use performance-based inspections to thoroughly identify and evaluate waste generation and management; and evaluate the inter-relationships among the various facility operations and how they could affect each other from a compliance standpoint (e.g., upstream operational problems causing downstream compliance problems).

Slide 33



In addition, after the onsite inspection, inspectors should communicate with stakeholders, such as the permit writer, other agencies, and the state.

Slide 34

Resources

- "Introduction to Land Disposal Restrictions" http://www.epa.gov/osw/inforesources/pubs/training/ldr05.pdf
- "Land Disposal Restrictions: Summary of Requirements" http://www.epa.gov/osw/hazard/tsd/ldr/ldr-sum.pdf
- "Guidance on Demonstrating Compliance With the Land Disposal Restrictions (LDR) Alternative Soil Treatment Standards" http://www.epa.gov/osw/hazard/tsd/ldr/soil_f4.pdf

These final few slides identify some helpful resources for further reference.

Slide 35

Resources (Continued)

- "Waste Analysis At Facilities That Generate, Treat, Store, And Dispose Of Hazardous Wastes" http://www.epa.gov/osw/hazard/tsd/ldr/wap330.pdf
- EPA memo regarding the placement of prohibited wastes (i.e., wastes that do not meet LDR treatment standards) in a landfill (RCRA Online Number 14843; 4/11/14) http://www.epa.gov/solidwaste/inforesources/online/index.htm
- Fundamentals for RCRA Inspectors Training www.epa.gov/compliance/training/neti/index.html

Slide 36

Resources (Continued)

- Process-Based Inspections Training
  www.epa.gov/compliance/training/neti/index.html