



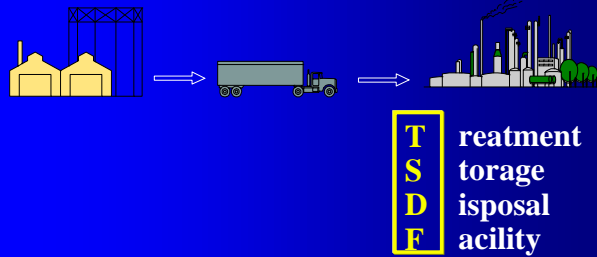
## Permitting And Corrective Action

Facilities that store quantities exceeding 55 gallons for longer than 90 days or that treat or dispose of hazardous waste must be authorized to conduct these activities. Such authorization is referred to as a hazardous waste management permit/interim status and includes cleanup requirements (i.e., RCRA corrective action) that are often associated with the permitting process.

By the end of this module, you should be able to:

1. Define treatment, storage, and disposal and explain their significance. (p. 3)
2. List several permit exclusions. (p. 4)
3. Distinguish between interim status and permitting standards. (p. 6)
4. Recognize the elements of a Part A application. (pp. 8, 9)
5. Recognize the elements of a Part B application. (pp. 17-22)
6. Explain when the Part A process applies and when the Part B process applies. (p. 6)
7. List several of the types of permitted units. (pp. 19-22)
8. Define closure and post-closure care. (p. 18)
9. List the seven steps in the permitting process. (pp. 16, 24)
10. Explain, in general, when permit modifications are required. (pp. 28, 29)
11. Define solid waste management unit (SWMUs). (p. 31 )
12. Identify three RCRA corrective action authorities. (p. 33)
13. State the major steps in the corrective action process compared with steps in the Superfund cleanup process. (pp. 35, 36)
14. Define of corrective action management unit and temporary units. (p. 38)
15. Cite several recent initiatives that address corrective action. (pp. 39-42)

## “Cradle-to-Grave” Management



For off-site shipments of hazardous waste, generators must designate one facility on the manifest to manage such waste. Transporters must ensure each hazardous waste shipment arrives at its selected destination. In some cases, generators operate an on-site treatment, storage, and disposal facility (TSDF). In either case, however, the on-site or designated facility must be authorized under RCRA to conduct treatment, storage, and disposal of hazardous waste.

## When does RCRA require a Permit?

A RCRA Permit is required to conduct:

- **Treatment:** Changing physical, chemical, or biological character or composition.
- **Storage:** Holding waste temporarily before treatment, disposal, or storage elsewhere.
- **Disposal:** Discharging, depositing, injecting, dumping, spilling, leaking, or placing any solid or hazardous waste into or on land or water.

Facilities that treat, store, or dispose of hazardous waste (TSDFs) and do not meet any of the exclusions from permitting, which will be discussed shortly, must have a hazardous waste permit.

**Treatment:** “any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.”

**Storage:** “the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.”

**Disposal:** “the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any water, including groundwaters.”

**Facility:** “all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).” (40 CFR 260.10)

## Are there any exclusions from permitting?

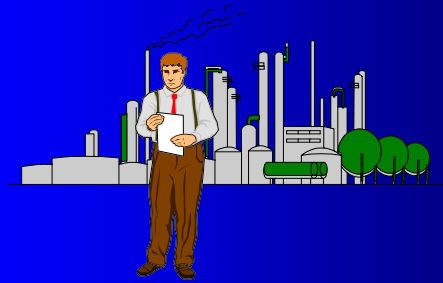
- A facility subject to the special exemptions for recyclable materials in 40 CFR Part 266
- Generators storing waste on-site in compliance with accumulation requirements
- Owners or operators of “totally enclosed treatment facilities,” “wastewater treatment units,” and “elementary neutralization units”;
- Persons engaged in containment for an immediate response to an emergency
- Transporters storing manifested wastes at a transfer facility for less than 10 days

The regulations should be consulted for the precise scope of these exclusions. [See 40 CFR 264.1(g) and 265.1(c).] Also, some States may not offer all of these exclusions. It is important to consult your State regulations.

The following briefly discusses the items identified on the slide:

- Under 40 CFR 266, EPA establishes alternative standards that exempt facilities from certain requirements when they are recycling. For example, facilities storing hazardous waste before recovering precious metals from them may store the waste without a permit. Remember that the regulations only address certain precious metals such as silver and gold.
- Generators must comply with standards for waste accumulation in tanks or containers under 40 CFR 262.34 to qualify for the exemption from permitting an accumulation point.
- Hazardous waste regulation defines the units referenced above (totally enclosed treatment facility, wastewater treatment unit, and elementary neutralization unit) under 40 CFR 260.10. The exclusion from permitting only applies to units that meet the prescribed definitions.
- The other items on the list are more self-explanatory.

How do I obtain RCRA  
authorization to operate my TSD?



## RCRA Provides Two Permitting Approaches:

- Facilities in existence on the effective date of a rule may operate under interim status
- New facilities, and eventually interim status facilities, must apply for a Part B permit (i.e., a full RCRA permit)

Facilities that do not qualify for an exclusion must obtain a permit. A permit defines operating and administrative conditions that facilities must meet to manage hazardous waste. Because the requirements are complex, the statute and the rule provide for two permitting avenues: interim status and Part B permitting.

Interim status is only available to facilities in existence on the effective date of the rule that makes them subject to regulation. [40 CFR 265.1(b)] In the case of TSD facilities that become newly regulated under Subtitle C, facilities that have not previously notified the EPA/State must submit a Notification of Regulated Waste Activity (Form 8700-12) within 90 days of the publication of the regulation in the Federal Register (FR). [RCRA section 3010(a)] In addition, a Part A application must be submitted within six months of the publication or 30 days after they first become subject to the promulgated standards. The Part B application for existing facilities may either be voluntarily submitted or called in by the regulator. A special requirement applies to land disposal facilities that become subject to Subtitle C in this manner -- they must submit a Part B within 12 months of becoming subject to Subtitle C requirements or lose interim status. [40 CFR 270.10(e)]

New facilities must obtain a permit and must meet site-specific requirements that are documented in the permit. These site-specific requirements encompass the same general categories as those for interim status facilities. The permit, however, is more specific in how these standards apply to the specific facility. Unlike existing facilities, new facilities must submit Parts A and B permit applications simultaneously and are ineligible for interim status. Applications must be submitted at least 180 days before construction is expected to begin. [40 CFR 270.10(f)]

## What Must I Do for Interim Status?

- Use regulations in 40 CFR 265 to understand requirements that must be met to be allowed to conduct hazardous waste activities.
- Follow provisions in 40 CFR 270 Subpart G
- Use regulations in 40 CFR 270 to understand the permitting process.

To obtain interim status, a facility must submit a notification and a Part A permit application to EPA/State. Until a permit is issued, interim status facilities must operate according to the administrative provisions and operating conditions defined in 40 CFR Part 265.

In addition, interim status owners/operators must remain cognizant of the provisions governing operation during interim status, changes at an interim status facility, and termination of interim status found in subpart G of the 40 CFR part 270.

The permitting process for both interim status and permitted facilities is codified in 40 CFR 270.

**Interim Status Facilities Must Submit a  
Part A Application in Accordance with 40  
CFR 270.13 That Includes:**

- Activities conducted that require a permit
- Facility name, address, and location
- SIC codes that best reflect type of industry
- Operator's name, address, phone, ownership status, and status as Federal, State, private, public, or other entity
- Name, address, and telephone of facility owner
- Whether the facility is on Indian land
- Whether the facility is new or existing and whether it is a first or revised application

Part A applications follow a standard format and typically are available through the State regulators. Applications are submitted to either the State permit authorities or EPA Regional Offices and the State, depending on the authority underlying the new regulations.



### Contents of Part A Application (cont'd)

- Scale drawing and photograph showing structures and TSD areas
- TSD processes to be used
- The hazardous wastes to be managed, their quantities, and processes used for them
- A listing of all permits or approvals under certain other laws
- A topographic map depicting facility intakes, discharges, and wells
- Brief description of the nature of the business

For new facilities, the Part A permit must be submitted with the Part B permit at least 180 days before construction is expected to start. Existing facilities that become newly regulated must submit a notification and Part A application alone and operate under interim status as long as they comply with, at a minimum, the general facility standards and unit-specific standards prescribed in 40 CFR Part 265.

Is that all I need to do to obtain  
interim status for my existing facility  
. . . submit a notification and Part A  
application?

40 CFR 265 Requirements Include:  
General Standards for All TSDFs . . .

- Identification number
- Waste analysis plan
- Security
- General inspection requirements (specific requirements for particular units also apply)
- Preparedness and prevention
- Contingency planning
- Manifests

In addition to submitting a Part A application, interim status facilities must operate in compliance with the standards outlined in 40 CFR Part 265. These include general requirements, as noted in the slide, that apply to all types of TSDFs (e.g., incinerators, container storage units, etc). Part B-permitted facilities must also comply with general facility standards, which are codified in 40 CFR Part 264, and reflect the standards identified for interim status facilities.

. . . And Specific Design, Operating,  
and Closure Standards Developed for:

- Containers (40 CFR 265 Subpart I)
- Tanks (40 CFR 265 Subpart J)
- Surface impoundments (40 CFR 265 Subpart K)
- Waste piles (40 CFR 265 Subpart L)
- Land treatment units (40 CFR 265 Subpart M)
- Landfills (40 CFR 265 Subpart N)
- Incinerators (40 CFR 265 Subpart O)
- Thermal treatment (40 CFR 265 Subpart P)

The interim status requirements (40 CFR Part 265) include specific design and operating standards that must be met to conduct waste management activities in different types of units. For example, Subpart I defines container storage requirements. Such requirements include ensuring that containers are closed except when adding or removing wastes, that containers are compatible with their contents, and that incompatible chemicals are segregated.

Many of the requirements are the same between interim status and Part B-permitted facilities. There are differences, however. For instance, the requirements for “Containment” in Part 264 (40 CFR 264.175) do not appear in Part 265. The Part 264 requirements call for such things as a base underlying the containers that is impervious and designed and operated to drain and remove liquids resulting from spills or leaks. Other requirements relate to the capacity of the containment system and removal of spilled waste from the system. The corresponding section in Part 265 (40 CFR 265.175) is marked “Reserved” meaning that for now there are no containment requirements for interim status container facilities.

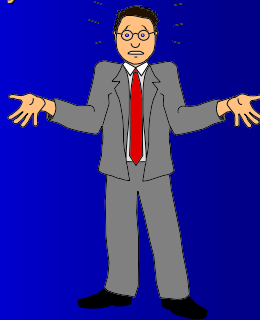
### Specific Design, Operating, and Closure Standards Developed for: (cont'd)

- Chemical, physical, and biological treatment (40 CFR 265 Subpart Q)
- Underground injection wells (40 CFR 265 Subpart R)
- Drip pads (40 CFR 265 Subpart W)
- Air emission standards (40 CFR 265 Subparts AA, BB, and CC)
- Containment buildings (40 CFR 265 Subpart DD)
- Munitions and Explosive Storage (40 CFR 265 Subpart EE)

The interim status design and operating standards are self-implementing. A facility becomes subject to interim status under Subtitle C of RCRA because EPA publishes a new hazardous waste listing or identifies a new hazardous waste characteristic. Upon the effective date of the regulation, the facility must begin to apply the management standards prescribed for their unit(s) as well as comply with the administrative requirements identified in 40 CFR Part 265.

Recently, EPA amended the air emission standards applicable to tanks, surface impoundments, or containers that are used to manage hazardous wastes that have average volatile organic concentrations equal to or greater than 500 parts per million by weight (ppmw). (See revised 40 CFR 264.1082(c)(1) and 265.1083(c)(1) of the November 25, 1996 Federal Register (61 FR 59953, 59972).) Under these new regulations, owners and operators of these units must apply emission control devices (e.g., tanks equipped with a fixed roof and internal floating roof; surface impoundment with a rigid cover that is vented through a closed-vent system to a thermal vapor incinerator, flare, etc.).

Can TSDFs operate under interim status indefinitely?



## HSWA Set Deadlines for Permit Issuance



- All facilities in existence on November 8, 1984, had to apply for permits by November 8, 1988.
- Facilities that failed to apply lost interim status on November 8, 1992.

HSWA established permitting deadlines so that facilities could not operate indefinitely under interim status without applying for a permit. The deadlines were established under Section 3005(c) of RCRA, as amended, and were termed loss of interim status (“LOIS”) provisions.

Facilities that were in existence on November 8, 1984, and that failed to apply for a permit, have lost interim status. Facilities that applied for a permit by the deadline can continue to operate until the EPA/State issues or denies the permit.

In contrast, some facilities were not subject to Subtitle C permitting on or before November 8, 1984, but were in existence on the effective date of statutory or regulatory amendments that rendered the facility subject to Subtitle C permitting (e.g., facilities that manage mixed waste only; facilities that managed waste exhibiting the characteristic of toxicity using the toxicity characteristic leaching procedure (TCLP) only). For land disposal facilities, owner/operators are required to submit a Part B permit application within 12 months after the date on which the facility became subject to Subtitle C permitting. (40 CFR 270.73(d)) For all other existing facilities, however, the regulators must request the Part B permit application.

## What is Required for a Part B Permit?

- The information requirements of the Part B permit application (40 CFR 270.14 through 270.27) are tied to TSDF performance standards in 40 CFR 264.
- To obtain a permit, facilities must prepare a permit application that addresses general facility requirements and design and operating standards established in 40 CFR 264.
- After a period of review and modification, EPA/State can issue a Part B permit.

The requirements directing the information that must be submitted in a Part B permit application can be found in 40 CFR 270.14 through 270.27. These requirements can be viewed as two components: (1) general information requirements (40 CFR 270.14), and (2) unit-specific information requirements (40 CFR 270.15 through 270.27). The information required by these components addresses the general facility requirements and design and operating standards established in 40 CFR part 264.

There are seven key steps in the Federal permitting process. These include:

- Preparing the application
- Conducting a pre-application meeting
- Submitting the permit application (Parts A and B)
- Reviewing the permit application
- Preparing the draft permit
- Taking public comment
- Finalizing the permit

Other than the first step, which entails each facility preparing its own application, Federal RCRA hazardous waste management permit (Part B) applications follow the “Procedures for Decisionmaking” prescribed in 40 CFR Part 124. EPA/States review the content of each Part B application (which is described on the following slides) and decide to approve or deny the permit application



## Contents of Part B: General Requirements

- Description of facility and location
- Copy of operator training program
- Closure plan and cost estimate
- Inspection schedule
- Chemical and physical analysis of wastes
- Detailed topographic map
- Detailed groundwater protection information
- Groundwater monitoring information

Among the most important items are the closure plan and the groundwater information. Both sets of information require extensive documentation as described in 40 CFR Parts 264 and 265.

The above list is only a short outline of the general requirements of the Part B permit content. You should consult the regulations to determine the full scope of the content requirements. See 40 CFR 270.14.

## Closure Plan

- Performance standards for closure include:
  - minimize need for further maintenance
  - control, minimize, or eliminate contaminant escape
  - comply with specific standards for each facility type
- Closure must comply with a detailed closure plan and schedule approved by EPA or the State
- Equipment, structures, and soils must be disposed of or decontaminated OR
- Post-closure monitoring and maintenance must be performed for at least 30 years

Closure and closure planning deficiencies have been a source of significant violations in DOE; therefore, we will briefly focus on them.

RCRA regulates the active life of a hazardous waste management unit, but RCRA's requirements do not end when the facility is taken out of service. In fact, specific requirements must be met to take a unit out of service (i.e., close the unit). Closure of the unit must be conducted according to an approved closure plan. A Professional Engineer must certify that closure was according to the plan.

Closure can be conducted under interim status or Part B-permit standards. For facilities that obtained a Part B permit, the closure plan was incorporated and approved as a part of the permit.

Closure can involve decontaminating and/or disposing of all structures associated with the unit. Such closure is referred to as clean closure, subsequent to which RCRA requires no further monitoring or management. Although the precise meaning of decontamination is currently determined on a case-by-case basis, if structures or equipment are destined for land disposal, hazardous debris treatment technologies (e.g., chemical extraction) that result in a "clean debris surface" may be appropriate.

If, however, wastes remain in the unit (as they likely would remain in a landfill), RCRA requires management of the unit under a post-closure care permit. Facilities must monitor for releases from the unit and maintain the closed unit during a performance period of at least 30 years. A release occurring during that period would result in extension of the post-closure care period.

## Contents of Part B: Specific Requirements

- Containers (40 CFR 270.15 for 264 Subpart I)
- Tank systems (40 CFR 270.16 for 264 Subpart J)
- Surface impoundments (40 CFR 270.17 for 264 Subpart K)
- Waste piles (40 CFR 270.18 for 264 Subpart L)
- Land treatment facilities (40 CFR 270.20 for 264 Subpart M)
- Landfills (40 CFR 270.21 for 264 Subpart N)
- Incinerators (40 CFR 270.19 for 264 Subpart O)
- Drip Pads (40 CFR 270.26 for 264 Subpart W)

40 CFR Part 270 covers the permit program for TSDFs. Part 270 is closely linked with 40 CFR Part 264, which describes the operational, design, and closure standards for various types of TSD units. The permit application is a documentation of facility operations including the means of complying with standards in 40 CFR 264. To illustrate the connection between Part 264 and Part 270, consider two examples:

Part 270.17 requires that operators submit information about how surface impoundment liners and cover systems will be inspected to ensure compliance with Part 264 inspection requirements.

40 CFR 264.177 requires that incompatible wastes not be stored in the same container unless certain precautions are taken that prevent accidental ignition or reaction of ignitable or reactive wastes. The permit requirement specific to containers in 40 CFR 270.15 requires that a description of the procedures used to ensure compliance with 40 CFR 264.177 be included in cases in which incompatible wastes are stored or otherwise managed in containers.

## Contents of Part B: Specific Requirements (cont'd)

- Process vents (40 CFR 270.24 for 264 Subpart AA)
- Equipment (40 CFR 270.25 for 264 Subpart BB)
- Air emission controls for tanks, surface impoundments, and containers (40 CFR 270.27 FOR 264 Subpart CC)
- Containment Buildings (40 CFR 264 Subpart DD)
- Munitions and Explosives Storage (40 CFR 264 Subpart EE)

Any facility that uses one or more of the units listed above (including those on the previous slide) must submit detailed information regarding the design, construction, operation, and maintenance of that unit in addition to the general content requirements described in 270.14.

Recent amendments to the permitting information requirements explicitly list the type of information that must be submitted by owners and operators of tanks, surface impoundments, or containers that are used to manage hazardous wastes possessing average volatile organic concentrations equal to or greater than 500 ppmw. (61 FR 59953, 59972) The required Part B application information focuses on documenting the types of control devices used to manage volatile organics.

## Subpart X: Miscellaneous Units

- Covers technologies not covered by other standards such as
  - geologic repositories
  - open detonation units
- Allows permitting based on specific design, operating, and monitoring requirements to be determined case-by-case
- Requires unit-specific permitting information under 40 CFR 270.23 for 264 Subpart X

For hazardous waste management units that are not identified on the previous pages, facilities may seek a permit under Subpart X. Subpart X does not define design and operating standards. Instead, it requires that the TSDF meet the performance standard of protecting human health and the environment. In order to comply with the standard, permit applicants must demonstrate that the design and operating standards defined in the permit application are adequate to prevent releases to all environmental media. Thus, Subpart X permit applications can be more complex than conventional permit applications. On the other hand, Subpart X allows permitting of TSD activities that, because of a lack of definition of design and operating requirements, could not otherwise obtain a permit.

## Subpart X: Miscellaneous Units (cont'd)

- Requires analysis to prove that the design/operating parameters prevent releases that could have adverse affects
- Must consider:
  - waste volume and characteristics
  - hydrogeologic setting
  - groundwater flow
  - groundwater and land use
  - potential migration of released waste constituents through all pathways

Subpart X permitting requires pathways analysis and risk assessment as tools to prove that the performance standard can be met with proposed design and operating procedures.

## Are there other types of permits?

- Permits-by-rule
- Emergency permits
- Hazardous waste incinerator permits
- Land treatment demonstration permits
- Permits for boilers and industrial furnaces burning hazardous waste
- Interim permits for UIC wells
- Research, development, and demonstration permits
- Post-closure permits

**Permit-by-rule:** EPA issues permits under a number of different statutes. To avoid duplication of permit requirements, a permit-by-rule may be issued that eliminates the need for facilities to submit a full Subtitle C permit application when they are permitted under the Safe Drinking Water Act [underground injection control (UIC) permit]; Clean Water Act (NPDES permit); or the Marine Protection, Research, and Sanctuaries Act (Ocean Dumping permit). Facilities that have one of these permits need only meet a subset of the Subtitle C regulatory requirements.

**Emergency permits:** Subtitle C permitting is a lengthy process. In potentially dangerous situations that require immediate action, EPA can forego the normal permitting process. A temporary (90 days or less) permit may be issued to an unpermitted facility or to a permitted facility conducting emergency activities not covered by its existing permit.

**Hazardous waste incinerator permits, land treatment demonstration permits, and permits for boilers and industrial furnaces burning hazardous waste:** Normally, EPA issues permits to construct and operate new hazardous waste management facilities. Such facilities cannot be constructed until the permit is issued. The three types of units listed here are exceptions to this rule. Each must go through a trial period during which their ability to perform properly is tested. Owners/operators must obtain temporary permits that are enforced during this trial period.

**Interim permit for UIC wells:** The regulatory authority may issue a permit for a Class I UIC well (as defined in the Safe Drinking Water Act) within a State in which no UIC program has been approved or promulgated. Permit terms are not to exceed two years.

**Research, development, and demonstration permits:** A regulatory authority may issue such a permit for any innovative technology or process for which permit standards have not been developed in 40 CFR Part 264 or 266.

**Post-closure permits:** Land disposal facilities that leave wastes in place when they close must obtain a post-closure permit, specifying the requirements for proper post-closure care.

## What occurs during the permit process?

- Preparing the application
- Conducting a pre-application meeting
- Submitting a permit application
- Reviewing the permit application
- Preparing the draft permit
- Taking public comment
- Finalizing the permit

The permit process is comprised of the seven key steps listed above, of which we have discussed the content to be addressed when preparing the application. Some facilities are subject to expanded public participation provisions. For these facilities, the applicant must hold at least one meeting with the public prior to submitting the Part B application. Pre-application meeting information (e.g., a summary, list of attendees, written comments) is submitted as an element of the Part B application.

After the permit application has been submitted, the regulator (and the public) review it for completeness. If it is considered incomplete, a notice of deficiency is sent to the applicant describing the additional information required in the application. After these omissions have been corrected, the application is considered complete and an in-depth evaluation of the application can begin.

If the regulators, after evaluating the application, decide to deny the permit, a letter of intent to deny is sent to the owner or operator. Otherwise, a draft permit is prepared. The draft permit includes technical requirements and other conditions applicable to the facility's operation. These other conditions include: general requirements, such as complying with all conditions of the permit; notifying EPA/State of planned alterations to the facility;

providing EPA/State with relevant information on request; and certifying annually that a program is in place to reduce the volume and toxicity of waste; and

case-by-case requirements, including schedules to bring facilities into compliance with corrective action schedules and specification of permit duration.

To inform the public that the permitting process is taking place, EPA/State issues a statement of basis/fact sheet. These contain detailed information pertaining to the facility, the contents of the draft permit (or notice of intent to deny), and the procedures to be used in reaching the final administrative decision on the permit application. The public is given a period of 45 days to comment on both draft permits and notices of intent to deny. In some cases a public hearing may also be held. If substantial issues are raised during the comment period, the regulators must reopen/extend the comment period.

After the comment period closes, a response to all public comments is made and the regulators decide whether to issue the permit. Decisions may be appealed up to the level of judicial review.



## Public Involvement

- The public must be notified at least 30 days prior to pre-application meetings.
- Regulators notify the public of the application.
- The public must be notified (by the regulators) and allowed at least 45 days to comment on a draft permit/application denial.
- The public must be notified (by the regulators) at least 30 days before a public hearing.

Requirements for public involvement are outlined in 40 CFR 124.10. Additional procedures applicable to RCRA permits are outlined in 40 CFR Part 124, Subpart B. With the exception of applicants notifying persons of the pre-application meeting, notification is provided by the regulators and is sent to:

Federal, State, and/or local agencies; and

- Persons that expressed an interest/participated during previous permitting activities.

Notice is provided using newspaper advertisements, visible and accessible signs posted at or near the facility, and broadcasts on the local radio or television stations.

## Public Involvement (cont'd)

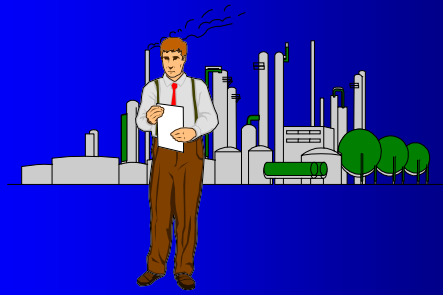
- Any interested person may submit written comments.
- A written request stating the issues to be raised at the hearing must be submitted for a public hearing.
- Public comment may be reopened to expedite the decision-making process.
- The public must be notified of final permit decisions.
- Permits are effective 30 days after notification of the decision to grant the permit.

These requirements for public comment are outlined in 40 CFR 124.11.

Reopening provisions are outlined in 40 CFR 124.14.

Permit issuance and effective date requirements are outlined in 40 CFR 124.15.

OK, I've got my permit and I'm all set for the next 10 years . . . Right?



Permit Modifications (OR Nothing Stays the Same) (40 CFR 270.41)



- Alterations of facility or activity
- Availability of new information that would have justified the application of different permit conditions
- New requirements
- Good cause (i.e., act of God, strike, etc.) to modify compliance schedules

Once a permit is issued, the facility must comply with its specific requirements and conditions. Deviations from the permit constitute a violation, yet many changes can occur during the term of a permit. For example, regulatory and operational changes could result in the management of a waste not identified in the permit. To be in compliance, facilities must seek permit modifications so that the permit reflects facility activities.

In addition to the causes listed above, a regulatory authority may also modify a permit in lieu of terminating it for any of the reasons listed in 40 CFR 270.43 (i.e., noncompliance with permit, failure of permittee to disclose facts, misrepresentation of facts, or permitted activity that is deemed to threaten human health and the environment).

## Classes of Modifications: Examples

- CLASS 1
  - Administrative and informational changes
  - Equipment replacement or upgrade
- CLASS 2
  - Changes in number, location, depth, or design of wells
  - Extension of the post-closure care period
- CLASS 3
  - Reduction in post-closure care period

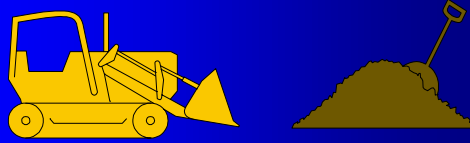
In some cases, the owner or operator must seek a modification of the permit to remain in compliance for any change at the permitted facility that constitutes a change in the terms or conditions of the permit. 40 CFR 270.42

The three classes of permit modification correspond to the importance of the proposed change. Class 1 is least important, and Class 3 is most important. Appendix 1 to 40 CFR 270.42 provides a list of types of changes with a class number for each. The appendix is divided into categories of changes and lists particular changes within them. For instance, if you wanted to know what class of modification is associated with a change in the addition of surface impoundment units you would look under Surface Impoundments and find that such a change is a Class 3 modification. If a modification is not among those listed, it must be considered a Class 3 modification unless EPA/State approves its designation as Class 1 or 2.

The classification of the modification is important because it defines the complexity of the process of obtaining the modification. For example, a Class 1 modification requires notification of parties on the facility mailing list and appropriate State/local governments. On the other hand, a Class 3 modification requires, in addition, publication of the intent to modify the permit in a major local newspaper.

## What Else Does the Permit Require?

### Corrective Action For Solid Waste Management Units (SWMUs)



To obtain a RCRA permit, an operating hazardous waste management facility must provide information to EPA on whether any of its solid waste management units (SWMUs), whether closed or in active use, are releasing hazardous constituents. Owners and operators of TSDFs are required to take corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any SWMU at the facility, regardless of when waste was placed in the unit. (Before HSWA was enacted, waste management units that no longer received waste after January 26, 1983, were not considered regulated units and leakage from any unregulated unit was not subject to cleanup requirements. The 1984 amendments closed this loophole.)

40 CFR 264.101 states that corrective action for SWMUs will be specified in the permit, and that the permit will contain schedules of compliance for corrective action (where such corrective action cannot be completed before issuance of the permit). In addition, the owner/operator is responsible for implementing corrective actions beyond the facility boundary where necessary. The next module will explore RCRA corrective action and compare and contrast RCRA cleanup requirements against response actions taken under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

### What Is A SWMU?

Any discernible unit where any solid waste was placed at any time and from which hazardous constituents are being released.

A solid waste management unit can be any discernible unit including any tank, lagoon, waste pile, or other unit where any solid waste was placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste and from which hazardous constituents are being released.

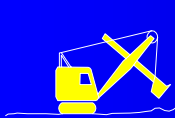
## How Are SWMUs Cleaned Up?

- A permit or, for interim status facilities, an enforcement order imposes corrective action (i.e., cleanup) requirements
- Permits must contain schedules of compliance to address releases
- Corrective action efforts around the country may encompass thousands of TSDFs

40 CFR 264.101 states that corrective action for SWMUs will be specified in the permit, and that the permit will contain schedules of compliance for corrective action (where such corrective action cannot be completed before issuance of the permit). In addition, the owner/operator is responsible for implementing corrective actions beyond the facility boundary where necessary.

A separate set of requirements exists for a subset of SWMUs called “regulated units.” These are any surface impoundment, waste pile, land treatment unit, or landfill that received waste after July 26, 1982. For this subset, the regulations are found in 40 CFR 264.91 through 264.100. They require the owner or operator to conduct a groundwater monitoring and response program to ensure that hazardous constituent concentrations specified in the permit are not exceeded.





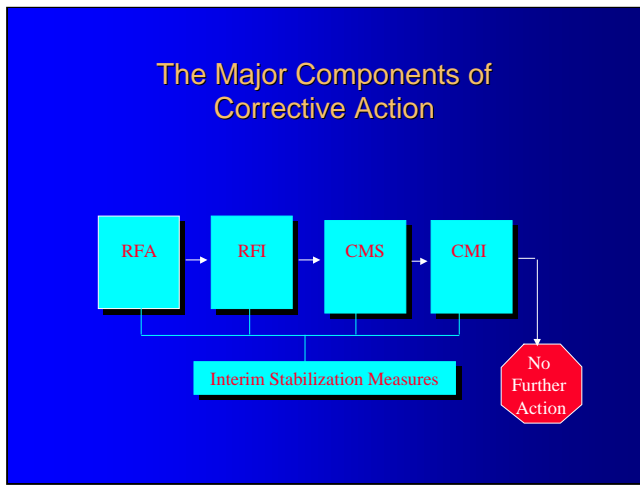
### What Are The Primary Corrective Action Authorities?

- 3004(u) gives EPA the authority to require corrective action for past releases
  - applies to all facilities seeking a permit
  - RCRA permits contain compliance schedules for corrective action
- 3004(v) also gives authority to require corrective action beyond the facility boundary
- 3008(h) provides for corrective action at interim status facilities

RCRA section 7003 also compels addressing imminent and substantial endangerment, which could necessitate cleanup. Section 7003 is a broad RCRA authority and does not just address permitted facilities.

What Are The Steps In The Corrective  
Action Process?

How Do These Steps Compare To  
Those In CERCLA (i.e., Superfund)?



The RCRA corrective action process is similar to that under CERCLA. The four RCRA corrective action components are discussed below:

**RCRA Facility Assessment (RFA):** The major objectives of the RFA are to identify SWMUs and collect existing information on contaminant releases and to identify releases or suspected releases needing further investigation. The findings of the RFA will result in one or more of the following actions:

- No further action under the RCRA corrective action program is required because no evidence of a release or suspected release was identified.
- A RCRA Facility Investigation (RFI) by the facility owner or operator is required where the information collected indicates a release or suspected release.
- Interim stabilization measures by the owner or operator are required where the regulatory agency believes that expedited action should be taken to protect human health or the environment.

In cases where problems associated with permitted releases are found, the regulatory agency will refer such releases to the appropriate permitting authorities.

**RFI:** If the RFI is necessary, the investigation will be carried out by the owner or operator under a permit schedule of compliance or under an enforcement order. The RFI can range widely from a small specific activity to a complex multimedia study. The RFI step also includes interpretation by the regulatory agency of release characterization data against established health and environmental criteria to determine whether a Corrective Measures Study is necessary. Finally, the RFI step also allows for interim stabilization measures if a threat of exposure to hazardous constituents is identified. Both the owner/operator and the regulatory agency have a continuing responsibility to respond to emergency situations.

<i>RCRA</i>	<i>CERCLA</i>
● RCRA Facility Assessment	● Preliminary Assessment/Site Investigation
● RCRA Facility Investigation	● Remedial Investigation
● Corrective Measures Study	● Feasibility Study
● Permit Modification	● Record of Decision
● Corrective Measures Implementation	● Remedial Design/Remedial Implementation

**Corrective Measures Study (CMS):** During this step the owner or operator will identify and recommend specific measures that will correct the release. Information generated during the RFI will be used not only to determine the potential need for corrective measures, but also to aid in the selection and implementation of corrective measures.

**Corrective Measures Implementation (CMI):** This step includes designing, constructing, operating, maintaining, and monitoring selected corrective measures. If the remedy is not properly implemented, EPA will direct the facility to take additional action on a site-specific basis.

The CERCLA process has similar steps. However, decisions are documented in a record of decision rather than a permit.

## Regulatory Requirements for Corrective Action

- Proposed rule July 27, 1990
- Creates new subpart - 40 CFR 264 Subpart S
- Would establish new comprehensive regulatory framework for 3004(u) and (v) addressing both procedural and substantive requirements

Although HSWA greatly expanded corrective action authorities for both permitted and interim status RCRA facilities, EPA has still not established a comprehensive regulatory framework for implementing corrective action authority. Consequently, facilities must comply with corrective action requirements but have little of substance in regulation to help them comply.

RCRA facilities are generally brought into the corrective action process when the permitting authority considers issuing a permit. The proposed rule would create a flexible approach based on site-specific analyses to address cleanup of releases identified in the investigation phase of the RCRA corrective action process. Any required cleanup that could not be done before issuing a permit would be incorporated in the permit.

The July 27, 1990 (55 FR 30798) notice proposes a comprehensive regulatory framework to be used for implementing corrective action. As clarified by EPA in a guidance directive entitled RCRA Corrective Action Plan (OSWER Directive 9902.3-2A, May 31, 1994), this Subpart S proposal was, until a May 1, 1996 notice (61 FR 19432) was issued, EPA's most authoritative policy statement on corrective action.

## Corrective Action Management Units and Temporary Units

- First phase of corrective action final rule published Feb. 16, 1993
- Established a practical regulatory structure for managing remediation wastes at TSDFs
- Provides relief from land disposal restrictions and minimum technology requirements (MTRs)

The corrective action management unit (CAMU)/temporary unit (TU) rule is the first phase of implementing the RCRA corrective action provisions proposed July 27, 1990.

A CAMU is an area within a facility that is designated by a regulatory authority for the purpose of managing wastes generated during remedial activities (i.e. remediation wastes) under 40 CFR 264.101 and RCRA Section 3008(h). A TU consists of tanks and container storage units that are used only to manage remediation waste and for which the regulatory authority may replace the Subtitle C design, operating, or closure standards with alternative requirements.

CAMUs would not have to meet MTRs, which are requirements for liners and leachate collection systems for land disposal facilities.

### EPA's Subpart S Initiative

- Published May 1, 1996 (61 FR 19432)
- Introduces EPA's strategy for promulgating Subpart S
- Provides context for corrective action revisions
- Emphasizes flexibility in current program

The Subpart S initiative presented in the May 1, 1996 (61 FR 19432) proposal (1) introduces EPA's strategy for promulgating corrective action regulations, (2) provides a context for potential revisions to the corrective action program, and (3) emphasizes areas of flexibility in the current program and describes program improvements currently underway or being considered.

EPA's Subpart S Initiative has five objectives:

1. Create a consistent, holistic approach to cleanups at RCRA facilities.
2. Establish protective, practical cleanup expectations.
3. Shift more responsibility for achieving cleanup goals to the regulated community.
4. Focus on opportunities to streamline and reduce costs.
5. Enhance opportunities for timely, meaningful public participation.

Thus, the 40 CFR 264 Subpart S program may undergo substantial comment potentially resulting in program modifications before it is finalized.

### Other Regulatory Initiatives Affecting Corrective Action: HWIR-Media Rule

- Proposed April 29, 1996 (61 FR 18780)
- Will affect contaminated media (e.g., soil, groundwater, and sediment) from cleanup
- May revise land disposal restrictions, minimum technological requirements (MTRs), and permitting for contaminated media disposal
- Intended to provide flexibility to tailor requirements for managing contaminated media to risks

The Hazardous Waste Identification Rule (HWIR) for Contaminated Media (referred to as the HWIR Media Rule) proposed April 29, 1996 (61 FR 18780) is a regulatory reform proposal that re-examines the application of many of the RCRA hazardous waste treatment and management standards to contaminated environmental media managed during EPA or authorized state-overseen cleanups. The options being considered would allow program implementors to tailor treatment and management requirements for contaminated media to site- and media-specific conditions.

The first major area of reform under consideration is revision of LDR, minimum technological requirements (MTRs), and permitting requirements that apply to contaminated media by making them more appropriate for the types of contaminated media and concerns at cleanup sites. MTRs include liners and leachate collection for land-based disposal units such as landfills, surface impoundments, and waste piles.

EPA is also considering exempting some contaminated media from RCRA Subtitle C hazardous waste management requirements. EPA proposes using a set of constituent concentrations known as a "Bright Line" to divide the media that would and would not be eligible for an exemption from full Subtitle C regulation. EPA is also considering a conditional exclusion that would allow authorized states or EPA to set all management and treatment requirements for cleanup wastes on a site-specific bases (see 61 FR 18787 of the HWIR Media proposal and 61 FR 19438 of the Subpart S proposal).

EPA expects that the HWIR Media Rule will largely obviate the need for the CAMU rule and proposed withdrawal of the CAMU regulations as part of the HWIR-Media proposal (refer to 61 FR 18829 of the HWIR Media proposal and 61 FR 9437 of the Subpart S proposal).



### Other Regulatory Initiatives Affecting Corrective Action: Post-Closure Proposal

- Proposed November 8, 1994 (59 FR 55778)
- Would add options in addition to post-closure care permits at closing interim status facilities
- Provides alternatives to post-closure care permits such as state cleanup authorities or CERCLA authority
- Would not otherwise modify the applicable cleanup requirements for these facilities.

Post-closure permits are required for TSDFs that cannot remove all wastes at the time of closure. EPA proposes to provide greater flexibility in ensuring monitoring and cleanup of such units. State and federal cleanup authorities are proposed as alternatives to a RCRA post-closure care permit to define monitoring and cleanup requirements.

In addition, the proposed rule will affect state authority. States have never been required to obtain authority to address corrective action at interim status facilities. The November 8, 1994 notice proposes requiring that states upgrade their judicial or administrative enforcement authority to respond to releases of hazardous waste or hazardous constituents at interim status facilities as provided in RCRA Public Law Section 3008(h).

## Legislative Initiatives Affecting Corrective Action

- Land Disposal Program Flexibility Act of 1996
- Superfund reauthorization
- Superfund reform initiatives

The Land Disposal Program Flexibility Act exempts certain characteristic hazardous waste generated from cleanup from LDR point-of-generation requirements. Typically, wastes are subject to LDR requirements from the point of generation. Under the new law, characteristic wastes are exempt from most RCRA requirements provided they are managed in treatment systems whose ultimate discharge is regulated under the CWA, a CWA-equivalent treatment system, or a Class I nonhazardous injection well, and they are no longer characteristic wastes at the point of disposal. The practical impact of the law is to exempt characteristic media waste from administrative regulatory requirements while still imposing the protection achieved by treating the waste before land disposal.

Congress is considering Superfund reauthorization. Possible changes include new approaches to setting cleanup standards and factoring risk into remedial decisions. Because EPA intends to keep parity between the Superfund and RCRA corrective action requirements, amendments to the Superfund program are likely to affect RCRA corrective action.

Similarly, Superfund administrative reform initiatives already underway are also likely to affect corrective action. Examples of such initiatives are (61 FR 19439):

consideration of land use in risk assessment, development of remedial alternatives, and remedy selection (refer to EPA Directive issued May 25, 1995, "Land Use in the CERCLA Remedy Selection Process");

soil screening guidance to accelerate decision making at cleanup sites (refer to draft "Superfund Soil Screening Guidance," December 1994); and

- presumptive remedies (i.e., preferred technologies for common categories of cleanup sites based on historical patterns of remedy selection).

## What Could Corrective Action Mean For You?

- RCRA imposes requirements for cleanup that could apply to CERCLA wastes.
- RCRA and CERCLA do not replace each other.
- RCRA corrective action and closure, as well as CERCLA response actions can all apply.
- Therefore, RCRA corrective action can contribute to uncertainty over which agency is in the lead and which requirements must be met.

This uncertainty is usually resolved through federal facility agreements that may assign responsibility of different areas of concern to different authorities.

## Permitting in Summary

- RCRA provides two avenues for operation: interim status and final (part B) permitting.
- The permit establishes the conditions of operation for TSDFs.
- Permit requirements in 40 CFR Part 270 are tied to facility standards in 40 CFR Part 264.
- Permitting goes through a seven-stage process that affects regulator, permittee, and public.
- RCRA contains provisions for permit modifications.
- Permittees must consider corrective action.