Comprehensive Guide to **RCRA Hazardous Waste Compliance**

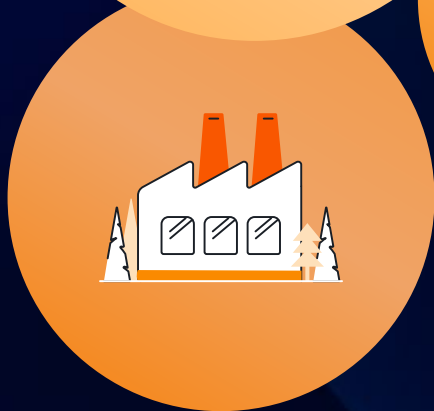# Table of Contents

Introduction

Encamp helps EHS teams bring together everything needed to understand, manage, and comply with environmental compliance requirements.

We created a unified data system for environmental information. This system drives continual compliance. To date, we have filed over 50,000 EPCRA and RCRA compliance reports.
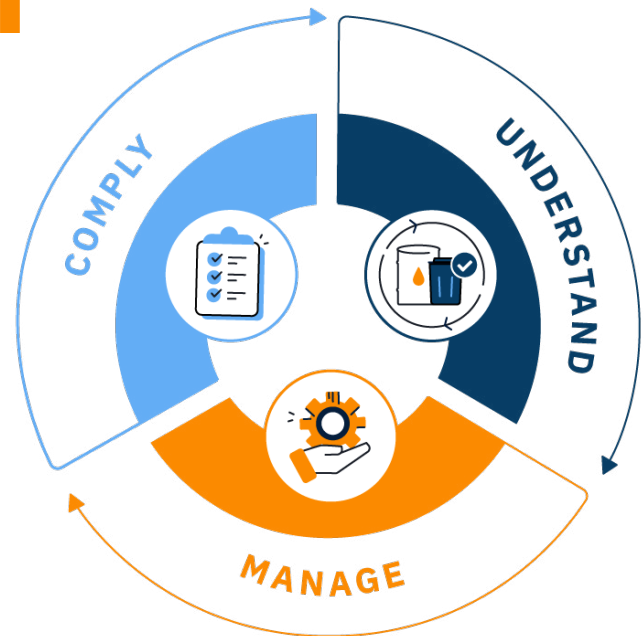
Understand

- Who you need to speak with.
- What regulations apply to your operations.
- What chemicals you have on-site.
- What waste your site generates.

Manage

- Data creation to set yourself up for reporting success.
- The systems in which this data is kept.
- Processes for regular data collection.
- Waste Containers and required recordkeeping.

Comply

- With the applicable regulations and reporting requirements.
- With your internal best practices.

Welcome

The Resource Conservation and Recovery Act (RCRA) is a U.S. federal law designed to ensure that both solid and hazardous waste is managed in a way that protects human health and the environment. The RCRA framework is critical because it emphasizes that businesses are legally responsible for generated waste throughout its lifecycle. Compliance with RCRA is critical for businesses because failure to meet its standards can lead to severe fines and legal penalties.

Purpose of the Guide

RCRA compliance can be both confusing and challenging and a thorough understanding is essential for staying compliant, avoiding fines, and minimizing environmental impact. This guide will help you understand federal and state-level RCRA requirements by outlining the steps needed to complete your reporting and providing specific state-by-state requirements. Plus, it will give you tips to help streamline your data, simplify reporting, and boost accuracy.

Understanding RCRA

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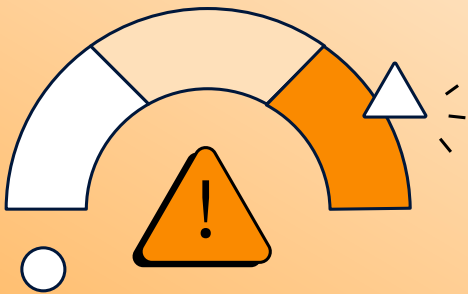
What is RCRA?

RCRA stands for the Resource Conservation and Recovery Act, found in 40 CFR parts 239-282. It provides the framework for the proper management of solid waste, including hazardous and non-hazardous waste. RCRA defines what is considered hazardous waste, and gives different reporting requirements based on the amount of waste your business generates – also known as a "generator status." RCRA helps reduce dependency on U.S. landfills, promotes "reduce, reuse, recycle," emphasizes conservation of energy and natural resources, and protects human health and the environment from hazardous materials.

Key Provisions of RCRA

There are several provisions given by RCRA, we will outline some of the major points below:

- **Subtitle C:** Hazardous Waste Management and Classification: Defines hazardous waste and requires it be managed responsibly every step of the way, from the moment it is created until it is safely disposed of. This "cradle to grave" approach requires waste to be managed from generation (cradle) to the point of final disposal (grave). Subtitle C helps businesses safely manage their hazardous waste by setting clear rules for handling, transporting, and disposing of waste.

- **Subtitle D:** Non-Hazardous Solid Waste Management: Sets the basic guidelines for handling non-hazardous waste – think everyday household trash, municipal waste, and certain industrial wastes. Subtitle D focuses on keeping communities safe. States can employ more stringent requirements on hazardous waste or create State Hazardous Wastes in addition to these requirements.

- **Subtitle I:** Underground Storage Tanks (UST): Regulates underground storage tanks that contain hazardous materials, like petroleum, to prevent leaks that could harm groundwater. The UST program sets requirements for design, installation, maintenance, and monitoring of tanks such as leak detection and corrective action measures.

What is considered hazardous waste under RCRA?

Once a waste is determined to meet the definition of a Solid Waste then it can be evaluated to see if it is a Hazardous Waste. First, waste may be hazardous if it exhibits one or more of four characteristic properties: ignitability, corrosivity, reactivity, or toxicity. Second, waste may be specifically listed as hazardous under F, K, U, or P-codes in the regulations.

Understanding these characteristics is crucial for proper waste determination and management. The following table outlines the specific criteria for each characteristic waste:

D001: Ignitability	D002: Corrosivity	D003: Reactivity	D004-D043: Toxicity
• Liquids with flashpoint below 60°C (140°F) • Ignitable compressed gases • Flammable solids • Oxidizers	• Aqueous wastes • Have a pH of less than or equal to 2 or greater than or equal to 12.5 • Can also be classified by their ability to corrode steel	• Unstable under normal conditions • React with water • Give off toxic gases • May detonate or explode under normal conditions or when heated	• Determined through analysis by Toxic Characteristics Leaching Procedure (v) lab analysis • Harmful to humans when ingested or absorbed • Risk of groundwater contamination when landfilled and contaminants leach from the waste • List of specific chemicals

Hazardous Waste Characteristics

Ignitability

Corrosivity

Reactivity

Toxicity

Listed

Hazardous Waste Identification
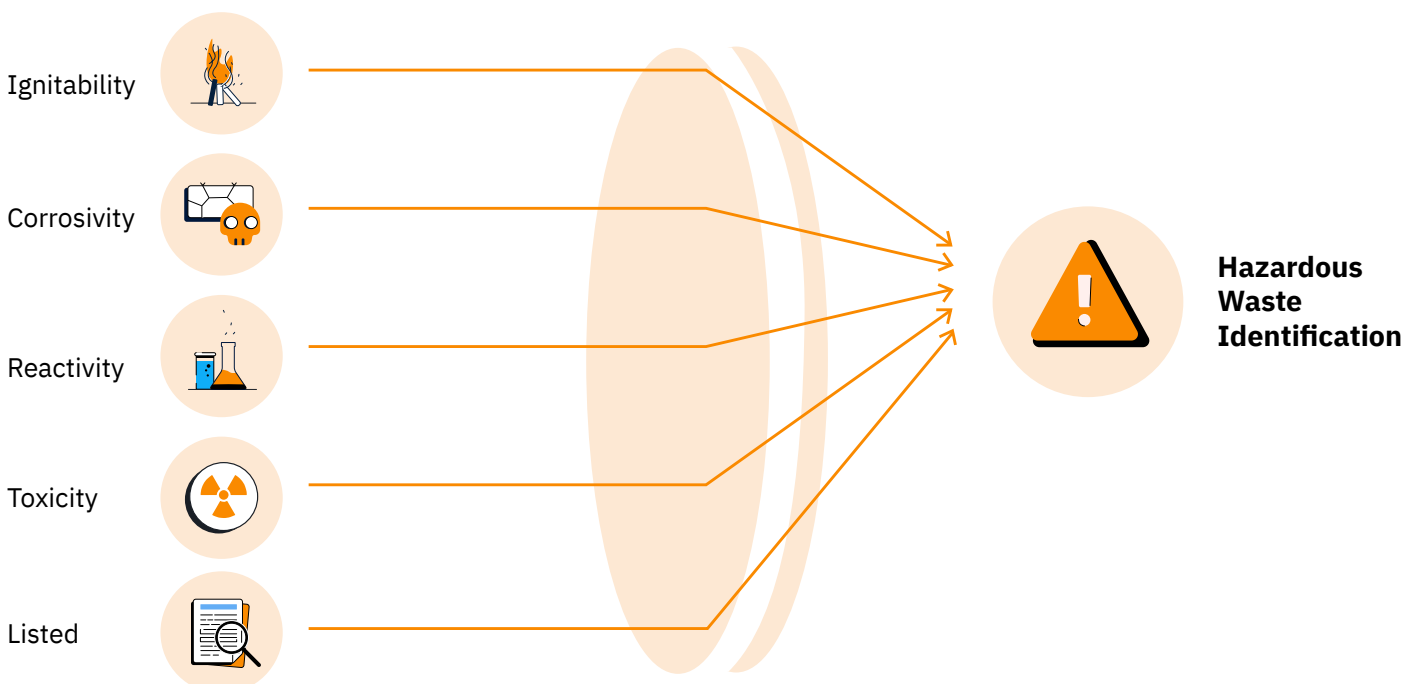
Listed Hazardous Wastes Under RCRA

Under RCRA regulations, a waste may be classified as hazardous if it appears on one of four specific lists designated by the EPA (F, K, P, and U lists). Understanding these classifications is essential for proper waste management and regulatory compliance.

F-listed wastes originate from non-specific sources, meaning these wastes are generated by common manufacturing and industrial processes across multiple sectors. For example, F001 designates spent halogenated solvents used in degreasing operations, while F006 covers wastewater treatment sludges from electroplating operations.

K-listed wastes are source-specific, meaning they come from particular industries and specific processes within those industries. To qualify as a K-listed waste, the material must fit into one of 13 designated industrial categories and match the specific process description in the regulations.

P-listed wastes are considered acutely hazardous, while U-listed wastes are designated as toxic but not acutely hazardous. A key distinction for EHS managers: the listing applies only to unused chemicals. Once used, these materials may still be hazardous waste but would be regulated based on their characteristics rather than their P or U listing.

These lists apply to commercial chemical products being disposed of in unused form.

F-Listed Wastes	K-Listed Wastes	P and U-Listed Wastes
These wastes are categorized into seven groups: 1. Spent solvent wastes 2. Electroplating and metal finishing wastes 3. Dioxin-bearing wastes 4. Chlorinated aliphatic hydrocarbons production 5. Wood preserving wastes 6. Petroleum refinery wastewater treatment sludges 7. Multisource leachate	Major categories include: • Organic chemicals manufacturing • Pesticides manufacturing • Petroleum refining • Inorganic chemicals production • Wood preservation • Iron and steel production • Primary copper, lead, zinc, and aluminum production	These lists apply to commercial chemical products being disposed of in unused form. For a waste to qualify under either list, three criteria must be met: 1. The waste must contain a chemical specifically listed on the P or U list. 2. The chemical must be unused. 3. The chemical must be a commercial chemical product (either 100% pure, technical grade, or the sole active ingredient).

Each listed waste carries a specific EPA hazard code (T for toxic, I for ignitable, C for corrosive, R for reactive, H for acutely hazardous, or E for toxicity characteristic waste). These codes help determine proper handling, storage, and disposal requirements.

For accurate waste determination, EHS managers should always consult the specific waste codes and descriptions in 40 CFR 261. When in doubt about a waste's classification, conservative management as hazardous waste is recommended until proper determination can be made through testing or analysis.

Identifying and Classifying Waste Generators

How do I know my Generator Status?

A hazardous waste generator must determine their generator category based on their monthly hazardous waste generation. Tracking monthly generation is important, not only for initially determining generator category, but to identify if changes in your operations cause a change in your category, typically by generating more or less hazardous wastes.

Federal Generator Category	Generation	RCRA requirements
Very Small Quantity Generators (VSQGs)*	Less than 100 kg (220 lb) of hazardous waste generation and less than 1 kg (2.2 lb) of acute hazardous waste generation per calendar month.	Must properly dispose of waste at a state-approved waste facility. Generally exempt from most RCRA requirements, including manifesting and reporting but a generator should check state and local requirements. Properly manage waste while storing.
Small Quantity Generators (SQGs)	Between 100 kg (220 lb) and 1,000 kg (2,220 lb) of hazardous waste generation and less than 1 kg (2.2 lb) of acute hazardous waste generation per calendar month.	Can keep waste on-site for a maximum of 180 days. Required to use a waste manifest for off-site shipments and keep records for at least 3 years. Must have a basic contingency plan, a designated emergency coordinator, and trained personnel in waste handling. Properly manage waste while storing.
Large Quantity Generators (LQGs)	More than 1,000 kg (2,200 lbs) of hazardous waste generation or more than 1 kg (2.2 lb) of acute hazardous waste generation per calendar month.	Can keep waste on-site for a maximum of 90 days. Required to use a waste manifest and submit biennial reports to the EPA on all waste activities. Must have a formal contingency plan, have designated emergency coordinators on-site, and provide extensive personnel training. Properly manage waste while storing.

States may have more stringent requirements than Federal and may either not recognize VSQGs or create different generator categories.

An EPA ID number is required if your business generates, transports, or manages hazardous waste. To obtain your EPA ID:
1. Determine your generator status.
2. Depending on your state, you may need to complete EPA Form 8700-12 in RCRAinfo, a state-specific paper form, or utilize a state's online environmental system.
3. Pay fees (vary by state) and receive your EPA ID.

Tip: Keep your information up to date: any change in your operations, like generating new waste types or new site management/contacts may require your EPA ID to be updated.

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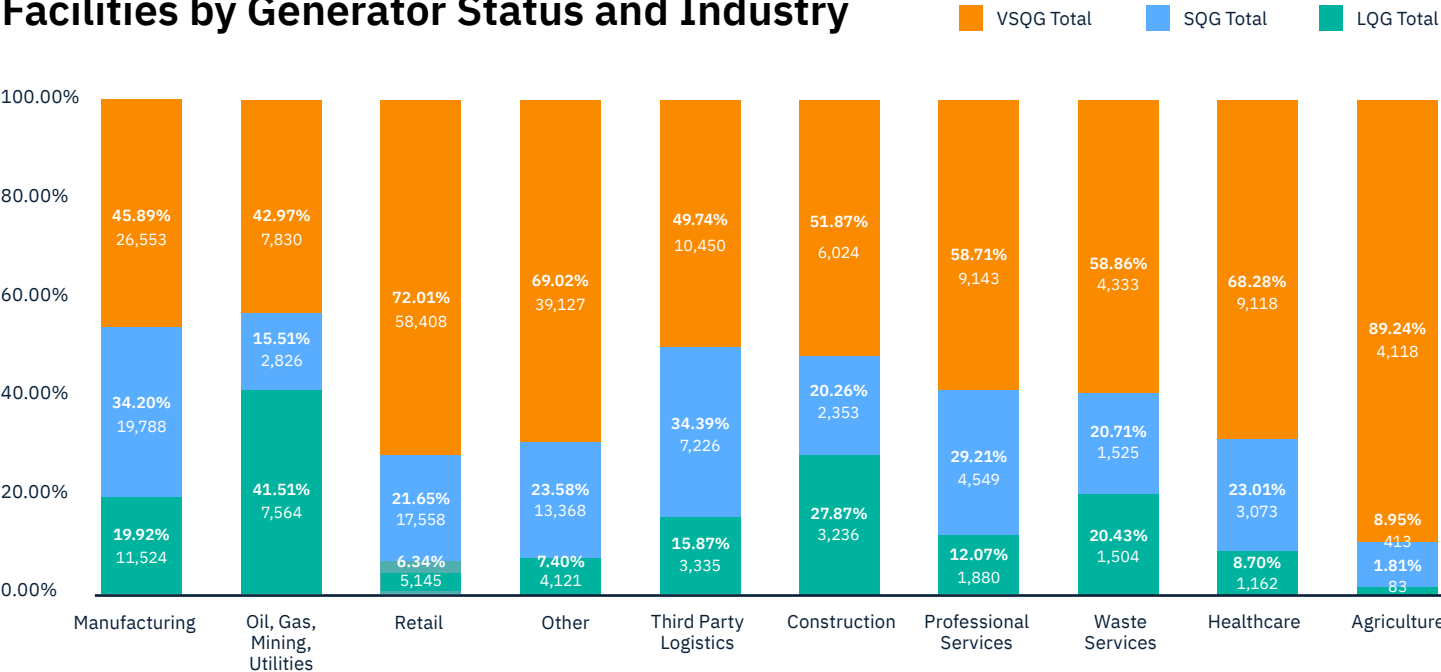
Benchmarking Your Generator Statuses

The chart below, an excerpt from the 2024 State of Environmental Compliance: Benchmarking Report, graphs the total number of LQGs, SQGs, and VSQGs in the RCRAInfo database by industry, offering a broad look at generator share by industry.

This is especially helpful for determining how your organization stacks up compared to the industry overall.

Here are some helpful questions to ask yourself as you digest the data:

1. Is our program on par with the averages for our industry?
2. Do we have a higher concentration of LQGs or SQGs than the rest of our industry?
3. Or, are we leading the pack with environmental stewardship and a higher-than-average percentage of VSQGs?

Facilities by Generator Status and Industry

Legend: VSQG Total, SQG Total, LQG Total

Industry	VSQG Total	SQG Total	LQG Total
Manufacturing	45.89% — 26,553	34.20% — 19,788	19.92% — 11,524
Oil, Gas, Mining, Utilities	42.97% — 7,830	15.51% — 2,826	41.51% — 7,564
Retail	72.01% — 58,408	21.65% — 17,558	6.34% — 5,145
Other	69.02% — 39,127	23.58% — 13,368	7.40% — 4,121
Third Party Logistics	49.74% — 10,450	34.39% — 7,226	15.87% — 3,335
Construction	51.87% — 6,024	20.26% — 2,353	27.87% — 3,236
Professional Services	58.71% — 9,143	29.21% — 4,549	12.07% — 1,880
Waste Services	58.86% — 4,333	20.71% — 1,525	20.43% — 1,504
Healthcare	68.28% — 9,118	23.01% — 3,073	8.70% — 1,162
Agriculture	89.24% — 4,118	8.95% — 413	1.81% — 83

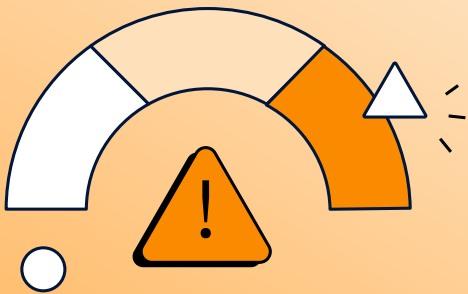Source: **2024 State of Environmental Compliance: Benchmarking Report**

"Retail has a large set of waste streams from returned product. If they cannot reuse it or donate it, it ultimately has to be disposed of. And depending on what it is, this can create pretty large waste streams."

Luke Jacobs, Encamp CEO and Co-Founder

Tracking and Managing Hazardous Waste

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Hazardous Waste Manifests

SQGs and LQGs must use a hazardous waste manifest to track and document the shipment of hazardous waste. Hazardous waste manifests provide detailed tracking systems to follow waste from the moment it leaves your facility to its final disposal destination. These manifests ensure accountability at every step of the waste journey, prevent illegal disposal, monitor waste, and help maintain accurate records, which are often needed for regulatory reporting.

Completing and Using the Manifest:

Typically an organization's vendors or consultants can provide EPA Form 8700-22, commonly referred to as the "Uniform Hazardous Waste Manifest." The form must be filled out by generators with detailed information about the waste such as waste codes, quantity, and type of waste. The forms must also have information about the transporter, and the name and address of the treatment, storage, and disposal facility (TSDF) that will receive your waste. After the form is filled out, copies are sent to the transporter, disposal facility, and retained by the generator for a minimum of 3 years.

Hazardous Waste Electronic Manifest System: The EPA e-Manifest system allows for online submission of waste manifests instead of paper ones. This service can streamline your process, reduce paperwork, and help reduce errors associated with manual recordkeeping. e-Manifest also allows for real-time tracking of your hazardous waste shipments. e-Manifests are required for all facilities that transport hazardous waste across state lines.

Starting January 22, 2025: Large and Small Quantity Generators are required to register for the e-Manifest system through RCRAInfo. States may continue to collect generator and transporter copies of paper manifests, but receiving/disposal facilities will be required to submit on e-Manifest.

Tip: The EPA published the final Third Rule on July 26th, 2024. This new rule requires Small and Large Quantity Generators to request access to e-Manifest, in order to request signed copies of manifests in the event they are needed.

Understanding Transporter Requirements for Hazardous and Solid Waste
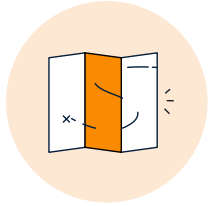
Regulatory Oversight

Transporters of hazardous waste must comply with both EPA and DOT regulations. All transporters must obtain and maintain an EPA identification number. They cannot proceed with transportation without proper documentation and must comply with DOT requirements covering vehicle safety standards, driver qualifications, and emergency procedures.

Packaging and Documentation Standards

Transporters must follow packaging and labeling standards in 49 CFR Part 173, ensuring proper containers, leak prevention, and clear labeling. A hazardous waste manifest must accompany each shipment and cannot be accepted without one. Transporters must sign this manifest upon acceptance and maintain records for a minimum of three years. Any missing or incorrect documentation must be addressed before transportation begins.

Safety and Communication Requirements

Safety protocols include mandatory incident reporting and emergency preparedness. Transporters must immediately notify generators of any discrepancies, spills, or unexpected conditions during transit. A comprehensive emergency response plan must detail specific procedures for handling transportation incidents, including spill response protocols and emergency contact procedures. This plan must be accessible to all relevant personnel and regularly updated.

CHAPTER 4:

Waste Data Management

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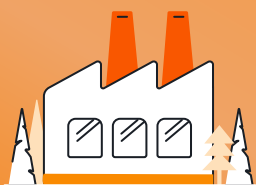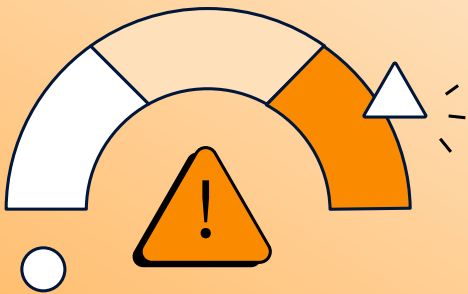
Effective on-site data management is critical for maintaining compliance and ensuring the smooth operation of your waste management program.

To prepare for waste reporting, ensure that your data is managed year round and is reviewed continuously. Follow this infographic to ensure your waste data strategy is optimized for continuous compliance.

Waste Data Management Simplified:
The 5-Step Guide to Continuous Compliance

The Resource Conservation and Recovery Act (RCRA) sets the framework for proper management of hazardous waste by those who generate it, from cradle to grave, in the United States. Compliance with RCRA regulations is not just a legal obligation for generators; it's a critical step in protecting human health and the environment in which companies operate. Non-compliance can result in violations, penalties in the millions of dollars, reputational damage, and environmental harm.

This infographic provides five key steps, and associated activities, to help you lead continuous waste data management, designed to keep your organization compliant and efficient.

Understand
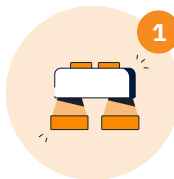
1 **Determine generator status via available data**
- **Understand** your waste generation quantities and continuously assess your status.
- **Accurately** determine your status based on your operations and waste generation.
- **Document** your current status with internal and external parties.
- **Verify** status compliance with federal and state requirements.

2 **Standardize waste data from vendors**
- **Collect** your waste generation data from internal sources.
- **Identify** and gather data from external vendors such as disposal facilities.
- **Standardize** data from all sites consistently across your organization.
- **Ensure** data is comparable between different sources.

Manage

3 **Review Your Manifests**
- **Stay up to date** with e-Manifest requirements.
- **Compare** internal records to e-Manifest data.
- **Identify** any discrepancies between records.
- **Promptly** address inconsistencies .

4 **Manage data on-site**
- **Implement** proper waste storage practices.
- **Correctly label** waste so you know what you have on-site at all times.
- **Maintain** thorough waste documentation.
- **Accurately record** and regularly update on-site waste data.
- **Conduct** inspections regularly.
- **Make** data easily accessible to relevant parties.

Comply
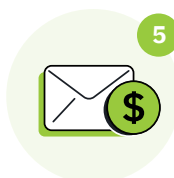
5 **Report submissions and Payments**
- **Identify** what wastes need to be reported in your state.
- **Verify** vendors used at your site/facility and ensure data accuracy and completeness.
- **Manage** fee payments including invoices and mailers.
- **Track** upcoming reporting deadlines.
- **Submit** required reports on time.

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Common Violations:

Compliance inspectors often find violations in waste data as a result of inaccurate recordkeeping, improper classification, and failure to maintain up-to-date records.

Some of the most common issues due to mismanagement of hazardous waste data are:
- Missing, incomplete, or incorrect waste codes or DOT descriptions on manifests
- Incomplete or unavailable reports or notifications
- Missing, incomplete, or incorrect Land Disposal Restrictions
- Labels commonly missing information or illegible
- Improper waste classification of federal or state-specific waste codes
- Open waste containers
- Failing to submit Biennial and state-specific reports by the required deadlines

e-Manifest: What's New and Coming in 2025

Significant changes to the EPA's e-Manifest system are approaching, requiring careful attention from environmental compliance managers. These updates will streamline reporting processes while introducing new electronic requirements that impact facility operations.

Compliance and Correction Protocols

Starting January 22, 2025
The EPA and state agencies will conduct manifest reviews through the e-Manifest system. When corrections are required, facilities must complete these updates within 30 days of notification. This emphasizes the importance of maintaining accurate records and having designated personnel prepared to manage electronic corrections promptly.

Revised Reporting Timeframes

Starting January 22, 2025
LQGs will have expanded timeframes for exception reporting, with initial inquiries required at 45 days and formal reports at 60 days. Additionally, facilities will have 20 days (increased from 15) to address discrepancy reports, providing additional time for thorough investigation and resolution.

Elimination of Paper Documentation

Beginning January 22, 2025
EPA will discontinue the requirement for paper manifest copies to be sent to LQGs and SQGs from destination facilities. These manifests will transition exclusively to the e-Manifest system, necessitating proper system access and user registration for affected facilities.

Electronic Report Submission Requirements

A significant transition occurs on December 1, 2025
When exception reports and discrepancy reports must be submitted electronically through e-Manifest. This change affects communication with both state environmental agencies and EPA. Treatment, Storage, and Disposal Facilities (TSDFs) must prepare to manage discrepancy reporting through the e-Manifest system, making system access and user training essential.

Reporting and Notifications

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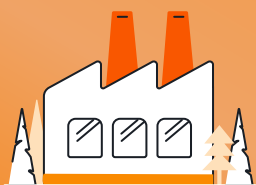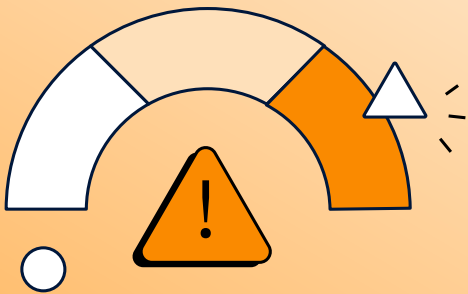
State by State Regulations:

Managing waste compliance for large organizations can be incredibly complex, especially when you have facilities in multiple states. Here is a sample of some of the ways regulations can vary state by state, including waste codes, generator status differences, and reporting deadlines. Integrating compliance information from multiple facilities into a single, easy-to-read format can help simplify your compliance requirements and ensure nothing falls through the cracks.

Several states, such as Texas, California, Kentucky, Michigan, Oregon, Colorado, and more utilize state-specific waste codes to categorize waste. These codes will need to be tracked and reported. Detailed codes can be found via the **EPA website**.

In California all hazardous waste generators are classified as either SQGs or LQGs, and VSQGs is not a valid generator status. Depending on the waste generated, state EPA IDs must be obtained through California's DTSC instead of a federal EPA ID.

Maryland does not use the federal categories for generator status. All facilities are either Maryland-Defined Small Quantity Generators (MDSQGs) or fully regulated generators (100 kg or more of waste generated in any given month). Fully Regulated Generators are required to submit biennial RCRA reports.

If you are in Washington state, you may have special reporting requirements for state determined "Dangerous Wastes".

Washington and Minnesota have generator statuses that are different from federal guidelines.

If you are in Washington state: your generator status will be designated as small, medium, or large based on your amount of waste generation.

If you are in Minnesota and you generate less than 100 pounds of solid waste per year: you are considered a Minimal Quantity Generator (MiniQG). You are still subject to all requirements of VSQGs, but you have no annual fees.

New York requires additional reporting requirements under the Department of Environmental Conservation, such as specific reporting for recycling hazardous waste.

Iowa does not have a state RCRA agency; instead refer to federal EPA offices for reporting requirements. Alaska does not currently have one, but is preparing to establish a state RCRA agency.

This handy map from the EPA shows the states where generator category designations are different than federal definitions:

- Same as Federal Generator Categories
- Different than Federal Generator Categories

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Requirements

Understanding RCRA biennial reporting obligations is crucial for environmental compliance. These reports provide the EPA with essential data about hazardous waste generation and management activities.

Required Information

Facilities must provide comprehensive documentation including:

- Facility details: EPA ID number, facility name, location, and current contact information.

- Waste generation data: All hazardous waste types with corresponding waste codes and quantities.

- Management practices: Details of on-site and off-site waste handling, including treatment, storage, and disposal methods.

- Transportation information: Records of waste shipments and receiving facilities.

- Compliance status: Documentation of any violations or enforcement actions.

- Authorized signatures: Certification of report accuracy by qualified facility personnel.

Best Practices for Compliance

- Maintain detailed waste generation records throughout the year to ensure accurate reporting.

- Review state-specific requirements, as they may exceed federal standards.

- Submit reports well before the March 1st deadline to allow time for corrections if needed.

- Retain copies of submitted reports and supporting documentation for at least three years.

"It's becoming increasingly important to organizations to decrease the amount of waste they are generating, particularly hazardous waste. EHS teams need to ensure they have a holistic view of their waste generation, so that they are able to make informed decisions about areas to focus for recycling or process improvements. This can set the foundation for more sustainable environmental programs."

Jess Williams, Technical Program Manager, Encamp

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Reporting Frequency Requirements

The RCRA biennial reporting process provides essential data about hazardous waste management across the United States. For environmental managers, accurate and timely reporting not only ensures compliance but also demonstrates your facility's commitment to proper waste management. Understanding and effectively managing these obligations helps protect your organization from penalties while identifying opportunities for operational improvements.

Reporting Cadence

(Annual/Biennial/Other Reporting)

- Annual only
- Biennial only
- Annual & Biennial
- Bespoke Reporting
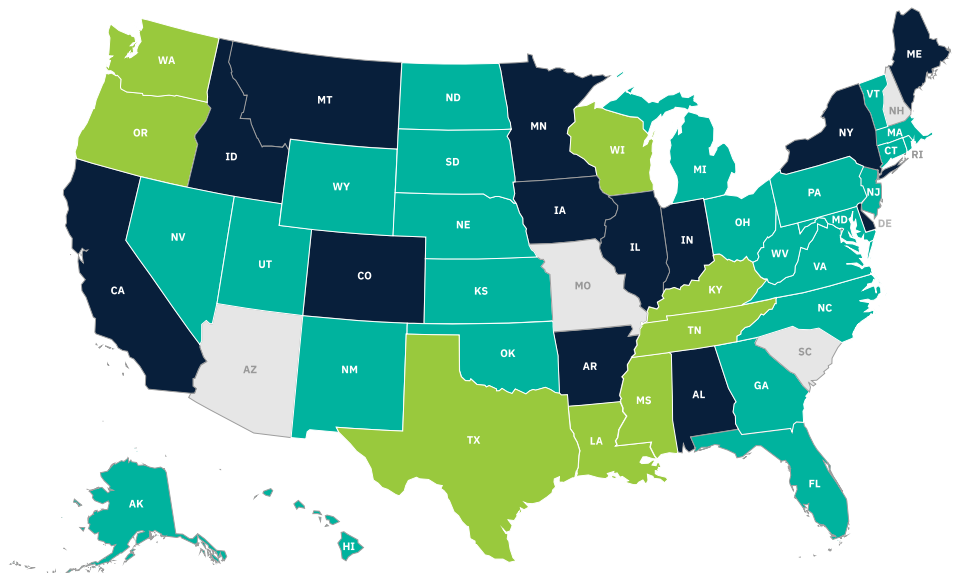
Note: this map focuses on core reporting requirements only. Many states have additional reporting requirements that are separate from, and unrelate to, annual/biennial timelines. For example, Arizona requires quarterly reporting.

Core Reporting Requirements

TSDFs and LQGs must submit comprehensive reports about their hazardous waste activities by March 1st of even-numbered years. While SQGs and VSQGs are exempt from federal reporting requirements, they should verify any additional state obligations with their local agencies.

Your biennial report must document all hazardous waste activities from the previous odd-numbered year through EPA Form 8700-13A/B. Essential components include:

Site Documentation

Facilities must provide comprehensive documentation including:
- Facility details: EPA ID number, facility name, location, and current contact information.
- Waste generation data: All hazardous waste types with corresponding waste codes and quantities.
- Management practices: Details of on-site and off-site waste handling, including treatment, storage, and disposal methods.
- Transportation information: Records of waste shipments and receiving facilities.
- Authorized signatures: Certification of report accuracy by qualified facility personnel.

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Waste Challenges and Solutions

Document all RCRA hazardous waste streams with their corresponding waste codes and quantities. Include detailed information about management methods and off-site shipments. Accurate waste characterization is crucial. Improper classification can lead to reporting errors and compliance issues.

Common Challenges and Solutions

Many facilities face similar obstacles during the reporting process. Address these proactively by:

• Maintaining clear documentation of waste determinations.
• Tracking generator status monthly to identify any changes.
• Reconciling manifests with on-site records regularly.
• Training personnel on proper waste characterization.

Beyond Compliance: Leveraging Report Data

The reporting process offers valuable insights for environmental improvement. Analysis of your waste data can reveal:

• Opportunities for waste minimization or elimination.
• Potential process inefficiencies.
• Areas where additional staff training could improve waste management.
• Technology needs for better tracking and documentation.

Auditing e-Manifest against on-site data

How frequently do you compare e-Manifest records with on-site documentation?

Consider:
• Weekly reconciliation processes
• Monthly data verification checks
• Quarterly compliance reviews
• Documented procedures for handling discrepancies

Where are your manifest records maintained?

Consider:
• Physical manifest storage locations
• Digital record systems
• Backup and redundancy protocols

How can you aggregate and structure manifest data for analysis?

Consider;
• Date-based organization
• Waste stream categorization
• Generator status tracking
• Facility-specific data

Do you know and have access to all the systems containing your waste data?

Consider:
• EHS management platforms
• Government reporting databases
• Waste vendor portals
• Internal tracking systems

Record Retention Management
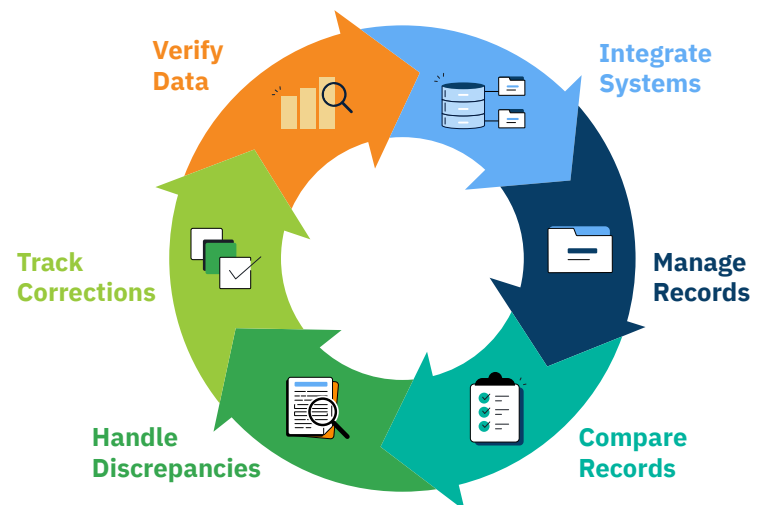
Consider:
• System for tracking retention periods
• Document repository for retaining records
• Access to these records

What processes do you have in place to regularly ensure manifest accuracy?

Consider:
• Data verification protocols
• Correction tracking methods
• Quality control checkpoints
• e-Manifest update procedures

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Annual Reporting Requirements

While federal RCRA regulations require only biennial reporting, several states mandate annual hazardous waste reports. Understanding these state-specific requirements is essential for maintaining environmental compliance.

> In addition to biennial reporting, many states require annual reporting. Be sure to account for your entire footprint, and individual state laws governing those operations.

State Reporting Overview

Annual hazardous waste reports may be required regardless of generator status. Requirements vary significantly by state, with some requiring reports from all generators while others maintain specific quantity thresholds. Deadlines typically fall between January 1st and March 1st, though exact dates vary by jurisdiction.

Required Information Annual reports typically require the same information as biennial reports, though some states may have additional requirements. Review your state's specific guidance for any supplemental reporting elements.

Best Practices for Compliance

Verify your state's specific requirements, as they may change annually. Maintain monthly waste generation records to ensure accurate reporting. Document generator status changes throughout the year. Set internal deadlines ahead of state submission dates to allow for review. Keep copies of all submitted reports and supporting documentation according to state retention requirements, which may exceed the federal three-year standard.

Annual Reporting Format

This map shows what formats are accepted by which states for annual reporting.

Paper only
State Portal & Paper
State Portal only
RCRAInfo & Paper
RCRAInfo only
N/A

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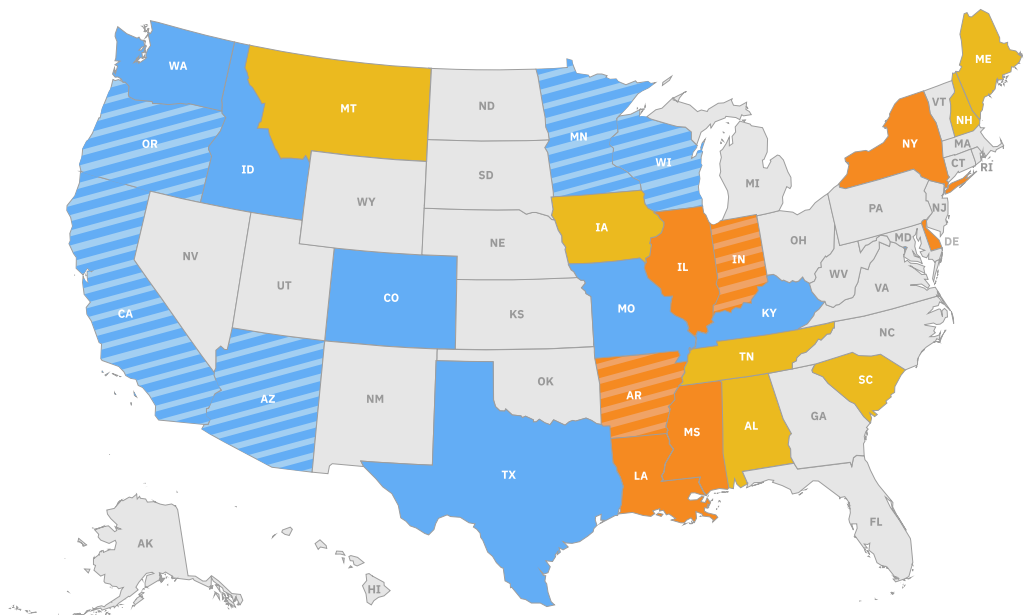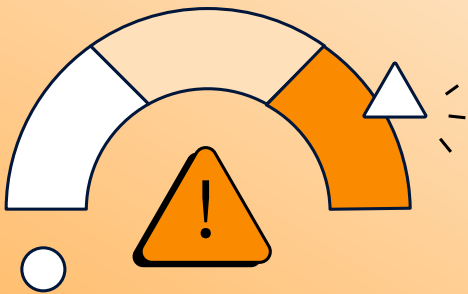
Additional Notifications

Understanding when and how to notify regulatory agencies of certain waste management events is crucial for RCRA compliance. This guidance covers three key notification scenarios that environmental managers must monitor.

Episodic Generation Events

Facilities may temporarily exceed their normal waste generation limits without changing their generator status through the episodic generation provision. This applies to both planned events (maintenance, cleanouts) and unplanned events (spills, equipment failures).

Key requirements include:

- Notification to state/EPA within 72 hours for unplanned events or 30 calendar days in advance of a planned event

- Completion of required EPA forms documenting the event

- Management of episodic waste within 60 days

Note: As of July 2024, this provision is not available in Nebraska, Minnesota, Kansas, Missouri, New York, New Hampshire, Massachusetts, Rhode Island, Connecticut, or Guam.

Exception Reports

Generators must submit exception reports when they don't receive a signed manifest copy from the designated facility within specified timeframes:

- LQGs: Initial inquiry at 45 days, formal report at 60 days

- SQGs: Formal report at 60 days

Reports must include:

- Documentation of efforts to locate the waste

- Copy of the original manifest

- Description of circumstances

- Record of communications with the receiving facility

Incident Reporting

Immediate notification is required for any spills or releases of hazardous waste that could threaten human health or the environment.

Facilities must:

- Report incidents to the National Response Center (NRC) if they exceed NRC thresholds

- Document the incident details and response actions

- Submit notification or follow-up reports as required based on state-specific agencies

Compliance Monitoring and Enforcement

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Inspections and Audits

EPA and State Inspections

Federal and state regulatory agencies conduct RCRA compliance inspections to verify proper hazardous waste management practices. Understanding inspection protocols and potential enforcement actions helps facilities maintain compliance and prepare effectively.

Inspection Process

Regulatory inspections may be announced or unannounced. During these visits, inspectors evaluate:

• Operational practices and physical conditions
• Required documentation and recordkeeping
• Waste management procedures and storage areas
• Staff knowledge and training implementation
• Emergency equipment and response preparations

Documentation Requirements

Facilities must maintain and provide access to:

• Hazardous waste determinations
• Training records and certifications
• Manifests and shipping records
• Contingency plans and emergency procedures
• Inspection logs and maintenance records
• Waste analysis and monitoring data

> **By implementing a continuous waste data management strategy that standardizes and centralizes waste data from across the business, teams can ensure they're meeting regulatory requirements while optimizing their waste handling processes.**
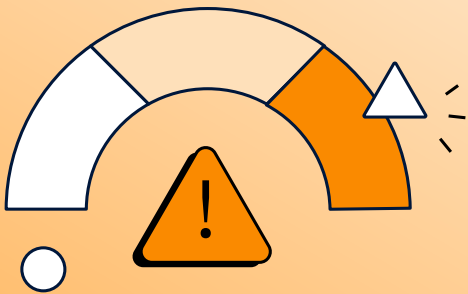
Enforcement Framework

Regulatory enforcement under RCRA follows a structured framework based on violation severity. When inspectors identify non-compliance, the EPA or state agency typically begins with administrative actions, issuing compliance orders that outline required corrective measures and specific completion timeframes. These orders often include penalties that reflect both the seriousness of the violation and its duration.

More severe violations can escalate to civil or criminal enforcement. Civil penalties, which are adjusted annually for inflation, may be substantial. Cases involving knowing violations, particularly those that endanger human health or the environment, can result in criminal prosecution. To minimize enforcement risk, facilities should maintain well-organized compliance records, conduct regular self-audits following EPA guidance, ensure proper staff training on inspection protocols, and address any identified compliance issues promptly.

RCRA violations can carry monetary penalties of up to $27,500 per day based on the CFR. In accordance with the Federal Civil Penalties Inflation Adjustment Act, the current penalty is $93,058 and may change.

Gaining Team Buy-In and Leveraging Technology

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Getting Buy-In

Securing RCRA compliance requires active engagement from your entire team. Start by clearly communicating how proper waste management directly impacts workplace safety, environmental protection, and staying on the right side of the regulations. Build commitment by involving staff in developing practical solutions for compliance challenges and recognize teams or individuals who demonstrate strong compliance practices. Regular training sessions should focus not just on procedures, but on helping staff understand the "why" behind requirements. When team members understand their role in environmental protection, they're more likely to embrace compliance responsibilities.

Leveraging Technology

Environmental managers face increasing complexity in managing RCRA compliance across their facilities. New digital tools and approaches are changing how facilities handle these challenges, offering practical ways to improve compliance programs while reducing administrative burden. The EPA is also embracing technology, as the agency continues to increase its usage of e-Manifest to assist with inspection.

Strengthening Your Compliance Program

The foundation of effective RCRA compliance remains unchanged, strong processes and well-trained staff.

Technology now offers ways to enhance these fundamentals through improved data management:
• Keep all compliance information in one centralized system.
• Track waste generation across multiple facilities.
• Monitor generator status continuously.
• Access manifests and reports quickly.

Digital solutions are particularly valuable for daily operations. Rather than managing multiple spreadsheets or paper records, automated systems can streamline routine compliance work. Automation – where it makes sense – helps ensure critical tasks aren't overlooked while freeing up staff time for more complex compliance matters.

Modern compliance platforms offer environmental managers several key advantages for mitigation and management:
• Real-time compliance status monitoring
• Early warning alerts before violations occur
• Automated tracking of waste volumes against generator limits
• Performance comparisons across facilities

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Making Technology Work for Your Facility

Implementing new technology requires careful consideration of your organization's needs. The most successful implementations focus on practical integration with existing systems and processes, including enterprise resource planning platforms and integration with RCRAInfo and e-Manifest. When waste vendor data imports smoothly into your compliance system, it reduces manual entry and helps ensure accuracy across all reports.

Clear information access is essential for the entire team. Modern compliance platforms provide straightforward dashboards showing current status and trends. This visibility helps environmental managers make informed decisions and respond quickly to emerging issues.

Measuring Real Impact

The benefits of modernizing RCRA compliance extend beyond better organization.

Facilities typically see several concrete improvements:

Time Savings

• Reduced paperwork through automation

• Streamlined audit preparation

• Faster document retrieval

Risk Management

• Earlier issue identification

• More consistent procedures

• Better inspection readiness

By thoughtfully incorporating technology into your RCRA compliance program, you can help your facility maintain strong environmental performance while making the work more manageable for your team.

"As a former state compliance inspector, I inspected hundreds of manufacturing facilities for compliance with state and federal requirements. The ones who had put systems in place to manage their permit requirements, compliance monitoring, and recordkeeping were able to provide me what I needed during an inspection to ensure that they were in compliance with their environmental requirements. These proactive steps assisted the manufacturing facilities in avoiding violations."

Jennifer Collins, Technical Program Manager, Encamp

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To maintain RCRA compliance, be sure to follow these essential steps:

Daily checklist:

1. Hazardous Waste Generation Tracking

Log any newly generated hazardous waste, including type, quantity, and location.

Verify that all waste containers are properly labeled with accumulation start dates, waste type, and hazard information.

Inspect hazardous waste containers to ensure they are closed, intact, and leak-free.

2. Storage Area Monitoring

Check hazardous and solid waste storage areas for cleanliness, proper labeling, organization, and employee safety hazards (such as tripping hazards).

3. Employee Monitoring

Observe waste handling activities to ensure proper procedures are being followed.

Weekly Checklist:

Conduct Full Storage Area Inspection

Perform a complete check for leaks, spills, and container integrity in storage areas.

Confirm that emergency equipment is accessible.

Update Waste Records

Review recent waste manifests to ensure accuracy.

Record weekly totals to stay updated on quantities and generator status. This will help you track monthly limits to stay within your classification.

Documentation and Label Verification

Verify that all containers are correctly labeled with contents, hazard classification, and accumulation start dates.

Check records to ensure that all required documents (manifests, waste logs, notification forms, etc.) are updated and stored for access during reporting periods.

Conclusion

RCRA compliance doesn't stop with meeting the minimum requirements. To strengthen your waste management practices, prioritize a culture of ongoing education and vigilance within your business. Keep up with regulatory changes, explore sustainable waste reduction strategies, and provide employees with access to relevant training and workshops. Regular audits, recordkeeping, and proactive measures can help safeguard your compliance, reduce risks, and help ensure a safer, more sustainable future for your company and the community.

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Weekly Checklist (Continued):

Training and Emergency Response Review

Confirm that all employees are up to date with their training in waste handling and emergency response procedures.

Document any training sessions.

Monthly Checklist:

Generator Status Review

Review total hazardous waste generated to ensure compliance with your generator status.

Adjust operations as needed to remain within classification.

Biennial Reporting Data Collection (Pre-Submission Months)

Collect and verify data for waste generation, quantities, and types required for biennial reports hazardous waste storage assessments.

Confirm waste disposal records, including treatment, storage, and disposal facility details.

Manifest and Recordkeeping Audit

Review all manifests from the previous month to confirm completeness and accuracy.

Ensure manifests and related documentation are stored for a minimum of 3 years.

Biennial Report Preparation (in Reporting Year)

Begin compiling data for the biennial report (due March 1st of each even-numbered year).

Verify the accuracy of facility information such as EPA ID, address, and contact details.

Gather details of waste management, disposal methods, and transporter information.

Internal Audits and Inspections

Conduct a monthly audit of waste handling and storage procedures, identifying areas for improvement.

Document audit findings and corrective actions taken to address any issues.

Employee Training Verification

Review training records to confirm that all employees have completed required RCRA and hazardous waste handling training.

Schedule any additional training sessions as needed based on observed performance and regulatory updates.

Report Compliance with State-Specific Requirements

Confirm compliance with any additional state requirements for hazardous waste reporting, such as specific waste codes or quarterly reporting (if required).

Document any state-specific compliance activities or notifications completed.

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EHS teams chase data across multiple siloed systems to submit one accurate report

INTERNAL SYSTEMS

Regional and site leads

Facility information

Document repository

Waste generation and chemical inventory data

SPECIALISTS

Last mile reporting creation

Fee payments and mailers

Regulatory applicability

Waste hauler data

GOVERNMENT SYSTEMS

Compliance due dates

ECHO, NPDES, FRS, ICIS, RCRAInfo

e-Manifest

Last mile report submission

Encamp: Transforming Environmental Compliance

Encamp revolutionizes environmental compliance by equipping EHS leaders with a platform to simplify processes, reduce risks, and deliver strategic value. Traditional compliance methods rely on fragmented, manual efforts, but Encamp empowers organizations to transition to proactive, automated, data-led solutions.

Unique Challenges in Environmental Compliance

Outdated Processes

Environmental compliance often involves inefficient workflows and siloed systems, making it difficult to meet today's regulatory demands without heavy manual processes. Managing compliance across jurisdictions leads to inconsistencies, risks, and high costs. External outsourcing to consultants further disconnects compliance tasks from internal processes, making it harder to maintain alignment with organizational goals.

Fragmented Data

Key data, like chemical inventories for EPCRA reporting, is often scattered across manufacturers, external vendors, and departments. RCRA reporting, which tracks hazardous waste, frequently suffers from inconsistencies in data collection and management. Without centralized processes, EHS teams face compliance risks and missed opportunities for operational improvement.

Encamp's Differentiated Solution

Encamp centralizes environmental data and streamlines compliance across all 50 states. Our platform automates tasks, reduces administrative burdens, and consolidates reporting into a single source of truth. For example, Encamp simplifies RCRA reporting by integrating data from multiple vendors into one system, enabling real-time tracking of hazardous waste and reducing the risk of regulatory violations.

By delivering real-time data insights, Encamp transforms compliance from a cost center into a strategic asset. Encamp empowers EHS leaders to ensure continuous compliance, drive business continuity, reduce costs, and achieve measurable outcomes, redefining compliance as a driver of organizational excellence.

Encamp lets you easily manage your facility chemicals and waste compliance data, tasks, reporting, submission, fee payments, and record keeping — in one place.

During an Encamp demo you'll learn how your organization can:

• Centralize EPCRA Tier II and RCRA hazardous waste last mile reporting tasks, submissions, and fees and payments, across all your facilities, from one platform without logging into state portals.

• Know exactly what the government thinks you are responsible for and benchmark your performance against your industry and specific competitors.

• Access deep data for all your facilities including listed contacts, administrative information, permits, inspections, fines, compliance status, historical updates, and more.

Request a demo

You're in Good Hands

Comprehensive coverage	We've seen it all	Reclaim your time
54	**41K+**	**80K+**
States & Territories Filed In	**Reports Filed Since 2019**	**Reporting Hours Saved**
Our regulatory compliance experts have deep knowledge of unique state requirements.	This makes us the largest third party filer of Tier II reports.	By leaving the grunt work of reporting to us, you can focus on impactful projects.

ENCAMP

Encamp lets you easily manage your facility chemicals and waste compliance data, tasks, reporting, submission, fee payments and record keeping — in one place.

Request a demo to see it live:

encamp.com/demo