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Guide to

Generator Requirements of the Colorado Hazardous Waste Regulations



Colorado Department
of Public Health
and Environment

Hazardous Materials and Waste Management Division
(303) 692-3300

Forth Edition
October 2001



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Phone Numbers

For the Hazardous Material and Waste Management Division

For a Copy of the Regulations(303) 692-3300
Technical Assistance Line(303) 692-3320
For an EPA I.D. Number(303) 692-3300
Pollution Prevention Program(303) 692-3300

Toll free number outside of the 303 area code.....(888) 569-1831

24-hour Emergency Spill/Release Reporting Line .(877) 518-5608

Other Phone Numbers:

National Response Center1-800-424-8802

RCRA/Superfund Hotline1-800-424-9346

Send Questions in Writing to:

The Colorado Department of Public Health and Environment
Hazardous Materials and Waste Management Division
HMWMD-B2

4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

OR

FAX (303) 759-5355

OR

Email address: comments.hmwmd@state.co.us

Web Sites

State of Colorado Home Page
<http://www.state.co.us>

Colorado Department of Public Health and Environment Regulations
Download Index
<http://www.cdphe.state.co.us/regulate.asp> (Air, Water, Hazardous Waste etc.)

Hazardous Materials & Waste Management Division
<http://www.cdphe.state.co.us/hm/>

Introduction

As a result of doing business, a company may generate hazardous wastes that can cause serious health and safety problems if not handled and disposed of properly. Such wastes can cause injury or death, and they may damage or pollute Colorado's land, air and water. The Colorado Hazardous Waste Regulations are in place to protect human health and the environment from the dangers of mismanaged hazardous wastes. The regulations are designed to protect you, your co-workers, your family and your community.

Rules and Regulations

In 1976, Congress passed the Resource Conservation and Recovery Act (RCRA) which directed the U.S. Environmental Protection Agency (EPA) to develop and implement a program to protect human health and the environment from improper hazardous waste management practices. The program is designed to control the management of hazardous waste from its generation to its ultimate disposal -- from "cradle-to-grave."

Colorado passed its own laws governing hazardous waste in 1981 and has since adopted regulations that cover hazardous waste management in the state. Congress had also seen the need for states to be the primary enforcement agency for hazardous waste rules. Congress therefore set up a system for authorizing state agencies, using state rules, to implement the federal hazardous waste program in EPA's place. The Colorado Department of Public and Environment (CDPHE) was authorized to implement the federal hazardous waste program in 1984. A condition for getting that authorization requires that the state hazardous waste rules be at least as stringent as those of the EPA. There are numerous instances where Colorado rules are stricter than those of the EPA.

In some limited circumstances when EPA adopts new rules, the rules are enforced by EPA until Colorado incorporates the new rules into state regulations. Once Colorado's Hazardous Waste Commission formally adopts the new rules, the Colorado Department of Public Health and Environment, acting through the Hazardous Materials and Waste Management Division (HMWMD), becomes the primary regulatory agency for those new regulations. Therefore, it is very important for companies that generate hazardous waste to become familiar with the state and federal Hazardous Waste regulations and to be aware of any changes in these regulations that might affect them.

The Colorado Hazardous Waste Commission

During the 1991-92 legislative session, the Colorado General Assembly passed Senate Bill 116 which, among other things, created a Hazardous Waste Commission. The Commission is composed of nine members, appointed by the Governor, and equally represents industry, the public, and government or academia.

The Hazardous Waste Commission, which meets on the third Tuesday of the month, has several duties. The Hazardous Waste Commission is mandated to develop and adopt rules pertaining to hazardous waste. In the past, these duties were the responsibility of the Committee on Hazardous Waste and the Colorado State Board of Health. Rules previously adopted will remain in effect unless amended or repealed by the Commission. One of the major tasks of the Hazardous Waste Commission is to ensure that the state rules comply with the ever-changing Environmental Protection Agency requirements.

The Hazardous Waste Commission is also required to conduct public meetings pertaining to hazardous waste issues, issue interpretive rules and hear appeals of administrative law judges' determinations regarding the amount of administrative penalties.

The Hazardous Waste Commission is required to generate enough revenue through the imposition of fees to pay for the reasonable actual costs of the Commission's activities. The Commission will repromulgate rules for each fiscal year and set the fees according to the costs for the operation of the upcoming fiscal year. The fee is due by November 15th of each year.

The Hazardous Waste Commission fees for the fiscal year July 1, 2001 through June 30, 2002 are:

- \$65 for small quantity generators of hazardous waste
- \$210 for large quantity generators of hazardous waste
- \$70 for transporters of hazardous waste
- \$400 for non-commercial treatment, storage or disposal facilities
- \$600 for commercial treatment, storage or disposal facilities

6 CCR 1007-3, Part 6

Generator Fees

The Hazardous Waste Commission can promulgate rules pertaining to the assessment of fees to offset program costs from facilities that treat store, or dispose of hazardous waste under a permit or interim status AND from generators of hazardous waste. The Commission may adjust these fees on or after July 1, 2002.

The hazardous waste generator fees from July 1, 2000 to July 2002 are:

- \$300 per year for a small quantity generator of hazardous waste
- \$1900 per year for a large quantity generator of hazardous waste
- there is no fee for conditionally exempt small quantity generators of hazardous waste

This fee is not associated with the EPA Identification number. This fee is billed each year with the Hazardous Waste Commission fee. The fee is due by November 15th of each year.

Section 25-15-302(3.5), C.R.S. and 6CCR 1007-3, Section 100.31

Water and Air Regulations

This booklet does not cover the clean air and clean water regulations that also apply to many businesses in Colorado.

- For air regulations, phone the CDPHE Air Pollution Control Division at (303)692-3100.
- For CDPHE water regulations phone, the Water Quality Control Division at (303)692-3500.

Company and Personal Liability

Colorado's Hazardous Waste Control Program first focused on the companies that generated the greatest amount of hazardous waste. In recent years, however, public attention has been focused on the potential for environmental and health problems that may result from mismanaging even small quantities of hazardous waste. For example, small amounts of hazardous waste dumped on the land may seep into the earth and contaminate the underground water that supplies drinking water wells.

Companies are liable for all or part of cleanup costs from contamination resulting from improper waste management activities. Even those companies classified as conditionally exempt small quantity generators can be held responsible for not complying with the hazardous waste regulations. In

addition, non-compliance with the Colorado hazardous waste regulations can result in fines of up to \$25,000 a day per violation as well as possible criminal charges.

Pollution Prevention

Management of hazardous wastes can be an expensive and complicated part of a company's operations. The best way to eliminate or reduce the burden of managing hazardous waste is to generate less waste in the first place.

While it may be impossible for your business to stop producing hazardous waste, there are many things you can do to reduce the amount generated. By now, most small and large businesses have learned about the benefits of pollution prevention and waste reduction. The Colorado Pollution Prevention Act of 1992 made pollution prevention "the environmental management tool of first choice." in Colorado. By reducing the amount of hazardous waste generated, you not only solve the immediate problem of what to do with that waste, but you reduce your legal liability for future discoveries of contamination that may be attributable to you.

Numerous materials and products that generate hazardous waste have safer substitutes. There are many proven methods of operating more efficiently that also result in reducing the amount of waste generated. These include inventory control and good housekeeping, as well as improved equipment and processes. Many of Colorado's larger industries have embarked on programs to prevent pollution and have realized a variety of benefits.

For more information about pollution prevention in your business, contact the Colorado Department of Public Health and Environment's Pollution Prevention Program. This program is separate from the regulatory and compliance programs of the Colorado Department of Public Health and Environment and offers educational materials and consultation services. For information about pollution prevention, call (303) 692-3300.

How to use this booklet

This booklet will help you determine if you are generating hazardous waste. It then will help you determine in which of three regulatory classes you fit, depending upon how much hazardous waste you generate. Once you know what classification you fall under, this booklet will guide you through the regulations that apply to that class.

Each regulatory requirement listed in the publication is followed by a regulatory citation beginning with “6 CCR 1007-3.” These citations tell you exactly where to look in the Colorado Code of Hazardous Waste Regulations for the specific regulatory language pertaining to that requirement. Knowing the specific regulations that apply to your company is vital in maintaining your company’s compliance with the Hazardous Waste Regulations. To obtain a copy of the Colorado Hazardous Waste Regulations, call the Colorado Department of Public and Environment, Hazardous Materials and Waste Management Division, at (303) 692-3300. There is a fee for a copy of the regulations.

This publication covers the following topics:

- Management of used oil
- Universal Waste
- Generator Classifications
- Paperwork and Documentation
- Emergency Response Plans
- Employee Training
- Waste Treatment
- Waste Recycling
- Waste Storage
- Waste Shipping

What is hazardous waste?

A hazardous waste is a solid, a liquid, or a contained gaseous material that is no longer used or that no longer serves the purpose for which it was produced, and could pose dangers to human health and the environment after it is discarded. Hazardous waste can be one of two types:

- 1) **Listed wastes** Your waste is considered hazardous if it appears on one of four lists in The Colorado Hazardous Waste Regulations. Listed wastes are hazardous regardless of their concentration.
 - **F listed** hazardous wastes are wastes from *non-specific* sources such as

spent solvents or waste water treatment sludges from electroplating.

- **K listed** hazardous wastes are wastes from a *specific* source, for example, an untreated waste water from a specific industrial process listed in the regulations such as K002 which is wastewater treatment sludge from the production of chrome yellow and orange pigments.
- **P and U listed** wastes are off-spec or discarded commercial chemical products or,
 - any residue remaining in a container that held commercial chemical products in the P or U listing or,
 - any residue or contaminated media resulting from the cleanup of a spill of a commercial chemical product in the P or U listing.

6CCR 1007-3, Section 261, subpart D

2) Characteristic wastes Even if a waste does not appear on the list it is considered hazardous if it falls under one of the following hazardous waste categories:

- EPA hazardous waste number **D001 - ignitable**
 - It is easily combustible or flammable,
 - It is a liquid with a flash point less than 140°F,
 - It is not a liquid but is capable of causing a fire that burns so vigorously that it creates a hazard,
 - It is an ignitable compressed gas or,
 - It is an oxidizer as defined by the United States Department of Transportation.
- EPA hazardous waste number **D002 - corrosive**
 - It is a liquid and dissolves steel or,
 - Is a liquid and has a pH less than 2 or greater than 12.5.
- EPA hazardous waste number **D003 - reactive**
 - It is unstable,
 - Explosive,
 - Undergoes rapid or violent chemical reaction,
 - Produces toxic gases when mixed with water or other materials or,
 - It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5 can generate toxic gases vapors or fumes.
 - ◆ The Division holds that waste meets this definition if it,
 - contains a releasable sulfide concentration of 500 mg H₂S/kg or
 - a releasable cyanide concentration of 250 HCN/kg.

-
- EPA hazardous waste numbers **D004 through D043 - *toxic***
 - It is a metal, pesticide, herbicide, organic chemical at high enough concentrations that it could be harmful or toxic if released into ground water.

6CCR 1007-3, Section 261, subpart C

Your business is likely to produce hazardous waste if you:

- Use petroleum products
- Use dyes, paints, printing inks, thinners, solvents or cleaning fluids
- Use pesticides or other related chemicals
- Use materials that dissolve metals, paint, wood, paper, or clothing
- Use flammable materials
- Use materials that burn or itch upon contact with skin
- Use materials that bubble or fume upon contact with water
- Receive products accompanied by a shipping paper or label indicating that the product is hazardous

How do I know if I'm generating hazardous wastes?

1. Obtain a copy of the Colorado Hazardous Waste Regulations. Call the Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division, at (303) 692-3300. Refer to 6 Colorado Code of Regulations (CCR) 1007-3, Section 261 which describes the listing and the identification of hazardous wastes.
2. Apply knowledge of your process and use Material Safety Data Sheets (MSDS) for information regarding the products you use to determine if hazardous waste is generated at your facility.

Be aware that the MSDSs may not provide all the information that you need to make a hazardous waste determination. If a chemical poses an *extreme* health or physical hazard OSHA requires that it be listed on the MSDS in concentrations less than 1%. However, in most instances OSHA requires the chemical and common names of ingredients that have been determined to be health hazards, and that comprise 1% or greater of the composition to be listed in the MSDS. 1% = 10,000 parts per million. Thus, ingredients in a product that have the potential to generate a hazardous waste may not be listed on the MSDS.

3. Send samples to a lab that is familiar with the methods of analysis for

-
- hazardous waste. (Note: refer to page 56 for help on choosing a laboratory)
4. Talk to your trade organization.
 5. Call the Hazardous Materials and Waste Management Division, customer assistance line at (303) 692-3320.
 8. Call the EPA's RCRA/Superfund Hotline at 1-800-424-9346.

What is an acutely hazardous waste?

An acutely hazardous waste exhibits any of the characteristics identified in 6 CCR 1007-3, Section 261, Subpart C and is fatal to humans or animals in low doses or can cause or contribute to an increase in serious irreversible, or incapacitating reversible, illness. All P listed wastes are acutely hazardous wastes. In addition, specified Dioxin wastes: F020, F021, F022, F023, F026 and F027 are acutely hazardous wastes. *6 CCR 1007-3, Sections 261.11 and 261.33*

What are land disposal restrictions?

Hazardous wastes have been restricted from land disposal to protect human health and the environment. Treatment standards have been established to diminish the toxicity of these wastes and to reduce the threat to human health and the environment prior to land disposal. Wastes that have been treated are not prohibited from land disposal as long as the specific treatment standards for that waste have been met. *6 CCR 1007-3, Part 268.*

Land disposal restrictions (LDR) apply to all characteristic and listed RCRA hazardous waste. If hazardous waste is to be land disposed, the generator of that hazardous waste is responsible for determining whether or not the waste is subject to the specific treatment standards in 6 CCR 1007-3 Part 268. Waste that meets the treatment standards may be land disposed without additional treatment; wastes that do not meet the standards must be treated. Most generators of hazardous waste have their designated disposal facility do waste treatment.

The LDR determination can be made by the generator on the basis of knowledge of the waste, testing, or both. Depending on the outcome of the determination, either a certification or a notification of this determination **MUST** be included with each new hazardous waste stream shipped to the same disposal facility or a shipment to a new disposal facility. This LDR documentation **MUST** be kept on file by the generator for three years.

Hazardous Waste Treatment By Generators

Can generators treat their hazardous waste?

Conditionally exempt small quantity generators are allowed to treat their hazardous waste. Small quantity and large quantity generators can treat their hazardous waste only under some limited conditions.

What is the definition for treatment of hazardous waste?

Treatment: Treatment is defined as any process that changes the physical, chemical or biological properties of hazardous waste and includes physical activities such as evaporation, de-watering, diluting, grinding, compacting and blending.

Treatment means any method, technique, or process, including neutralization or incineration, that changes the physical, chemical or biological character or composition of hazardous waste, so as to neutralize or render the waste less hazardous, make it safer for transport, amenable for recovery or reuse, amenable for storage, or to reduce volume of the waste. *6 CCR 1007-3, Section 260.10*

Treatment usually requires a permit, though there are some exceptions to this requirement. It is important for the generator of hazardous waste to check the regulations very carefully before treating hazardous waste without a permit.

What are the generator treatment options?

1. A conditionally exempt small quantity generator may treat hazardous waste on-site without needing to meet other specific requirements.
 - a. It is advisable to follow sound practices and understand the reactions that may occur during treatment.
6CCR 1007-3, Sections 100.10(a)(3) and 261.5
2. Adding absorbent to an accumulation container
 - a. The waste must be managed in containers that are in good condition.
 - b. Compatibility of the waste and the absorbent must be ensured.
6CCR 1007-3, Section 100.10(a)(9)
3. Elementary neutralization of wastes that are hazardous only because they are corrosive

-
- a. The hazardous waste must not exhibit any other characteristic (i.e. toxicity) and can not be listed. For example, chromic acid and unused hydrofluoric acid are toxic as well as characteristic hazardous wastes and therefore would not qualify for the elementary neutralization treatment exemption.
 - b. The treatment must take place in a tank, tank system, container, or transport vessel.

6 CCR 1007-3, Section 100.10(a)(6)

4. Treatment to meet land disposal restriction standards

- a. This treatment must meet at least one of the treatment standards in Part 268.
- b. This treatment requires a waste analysis plan to be kept on the facility site.
- c. The generator must comply with the accumulation tank and container requirements
- d. This treatment may require changes to the contingency plan, emergency procedures and training.

6 CCR 1007-3, Section 268.7

5. A generator performing on-site treatment of its own waste shall be considered to have a state RCRA permit (Permit By Rule and need not apply to the Department (CDPHE) IF the following conditions are met:
 - a. The waste is treated in accumulation tanks or containers.
 - b. The waste is being treated to make it more suitable for recycling or reclamation (on or off-site) or to reduce its volume or toxicity.
 - c. The generator submits a notice and a waste analysis plan to the Department 30 days prior to treating the waste.
 - d. The generator complies with the accumulation tanks and containers requirements.
 - e. Thermal treatment is prohibited.

-
- f. Treatment of reactive waste is prohibited.
 - g. This treatment may require changes to emergency procedures and training.
6 CCR 1007-3, Section 100.21(d)
6. Treatment in a waste water treatment unit.
- a. Wastewater discharge is either regulated by the Colorado Department of Public Health and Environment, Water Quality Division, and/or by local wastewater agencies.
 - b. Under 6 CCR 1007-3, Section 100.10 (a) (6) of the Colorado Hazardous Waste Regulations, owners and operators of "wastewater treatment units," as defined in 6 CCR 1007-3, Section 260.10 are exempt from state RCRA permitting requirements.
 - c. A copy of the Division's wastewater treatment policy, including factors that may prevent a wastewater treatment facility from being eligible for RCRA permitting exclusions, is available by calling (303) 692-3300, or by writing the Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division, HMWMD- B2, 4300 Cherry Creek Drive South, Denver Colorado 80246-1530.
7. Examples of Universal Waste treatment that is allowed include
- a. Crushing of lamps,
 - b. Puncturing of aerosol cans,
 - c. Draining mercury from mercury containing devices,
 - d. Removing mercury containing ampules
- 6CCR 1007-3, Part 273*

Can a hazardous waste be reclaimed or recycled?

The Colorado Hazardous Waste Regulations encourage legitimate recycling of hazardous waste. Reduced regulations apply to these recycling activities. There are very specific guidelines regarding recycling or reclamation. Refer to 6 CCR 1007-3, Sections 261.2 Table 1, 261.6, and Part 267, or submit your specific questions in writing to the:

Colorado Department of Public Health and Environment
Hazardous Materials and Waste Management Division
HMWMD- B2, 4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Management of Used Oil

The U.S. EPA enacted new used oil regulations in September 1992 which fell under the scope of RCRA. The State of Colorado adopted these used oil regulations, effective October 31, 1994.

"Used oil" means any oil that has been refined from crude oil, or any synthetic oil that has been used and, as a result of such use, is contaminated by physical or chemical impurities. *6 CCR 1007-3, Section 279.1*

Standards for Generators of Used Oil

"A used oil generator" is any person, at any site, whose act or process produces used oil. Some exceptions to this definition are farmers who generate used oil below a defined monthly limit and household "do-it-yourselfers." *6 CCR 1007-3, Section 279.20.*

There are specific requirements for the storage of used oil. Used oil generators may be subject to all applicable Spill Prevention, Control and Countermeasures (SPCC) in the Code of Federal Regulations, 40 CFR Part 112. Used oil generators are also subject to the Underground Storage Tank (40 CFR Part 280) standards for used oil in underground tanks.

Used Oil Storage

Used oil generators must not store used oil in units other than tanks, containers or units subject to regulation under 6 CCR 1007-3, Parts 264 or 265. Containers and above-ground tanks used to store used oil at generator facilities must be in good condition, not leaking and labeled with the words "Used Oil." Fill pipes used to transfer used oil into underground storage tanks must be labeled with the words "Used Oil."

Upon detection of a release of used oil to the environment, which is NOT subject to the requirements of the Underground Storage Tank Regulations (40 CFR Part 280, Subpart F), a generator must stop the release, contain the released used oil, clean up and manage the released used oil, and take measures to prevent future releases. *6 CCR 1007-3, Section 279.22*

On-site burning in space heaters

Used oil generators may burn used oil in an oil-fired space heater, provided that:

-
1. The heater burns only used oil that the owner or operator generates, or used oil from household do-it-yourself efforts.
 2. The heater is designed to have a maximum capacity of not more than 0.5 million BTU per hour.
 3. The combustion gases from the heater are vented to the ambient air.

6 CCR 1007-3, Section 279.23

Off-site shipments of used oil

Used oil generators must ensure that their used oil is transported only by transporters who have obtained an EPA identification number, except for :

1. Generators who self-transport LESS THAN 55 gallons of generator or household do-it-yourself generated used oil at any time to a recognized used oil collection center.
2. Generators who arrange for used oil to be transported pursuant to a tolling agreement (under which reclaimed oil is returned to the generator).

6 CCR 1007-3, Section 279.24

Mixtures of used oil and hazardous waste

1. Mixtures of used oil and listed hazardous waste are subject to regulation as hazardous waste rather than used oil.
2. Mixtures of used oil and characteristic hazardous waste that do not exhibit the characteristic are regulated as used oil.
3. Mixtures of used oil and conditionally exempt small quantity generator hazardous waste are regulated as used oil.
4. Mixtures of used oil and non-hazardous solid waste are regulated as used oil.

6 CCR 1007-3, Section 279.10

5. The mixing of used oil and hazardous waste, for the purpose of managing the resulting mixture as a used oil, constitutes treatment and is subject to the permitting requirements of 6 CCR 1007-3 Part 100. *6 CCR 1007-3, Section 279.10 (b)(2)(ii)*

-
6. The rebuttable presumption for used oil applies at each step of used oil management.
 - a. Used oil containing more than 1,000 parts per million (PPM) total halogens is presumed to have been mixed with hazardous waste and is regulated as hazardous waste, unless that presumption can be rebutted.
 - b. Two cases in which the rebuttable presumption does not apply:
 - 1) Metal-working oil/fluids containing chlorinated paraffins that are processed through a tolling agreement to reclaim the oils/fluids.
 - 2) Used oil contaminated with chlorofluorocarbons (CFCs) from refrigeration units, where the CFCs are destined for reclamation.

6 CCR 1007-3, Section 279.10 (b)(1)(ii)

Universal Waste

What is Universal Waste?

Colorado has adopted streamlined hazardous waste management regulations that govern the collection and management of certain widely generated wastes known as "universal wastes." The Universal Waste Regulations reduce the management requirements for these wastes, while still ensuring the management of universal waste is conducted in a manner that is protective of human health and the environment. These regulations will increase the proper recycling or treatment of these "universal wastes."

As of August 2001 Colorado's universal waste list includes:

- waste batteries (except lead acid batteries),
- certain pesticides,
- mercury-containing devices, the elemental mercury must be housed within an outer metal, glass or plastic casing
- aerosol cans that contain hazardous waste when discarded,
- lamps or the bulb or tube portion of an electric lighting device,
- electronic devices or electronic equipment that contains one or more electronic circuit boards or other complex circuitry and,
- electronic components or subassemblies or other parts derived from the disassembly of electronic devices.

Additional waste types may be added to the universal system in the future.⁶ *CCR 1007-3, Part 273*

Who Are the Participants in the Universal Waste Regulations?

Four types of participants are identified in the Universal Waste Regulations:

- 1) small quantity handlers of universal waste;
- 2) large quantity handlers of universal waste;
- 3) off-site transporters of universal waste; and
- 4) destination facilities (RCRA TSDFs or recyclers).

What is a universal waste handler?

A universal waste handler is a generator of universal waste, OR, the owner or operator of a facility that receives universal waste from other universal waste handlers, accumulates universal waste and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination.

6 CCR 1007-3, Section 273.6

What are the classifications for handlers of universal waste?

Small Quantity Handler of Universal Waste

If you accumulate *less* than 5,000 kilograms (11,000 pounds) of universal waste, calculated by adding all types of universal waste on site, at any time you are a small quantity handler of universal waste. *6 CCR 1007-3, Section 273.6*

Large Quantity Handler of Universal Waste

If you accumulate *more* than 5,000 kilograms (11,000 pounds) of universal waste, calculated by adding all types of universal waste on-site, at any time you are a large quantity handler of universal waste **and retain this designation throughout the calendar year.** *6 CCR 1007-3, Section 273.6*

What are the standards for small quantity handlers of universal waste?

Prohibitions

Small quantity handlers of universal waste are prohibited from on-site disposal of universal waste. Small quantity handlers of universal waste are also prohibited from diluting or treating universal waste except as provided for in Section 273 Subpart B.

6 CCR 1007-3, Section 273.11

Notification Requirements

Small quantity handlers of universal waste are **not** required to notify the Colorado Department of Public Health and Environment of universal waste management activities.

6 CCR 1007-3, Section 273.12

Waste Management

A small quantity handler of universal waste must manage universal waste in a way that prevents releases of any universal waste or components of universal waste to the environment as described in Section 273.13 of the Colorado Hazardous Waste Regulations.

Labeling and Marking

A small quantity handler of universal waste must label or mark the universal waste (i.e. each battery) or the container in which the universal waste is contained with the following phrases: "Universal Waste - *type of waste*" or "Waste - *type of waste*". *6 CCR 1007-3, Section 273.14*

Accumulation Time Limits

A small quantity handler of universal waste may accumulate universal waste for no longer than one year, unless, it is necessary to accumulate such waste longer to facilitate proper recovery, treatment, or disposal. If the waste is accumulated longer than a year the handler must prove that it was necessary to hold the waste longer than a year to facilitate proper recovery, treatment, or disposal.

A small quantity handler of universal waste must be able to demonstrate the length of time that the waste has been accumulated on site.

6 CCR 1007-3, Section 273.15

Employee Training

A small quantity handler of universal waste must inform all employees who handle or manage universal waste of proper handling and emergency procedures appropriate to the types of universal waste handled. *6 CCR 1007-3, Section 273.16*

Response to Releases

A small quantity handler of universal waste must immediately contain all releases of universal waste and determine whether any material resulting from the release is a hazardous waste. If the release is hazardous it must be managed as such. *6 CCR 1007-3, Section 273.17*

Off-site Shipments

A small quantity handler of universal waste must send universal waste to an authorized facility. *6 CCR 1007-3, Section 273.18*

A small quantity handler of universal waste is not required to keep records of shipments of universal waste. *6 CCR 1007-3, Section 273.19*

What are the standards for large quantity handlers of universal waste?

Prohibitions

Large quantity handlers of universal waste are prohibited from on-site disposal of universal waste. Large quantity handlers of universal waste are also prohibited from diluting or treating universal waste except as provided for in Section 273 Subpart B.

6 CCR 1007-3, Section 273.31

Notification Requirements

Large quantity handlers of universal waste are **required** to notify the Colorado Department of Public Health and Environment of universal waste management activities before the 5,000 kilogram storage limit is reached. *6 CCR 1007-3, Section 273.32*

Waste Management

A large quantity handler of universal waste must manage universal waste in a way that prevents releases of any universal waste or components of universal waste to the environment as described in Section 273.33 of the Colorado Hazardous Waste Regulations.

Labeling and Marking

A large quantity handler of universal waste must label or mark the universal waste (i.e. each battery) or the container in which the universal waste is contained with the following phrases: "Universal Waste - *type of waste*" or "*Waste - type of waste*". *6 CCR 1007-3, Section 273.34*

Accumulation Time Limits

A large quantity handler of universal waste may accumulate universal waste for no longer than one year, unless, it is necessary to accumulate such waste longer to facilitate proper recovery, treatment, or disposal. If the waste is accumulated longer than a year the handler must prove that it was necessary to hold the waste longer than a year to facilitate proper recovery, treatment, or disposal.

A large quantity handler of universal waste must be able to demonstrate the

length of time that the waste has been accumulated on site.
6 CCR 1007-3, Section 273.35

Employee Training

A large quantity handler of universal waste must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relative to their responsibilities during normal facility operations and emergencies. *6 CCR 1007-3, Section 273.36*

Response to Releases

A large quantity handler of universal waste must immediately contain all releases of universal waste and determine whether any material resulting from the release is a hazardous waste. If the release is hazardous it must be managed as such. *6 CCR 1007-3, Section 273.37*

Off-site Shipments

A large quantity handler of universal waste must send universal waste to an authorized facility. *6 CCR 1007-3, Section 273.38*

Tracking Universal Waste Shipments

A large quantity handler of universal waste must keep a record of universal waste received at the facility **and** universal waste sent from the handler to other facilities. The record may take the form of a log, invoice, manifest, bill of lading or other shipping document. These records must be maintained for at least three years. *6 CCR 1007-3, Section 273.39*

How are generators of hazardous waste classified?

There are three generator classifications. These categories are based on the cumulative amount of hazardous waste generated, *in kilograms*, per calendar month and/or the amount of hazardous waste, *in kilograms*, on site.

Many hazardous waste are liquids and are measured in gallons - not pounds or kilograms. In order to measure your liquid wastes, you will need to convert from gallons to pounds. To do this you must know the density of the liquid. A rough guide is that about half of a 55-gallon drum of waste with a density similar to water weighs about 220 pounds; 300 gallons of a waste with density similar to water weighs about 2,200 pounds or 1,000 kilograms.

What wastes do you count to determine your generator category?

Do count:

- 1) All quantities of listed and characteristic hazardous wastes that are accumulated on the property for any period of time before disposal or recycling. Dry cleaners, for example, must count any residue removed from machines, as well as spent cartridge filters.
- 2) All quantities of listed and characteristic hazardous wastes that are packaged and transported away from your business.
- 3) All quantities of listed and characteristic hazardous wastes that are placed directly in a regulated treatment or disposal container or tank at your facility.
- 4) All quantities of listed and characteristic hazardous wastes that are generated as still bottoms or sludges and removed from product storage tanks.

Do not count:

- 1) Wastes that are specifically exempted from counting. Examples include lead-acid batteries that will be reclaimed, scrap metal that will be recycled, used oil managed under the used oil provision of 6 CCR 1007-3, Part 279 and universal wastes.

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- 2) Wastes that might be left in the bottom of containers that have been thoroughly emptied through conventional means such as pouring or pumping.
 - 3) Wastes that are reclaimed continuously on site without storing prior to reclamation, such as dry-cleaning solvents.
 - 4) Wastes that are left as residue in the bottom of tanks storing products, if the tank continues to store these products and if the residue is not removed from the product tank.
 - 5) Wastes that are managed in an "elementary neutralization unit," a "totally enclosed treatment facility, or a "wastewater treatment unit," without being stored first. (See 6 CCR 1007-3, Section 260.10 for the definitions of these units.)
 - 6) Wastes that are discharged directly to publicly owned treatment works (POTWs) without being stored or accumulated first. Discharges, to a POTW must comply with the Clean Water Act. POTWs are public utilities, usually owned by the city, special districts or the county, that treat industrial and domestic sewage for disposal.
 - 7) Wastes that have already been counted once during the calendar month, and are treated on site or reclaimed in some manner, and used again. For example, solvent that is re-distilled on site.

What are the three generator classifications?

Conditionally Exempt Small Quantity Generators of Hazardous Waste

If you generate no more than 100 kilograms (about 220 pounds, or 25 gallons) of hazardous waste, and no more than 1 kilogram (about 2.2 pounds) of acutely hazardous waste in any calendar month AND never accumulate more than 1,000 kilograms of hazardous waste on your property, you are a conditionally exempt small quantity generator of hazardous waste. **See page 25** in this booklet for the Colorado Hazardous Waste Regulations for conditionally exempt small quantity generators.

Small Quantity Generators of Hazardous Waste

If you generate more than 100 and less than 1,000 kilograms (between 220 and 2,200 pounds, or about 25 to under 300 gallons) of hazardous waste, and no more than 1 kilogram (about 2.2 pounds) of acutely hazardous waste in any month AND never accumulate 6,000 kilograms of non-acutely hazardous waste on site at any one time, you are a small quantity generator of hazardous waste. **See page 27** in this booklet for the Colorado Hazardous Waste Regulations for small quantity generators.

Large Quantity Generators of Hazardous Waste

If you generate 1,000 kilograms (about 2,200 pounds, or 300 gallons) or more of hazardous waste, or more than 1 kilogram (about 2.2 pounds) of acutely hazardous waste in any month, you are a large quantity generator of hazardous waste. **See page 38** in this booklet for the Colorado Hazardous Waste Regulations for large quantity generators.

Is it possible for a generator to change categories?

Yes, a generator can change categories. Because the category is related to the cumulative amount of hazardous waste produced on a monthly basis and/or the amount of waste on site, this amount may vary from month to month.

Conditionally Exempt Small Quantity Generators of Hazardous Waste

A generator of hazardous waste may change categories since the category is related to the cumulative amount of waste produced on a monthly basis and/or the amount of waste on site. This amount may vary from month to month.

What is a conditionally exempt small quantity generator of hazardous waste?

A conditionally exempt small quantity generator of hazardous waste is one that: Generates no more than 100 kilograms (about 220 pounds or 25 gallons) of hazardous waste and no more than 1 kilogram (about 2.2 pounds) of acutely hazardous waste in any calendar month. *6 Colorado Code of Regulations (CCR) 1007-3, Section 261.5.*

What are the requirements for the conditionally exempt small quantity generator of hazardous waste?

1. A conditionally exempt small quantity generator must identify all hazardous wastes generated. *6 CCR 1007-3, Section 262.11.*
2. A conditionally exempt small quantity generator must never accumulate 1,000 kilograms (about 2,200 pounds) or more of hazardous waste at any one time (less than five 55-gallon drums at approximately 200 kilograms per drum). *6 CCR 1007-3, Section 261.5(g)*
3. A conditionally exempt small quantity generator must never accumulate more than 1 kilogram (about 2.2 pounds) of acutely hazardous waste on site at any one time. *6 CCR 1007-3, Section 261.5(f)*
4. A conditionally exempt small quantity generator may either treat its hazardous waste on site or must ensure delivery of that hazardous waste to a facility that is authorized by the Environmental Protection Agency (EPA) or an authorized state to accept that hazardous waste. *6 CCR 1007-3, Section 261.5(f)(g)* Solid waste landfills in Colorado are not allowed to accept hazardous waste for disposal from conditionally exempt small quantity generators.
5. If a conditionally exempt small quantity generator accumulates more than 1,000 kilograms of hazardous waste on site at any one time the generator status of the conditionally exempt small quantity generator changes to that of a small quantity generator.

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6. If a conditionally exempt small quantity generator accumulates more than one kilogram of acutely hazardous waste on site at any one time the generator status of the conditionally exempt small quantity generator changes to that of a large quantity generator.

It is suggested that in order to confirm that delivery of hazardous waste was made to an authorized facility, the conditionally exempt small quantity generator should keep shipping documents or hazardous waste shipping manifests on file for review.

The hazardous waste shipping manifest is the most commonly used shipping document. It is a multi-copy document designed so that the shipping of hazardous waste can be tracked from the point of generation to the final destination. The conditionally exempt small quantity generator will receive a final copy of the manifest with the signature of the owner or operator of the storage or disposal facility. This final copy is usually sent to the generator within one to two months of the waste being accepted by the transporter.

It is suggested that the final copy of the manifest be attached to the original manifest copy. This final copy verifies delivery of hazardous waste to an authorized facility.

Small Quantity Generators of Hazardous Waste

A generator of hazardous waste may change categories since the category is related to the cumulative amount of waste produced on a monthly basis and/or the amount of waste on site. This amount may vary from month to month.

What is a small quantity generator of hazardous waste?

A small quantity generator is one that:

Generates more than 100 kilograms and less than 1,000 kilograms (between about 220 and 2,200 pounds or about 25 to 250 gallons) of hazardous waste and no more than 1 kilogram (about 2.2 pounds) of acutely hazardous waste in any calendar month. A small quantity generator may not accumulate greater than 6,000 kilograms of non-acutely hazardous waste on site at any one time. *6 CCR 1007-3, Section 262.34(d).*

A small quantity generator who accumulates hazardous waste in quantities exceeding 6,000 kilograms or accumulates hazardous waste for more than 180/270 days is an operator of a storage facility and is subject to permit requirements.

- A one time 30 day extension to the 180/270 day accumulation time limit may be granted at the discretion of the Department on a case-by-case basis.

What are the requirements for a small quantity generator of hazardous waste?

Paperwork and Documentation

1. A small quantity generator must file for and receive an Environmental Protection Agency identification number (EPA I.D. number). To obtain an EPA I.D. number contact the Colorado Hazardous Waste Control Program and ask for Hazardous Waste Notification Form 8700-12. Call (303) 692-3300. *6 CCR 1007-3, Section 262.12.*

The EPA I.D. number is assigned to your facility and stays with the site. **The EPA I.D. number is address specific.** If the facility changes ownership, a revised Form 8700-12 should be submitted to notify the Division of the change in ownership. The facility's EPA I.D. number will not change.

If you move your facility to a new location you must notify the Division of the new address and submit new Form 8700-12. The facility will receive a new EPA I.D. number that is unique to the new location.

(An EPA I.D. number is NOT a hazardous waste permit. This number just identifies your hazardous waste activities for the regulatory agency.)

2. A small quantity generator must identify all hazardous waste generated and must keep records of any test results, waste analyses or other determinations for at least three years. *6 CCR 1007-3, Sections 262.11 and 262.40(c).*

Storage of Hazardous Waste Requirements for Small Quantity Generators

Waste Storage Limits

1. A small quantity generator must have no more than 6000 kilograms (about thirty 55-gallon drums) on site at any one time. *6 CCR 1007-3, Section 262.34(d)(1).*
2. A small quantity generator must NOT store waste on site for more than 180 days. If the generator must ship waste farther than 200 miles from the facility, storage may be for no longer than 270 days. A one time 30 day extension to the 180/270 day accumulation time limit may be granted at the discretion of the Department on a case-by-case basis. *6 CCR 1007-3, Section 262.34(f).*
3. Storage in excess of these time or quantity limits requires a permit. *6 CCR 1007-3, Section 100.10.*

Storage of Waste in Containers

1. A small quantity generator using containers for storage of hazardous waste must comply with the following requirements:
 - a. A small quantity generator must have hazardous waste accumulation containers labeled with the words "Hazardous Waste." *6 CCR 1007-3, Sections 262.34(d)(4) and 262.34(a)(3).*
 - b. The date when accumulation began must be clearly labeled on the container. *6 CCR 1007-3, Sections 262.34(d)(4) and 262.34(a)(2).*
 - c. The containers used to store the hazardous waste must be in good

condition. These containers must be kept closed except when waste is being added or removed. The container cannot be stored in a manner to cause a rupture or leak. *6 CCR 1007-3, Sections 262.34(d)(2), 265.171 and 265.173.*

- d. The hazardous waste must not cause the container to rupture, leak or corrode. Inspect the containers weekly for leaks or deterioration. (It is suggested that the small quantity generator keep a log of the weekly container inspections for documentation purposes). *6 CCR 1007-3, Sections 262.34(d)(2), 265.172 and 265.174.*
 - e. Wastes that could react together (for example could cause a fire, explosion, toxic gases or are otherwise incompatible) must not be placed in the same container or an unwashed container which previously held an incompatible material. A storage container holding hazardous waste that is incompatible with wastes in containers nearby must be separated from the other materials by a dike, berm, wall, etc. *6 CCR 1007-3, , Sections 262.34(d)(2) and 265.177.*
2. A container is considered empty if:
- a. All material has been removed from the container that can be removed using the practices that are commonly used for that container, AND if there is no more than one inch of residue on the bottom of the container.
 - b. For a container of 110 gallons or less, the remaining residue can be no more than 3% by weight of the total capacity of the container.
 - c. If the container held an acutely hazardous waste the liner must be removed or the container must be triple-rinsed with a suitable solvent.
 - d. The residue in an empty container is not regulated as a hazardous waste.

6 CCR 1007-3, Section 261.7.

It is suggested that if the residue in an empty container exhibits any of the four hazardous characteristics (ignitable, corrosive, reactive or toxic) and could explode or ignite or release corrosive or toxic waste while being processed for disposal, the generator should take extra precautions to prevent such an occurrence.

Storage of Waste in Tanks

1. A small quantity generator must have hazardous waste accumulation tanks labeled with the words "Hazardous Waste." *6 CCR 1007-3, Section 262.34(a)(3).*
2. A small quantity generator must have a tracking system to ensure that waste has not been accumulated in the tank for more than 180/270 days. *6 CCR 1007-3, Section 265.201 (a)*
3. A small quantity generator using tanks for storage must comply with the following requirements: *6 CCR 1007-3, Sections 262.34(d)(3) and 265.201.*
 - a. Treatment or storage of hazardous waste must comply with the requirements for ignitable, reactive or incompatible wastes. *6 CCR 1007-3, Section 265.17.*
 - b. Hazardous wastes or treatment reagents must not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode or to fail before the end of its intended life.
 - c. Uncovered tanks must have two feet of freeboard (empty space at the top of the tank) or a containment structure that equals or exceeds the volume of the top two feet of the tank.
 - d. Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop this inflow.
 - e. Small quantity generators using tanks for accumulation of hazardous waste must inspect each operating day where present: discharge control equipment, data gathered from monitoring equipment and the level of waste in the tank.
 - i. An operating day is defined as every day that the tank contains hazardous waste.
 - f. The construction materials of the tanks as well as the materials surrounding the structure should be inspected weekly to detect corrosion or leaking. It is suggested that the small quantity generator keep a log of all inspections for documentation purposes.
 - g. Incompatible wastes must not be placed in the same tank or an unwashed tank that previously held an incompatible waste.
 - h. Upon closure of the facility, hazardous waste in tanks must be removed

from the tanks, as well as discharge control equipment, and discharge confinement structures.

- i. Ignitable or reactive waste must not be placed in a tank unless the waste is treated, rendered or mixed before or immediately after placement in a tank so that the waste no longer meets the definition of ignitable or reactive waste or:
 - a. the waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react or:
 - b. the tank is used solely for emergencies.
- j. The owner or operator of a facility which treats or stores ignitable or reactive wastes in covered tanks must comply with the buffer zone requirements for tanks of the National Fire Protection Association (NFPA). Check with your local fire department, as well, for its specific requirements.

6 CCR 1007-3, Section 265.201.

Limits on Storage Near Site of Generation (Satellite Accumulation Areas)

- 1. A small quantity generator may accumulate as much as 55 gallons of a hazardous waste or one quart of an acutely hazardous waste in containers at or near any point of generation where wastes initially accumulate.

"At or near" is interpreted to mean that the satellite accumulation area is near enough to the location where the waste is generated so that there are no other areas, process equipment, etc., that might interfere with the transportation of the waste to the satellite area. Some examples of items that might interfere with transportation or waste might be: flights of stairs, parking lots, frequent foot traffic, elevators, or other hazardous waste or chemical storage area, or physical distance.

The satellite accumulation area must meet the following requirements:

- a. This area must be under the control of the operator of the process generating the waste. Control may include visual observation by the operator or a locking device.

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- b. The small quantity generator must comply with all the regulations covering containers (*6 CCR 1007-3, Section 265 Subpart I*) in the satellite storage area, with the exception that, the accumulation start date on the container begins *on* the date on which the 55-gallon or one quart limit is *exceeded*, or when the container is removed from the satellite accumulation area. The container must be dated immediately (within a few minutes) of becoming full.
 - c. The small quantity generator must comply with the requirements for preparedness and prevention in the satellite storage area.
 - d. The container in the satellite storage area must be moved immediately from the satellite area to a 180 day or permitted area when it becomes full. ("Immediately" is interpreted by the Hazardous Materials and Waste Management Division to mean within 24 hours).

6 CCR 1007-3, Section 262.34(g).

- 2. There may be more than one satellite storage area at a particular location if different processes are involved. However, the generator must take care to label each one as a separate satellite accumulation area.
- 3. "Process" is interpreted by Hazardous Materials and Waste Management Division to mean a unique, distinguishable activity generating separate waste.
- 4. Wastes still "in process" (i.e., continually in the process of being generated) do not need to be managed according to the requirements for satellite accumulation areas until they leave the process that generated them. For example, a group of employees are working at the same bench cleaning equipment with listed solvents on a cotton swab. Each employee uses about 100 swabs over the course of an hour. Each employee has a one-gallon container for the used swabs at their work site. A 55-gallon container is located at the end of the bench, where the employees consolidate the used swabs at the end of the shift. In this example, as long as the waste is moved to the 55-gallon container (the satellite accumulation area) by the end of the shift, the waste in the container is considered "in process."

If the waste is not moved to a satellite accumulation area by the end of the shift, the initial one-gallon container becomes subject to satellite accumulation area requirements.

Shipping of Waste Off-site

1. A small quantity generator must use a properly completed hazardous waste manifest when shipping its hazardous waste off-site. *6 CCR 1007-3, Section 262.20*
 - a. The manifest is a multicopy shipping document designed so that shipments of hazardous wastes can be tracked from their point of generation to their final destination "cradle to grave." The manifest must be completed as discussed in the appendix to 6 CCR 1007-3, Section 262. The generator, the hauler and the designated facility must each sign this document and keep a copy. The manifest must include the EPA I.D. number of the generator, all transporters and the storage and disposal facility. *6 CCR 1007-3, Section 262.23.*

The disposal facility or the transporter usually supplies its customers with blank manifest forms, or a generator may obtain the uniform hazardous waste form from a safety supply, printing, or sign and label company.
 - b. A copy of the manifest with the signature of the owner or operator of the designated disposal facility must be received by the small quantity generator within 60 days of the waste being accepted by the transporter.
 - 1) If no such copy is received, the generator needs to submit a legible copy of the manifest, with some indication that the generator has not received confirmation of delivery, to the Hazardous Materials and Waste Management Division. *6 CCR 1007-3, Section 262.42(c).*
 - c. Properly signed manifests must be kept on file for three years. *6 CCR 1007-3 sections 262.40 and 262.44(a).*
 - d. All hazardous wastes must be shipped to an authorized facility. *6 CCR 1007-3, Section 262.20(b).*
 - e. All hazardous waste must be packaged in accordance with the Department of Transportation (DOT) regulations per 49 CFR, Parts 173, 178 and 179. *6CCR 1007-3, Section 262.30 through 262.33.*
 - f. If the small quantity generator has a contract with a company to reclaim its hazardous waste or a "Reclamation Agreement," the manifesting requirements of 6 CCR 1007-3, described above do not apply IF:
 - 1) The waste is reclaimed under a contractual agreement.

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- 2) The type of waste and frequency of shipments are specified in the agreement.
 - 3) The vehicle used to transport the waste to the recycling facility and to deliver regenerated material back to the generator is owned and operated by the reclaimer of the waste.
 - 4) The generator maintains a copy of the reclamation agreement in his/her files for a period of at least three years after termination or expiration of the agreement.

6 CCR 1007-3, Section 262.20(e).

Waste Analysis for Land Disposal

1. A small quantity generator must test its waste, or use process knowledge of the waste, to determine if the waste is restricted from land disposal.
2. Small quantity generators that send waste to treatment and disposal facilities must certify in writing whether or not these wastes meet the treatment standards in Section 268 Subpart D.
3. The LDR determination can be made by the generator on the basis of knowledge of the waste, testing, or both. Depending on the outcome of the determination, either a certification or a notification of this determination **MUST** be included with each **new** hazardous waste profile shipped to the same disposal facility or a shipment to a new disposal facility.
4. Small quantity generators must retain, on site, a copy of all notices certifications, demonstrations, waste analysis data and other documentation relevant to this section for at least three (3) years from the date that the waste is subject to such documentation. Often treatment, storage and disposal (TSD) facilities have the forms available for the generators to fill out. However, the generator is responsible for making sure that the documentation is correct and complete. *It is suggested that copies of the appropriate LDR certifications/notifications be attached to the hazardous wastes manifests being retained on site. This allows the generator to readily find this paperwork when needed.*

6 CCR 1007-3, Section 268.7.

Employee Training

1. A small quantity generator must ensure that all employees are thoroughly familiar with proper waste handling and emergency response procedures relevant to their job responsibilities. *It is suggested that a written training plan and a roster of employees' names, dates of training, and signatures documenting completion of training be kept on file to prove compliance with the training requirements. 6 CCR 1007-3, Section 262.34(d)(5)(iii).*

Emergency Response/Preparedness

1. A small quantity generator must have one employee on site or on call with the responsibility for coordinating emergency response measures 24 hours a day. This employee is the emergency coordinator. The Emergency Coordinator's responsibilities include the following:
 - a. In the event of a fire, call the fire department or attempt to extinguish the fire.
 - b. In the event of a spill, contain the hazardous waste to the extent possible and as soon as possible clean up the waste and any contaminated surfaces, materials or soils.
 - c. In the event of fire, explosion or any other incident which could threaten human health off site or where a spill has reached surface water (including storm sewers), the emergency coordinator must immediately contact the National Response Center (call 1-800-424-8802).

6 CCR 1007-3, Section 262.34(d)(5)(iv).

2. A small quantity generator must post the following information by the telephone:
 - a. Name and telephone number of the emergency response coordinator.
 - b. The telephone number of the fire department unless the facility has a direct alarm.
 - c. Location of fire extinguishers, spill control materials and, if present, the location of the fire alarm.

6 CCR 1007-3, Section 262.34(d)(5)(ii)

3. A small quantity generator must comply with the following requirements for

preparedness and prevention: *6 CCR 1007-3, Section 262.34 (d)(4)*.

- a. The facility is maintained and operated in a manner to minimize the possibility of a fire, explosion or any release of hazardous waste or hazardous waste constituents to the air, soil, or water which could threaten human health or the environment. *6 CCR 1007,3 Section 265.31(a)*
- b. Required equipment for preparedness and prevention.
 - 1) internal communication or alarm system capable of providing emergency instructions to facility personnel
 - 2) A telephone, a hand-held two-way radio, or other device capable of summoning emergency assistance
 - 3) Fire-control equipment, spill-control equipment and decontamination equipment
 - 4) Water at adequate volume and pressure to supply a water hose, or foam-producing equipment or automatic sprinklers or water spray systems

6 CCR 1007-3, Section 265.32.

- c. All facility communications or alarm systems, fire protection equipment, spill-control equipment and decontamination equipment must be tested and maintained as necessary to assure its proper operation in time of emergency.
6 CCR 1007-3, Section 265.33.
- d. Whenever hazardous waste is being handled, all personnel involved must have immediate access to an internal alarm or emergency communication device. This could include visual or voice contact with another employee. *6 CCR 1007-3, Section 265.34.*
- e. Aisle space between containers and tanks must be maintained to allow unobstructed movement of emergency response personnel or equipment (unless aisle space is not needed for that purpose). *6 CCR 1007-3, Section 265.35.*
- f. A small quantity generator must attempt to make arrangements with local authorities such as police, fire, local health departments, emergency response teams and local hospitals to familiarize the local authorities with the layout, waste handling activities at the site, and the types of injuries or

illnesses that could result from fires, explosions, or releases at the facility.

- 1) The information given to the authorities should include a layout of the facility, the properties of the hazardous waste handled at that facility and associated hazards with that waste, where personnel would be working, entrances to roads inside the facility and possible evacuation routes.
- 2) If state and local authorities decline to enter into an arrangement, the facility needs to document this refusal.

6 CCR 1007-3, section 265.37

- g. Facilities that are not provided with fire protection by a fire protection district must be operated in accordance with a plan for their own fire protection and prevention. The plan must be approved by the Colorado Department of Public and Environment, Hazardous Materials and Waste Management Division. 6 CCR 1007-3, Section 265.31(b)

Large Quantity Generators of Hazardous Waste

A generator of hazardous waste can change categories as the category is related to the cumulative amount of waste produced on a monthly basis and/or the amount of waste on site. This amount may vary from month to month.

What is a large quantity generator of hazardous waste?

A large quantity generator is one that:

Generates 1,000 kilograms (about 2,200 pounds or about 250 gallons) or more of hazardous waste, or more than one kilogram (about 2.2 pounds) of acutely hazardous waste, in any calendar month, or who has greater than 6,000 kilograms of non-acutely hazardous waste on site at one time (about thirty 55-gallon drums).

What are the requirements for a large quantity generator?

Paperwork and Documentation

1. A large quantity generator must file for and receive an Environmental Protection Agency identification number (EPA I.D. number). To obtain an EPA I.D. number contact the Colorado Hazardous Waste Control Program and ask for Hazardous Waste Notification Form 8700-12. Call (303) 692-3300. *6 CCR 1007-3, Section 262.12.*

The EPA I.D. number is assigned to your facility EPA I.D. number **is address specific**. If the facility changes ownership, a revised Form 8700-12 should be submitted to notify the Division of the change in ownership. Since the EPA I.D. number is address specific, the facility's EPA I.D. number will not change.

If you move your facility to a new location you must notify the Division of the new address and submit a new Form 8700-12. The new facility will receive a new EPA I.D. number that is unique to the new location.

(An EPA I.D. number is NOT a hazardous waste permit. This number just identifies your hazardous waste activities for the regulatory agency.)

2. A large quantity generator must identify all hazardous waste generated at that facility and must maintain records available for inspection on waste analysis

or other determinations for wastes shipped off-site for the past three years. 6 CCR 1007-3, Section 262.11 and 262.40(c).

3. A large quantity generator must submit a biennial report to the Colorado HMWMD by March 1 of each even numbered year or upon the Department's request. The biennial report is submitted on EPA form 8700-13A and must cover activities during the previous year. The generator must keep a copy of these reports on file for three years. 6 CCR 1007-3, Sections 262.41 and 262.40(b).

Storage of Hazardous Waste Requirements for Large Quantity Generators

Waste Storage Limits

1. A large quantity generator must NOT accumulate waste on site for more than 90 days. 6 CCR 1007-3, Section 262.34(a)
2. Storage in excess of 90 days requires a permit. 6 CCR 1007-3, Section 100.10.

A one time 30 day extension to the 90 day accumulation time limit may be granted at the discretion of the Hazardous Material and Waste Management Division on a case-by-case basis.

Storage of Waste in Containers

1. A large quantity generator using containers for storage of hazardous waste must comply with the following requirements:
 - a. Large quantity generator must have hazardous waste accumulation containers labeled with the words "Hazardous Waste." 6 CCR 1007-3, Section 262.34(a)(3).
 - b. The date when accumulation began must be clearly labeled on the container. 6 CCR 1007-3, Section 262.34(a)(2).
 - c. The containers used to store the hazardous waste must be in good condition. These containers must be kept closed except when waste is being added or removed. The container cannot be stored in a manner to cause a rupture or leak. 6 CCR 1007-3, Sections 262.34(a)(1) and 265.171 and 265.173.

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- d. The hazardous waste must not cause the container to rupture, leak or corrode. Inspect the containers weekly for leaks or deterioration. (It is suggested that the large quantity generator keep a log of the weekly container inspections for documentation purposes). *6 CCR 1007-3, Sections 262.34(a)(1), 265.172 and 265.174.*
 - e. Wastes that could react together (for example could cause a fire, explosion, toxic gases or are otherwise incompatible) must not be placed in the same container or an unwashed container which previously held an incompatible material. A storage container holding hazardous waste that is incompatible with wastes in containers nearby must be separated from the other materials by a dike, berm, wall, etc. *6 CCR 1007-3, Sections 262.34(a)(1) and 265.177*

2. A container is considered empty if:

- a. All material has been removed from the container that can be removed using the practices that are commonly used for that container, AND if there is no more than one inch of residue on the bottom of the container.
- b. For container of 110 gallons or less, the remaining residue can be no more than 3% by weight of the total capacity of the container.
- c. If the container held an acutely hazardous waste the liner must be removed or the container must be triple-rinsed with a suitable solvent.
- d. The residue in an empty container is not regulated as a hazardous waste.

6 CCR 1007-3, Section 261.7.

It is suggested that if the residue in an empty container exhibits any of the four hazardous characteristics (ignitable, corrosive, reactive or toxic) and could explode or ignite or release corrosive or toxic waste while being processed for disposal, the generator should take extra precautions to prevent such an occurrence.

Storage of Waste in Tanks

1. A large quantity generator must label all hazardous waste accumulation tanks with the words "hazardous waste." *6 CCR 1007-3, Section 262.34(a)(3)*
2. A large quantity generator should have a tracking system to ensure that waste has not been accumulated in the tank for more than 90 days.

Please refer to 6 CCR 1007-3, Section 265 Subpart J. The regulations for large quantity generators storing hazardous waste in tanks are too lengthy to include all of them in this publication; some of them are listed below.

3. In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets all of the requirements of 6 CCR 1007-3, Section 265.193 must be provided.
 - a. Secondary containment systems must be designed, installed and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system.
 1. For existing tanks, for which the age cannot be documented, that do not have secondary containment see Section 265.91.
 - b. Secondary containment systems must be capable of detecting and collecting releases and accumulated liquids until the collected material is removed.
 - c. Ancillary equipment, such as transfer piping and welded connections, also require secondary containment unless inspected daily. 6 CCR 1007-3, Section 265.193(f)
 - d. If the facility is using the building as secondary containment the floors must be coated with an impermeable coating and the doors must be bermed. 6 CCR 1007-3, Section 265.193(e)
4. Hazardous waste must not be stored in a tank if it may cause it to rupture, leak, corrode or otherwise cause the tank to fail.

6 CCR 1007-3, Section 265.194(a).

5. The tank must use appropriate controls to prevent spills and overflows such as:
 - a. Cover the tank or provide at least 2 feet of freeboard (space at the top of the tank) in uncovered tanks.
 - b. If the tank has equipment that allows the waste to flow into it, a waste-feed cutoff or bypass system is necessary to stop the flow in case of problems.

-
- c. There must be spill and overflow prevention controls.

6 CCR 1007-3, Section 265.194(b).

- 6. The owner or operator must develop and follow a schedule and procedure for inspecting overfill controls daily.
- 7. The owner or operator must inspect the following at least once each operating day (**operating day is defined as each day there is hazardous waste in the tank**):
 - a. above ground portions of the tank system, if any, to detect corrosion or releases of waste;
 - b. data gathered from monitoring and leak detection equipment;
 - c. the construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).
- 8. Cathodic protection systems if present must be inspected within six months of installation and annually thereafter. Sources of impressed current must be inspected as appropriate.
- 9. Inspections must be documented in the operating record of the facility.

6 CCR 1007-3, Section 265.195.

- 10. Ignitable or reactive waste must not be placed in tank systems unless the waste is rendered non-ignitable or non-reactive, or the stored waste is protected from materials or conditions which might cause it to ignite or react OR the tank is used solely for emergencies. *6 CCR 1007-3, Section 265.198(a).*
- 11. Use the National Fire Protection Associations (NFPA) buffer zone requirements for tanks containing ignitable or reactive wastes. (Check with your local fire department for its requirements). *6 CCR 1007-3, Section 265.198(b)*
- 12. Wastes that could react together must not be stored in the same tank or placed in a tank that has not been decontaminated and that previously held an incompatible waste. *6 CCR 1007-3, Section 265.199.*

-
13. Tanks installed after September 30, 1988, "new tanks", must have a tank integrity assessment performed prior to being used. *6 CCR 1007-3, Section 265.192*

Limits on Storage Near Site of Generation (Satellite Accumulation Areas)

1. A large quantity generator may accumulate as much as 55-gallons of a hazardous waste or one quart of a acutely hazardous waste in containers at or near any point of generation where wastes initially accumulate (satellite accumulation area).

"At or near" is interpreted to mean that the satellite accumulation area is near enough to the location where the waste is generated so that there are no other areas, process equipment, etc., which might interfere with the transportation of the waste to the satellite area. Some examples of items that might interfere with transportation or waste might be: flights of stairs, parking lots, frequent foot traffic, elevators, or other hazardous waste or chemical storage area, or physical distance.

The satellite accumulation area must meet the following requirements:

- a. This area must be under the control of the operator of the process generating the waste. Control may include visual observation by the operator or a locking device.
- b. The large quantity generator must comply with all the regulations covering containers (*6 CCR 1007-3, Section 265 Subpart I*) in the satellite accumulation area, with the exception that the accumulation start date on the container begins on the date on which the 55-gallon or one quart limit is *exceeded*. The container must be dated immediately (within a few minutes) of becoming full.
- c. The large quantity generator must comply with the requirements for preparedness and prevention in the satellite accumulation area and designate the location of each satellite accumulation area in the contingency plan.
- d. The container in the satellite accumulation area must be moved immediately from the satellite area to a 90-day or permitted area when it becomes full.
("Immediately" is interpreted by HMWMD to mean within 24 hours.)

6 CCR 1007-3, Section 262.34(c).

-
2. There may be more than one satellite accumulation area at a particular location if different processes are involved. However, the generator must take care to label each one as a separate satellite accumulation area.
 3. "Process" is interpreted by Hazardous Materials and Waste Management Division to mean a unique, distinguishable activity generating separate waste.
 4. Wastes still "in process" (i.e., continually in the process of being generated) do not need to be managed according to the requirements for satellite accumulation areas until they leave the process that generated them. For example, a group of employees are working at the same bench cleaning equipment with listed solvents on a cotton swab. Each employee uses about 100 swabs over the course of an hour. Each employee has a one gallon container for the used swabs at their work site. A 55-gallon container is located at the end of the bench, where the employees consolidate the used swabs at the end of the shift. In this example, as long as the waste is moved to the 55-gallon container (the satellite accumulation area) by the end of the shift, the waste is considered "in process."

If the waste is not moved to a satellite accumulation area by the end of the shift, the initial one gallon container becomes subject to satellite accumulation area requirements.

Shipping of Hazardous Waste Off-site

1. A large quantity generator must use a completed hazardous waste manifest when shipping its hazardous waste off-site. *6 CCR 1007-3, Section 262.20*
 - a. The manifest is a multicopy shipping document designed so that shipments of hazardous waste can be tracked from their point of generation to their final destination – "cradle to grave." The manifest must be completed as discussed in the appendix to *6 CCR 1007-3, Section 262*. The generator, the hauler and the designated facility must each sign this document and keep a copy. The manifest must include the EPA ID number of the generator, all transporters and the storage and disposal facility. *6 CCR 1007-3, Section 262.23*

The disposal facility usually supplies its customers with blank manifest forms or a generator may obtain the uniform hazardous waste form from a safety supply, printing, or sign and label company.

- a. A copy of the manifest with the signature of the owner or operator of the designated facility must be received by the large quantity generator within 35 days of the waste being accepted by the transporter.

-
- 1) If no such copy is received within 45 days of the date the waste was accepted, an exception report must be submitted to the Colorado Department of Public and Environment, Hazardous Materials and Waste Management Division.

6 CCR 1007-3, Section 262.40(a) and 262.42(a)(b).

- b. Properly signed manifests must be kept on file for three years. *6 CCR 1007-3 section 262.40(a).*
- c. All hazardous wastes must be shipped to an authorized facility. *6 CCR 1007-3, Section 262.20(b)*
- d. All hazardous waste shipped off-site must be packaged in accordance with the Department of Transportation (DOT) regulations per 49 CFR, Parts 173, 178 and 179. *6CCR 1007-3, Sections 262.30 through 262.33*

Waste Analysis for Land Disposal

1. A large quantity generator must test its waste, or use process knowledge of the waste, to determine if the waste is restricted from land disposal.
2. Large quantity generators that send waste to treatment and disposal facilities must certify in writing whether or not these wastes meet the treatment standards in 6 CCR 1007-3, Section 268, Subpart D.
3. The LDR determination can be made by the generator on the basis of knowledge of the waste, testing, or both. Depending on the outcome of the determination, either a certification or a notification of this determination **MUST** be included with each **new** hazardous waste stream shipped to the same disposal facility or a shipment to a new disposal facility.
4. Large quantity generators must retain, on site, a copy of all notices, certifications, demonstrations, waste analysis data and other documentation relevant to this section for at least three (3) years from the date that the waste is subject to such documentation. (Often, TSD facilities have the forms available for the generators to fill out, however the generator is responsible for making sure the documentation is complete and correct). *It is suggested that copies of the appropriate LDR certifications/notifications be attached to the hazardous waste manifests being retained on site. This allows the generator to readily find this paperwork when needed.*

6 CCR 1007-3, Section 268.7

Employee Training

1. A large quantity generator must provide the facility hazardous waste personnel with classroom and on-the-job training that teaches these personnel to perform their jobs so that the facility can maintain compliance with the hazardous waste regulations. *6 CCR 1007-3, Sections 262.34(a)(4) and 265.16(a)*
 - a. This training program must be conducted by a person trained in hazardous waste management procedures.
 - b. This training must include instruction in waste management procedures and contingency plan implementation.
 - c. This training should include instruction in the Colorado and EPA hazardous waste regulations that apply to that facility.
 - d. Facility personnel must not work unsupervised prior to training and must receive training within six months of new or changed employment.
 - e. Facility personnel must receive an annual review in their hazardous waste training.

6 CCR 1007-3, Section 265.16(a)(b)(c)

2. A large quantity generator must maintain the following training records on site.
 - a. The job title for each position at the site related to hazardous waste management and the name of the employee filling each job, as well as a written job description including requisite skills, education and duties for that position.
 - b. These records must be maintained on-site for current personnel and past personnel employed within the last three years.
 - c. These records must include a written outline of introductory and review training to be given for each job position.
 - d. These records must include documentation that required training was successfully completed by site personnel and that the training is updated annually.

6 CCR 1007-3, section 265.16(d)

Emergency Response

The Contingency Plan

1. A large quantity generator must have an emergency response/contingency plan for the facility. The contingency plan must be designed to minimize hazards to human health or to the environment in the event of an accident involving hazardous wastes. *6 CCR 1007-3, Sections 262.34(a)(4) and 265 Subpart D*
 - a. Content of the contingency plan.
 - 1) The contingency plan must describe the actions personnel must take in response to fire, explosions or any unplanned release of hazardous waste to air, soil or ground water.
 - 2) The contingency plan describes arrangements made with local emergency response authorities.
 - 3) The contingency plan lists the names, addresses, office and home phone numbers for designated emergency response coordinators, with one emergency response coordinator listed as the primary coordinator.
 - 4) The contingency plan includes an up-to-date list of all emergency equipment on-site.
 - 5) The contingency plan includes a description of emergency equipment location and capabilities.
 - 6) The contingency plan includes an evacuation plan for facility personnel including signal(s) to be used to begin evacuation and descriptions of primary and alternative evacuation routes.
6 CCR 1007-3, Section 265.52
 - 7) The contingency plan must list all 90-day and satellite accumulation hazardous waste storage areas. *6 CCR 1007-3, Section 262.34(c)(1)(iv)*
 - b. A copy of the contingency plan and all revisions must be maintained at the facility and submitted to all state and local emergency response teams. *6 CCR 1007-3, Section 265.53*
 - c. The emergency coordinator must have the authority to commit resources

needed to implement the contingency plan.

- 1) There must be one employee designated as the primary emergency coordinator who is on site or on call at all times.
- 2) The emergency coordinator activates internal alarms and notifies appropriate state and local response authorities.
- 3) The emergency coordinator must be able to follow procedures outlined in the contingency plan to identify the character, source, amount and extent of released materials.
- 4) The emergency coordinator must be thoroughly familiar with the contingency plan, site operations, the location and characteristics of waste handled, the location of all records as well as hazardous waste accumulation areas, and the facility layout.
- 5) The emergency coordinator must assess possible hazards to human health or the environment whenever there is a release, fire or explosion.
- 6) The emergency coordinator must notify the appropriate authorities if the facility has had a release, fire or explosion that could threaten human health or the environment outside the facility.
- 7) The emergency coordinator must take measures to ensure that fires, explosions and releases do not occur, recur or spread to other hazardous waste at the facility.
- 8) If the facility stops operations in response to a fire, explosion or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation or ruptures in valves, pipes or other equipment.
- 9) After an incident the emergency coordinator must ensure that no waste that may be incompatible with the released material is treated, stored or disposed of until cleanup procedures are completed.
- 10) After an incident the emergency coordinator must ensure all equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.
- 11) After an emergency the emergency coordinator must provide measures to properly manage hazardous waste generated as a result of

the incident.

6 CCR 1007-3, Sections 265.55 and 265.56

- d. The owner or operator of the facility must notify the department and appropriate local authorities that the facility is in compliance before operations are resumed in affected areas. *6 CCR 1007-3, Section 265.56(i)*
- e. The owner or operator of the facility must submit a written report to the Colorado HMWMD within 15 days after an incident (see Section 265.56(j) for the details that must be included in this report). *6 CCR 1007-3, Section 265.56(j)*
- f. The contingency plan must be reviewed and amended when necessary. *6 CCR 1007-3, Section 265.54*

Preparedness/Prevention

- 1. A large quantity generator must comply with the following requirements for preparedness and prevention: *6 CCR 1007-3, Section 262.34(a)(4)*
 - a. The facility is maintained and operated in a manner to minimize the possibility of a fire, explosion or any release of hazardous waste or hazardous waste constituents. *6 CCR 1007-3, Section 265.31*
 - b. Required equipment for preparedness and prevention.
 - 1) Internal communications or alarm system capable of providing emergency instruction to facility personnel.
 - 2) A telephone or a hand-held two-way radio capable of summoning emergency assistance.
 - 3) Fire-control equipment.
 - 4) Water at adequate volume and pressure to supply a water hose, or foam-producing equipment, or automatic sprinklers, or water spray systems.

6 CCR 1007-3, Section 265.32

- c. All facility communications or alarm systems, fire protection equipment, spill-control equipment and decontamination equipment must be tested

and maintained as necessary to assure its proper operation in time of emergency.

6 CCR 1007-3, Section 265.33

- d. Whenever hazardous waste is being handled, all personnel involved must have immediate access to an internal alarm or emergency communication device. This could include visual or voice contact with another employee. *6 CCR 1007-3, Section 265.34*
- e. Aisle space must be maintained to allow unobstructed movement of emergency response personnel or equipment. *6 CCR 1007-3, Section 265.35*
- f. A large quantity generator must attempt to make arrangements with local authorities such as police, fire, local health departments, emergency response teams and local hospitals to familiarize the local authorities with the layout, waste-handling activities at the site, and the types of injuries or illnesses that could result from fires, explosions, or releases at the facility.
 - 1) The information given to the authorities should include a layout of the facility, the properties of the hazardous waste handled at that facility and associated hazards with that waste where personnel would be working, entrances to roads inside the facility and possible evacuation routes.
 - 2) If state and local authorities decline to enter into an agreement, the facility needs to document this refusal.

6 CCR 1007-3, Section 265.37

- g. Facilities that are not provided with fire protection by a fire protection district must be operated in accordance with a plan for their own fire protection and prevention. The plan must be approved by the Colorado HMWMD. *6 CCR 1007-3, Section 265.31(b)*

RCRA Air Emission Standards for Large Quantity Generators

The Colorado Hazardous Waste Commission has adopted the Federal EPA Regulations that apply to air standards for large quantity generator containers and tanks. These standards give the State of Colorado the authority to control organic air emissions at these facilities.
6CCR 1007-3, 265 Subparts AA, BB and CC

Subpart AA – Air Emission Standards for Process Vents

Subpart AA applies to hazardous waste management units which are subject to RCRA permitting. Subpart AA does not usually apply to large quantity generators of hazardous waste.

Subpart BB - Air Emission Standards for Equipment Leaks

Large quantity generators with equipment that contains or contacts hazardous waste that contains at least 10 percent organics by weight are subject to the control requirements of 6 CCR 1007-3, Section 265 Subpart BB.

1. Exemptions for the requirements of Subpart BB include:
 - equipment that contacts hazardous waste less than 300 hours per year
 - equipment that is in vacuum service

- 2) Types of equipment regulated by subpart BB include:
 - Pumps
 - Compressors
 - Pressure relief devices
 - Sampling connection systems
 - Valves
 - Open-ended lines
 - Flanges
 - Other connectors

Equipment Marking and Documentation.

Marking. All equipment deemed to be subject to the organic air emission requirements must be marked or tagged to readily distinguish it from other equipment. This can be done with weather proof tags or painting the equipment.

requirements apply, the following information must be kept in the operating record:

- Equipment identification number and hazardous waste management unit identification;
- Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan);
- Type of equipment (e.g., pump, valve, etc.);
- Percent by weight organic in the hazardous waste stream at the equipment;
- Hazardous waste state at the equipment (e.g., gas/vapor or liquid); and
- Method of compliance with the standard (e.g., "monthly leak detection and repair" or "equipment with dual mechanical seals").

The owner or operator must also maintain specific information for any equipment for which an exemption is claimed.

Determining the Level of Monitoring Required

In order to determine the level of required monitoring, the owner or operator must determine if the waste in question is in light liquid or heavy liquid service.

A waste is in light liquid service if one or more of the waste constituents contacting the equipment has a vapor pressure of greater than 0.3 kilopascals at 20 degrees Celsius (C), the total concentration of the pure organic components having a vapor pressure greater than 0.3 kilopascals at 20 degrees C is equal to or greater than 20% by weight and the fluid is a liquid at operating conditions. All other wastes are deemed to be in heavy liquid service.

Monitoring Equipment in Light Liquid Service

Pumps. Pumps contacting waste in light liquid service must be visually inspected each calendar week for leaks and monitored at monthly to detect

leaks using Method 21. A leak is detected if a visual leak is observed or an instrument reading of greater than 10,000 parts per million is measured.

Valves. Valves contacting hazardous waste in light liquid service must be monitored monthly for leaks using Method 21. A leak is detected if an instrument reading of greater than 10,000 parts per million is measured.

Pressure Relief Devices, Flanges, and Other Connectors. For these types of equipment contacting waste in light liquid service, such equipment must be monitored within 5 days if a leak is found by visual, audible, olfactory, or any other detection method. After observation of a leak, monitoring is required and a leak is confirmed if instrument measurements of greater than 10,000 ppm are detected.

Monitoring Equipment in Heavy Liquid Service

Pumps, valves, pressure relief devices, flanges and other connectors contacting waste in heavy liquid service must be monitored within 5 days if a leak is found by visual, audible, olfactory, or any other detection method. After observation of a leak, monitoring is required and a leak is confirmed if instrument measurements of greater than 10,000 ppm are detected.

Response to a Leak

Pumps. First attempts at repairing a leaking pump (such as tightening the packing gland) must be made within 5-days of detecting a leak. Final repair must be made within 15-days.

Valves. First attempts at repairing a leaking valve must be made within 5-days of detecting a leak. The first attempt at repair include: tightening of bonnet bolts, replacement of bonnet bolts, tightening of packing gland nuts, or injection of lubricant into lubricated packing. Final repair must be made within 15-days.

Pressure Relief Devices, Flanges, and Other Connectors. First attempts at repairing these types of equipment must be made within 5-days of detecting a leak. The first attempt at repair the same practices as for valves. Final repair must be made within 15-days.

Subpart CC for Tanks and Containers

Under these standards, air emissions controls must be used for tanks and certain containers which hold hazardous waste containing organic concentrations

greater than 500 parts per million by weight (ppmw) at the point of waste origination. *6 CCR 1007-3, Section 265 Subpart CC*

- 1) Exemptions from the Requirements of Subpart CC include:
 - Units used solely to store or treat remediation hazardous waste generated onsite from RCRA or CERCLA remediation
 - Containers with a capacity less or equal to 26 gallons
 - Units equipped with air emission controls in compliance with certain Clean Air Act standards under 40 CFR 60, 61 or 63
 - Wastewater treatment tanks exempted from RCRA permitting 180 and 270 day waste accumulation units, and satellite accumulation units
- 2) Waste Determination requirements:
 - A waste determination is only required when a unit holding volatile organic compounds is NOT using required air emission controls
 - Initial waste determinations are then needed, and updates are needed at least once every 12 months
 - Determinations can be done using direct measurements or knowledge of the waste. Both of these approaches require documentation be kept at the facility.
 - Refer to Section 265.1084 of the Colorado Hazardous Waste Regulations for specific details on waste determination procedures.
- 3) Subpart CC Standards for 90-day **tanks** holding hazardous waste containing organic concentrations greater than 500 parts per million by weight (ppmw):
 - Waste that is transferred to a tank subject to Subpart CC controls must be in hard-piping or in another closed system
 - There are initial and annual visual inspection requirements
 - There are record keeping requirements
 - Refer to Section 265.1085 of the Colorado Hazardous Waste Regulations for specific details on standards for tanks
- 4) Subpart CC Standards for 90-day **containers** holding hazardous waste containing organic concentrations greater than 500 parts per million by weight (ppmw):
 - Level 1 (for containers less than ~119 gallons):
 - Use containers that meet DOT regulations, or,
 - Use covered container, or
 - Use organic suppression barrier

Refer to Section 265.1085 of the Colorado Hazardous Waste Regulations for specific details on standards for level 1, 2 and 3 requirements for containers

How to choose an analytical laboratory

Chemical analysis of hazardous waste by an independent laboratory is generally required to meet state regulations. The data developed from laboratory analysis can be used to meet the following requirements:

- * Hazardous Waste Determination -- 6 CCR 1007-3, Section 262.11
- * Notifications/Certifications -- 6 CCR 1007-3, Section 268.7 (a)(b) and (c)
- * Waste Analysis Plan -- 6 CCR 1007-3, Section 264.13/265.13

While a laboratory can provide the data, the responsibility for the data and decisions based upon the data rest with the generator or TSD.

The following types of questions should be directed to laboratory management staff to help determine if the laboratory is competent. The answers received should be used to compare one prospective lab to another, evaluate the expertise of the labs, and the education and experience of its key employees.

Most reputable laboratories maintain a rigorous chain-of-command to insure quality. Make sure the prospective labs have such a quality control mechanism.

Personnel

1. Does the lab maintain a detailed summary of the relevant experience of the analysts, supervisor and managers?
2. Are the managers, supervisors or chemists recognized as experts at the analysis you need?
3. Are these individuals published in peer-reviewed periodicals ?
4. Have the chemists provided expert testimony at trial on their work?
5. Who has the authority to approve/review data?

Procedures

1. Does the lab have a quality assurance (QA) plan and quality control (QC) activities? Ask for a copy of the QA plan and QC charts of the analysis of interest. Ask for the QC charts for the particular analysis performed on your sample that day.
2. Are the analytical methods used for your particular analyte approved methods

found in 6 CCR 1007-3, Part 261, Appendix III. If deviations are declared by the lab, are they specified, documented, verified and validated? Ask for a copy of deviations and other support documents.

3. What documentation will be provided from analysis?
4. How are contaminants/interferants accounted for and what measures are used by the lab to minimize their presence?
5. What are the frequencies of blanks, spikes and calibrations associated with the analysis that you are seeking?
6. Are calibration logs, corrective-action logs and maintenance logs maintained for the analytical instruments? How often are these data reviewed and by whom?
7. Does the lab participate in audit programs and does the lab currently maintain any certifications? Most labs participate in an annual/semiannual water certification audit or forensic analysis audit. Although laboratory certification is not a state requirement for environmental analysis, information obtained from other certifications may help to determine the overall quality of the laboratory.
8. Consider occasionally splitting samples between two laboratories. Take two representative portions of the sample and have them analyzed by two different laboratories. Compare the results.

How to choose a treatment, storage and disposal facility

Generators of hazardous waste are required by regulation to choose a treatment storage and disposal facility (TSD). 6 CCR 1007-3, Sections 262.20(b)(c) and 261.5(f).

The following questions should be asked of management before making a final selection. Responses to these questions should be used to compare prospective TSDs. A more rigorous evaluation of the facility can be achieved through an in-depth review of expertise, capability and compliance.

1. Is the facility fully permitted under Part 100 and Part 264 or by other states or the EPA? What is its EPA I.D. number?
2. Does the Part A permit authorize the facility to provide the treatment and/or disposal for the waste in question?
3. Does the facility have evidence of experience in dealing with the waste situation? Has the facility successfully treated/disposed of a like waste stream ?
4. Does the facility have analytical capability to evaluate 1) the waste when it arrives on site, 2) the waste treatment residual for compliance with the issued permit and the Land Disposal Restriction?
5. What is the facility's compliance history?
6. Does the facility have an active ground water monitoring program in place as required under 6 CCR 1007-3, Part 265, Subpart F? Has the facility had to implement a compliance monitoring program as a result of contamination?
7. Ask for an explanation of the treatment processes.
8. Does the design of disposal units meet the minimum technology requirements?

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