



BASICS OF HAZARDOUS WASTE TRAINING FOR INDUSTRY

Student Packet



2021

23rd Annual
California CUPA Conference



NES Meet Your Instructor



Steve Reichow, CEA, CDGP, CDGT, CIT is Vice President at NES, Inc. (NES). Mr. Reichow has extensive knowledge in characterizing, profiling, manifesting, managing, transporting, and treating hazardous waste. He has over 21 years of experience providing consulting and training services regarding hazardous waste management, treatment, transportation, and disposal on behalf of government and private industry clients and has engaged in hazardous waste management and transportation audits for clients throughout California.

Mr. Reichow is a Certified Environmental Auditor, Certified Dangerous Goods Professional, Certified Dangerous Goods Trainer, and Certified Instructional Trainer. Among his many achievements, Mr. Reichow has developed instructor-led and web-based training programs on behalf of various California utility companies to satisfy California Code of Regulations, Title 22 and Code of Federal Regulations, Title 49 training requirements for employees responsible for managing and transporting hazardous waste. He has contributed to the development of hazardous waste compliance manuals and procedures for large and small quantity generators concerning proper handling, transportation, and disposal procedures for self-generated hazardous waste.

Mr. Reichow has also assisted numerous large and small quantity generators throughout California with the identification, management, packaging, transportation, and disposal of their self-generated hazardous waste. He regularly performs environmental site assessments and prepares guidance documents for organizations looking to maintain compliance with the multitude of regulations to which California businesses are required to adhere. Further experience includes responsibility for identifying, classifying, profiling, and manifesting hazardous waste for various remediation projects.

Mr. Reichow developed his practical proficiency through hands-on experience working as an Environmental Lab Pack Chemist at a local treatment, storage, and disposal facility and while overseeing field operations for a firm specializing in hazardous waste management, transportation, remediation, and emergency response services. He has developed and provided training to satisfy OSHA, EPA, DOT, IMDG, and IATA training requirements for companies and government agencies throughout the United States. He has delivered training presentations at the California CUPA Training Conference, Clandestine Laboratory Investigators Association Conference, and California Nevada Section American Water Works Association Conference.



About NES

NES, Inc. (NES) has been helping businesses and government agencies protect their employees and the environment since 1987. A nationally recognized leader in environmental, health & safety (EH&S) training and consulting, we provide expert industrial hygiene services in the areas of indoor air quality, water damage & mold, asbestos, occupational exposure, OSHA compliance, and other EH&S concerns. We specialize in delivering environmental compliance expertise on numerous issues, including storm water, air quality, and hazardous waste management. NES is now applying this vast EH&S knowledge to the regulated cannabis industry.

NES regularly performs construction safety observations on a range of projects, supporting safety goals and helping affected personnel work in a culture of heightened safety awareness. We provide training on a broad range of workplace EH&S issues, and since NES' inception we have been training law enforcement personnel across the U.S. and internationally to respond to clandestine drug laboratory sites safely and effectively.



NES Headquarters
1141 Sibley Street
Folsom, CA 95630



Bay Area Facility
3055 Alvarado Street
San Leandro, CA 94577

"Employers need to stay compliant with state and federal regulations; without proper training, your business or organization is at increased risk of costly incidents & citations."

– Jerry Bucklin, NES President & CEO

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Is Your Business CERS Ready?



HAZARDOUS MATERIALS

that handle hazardous materials at or above reportable quantities (55 gallons for liquids, 500 pounds for solids, 200 cubic feet for compressed gases).

HMBPs must be submitted and recertified annually via the California Environmental Reporting System (CERS). An HMBP requires the following elements:

- Business Owner/Operator Information
- Business Activities
- Hazardous Materials Inventory
- Site Map
- Emergency Response / Contingency Plan
- Employee Training Plan

NES HMBP Compliance Program

A Hazardous Materials Business Plan (HMBP) is generally *required for businesses in California*

HMBPs are put in place to protect employees and the environment from hazardous materials releases or incidents; *protect your business from potential citations and fines for a low annual fee with the NES HMBP Compliance Program.* Learn more by contacting us at environmental@nesglobal.net, and get ready to enjoy the peace of mind that comes with entrusting our experienced professionals with your facility's HMBP compliance.

HMBP SERVICES

- Hazardous materials inventory site visit
- Initial plan & site map development
- Annual update, submittal & certification
- Online employee training
- Ongoing HMBP updates & support



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NES Open Enrollment Training

HAZWOPER

40-Hour HAZWOPER

This training program is required for those involved in hazardous waste operations where the potential for exposure to regulated hazards exists. Topics include chemical & physical hazard recognition, hazard controls,

selection of personal protective equipment, air monitoring, respiratory protection, site control, decontamination, field-specific operations, and an introduction to emergency response. Training includes classroom instruction, workbook activities, and a field exercise incorporating the use of personal protective equipment and monitoring, sampling, and decon practices.

24-Hour HAZWOPER

This course is required for occasional wastesite personnel performing limited hazardous waste remediation and cleanup operations at fully characterized and monitored sites where exposure above established thresholds is not expected and air monitoring or use of respirators is not required.

8-Hour HAZWOPER & Emergency Response Refresher

Required annually to maintain compliance, topics for this training program include the latest in regulatory changes, protective clothing trends, expanded chemical hazards, emergency response procedures, field safety, respiratory protection, and revised hazard assessment techniques. This classroom-based course also satisfies emergency response refresher requirements.

NES also provides 16-Hour HAZWOPER Supplemental, HAZWOPER Management & Supervisor, First Responder Operations, Incident Commander, and Hazardous Materials Technician training.



Transportation

DOT Hazmat Employee (8-Hour)

This course is intended for employees who affect the safe transportation of hazardous materials and hazardous waste and those who prepare and sign Uniform Hazardous Waste Manifests. The course also serves as

the three-year refresher for those who have previously taken initial training.

Uniform Hazardous Waste Manifest (8-Hour)

This course is strongly recommended for personnel who prepare manifests or sign manifests and/or shipping papers prepared by others. The program satisfies function-specific 49 CFR 172.704 and 22 CCR 66262.23 training requirements.

IATA Dangerous Goods (8-Hour)

This 8-hour program satisfies the initial and recurrent (2-year) training requirements mandated by IATA Dangerous Goods Regulations applicable to ground handling agencies, freight forwarders, shippers of dangerous goods by air, and agencies engaged in security screening.

NES also provides IMDG transportation training.



Hazardous Waste

Hazardous Waste Management (8-Hour)

This training meets both federal and State initial and annual refresher requirements for facility and generator personnel who generate hazardous waste as part of their job

duties. Topics include fundamental practices of recordkeeping, tiered permitting, container & tank management, hazardous waste shipping (including EPA's e-Manifest system), land disposal restrictions, and on-site treatment.

Advanced Hazardous Waste Management (16-Hour)

This two-day course is our most thorough hazardous waste management compliance program. Training provides an in-depth understanding of applicable California and federal hazardous waste management requirements for small and large quantity generators. The program covers determining generator status, recordkeeping & general management requirements, EPA's e-Manifest system, hazardous waste identification & classification, facility standards, container & tank management, land disposal restrictions, tiered permitting, California's waste minimization program (SB 14), the Unified Program, and an overview of DOT regulations.

Visit nesglobal.net to view our training calendar & explore our services!



Cannabis

Cal/OSHA 30-Hour General Industry – Cannabis Edition

California cannabis businesses are now required by licensing agencies to have at least one supervisor and one employee complete Cal/OSHA 30-Hour General Industry training.

This program is required by Cal/OSHA to cover certain topics, but we tailor the program so that it fits the context of cannabis industry operations; however, anyone seeking Cal/OSHA 30-Hour General Industry training can attend this program and become certified. Participants will receive training on the recognition, avoidance, abatement, and prevention of safety and health hazards in the workplace.

Cannabis Industry for Regulators (16-Hour)

This valuable two-day training program is intended for regulatory personnel who may be visiting cannabis businesses in California for the purpose of performing site audits. The course covers the hazards inherent to cannabis operations, the protocols for performing inspections, and the continually evolving practices and regulations that apply to this young industry. Participants will leave class with a greater understanding of the California cannabis industry and their role within it.

California CUPA Overview

Enforcing the CalEPA Unified Program



History of California CUPAs

The California Environmental Protection Agency (CalEPA) was established in 1991 to oversee environmental protection programs statewide. The agency's general mission is, "to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality." In order to achieve this, CalEPA oversees the implementation of what is known as the Unified Program through Certified Unified Program Agencies (CUPAs).

The Unified Program ensures consistency regarding hazardous waste and hazardous materials handling in California by consolidating six environmental programs. Local agencies, commonly environmental health departments or other public health-related organizations, are certified by CalEPA as CUPAs to manage and enforce the Unified Program within their jurisdictions.

There are currently 81 CUPAs in the State, including Fresno County Department of Public Health, Merced County Department of Public Health, San Mateo County Environmental Health Department, Yolo County Environmental Health Department, and San Joaquin County Environmental Health Department.

In addition to CUPAs, there are 24 Participating Agencies (PAs) in California. PAs, typically small- to medium-sized fire departments, work in conjunction with the regional CUPA(s). PAs enforce one or more of the programs included in the Unified Program in place of a CUPA. For example, the Pasadena Fire Department operates as a PA within the jurisdiction of the Los Angeles County Fire Department CUPA. Through the PAs and CUPAs, California can maintain a more unified and efficient process for protecting public health and safety and the environment.

The California CUPA Forum was established to continually improve the Unified Program. The California CUPA Forum provides videos, documents, and frameworks to support CUPAs. Additionally, the forum holds a conference each year that provides training in subjects related to enhancing Unified Program implementation.

The Six Programs of California CUPAs

California CUPAs are an integral part of the CalEPA Unified Program. CUPAs consolidate, coordinate, and make consistent the enforcement activities of *six environmental and emergency response programs* in California. State agency partners that are associated with the enactment of the Unified Program are responsible for setting program standards, working with CalEPA to ensure program consistency, and providing technical assistance to CUPAs.

Through the PAs and CUPAs, California can maintain a more unified and efficient process for protecting public health and safety and the environment.

Visit our blog to see the original June 20, 2019 article, including source references:

[**nesglobal.net/blog**](http://nesglobal.net/blog)

The NES blog provides regular, accessible content relating to workplace safety, regulatory compliance, permitting issues, and more.



The Six Programs of California CUPAs

Hazardous Materials Business Plans Program



The *Hazardous Materials Business Plans (HMBPs) program*, first established in 1986 by the California Governor's Office of Emergency Services (CalOES), was instituted primarily as a response to the 1984 Bhopal, India chemical disaster, in which a toxic gas was released, resulting in approximately 15,000 deaths. The purpose of the program is to, "prevent or minimize the damage to public health and safety and the environment from a release or threatened release of hazardous materials." HMBPs provide a reference source of businesses' chemical inventories for use by responders in the case of an emergency.

Hazardous Waste Generators Program



California CUPAs are charged with overseeing the *Hazardous Waste Generators program*, which ensures that hazardous wastes generated by businesses are properly handled, recycled, treated, stored, and disposed. There are specific procedures for determining how hazardous waste is classified and handled. The program, which originates from the California Department of Toxic Substances Control (DTSC), also covers Emergency Response Plans, spill and release reporting, and hazardous waste minimization.

California Accidental Release Prevention Program



According to the California CUPA Forum, the goal of the *California Accidental Release Prevention (CalARP) program* is to, "reduce the likelihood and severity of consequences of extremely hazardous materials releases." Under the program, facilities that handle specific chemicals are required to take steps to prevent and prepare for accidental releases of substances that can cause serious harm to the public and the environment. The program, which is overseen by CalOES, requires the development of Risk Management Plans. California CUPAs are responsible for reviewing these plans before implementation.

Aboveground Storage Tanks



Adopted in 1989, the *Aboveground Petroleum Storage Act (APSA) program* regulates facilities with large (greater than 1,320 gallons) aggregate petroleum tank storage, aboveground fuel tank stations, and vehicle repair shops. APSA does not regulate non-petroleum products, and all regulated facilities must meet federal EPA Spill Prevention, Control, and Countermeasure (SPCC) rule requirements. SPCC Plans are intended to prevent, prepare for, and execute responses to petroleum releases from aboveground storage tanks.

Underground Storage Tanks



While the APSA program specifically regulates petroleum storage, the *Underground Storage Tank (UST) program* covers tanks located partially or completely beneath the surface of the ground that store any type of hazardous chemical. According to federal EPA, most USTs were made of bare steel until the mid-1980s and were likely to corrode and leak over time. The UST program, which is overseen by the California State Water Resources Control Board, protects against hazardous substance releases by regulating leak prevention, cleanup, enforcement, and tank test licensing procedures.

California Fire Code



There are two sections of the *California Fire Code (CFC)* that are included in CalEPA's Unified Program. These CFC sections deal with Hazardous Materials Management Plans and Hazardous Materials Inventory Statements (equivalent of HMBPs). According to the overseeing agency, CAL FIRE, these sections of the CFC are designed to, "enhance coordination and communication among the CUPA, participating agencies, fire agencies, and business stakeholders." This is achieved by strengthening communication, coordination, consistency, and consolidation through the California CUPAs.

NES & California CUPAs



NES maintains a solid reputation for providing expert environmental, health & safety training on behalf of various California CUPAs. We are contracted with CUPAs throughout California to deliver training programs to regulated businesses within those CUPAs' jurisdictions to help businesses protect their employees, their assets, and the environment. Inspectors routinely attend our open enrollment OSHA and hazardous waste management training programs at our Folsom, CA & San Leandro, CA training centers. Additionally, to further assist regulatory personnel in light of the recent emergence of the legal cannabis industry in California, NES has developed a specialized *Cannabis Industry for Regulators* training program (described below).



Commonly Provided NES CUPA Training Programs

SPCC Plans for APSA Sites

This course covers APSA statutes, SPCC Plans, regulatory requirements, and releases for facilities with aboveground storage tanks.

Universal Waste Management

This training program covers hazards associated with universal waste, responding to releases of universal waste, and proper packaging, labeling, accumulation, and shipping requirements for universal waste.

Hazardous Waste Management for the Auto Industry

This program provides an outline of waste management requirements for hazardous waste commonly generated in the auto industry (repair and paint shops) and includes pollution prevention methods.

Hazardous Materials Business Plans / CERS

This course provides a breakdown of HMBP requirements, completion and submittal of the HMBP via CERS, Contingency Plan requirements, and emergency response procedures.

UST Owner/Operator

Training covers the responsibilities of owners and operators of facilities with underground storage tanks.

Basic Hazardous Waste Management

Training outlines hazardous waste recordkeeping and management requirements, hazardous waste identification and classification, container and tank management requirements, and shipping requirements.

Advanced Hazardous Waste Management

This training program covers generator status determination, hazardous waste recordkeeping and management requirements, hazardous waste identification and classification, hazardous waste exemptions and recycling exceptions, container and tank management, facility standards, land disposal restrictions, and tiered permitting.

DOT & Hazardous Waste Manifest

Training topics for this course include identification of DOT-regulated hazardous materials and hazardous waste, proper packaging, marking, and labeling, and completion and submittal of the Uniform Hazardous Waste Manifest form.



Cannabis Industry for Regulators Training




The regulated cannabis industry continues to increase its presence in California and across the country. City, county, and State regulatory agencies are required to inspect cannabis businesses and enforce the current regulations, but regulatory applications can be difficult to determine. *Cannabis Industry for Regulators* is a valuable training program intended for regulatory personnel (or those overseeing such personnel) who may be visiting cannabis businesses in California for the purpose of performing site audits. The course covers the continually evolving industry practices and regulations that apply to this burgeoning industry, the protocols for performing inspections, and the hazards inherent to cannabis operations. Course participants will gain a greater understanding of the California cannabis industry, its rules and regulations, their role within the industry, and how to professionally and safely conduct a cannabis site inspection.

Are you an REHS? As a CDPH-accredited firm, NES course hours convert 1:1 to contact hours!

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**Basics of Hazardous Waste
Training for Industry**

Presented by
Steve Reichow, NES, Inc., sreichow@nesglobal.net
February 4th & 16th, March 4th & 16th

23Rd Annual California CUPA Training Conference
February 2 thru March 18, 2021
Virtual Conference



www.calcupa.org

Course Objectives

- This course provides an overview of federal and State regulations regarding the classification, management, transportation, and disposal of hazardous waste for California hazardous waste generators (large & small quantity)



Course Outline

- Regulatory Overview and Recordkeeping Requirements
- Hazardous Waste Determination
- Container and Tank Management
- Shipping Requirements

HAZARDOUS WASTE
STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOSAL.
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY, OR THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL.

GENERATOR INFORMATION:
NAME _____
ADDRESS _____
CITY _____ STATE _____ PHONE _____ ZIP _____
EPA IDENTIFICATION NO. / MANIFEST TRACKING NO. _____
EPA CA ACCUMULATION
WASTE NO. _____ START DATE _____
CONTENTS, COMPOSITION: _____

PHYSICAL STATE: ☐ SOLID ☐ LIQUID
HAZARDOUS PROPERTIES: ☐ CORROSIVE ☐ REACTIVITY ☐ FLAMMABLE ☐ TOXIC ☐ OTHER _____
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX _____
HANDLE WITH CARE!



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Regulatory Overview & Recordkeeping Requirements



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Regulatory Overview

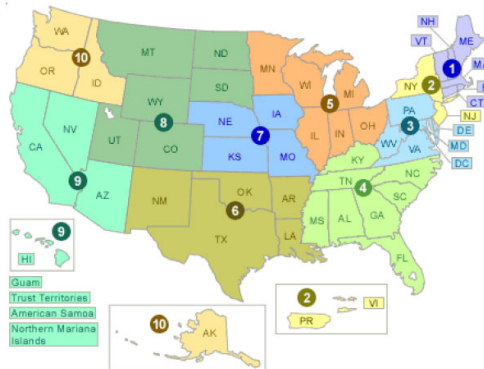
Gov't Level	Law	Year Enacted	Regulation	Agency
Federal	RCRA	1976	40 CFR 260-268, 273	Environmental Protection Agency (EPA)
State	HWCL	1972	22 CCR 66260-66268, 66273	Department of Toxic Substances Control (DTSC)
Federal	OSHA	1970	Title 29 CFR	Occupational Safety and Health Administration (OSHA)
State	Cal/OSHA	1973	Title 8 CCR	Division of Occupational Safety and Health (DOSH or Cal/OSHA)
Federal	HMTA	1975	Title 49 CFR	Department of Transportation (DOT)
State	CVC	1935	Title 13 CCR	California Highway Patrol (CHP) / Department of Motor Vehicles (DMV)



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Regulatory Overview

- United States Environmental Protection Agency (U.S. EPA) protects human health and the environment:
 - Writes and enforces environmental regulations
 - Regulations enforced by regional offices



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Regulatory Overview

- California Department of Toxic Substances Control (DTSC) protects people and the environment from harmful effects of toxic substances by:
 - Enforcing hazardous waste regulations
 - Inspecting permitted facilities and hazardous waste generators
 - Taking enforcement actions to ensure compliance



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Regulatory Overview

- The Certified Unified Program Agency (CUPA) consolidates, coordinates, and makes consistent portions of the following six existing programs:
 - Aboveground Storage Tanks (SPCC Plans)
 - California Fire Code
 - California Accidental Release Prevention Program (CalARP)
 - Hazardous Materials Business Plans (HMBPs)
 - **Hazardous Waste Generators**
 - Underground Storage Tanks (USTs)



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Regulatory Overview

➤ <http://cersapps.calepa.ca.gov/Public/Directory/>

The screenshot shows the CERS (California Environmental Reporting System) website. At the top, there's a header with the CERS logo and the text "California Environmental Reporting System" and "California Environmental Protection Agency". Below the header is a navigation bar with links: "CUPA Directory", "CERS Data Registry (CDR)", and "Other CERS Resources". The main content area is titled "Unified Program Regulator Directory" and includes a sub-header "Use the Unified Program Regulator Directory to search for and view location/contact information for Certified Unified Program Agency (CUPAs) and other local regulators associated with the Unified Program." There are two search forms: "Regulator Search" and "Facility Address Search". The "Regulator Search" form has fields for "County" (a dropdown menu), "ZIP Code", and "Type" (a dropdown menu), with a "Search" button. The "Facility Address Search" form has a "Facility Street Address" field, and "City", "State" (a dropdown menu with "CA" selected), and "ZIP Code" fields, with a "Search" button.



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Generator or Producer

- A generator is any person, by site, whose act or process produces hazardous waste or whose act first causes a waste to become subject to regulation as a hazardous waste



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Generator Status

Acute/Extremely Hazardous Waste	Non-Acute/ Non-Extremely Hazardous Waste	Residues from Spills of Acute Hazardous Waste	Generator Status
> 1 kg	Any amount	Any amount	Large quantity generator (LQG)
Any amount	≥ 1,000 kg	Any amount	Large quantity generator
	Any amount	> 100 kg	
≤ 1 kg	> 100 kg and < 1,000 kg	≤ 100 kg	Small quantity generator (SQG)
	≤ 100 kg	≤ 100 kg	Very small quantity generator (VSQG) [federal category]



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Generator Status

- Waste volume based on:
 - RCRA and non-RCRA wastes
 - Amount generated each month, not amount shipped off-site
 - When managed in accordance with applicable regulations or statutes, does not include:
 - Contaminated containers, recyclable latex paint, spent lead-acid storage batteries, treated wood wastes, universal wastes, used oil filters & fuel filters



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Generator Status

➤ RCRA LQG

- Generates > 1 kg of acute hazardous waste; OR
- Generates > 100 kg of residue from spill of acute hazardous waste; OR
- Generates \geq 1,000 kg of non-acute RCRA hazardous waste



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EPA Identification Numbers

[22 CCR 66262.12]

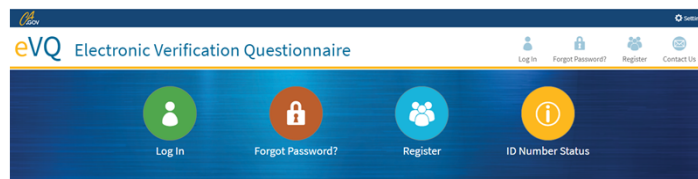
- ### ➤ Each site that generates hazardous waste must have an ID number
- California ID numbers issued by DTSC
 - CAL – permanent
 - CAC – temporary
 - EPA ID numbers issued by U.S. EPA
 - CAR, CAD, CA, or CAT – permanent
 - CAP – temporary



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EPA Identification Numbers

- Generators must verify their ID numbers (state and federal) annually
- Verification is completed electronically via DTSC's eVQ system
- If a generator fails to verify the site's ID numbers, DTSC will deactivate the site's ID number



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Contingency Plans – LQGs

[22 CCR 66265.50-56]

- Spell out emergency actions involving hazardous waste
 - Fire
 - Explosives
 - Unplanned, sudden releases/spills



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Contingency Plans – LQGs

- Contents:
 - Emergency Coordinator
 - Emergency procedures
 - Emergency services and arrangements to coordinate response actions
 - Emergency equipment
 - Evacuation Plan
 - Cal OES contact
- Copy maintained on-site
- Review & updating:
 - Regulations change
 - Plan fails
 - Facility changes design or response operations
 - Emergency Coordinator changes
 - Emergency equipment changes



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Emergency Procedures – SQGs

[40 CFR 262.16(b)(9)(i-ii)]

- At all times, at least one employee must be available to respond to an emergency
- Information must be posted next to telephones OR in areas directly involved in the generation and accumulation of hazardous waste
 - Name and number of Emergency Coordinator
 - Location of fire extinguishers, spill control equipment and fire alarm
 - Fire Department number

EMERGENCY PROCEDURES

Post near telephones and as appropriate

In case of a fire, spill, or other emergency involving hazardous chemicals or wastes, do the following:

Major Emergency

- ⇒ Evacuate the affected areas per the facility Evacuation Plan
- ⇒ Call 911 and report the emergency
- ⇒ Report the emergency to the facility Emergency Coordinator

Minor Emergency

- ⇒ Try to control the emergency if you are trained to do so and can do it safely
- ⇒ Report the emergency to the facility Emergency Coordinator

Facility Emergency Coordinators

	Name	Work Phone	24 Hour Phone
Primary EC:			
1st Alternate EC:			
2nd Alternate EC:			
3rd Alternate EC:			

Emergency Agencies

Agency	Phone No.
Fire Dept., Ambulance, Police	911
Governor's Office of Emergency Services	(800) 852-7550
	()

Emergency Equipment

Locations of fire extinguishers, fire alarms (if any), and equipment for controlling chemical spills are shown on the facility site plan posted with this notice.

This document is only a summary of emergency procedures. Refer to this facility's written emergency response plan for detailed procedures.



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Hazardous Waste Tank Assessment

[22 CCR 66265.192]

- LOGs who accumulate hazardous waste in tanks must have a tank assessment that is certified by a PE
 - Assessment must be completed prior to putting tank into service
 - New tank systems must be re-assessed every five years
 - Assessment of the tank must include:
 - Tank configuration, material of construction & capacity
- Design standard
- Description of tank system piping
- Description of any internal and external pumps
- Sketch or drawing of tank including dimensions
- Documented age of the tank system
- Evaluation of leak detection, spill prevention equipment & containment
- Evaluation of corrosion protection
- Characteristics of the waste accumulated in tank
- Remaining service life of tank



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Biennial Report

[22 CCR 66262.41 & 66265.75]

- Required & certified by **RCRA** LOGs
- Report covers odd-numbered year
 - Contains amounts by waste code
 - Identifies source & origin of waste
 - Identifies disposal method (recycled, incinerated, etc.)
 - Describes waste minimization efforts
- Due March 1st of even-numbered year

A screenshot of the RCRAInfo website. The header shows the RCRA logo and the EPA logo. The main content area is titled "RCRAInfo" and contains a description of the system. On the right side, there is a "RCRAInfo Sign In" section with fields for "User ID" and "Password", a "Sign In" button, and links for "Register", "Forgot User ID?", and "Forgot Password?".

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Disposal & Recycle Records

[22 CCR 66262.40 & 66268.7; HSC 25160.2]

- Manifests
- Consolidated manifests
 - Maintained for three years from date of shipment
- Land Disposal Restriction forms
 - Maintained for three years from the date restricted hazardous waste last shipped off-site

Form 100, Hazardous Waste Manifest, (01/01/2010) (Rev. 01/01/2010)

Section 1: Shipper/Generator Information

Section 2: Transporter Information

Section 3: Receiver/Off-site Facility Information

Section 4: Waste Description and Quantity

Section 5: Waste Manifest Tracking and Status

Section 6: Waste Manifest Tracking and Status (Continued)

Section 7: Waste Manifest Tracking and Status (Continued)

Section 8: Waste Manifest Tracking and Status (Continued)

Section 9: Waste Manifest Tracking and Status (Continued)

Section 10: Waste Manifest Tracking and Status (Continued)

Section 11: Waste Manifest Tracking and Status (Continued)

Section 12: Waste Manifest Tracking and Status (Continued)

Section 13: Waste Manifest Tracking and Status (Continued)

Section 14: Waste Manifest Tracking and Status (Continued)

Section 15: Waste Manifest Tracking and Status (Continued)

Section 16: Waste Manifest Tracking and Status (Continued)

Section 17: Waste Manifest Tracking and Status (Continued)

Section 18: Waste Manifest Tracking and Status (Continued)

Section 19: Waste Manifest Tracking and Status (Continued)

Section 20: Waste Manifest Tracking and Status (Continued)

Section 21: Waste Manifest Tracking and Status (Continued)

Section 22: Waste Manifest Tracking and Status (Continued)

Section 23: Waste Manifest Tracking and Status (Continued)

Section 24: Waste Manifest Tracking and Status (Continued)

Section 25: Waste Manifest Tracking and Status (Continued)

Section 26: Waste Manifest Tracking and Status (Continued)

Section 27: Waste Manifest Tracking and Status (Continued)

Section 28: Waste Manifest Tracking and Status (Continued)

Section 29: Waste Manifest Tracking and Status (Continued)

Section 30: Waste Manifest Tracking and Status (Continued)

Section 31: Waste Manifest Tracking and Status (Continued)

Section 32: Waste Manifest Tracking and Status (Continued)

Section 33: Waste Manifest Tracking and Status (Continued)

Section 34: Waste Manifest Tracking and Status (Continued)

Section 35: Waste Manifest Tracking and Status (Continued)

Section 36: Waste Manifest Tracking and Status (Continued)

Section 37: Waste Manifest Tracking and Status (Continued)

Section 38: Waste Manifest Tracking and Status (Continued)

Section 39: Waste Manifest Tracking and Status (Continued)

Section 40: Waste Manifest Tracking and Status (Continued)

Section 41: Waste Manifest Tracking and Status (Continued)

Section 42: Waste Manifest Tracking and Status (Continued)

Section 43: Waste Manifest Tracking and Status (Continued)

Section 44: Waste Manifest Tracking and Status (Continued)

Section 45: Waste Manifest Tracking and Status (Continued)

Section 46: Waste Manifest Tracking and Status (Continued)

Section 47: Waste Manifest Tracking and Status (Continued)

Section 48: Waste Manifest Tracking and Status (Continued)

Section 49: Waste Manifest Tracking and Status (Continued)

Section 50: Waste Manifest Tracking and Status (Continued)

Section 51: Waste Manifest Tracking and Status (Continued)

Section 52: Waste Manifest Tracking and Status (Continued)

Section 53: Waste Manifest Tracking and Status (Continued)

Section 54: Waste Manifest Tracking and Status (Continued)

Section 55: Waste Manifest Tracking and Status (Continued)

Section 56: Waste Manifest Tracking and Status (Continued)

Section 57: Waste Manifest Tracking and Status (Continued)

Section 58: Waste Manifest Tracking and Status (Continued)

Section 59: Waste Manifest Tracking and Status (Continued)

Section 60: Waste Manifest Tracking and Status (Continued)

Section 61: Waste Manifest Tracking and Status (Continued)

Section 62: Waste Manifest Tracking and Status (Continued)

Section 63: Waste Manifest Tracking and Status (Continued)

Section 64: Waste Manifest Tracking and Status (Continued)

Section 65: Waste Manifest Tracking and Status (Continued)

Section 66: Waste Manifest Tracking and Status (Continued)

Section 67: Waste Manifest Tracking and Status (Continued)

Section 68: Waste Manifest Tracking and Status (Continued)

Section 69: Waste Manifest Tracking and Status (Continued)

Section 70: Waste Manifest Tracking and Status (Continued)

Section 71: Waste Manifest Tracking and Status (Continued)

Section 72: Waste Manifest Tracking and Status (Continued)

Section 73: Waste Manifest Tracking and Status (Continued)

Section 74: Waste Manifest Tracking and Status (Continued)

Section 75: Waste Manifest Tracking and Status (Continued)

Section 76: Waste Manifest Tracking and Status (Continued)

Section 77: Waste Manifest Tracking and Status (Continued)

Section 78: Waste Manifest Tracking and Status (Continued)

Section 79: Waste Manifest Tracking and Status (Continued)

Section 80: Waste Manifest Tracking and Status (Continued)

Section 81: Waste Manifest Tracking and Status (Continued)

Section 82: Waste Manifest Tracking and Status (Continued)

Section 83: Waste Manifest Tracking and Status (Continued)

Section 84: Waste Manifest Tracking and Status (Continued)

Section 85: Waste Manifest Tracking and Status (Continued)

Section 86: Waste Manifest Tracking and Status (Continued)

Section 87: Waste Manifest Tracking and Status (Continued)

Section 88: Waste Manifest Tracking and Status (Continued)

Section 89: Waste Manifest Tracking and Status (Continued)

Section 90: Waste Manifest Tracking and Status (Continued)

Section 91: Waste Manifest Tracking and Status (Continued)

Section 92: Waste Manifest Tracking and Status (Continued)

Section 93: Waste Manifest Tracking and Status (Continued)

Section 94: Waste Manifest Tracking and Status (Continued)

Section 95: Waste Manifest Tracking and Status (Continued)

Section 96: Waste Manifest Tracking and Status (Continued)

Section 97: Waste Manifest Tracking and Status (Continued)

Section 98: Waste Manifest Tracking and Status (Continued)

Section 99: Waste Manifest Tracking and Status (Continued)

Section 100: Waste Manifest Tracking and Status (Continued)



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Record Retention

- Waste analytical test analyses
 - Three years from date waste was last shipped off-site
- Container inspections
 - Three years from date of inspection (best management practice [BMP])
- Tank inspections
 - LQG – three years from date of inspection
 - SQG – three years from date of inspection (BMP)
- Emergency equipment inspections
 - LQG – three years from date of inspection
 - SQG – three years from date of inspection (BMP)



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Training Requirements – SQGs

[40 CFR 262.16(b)(9)(iii)]

- Employees must be familiar with proper waste handling and emergency response procedures relevant to their responsibilities
- Annual training is a BMP



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Training Requirements – LQGs

[22 CCR 66265.16]

- Personnel must successfully complete a program of either:
 - Classroom, computer-based, or electronic instruction; OR
 - On-the-job (OTJ) training
- Training must cover hazardous waste management procedures and emergency response training
- Training must be provided within 180 days of hire / job placement
- Annual training required



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Training Requirements – LQGs

- Personnel involved in shipping hazardous waste must receive *DOT Hazmat Employee* training
 - 49 CFR 172.704
 - Refresher training must be provided at least once every three years



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Training Documentation – LQGs

- Documentation:
 - Description for each position related to hazardous waste management including the requisite skills, education, or other qualifications and duties of employees assigned to each position
 - Job title for each position related to hazardous waste management and the name of the employee filling each job
 - *[Continued...]*



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Training Documentation – LQGs

- Description of the type and length of training needed for each position
- Records to document that training has been provided and completed
 - Records are to be kept until facility closure for current employees and for three years for former employees



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Hazardous Waste Determination



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Hazardous Waste Determination

[22 CCR 66262.11]

- A person who generates a waste must determine if it is hazardous by determining if the waste:
 - Is excluded from regulation
 - Is listed
 - Exhibits any hazardous waste characteristics
- Determinations can be made by:
 - Testing the waste
 - Generator's knowledge



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Hazardous Waste Determination

[22 CCR 66261.2]

- Waste is any discarded material of any form (liquid, semi-solid, solid, or gaseous) that is not excluded by regulation or statute:
 - Relinquished (disposed of, burned or incinerated, or accumulated, stored, or treated prior to or in lieu of disposal)
 - Recycled (applied to land in a manner constituting disposal, used in products that are applied to land, burned to recover energy, reclaimed, or speculatively accumulated)
 - *[Continued...]*



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Hazardous Waste Determination

[22 CCR 66261.2]

- Inherently waste-like materials when recycled (e.g., Fo20, Fo21 [with one exception], Fo22, Fo23, Fo26, and Fo28 – all dioxin-precursor waste)
- A material that poses a threat to human health and/or the environment that has been mislabeled or unlabeled for more than 10 days (i.e., 10 days from the day that the labeling deficiency was first discovered)
- A material that poses a threat to human health and/or the environment contained in a deteriorated or damaged packaging for more than 96 hours



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Hazardous Waste Determination

[22 CCR 66261.4(a)]

- Materials that are not waste:
 - Industrial wastewater discharges
 - Nuclear byproducts
 - Spent sulfuric acid used to produce virgin sulfuric acid
 - Pulpig liquors reclaimed in a pulping liquor recovery furnace
 - Secondary materials that are returned to the original process



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Hazardous Waste Determination

[22 CCR 66261.4(b)]

- Wastes that are not hazardous waste:
 - Infectious wastes consisting only of animal carcasses
 - Materials not classified as a solid waste that do not exhibit a hazardous waste characteristic
 - Used oil re-refining distillation bottoms used as a feedstock for asphalt
 - Used CFC refrigerants that are reclaimed
 - *[Continued...]*



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Hazardous Waste Determination

[22 CCR 66261.4(b)]

- Solid wastes from the extraction and processing of ores and minerals
- Hazardous wastes generated in a tank or manufacturing process unit
 - Exclusion applies until waste exits unit or remains in non-operational unit for more than 90 days
- Samples
- Controlled substances
- CRT glass



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Hazardous Waste Determination

RCRA Hazardous Waste

- Listed
 - Unspent (U & P)
 - Spent (F & K)
- Characteristic
 - Ignitable (D001)
 - Corrosive (D002)
 - Reactive (D003)
 - Toxic (D004 – D043)

Non-RCRA Hazardous Waste

- Presumptive lists
 - Common name
 - Chemical constituents
- Characteristic
 - Ignitable
 - Corrosive
 - Reactive
 - Toxic



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RCRA-Listed Wastes

[22 CCR 66261.31 & 66261.32]

Spent Waste Codes

- F-listed: Non-specific sources
 - F001 – F039
- K-listed: Specific sources
 - K001 – K175

Unspent Waste Codes

- P-listed: Acute hazardous waste
 - P001 – P205
- U-listed: Toxic hazardous waste (unless noted)
 - U001 – U411



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RCRA-Listed Wastes

- Hazard codes represent basis for listing:
 - I – Ignitable waste
 - C – Corrosive waste
 - R – Reactive waste
 - E – Toxicity characteristic waste
 - T – Toxic waste
 - H – Acute waste



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F-Listed Wastes

- Hazardous waste from non-specific sources:
 - Spent solvent wastes (F001 – F005)
 - Electroplating & metal-finishing wastes (F006 – F012 & F019)
 - Dioxin-containing wastes (F020 – F023 & F026 – F028)
 - Chlorinated aliphatic hydrocarbons production wastes (F024 & F025)
 - Wood-preserving wastes (F032, F034 & F035)
 - Petroleum refinery wastewater treatment sludges (F037 & F038)
 - Multi-source leachate (F039)



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K-Listed Wastes

Hazardous Waste from Specific Sources

- Wood preservation
- Inorganic pigments
- Organic chemicals
- Inorganic chemicals
- Pesticides
- Explosives
- Petroleum refining
- Iron & steel
- Primary aluminum
- Secondary lead
- Veterinary pharmaceuticals
- Ink formulation
- Coking



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Unspent Listed Wastes

[22 CCR 66261.33]

- Pure or commercial grade formulations of ***unused*** chemicals
 - Pure grade (100%)
 - Technical grade
 - All commercial grades of a chemical, which may be marketed in various stages of purity
 - Sole active ingredient
 - The only chemically active component for the function of the product
- Any chemical used for its intended purpose does not meet a P or U listing



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Unspent Listed Wastes

[22 CCR 66261.33(e) & 66261.33(f)]

- P-listed wastes
 - Acutely hazardous, includes:
 - Contaminated containers
 - Spill cleanup
- U-listed wastes
 - Toxic (unless otherwise noted)



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RCRA Ignitable Characteristic – D001

[22 CCR 66261.21]

- Liquid (other than < 24% alcohol by volume) with a flash point < 140°F (60°C)
- A solid that can cause fire through friction, absorption of moisture, or spontaneous chemical changes and burns vigorously and persistently when ignited
- Is an ignitable compressed gas
- Is an oxidizer

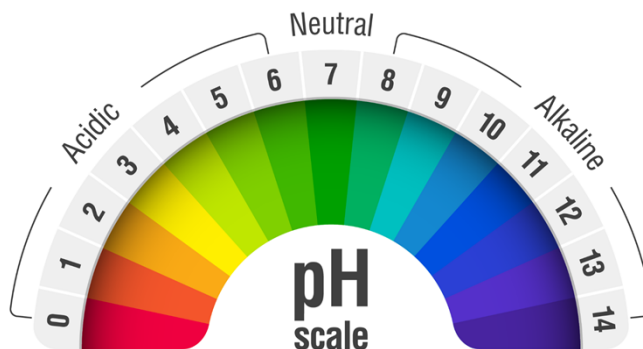


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RCRA Corrosive Characteristic – D002

[22 CCR 66261.22]

- Aqueous with $\text{pH} \leq 2.0$ or ≥ 12.5 ; OR
- Liquid that corrodes steel at $\frac{1}{4}$ inch (6.35 mm) per year



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RCRA Reactive Characteristic – D003

[22 CCR 66261.23]

- Unstable and undergoes violent change w/o detonating;
- Reacts violently with water;
- Forms an explosive mixture with water;
- Generates toxic gases, vapors, or fumes with water;
- Cyanide- or sulfide-bearing waste producing toxic gases, vapors, or fumes @ $\text{pH } 2 - 12.5$;
- Capable of detonation or an explosive reaction; OR
- Forbidden explosive (49 CFR 173.51)



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RCRA Toxic Characteristic – D004 – D043

[22 CCR 66261.24]

- Applies to eight inorganic elements and 32 organic compounds
- Tested using EPA Toxicity Characteristic Leaching Procedure (TCLP)
- Regulated if > specified threshold



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California Presumptive Lists

[22 CCR, Division 4.5, Chapter 11, Appendix X]

- Chemical names
- Common names
- Presumed to create a non-RCRA hazardous waste based on hazardous characteristic
 - X: Toxic
 - C: Corrosive
 - I: Ignitable
 - R: Reactive



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Non-RCRA Ignitable Characteristic – D001

(Same as Federal)

- Liquid (other than < 24% alcohol by volume) with a flash point < 140°F (60°C)
- A solid that can cause fire through friction, absorption of moisture, or spontaneous chemical changes and burns vigorously and persistently when ignited
- Is an ignitable compressed gas
- Is an oxidizer



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Non-RCRA Corrosive Characteristic

- Aqueous with pH ≤ 2.0 or ≥ 12.5
- Liquid that corrodes steel at $\frac{1}{4}$ inch (6.35 mm) per year
- Non-aqueous wastes that yield pH ≤ 2.0 or ≥ 12.5 when mixed with an equivalent weight of water
- Non-liquids that corrode steel at $\frac{1}{4}$ inch (6.35 mm) per year when mixed with an equivalent weight of water



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Non-RCRA Reactive Characteristic – D003

(Same as Federal)

- Unstable and undergoes violent change w/o detonating;
- Reacts violently with water;
- Forms an explosive mixture with water;
- Generates toxic gases, vapors, or fumes with water;
- Cyanide- or sulfide-bearing waste producing toxic gases, vapors, or fumes @ pH 2 – 12.5;
- Capable of detonation or an explosive reaction; OR
- Forbidden explosive (49 CFR 173.51)



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Non-RCRA Toxic

- Exceeds TTLC or STLC for 20 inorganics (Table II) or 18 organics (Table III)
- Oral LD₅₀ < 2,500 mg/kg
- Dermal LD₅₀ < 4,300 mg/kg
- Inhalation LC₅₀ < 10,000 ppm
- Aquatic 96-hr LC₅₀ < 500 mg/L
- Listed carcinogen > 0.001% (10 ppm) by weight



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Used Oil

[HSC 25250.1]

- Used oil is defined as oil that has been refined from crude oil, or any synthetic oil that has been used, and, as a result of use or as a consequence of extended storage or spillage, has been contaminated with physical or chemical impurities



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Used Oil

Used Oil

- Crankcase oil
- Gear oil
- Vegetable or animal oil used as a lubricant
- Hydraulic oil
- Transformer oil
- Transmission fluid

Not Used Oil

- Antifreeze
- Brake fluid
- Fuels
- Other automotive wastes
- Solvents
- Oil w/ a flash point < 100°F
- Oil w/ ≥ 5 ppm PCBs
- Oil w/ > 1,000 ppm halogens



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California Waste Codes

[22 CCR Appendix XII]

➤ Restricted Wastes	700-800
➤ Inorganics	100-199
➤ Organics	200-300
➤ Sludges	400-499
➤ Miscellaneous	500-600



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Exemptions

- Contaminated containers [22 CCR 66261.7]
- Drained oil filters [22 CCR 66266.130]
- Drained fuel filters [HSC 25250.22]
- Spent lead-acid storage batteries [22 CCR 66266.80-81]
- Universal wastes [22 CCR 66273]



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Container & Tank Management



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Container

- A container is a device that is open or closed, and portable, in which material can be stored, handled, treated, transported, recycled, or disposed of



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Tank

- A tank is a *stationary* device designed to contain an accumulation of hazardous waste constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) that provide structural support



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Central Accumulation Areas

- Generators must have a designated Central Accumulation Area (CAA)
 - Generators can have multiple CAAs
- LQGs: CAA must be > 50 ft from property line if ignitable (D001) or reactive (D003) waste accumulated
- Facility must be maintained & operated to minimize possibility of a fire, explosion, or release



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Central Accumulation Areas

[22 CCR 66265.14]

Accumulation Time Limits & Volumes

LQG	90 days; no limit for hazardous waste accumulated on-site
SQG	180 days (270 days if shipped ≥ 200 miles); maximum 6,000 kg hazardous waste accumulated on-site
VSQG	No time limit until 100 kg of hazardous waste (180 days) or 1 kg of acutely or extremely hazardous waste is reached (then 90 days) [HSC 25123.3(c); 22 CCR 66262.34(b)(1)]



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Container Accumulation Areas – LQG Security

- Located in secure area with access controlled
- Post warning sign: "Danger Hazardous Waste Area – Unauthorized Personnel Keep Out"



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Central Accumulation Areas

[40 CFR 262.16(b)(8); 22 CCR 66265.15(b) & 66265.32-33]

- Emergency equipment:
 - Internal communication devices
 - Fire extinguishers
 - Spill control equipment
 - Decon equipment
 - Water at adequate volume and pressure
- Equipment must be tested & maintained



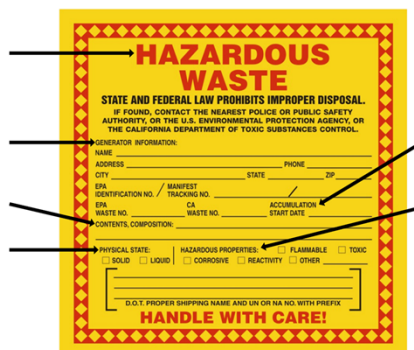
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Container Management

[22 CCR 66262.34(f)]

- Hazardous waste containers must be marked with the following:
 1. The words "HAZARDOUS WASTE"
 2. Generator's name and address
 3. Contents
 4. Physical state
 5. Accumulation start date
 6. Hazardous properties
- Labels must be legible and visible!

Hazardous Waste Labeling



HAZARDOUS WASTE

STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOSAL.
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY, OR THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL.

GENERATOR INFORMATION:
NAME _____ PHONE _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____
EPA IDENTIFICATION NO. _____ MANIFEST TRACKING NO. _____
WASTE NO. _____ CA WASTE NO. _____ ACCUMULATION START DATE _____

CONTENTS, COMPOSITION:
PHYSICAL STATE: ☐ SOLID ☐ LIQUID ☐ GASEOUS
HAZARDOUS PROPERTIES: ☐ FLAMMABLE ☐ TOXIC
☐ CORROSIVE ☐ REACTIVITY ☐ OTHER _____

D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX _____
HANDLE WITH CARE!



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Container Management

[40 CFR 262.16(b)(2)(i-iii); 22 CCR 66265.171-173(a)]

- Hazardous waste containers must be:
 - In good condition (no signs of rust, damage, or leakage)
 - Compatible with the waste
 - Closed (except when adding or removing waste)
 - Managed in a manner so they are not ruptured or caused to leak



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Container Management

- Funnels must meet closure requirements.



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Container Management

- Aisle space between containers must allow for unimpeded access to containers



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Container Management

[40 CFR 262.16(b)(2)(v); 22 CCR 66265.177]

- Incompatible hazardous wastes cannot be placed in the same container

TECHNOTE: POTENTIALLY INCOMPATIBLE WASTES*		
GROUP 1-A	GROUP 1-B	POTENTIAL CONSEQUENCES
<ul style="list-style-type: none"> Acetylene sludge Alkaline caustic liquids Alkaline cleaner Alkaline corrosive liquids Alkaline corrosive battery fluid 	<ul style="list-style-type: none"> Caustic wastewater Lime wastewater Spent caustic Lime sludge Pickling liquor and other corrosive alkalis Acid sludge Spent sulfuric acid Battery acid Acidic chemical cleaners Etching acid liquid or solvent Electrolyte acid 	<ul style="list-style-type: none"> Heat generation Violent reaction
GROUP 2-A	GROUP 2-B	POTENTIAL CONSEQUENCES
<ul style="list-style-type: none"> Aluminum Beryllium Calcium Lithium Other reactive metals and metal hydrides 	<ul style="list-style-type: none"> Zinc powder Sodium Potassium Magnesium Any waste in Group 1-A or 1-B 	<ul style="list-style-type: none"> Fire Explosion Generation of flammable hydrogen gas
GROUP 3-A	GROUP 3-B	POTENTIAL CONSEQUENCES
<ul style="list-style-type: none"> Alcohols 	<ul style="list-style-type: none"> Calcium Potassium Other water-reactive waste Lithium Metal hydrides Any concentrated waste in Group 1-A or 1-B SO₂Cl₂, sulfuric chloride, SO₂Cl₂, phenyl chlorides, PCl₃, phosphorus trichloride, CH₃COCl, trimethylamine, triethanolamine 	<ul style="list-style-type: none"> Fire Explosion Heat generation Generation of flammable or toxic gases
GROUP 4-A	GROUP 4-B	POTENTIAL CONSEQUENCES
<ul style="list-style-type: none"> Alcohols Nitrated hydrocarbons Unseparated hydrocarbons 	<ul style="list-style-type: none"> Aldehydes Halogenated hydrocarbons Other reactive organic compounds and solvents Concentrated Group 1-A or 1-B Group 2 Wastes 	<ul style="list-style-type: none"> Fire Explosion Generation of flammable or toxic gases
GROUP 5-A	GROUP 5-B	POTENTIAL CONSEQUENCES
<ul style="list-style-type: none"> Spent cyanide and sulfide solutions 	<ul style="list-style-type: none"> Group 1-B wastes 	<ul style="list-style-type: none"> Generation of toxic hydrogen cyanide Generation of hydrogen sulfide gas
GROUP 6-A	GROUP 6-B	POTENTIAL CONSEQUENCES
<ul style="list-style-type: none"> Chlorates Chlorine Chlorides Chromic acid Hypochlorites Nitric acid, fuming 	<ul style="list-style-type: none"> Perochlorates Potassium permanganates Peroxides Nitrites Other strong oxidizers Acetic acid and other organic acids Concentrated mineral acids Other flammable and combustible wastes Group 2-A wastes Group 4-A wastes 	<ul style="list-style-type: none"> Fire Explosion Violent reaction

* Mixing a Group A material with a Group B material may have the listed consequences.



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Container Management

- Containers are not required to have secondary containment
 - Secondary containment is a BMP
- Secondary containment must be kept free of waste



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Tank Management

[40 CFR 262.16(b)(6)(ii); 22 CCR 66262.34(f)(1&3)]

- Hazardous waste tanks must be labeled with:
 - The words "HAZARDOUS WASTE"
 - Accumulation start date
 - Hazardous property(ies) of the waste



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Tank Management – LQGs

[22 CCR 66265.193]

- Hazardous waste tanks must have secondary containment:
 - Designed to prevent releases from impacting soil or water
 - Capable of detecting and collecting releases and accumulated liquids



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Used Oil

[22 CCR 66279.1(b)]

- Containers and tanks utilized to store used oil must be marked with "Used Oil" (in addition to hazardous waste markings)
- **Do not** mark used oil containers and tanks with "Waste Oil"



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Container Accumulation Area Inspections

[22 CCR 66265.174]

- Weekly:
 - Leaking containers
 - Deterioration of containers
 - LQGs – containment systems
- Inspections should be documented



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Tank Inspections – SQGs

[40 CFR 262.16(b)(3)(iii)]

- Daily (unless tank has secondary containment):
 - Discharge controls
 - Monitoring data
 - Tank level
- Weekly
 - Construction materials of the tank
- Inspections should be documented



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Tank Inspections – LQGs

[22 CCR 66265.195]

- At least once each operating day:
 - Overfill / spill control equipment
 - Aboveground portions of tank
 - Monitoring & leak detection equipment
 - Area surrounding externally accessible portion of tank system (secondary containment)
- Inspections must be documented
- Inspection records maintained for three years



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Satellite Accumulation Areas

[22 CCR 66262.34(e)]

- Satellite Accumulation Area requirements:
 - At or near where the waste is generated
 - Under the control of operator of the process generating waste
 - Only containers can be used
 - One container per waste stream (unless generator determines using one container is not practical or safe – subject to DTSC review and approval)
 - *[Continued...]*



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Satellite Accumulation Areas

- Limit of 55 gallons per waste stream
- Must meet all container management standards (weekly inspections not required)
- Container can be stored on-site for up to one year
- Container must be dated within three days of when it reaches capacity



A yellow label with a red border and a red star pattern. The text on the label includes: "WORKPLACE ACCUMULATION CONTAINER" at the top, followed by "HAZARDOUS WASTE" and "FEDERAL LAW PROHIBITS IMPROPER DISPOSAL." Below that, it says "IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY. HANDLE WITH CARE!" There are also fields for "Waste Accumulation Start Date" and "Waste Accumulation Date".



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General Housekeeping Practices

- Poor housekeeping can result in an increase in the amount of hazardous waste generated
 - Container closure
 - Protects workers from the waste & potential for releases
 - Spills must be cleaned up in a timely manner
 - Labeling must be legible and visible
 - Accumulation
 - Do not exceed time limits or volumes
 - Fines can be up to \$70,000 per violation per day



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Potential Compliance Issue



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Potential Compliance Issue



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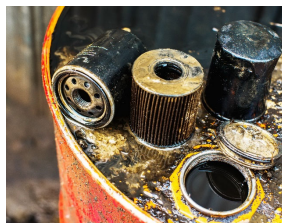
Potential Compliance Issue



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Miscellaneous Requirements

- Contaminated containers
- Drained oil filters
- Drained fuel filters
- Spent lead-acid batteries
- Universal wastes



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Contaminated Containers (> 5 Gallons & ≤ 119 Gallons)

- Containers must be:
 - Empty – no continuous stream for liquids
 - Marked "EMPTY" (BMP)
 - Marked with the date they became empty
 - Stored on-site no more than one year (365 days)
 - Recycled
 - Recycle records are to be kept for three years



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Contaminated Containers (≤ 5 Gallons)

- Containers that are 5 gallons or less **and** empty can be managed as municipal waste (trash)
 - Does not include containers that contained pesticides or acutely hazardous waste
- **Do not** dry containers; this may be considered treatment



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Drained Used Oil Filters

- Oil filters must be:
 - Drained (no free-flowing liquid)
 - Stored in a rainproof and closed container
 - Labeled "Drained Used Oil Filters" with an accumulation start date
 - Stored on-site no more than one year (365 days; 180 days if > a ton)
- Recycle records are to be kept for three years



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Drained Used Fuel Filters

- If oil and fuel filters are commingled:
 - Filters must be drained (no free-flowing liquid)
 - Stored in a rainproof and closed container, can be commingled with oil filters
 - Labeled "DRAINED USED OIL AND FUEL FILTERS" along with the accumulation start date
 - Stored on-site no more than one year (365 days – 180 days for more than a ton)
- Recycle records kept for three years



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Spent Lead-Acid Storage Batteries

- Management of batteries:
 - Stored upright on a pallet on a sealed surface
 - Stored to prevent the terminals from short circuiting
 - Stored on-site no more than one year (365 days; 180 days if > a ton) and marked with out-of-service date
- Recycle records are to be kept for three years



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Universal Waste

- Examples of universal waste:
 - Aerosol cans (non-empty)
 - Batteries
 - Electronic devices (e-waste)
 - Lamps
 - Mercury-containing devices
 - Photovoltaic modules (solar panels)



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Universal Waste

- Must be kept in a closed container that is compatible with the waste
- Labeled with:
 - "Universal Waste"
 - Type of waste (e.g., "Waste Lamps", "Used Batteries", "Waste Aerosols")
 - Accumulation start date
- Stored on-site for no more than one year (365 days)
- Tracking records maintained for three years



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Shipping Requirements



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Shipping Requirements

- Hazardous waste must be profiled for disposal and transported:
 - By a registered hazardous waste transporter
 - Using a Uniform Hazardous Waste Manifest
 - To a permitted facility
- RCRA hazardous wastes are subject to DOT regulations and land disposal restrictions



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Shipping Requirements

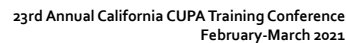
[HSC 25218.4 & 25250.11-12]

- Exceptions:
 - VSQGs can self-transport hazardous waste to permitted HHW facility
 - Used oil transported to recycling facility (55-gallon limit)
 - Used oil generated during maintenance activities (55-gallon limit)
- These shipments do not require a hazardous waste transporter or Uniform Hazardous Waste Manifest



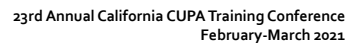
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Shipping Requirements

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Shipping Requirements

- Generator is responsible for info in boxes 1 – 15
- Box 16 is for international shipments
- Box 17 is for transporter's acknowledgement of receipt
- Boxes 18 – 20 are to be completed by designated facility (TSDF)



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Shipping Requirements

- Continuation sheet, EPA form 8700-22A
 - Generator is responsible for information in boxes 21 – 32
 - Transporter (other than transporter one or two) is responsible for information in boxes 33 – 34
 - Boxes 35 – 36 are to be completed by designated facility (TSDF)



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Shipping Requirements

- Paper manifest consists of five parts:
 - Page 1 – TSD to EPA's e-Manifest system
 - Page 2 – TSD to generator
 - Page 3 – TSD copy
 - Page 4 – Transporter copy
 - Page 5 – Generator initial copy (legible copy must be mailed to DTSC within 30 days of shipment)

Form Approved OMB No. 2050-0028

UNITED STATES DEPARTMENT OF ENVIRONMENTAL PROTECTION

1. Generator Information

2. Transporter Information

3. Receiver Information

4. Manifest Tracking Number

5. Manifest Tracking Number

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DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM



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Shipping Requirements

- The generator must submit a legible manifest copy to DTSC within 30 days from the date of shipment to:

DTSC Generator Manifests
P.O. Box 400
Sacramento, CA 95812-0400



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Shipping Requirements

- The TSDF must submit a manifest to EPA's e-Manifest system within 30 days of receiving shipment
- TSDF is responsible for paying fees for submit manifest to the e-Manifest system
 - Fees range from \$4.00 – \$20.00 per manifest



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Shipping Requirements

- Generators must receive a signed copy of the manifest from the TSDF within 35 days from the date of shipment
- The generator is responsible for contacting the transporter and TSDF if the signed copy is not received by the 35th day



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Shipping Requirements

- If the signed manifest copy is not received, the generator must submit an exception report to DTSC within:
 - 45 days for LQGs
 - 60 days for SQGs
- Exception report must include a legible copy of the manifest and efforts generator made to locate hazardous waste



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Shipping Requirements

- Exception reports sent to:

DTSC Report Repository
Generator Information Services Section
P.O. Box 806
Sacramento, CA 95812-0806



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Shipping Requirements

[HSC 25160.2]

- Consolidated manifests:
 - Authorized hazardous waste streams consolidated into a single shipment from multiple generators
 - Transported by a consolidated transporter
 - Generator and transporter section of manifest completed by transporter
 - Generator provided a receipt (signed by transporter and generator) for shipment
 - Receipt retained by generator for three years from date of shipment



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Shipping Requirements

- Generators eligible to use consolidated manifest:
 - SQGs
 - LQGs for used oil and contents of oil/water separators
 - LQGs if they would qualify as an SQG when used oil and oil/water sludge volumes are excluded in waste quantity count



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Shipping Requirements

- Used oil
- Contents of an oil/water separator
- Solids contaminated with used oil
- Brake fluid
- Antifreeze
- Antifreeze sludge
- Parts-cleaning solvents
- Asbestos and asbestos-containing materials
- Inks from the printing industry
- Chemicals and laboratory packs collected from K-12 school
- Filters from dispensing pumps for diesel and gasoline fuels
- Hydroxide sludge (contaminated solely with metal from a wastewater treatment process)
- Paint-related wastes including paints, thinners, filters, and sludge
- Spent photographic solution
- Dry cleaning solvents including perchloroethylene, naphtha, and silicone-based solvents
- Filters, lint, and sludge contaminated with dry cleaning solvent



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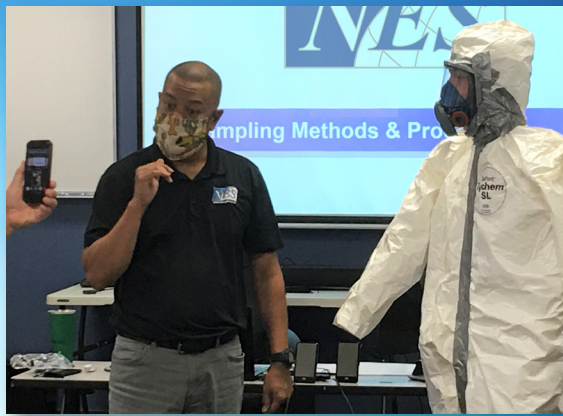
Any Questions?

Presented by Steve Reichow, NES, Inc., sreichow@nesglobal.net, (916) 353-2360



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VIRTUAL TRAINING

Protecting Employees in a Changing World

NES Live Webinars & Hybrid Training

We all know how challenging and disruptive it has been to live and work through a pandemic. As a proud leader in environmental health & safety compliance, *we immediately recognized the critical importance of adapting our services to protect employees* who attend NES training classes as well as our own staff.

We transitioned programs that had traditionally only been presented in person to *webinars consisting of a live PowerPoint display and instructor-led video feed to facilitate interactivity and demonstrations*, and we set to work improving upon and adding to our existing online program library. As conditions allowed, some training has been conducted in “hybrid” format, with a limited number of students attending in person to allow for proper distancing, while those who prefer to join remotely participate via the simultaneous live webinar video feed. Program materials are provided as electronic downloads, and physical materials can be mailed to participants for no extra charge.

For many, *virtual training has come to be the preferred format over traditional in-person classes*, offering participants the opportunity to learn from the comfort of their homes or office workspaces. As such, having the hybrid option proved to be so popular that we will continue to offer training in this hybrid format into the indefinite future!

Many open enrollment NES programs, and those that have historically been customized to clients’ individual needs and provided on-site at their facilities, are now being presented as webinars. These programs include, but are not limited to:

- 40- & 24-Hour HAZWOPER
- 8-Hour HAZWOPER Refresher
- Hazardous Waste Management
- Hazardous Materials Management
- DOT Hazmat Employee
- Uniform Hazardous Waste Manifest
- Cal/OSHA 30-Hour General Industry
- Bloodborne Pathogens
- Globally Harmonized System
- Hazard Communication
- Respiratory Protection
- Heat Illness Prevention
- Fall Protection
- Hearing Protection
- & More!

Are you an REHS?

*As a CDPH-accredited firm,
NES course hours convert
1:1 to contact hours –
even virtual training!*



NES Self-Paced Online Training

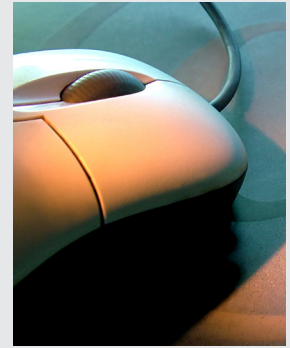
Self-paced online programs offered through our Learning Management System (LMS) allow for progression through the course content at the learner's own pace. Student materials are available to download directly from the program, and students can email an NES instructor with questions at any time!

To view all our web-based course listings (self-paced online programs and live webinars), check out our program listings at nesglobal.net/online-courses.

SELF-PACED ONLINE PROGRAMS

- HAZWOPER Refresher
- DOT Hazmat Employee
- Hazardous Waste Management
- Uniform Hazardous Waste Manifest
- Respiratory Protection
- Bloodborne Pathogens
- Confined Space Awareness
- Clandestine Laboratory Safety Refresher

More Programs in Production for 2021!



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