# HAZARDOUS WASTE COMPLIANCE MANUAL FOR GENERATORS OF HAZARDOUS WASTE

Compliance Branch Hazardous
Waste Section Division of
Waste Management
North Carolina Department of Environmental Quality
2015

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# INTRODUCTION

In 1976, Congress passed the Resource Conservation and Recovery Act (RCRA) which directed the U.S. Environmental Protection Agency (EPA) to develop and carry out a program to protect human health and the environment from improper hazardous waste management practices. The RCRA program is designed to control the management of hazardous waste from its generation to its ultimate disposal - from "cradle-to-grave." In this management focus, RCRA is unlike other environmental regulations that focus on abating and/or reducing existing environmental threats. RCRA's intent is to prevent environmental threats.

In North Carolina, RCRA has been adopted as the North Carolina Hazardous Waste Management Rules and is enforced by the state instead of the EPA. The rules are available on the web at: http://portal.ncdenr.org/web/wm/hw/rules/statelaws

This manual was developed by the Hazardous Waste Section (HWS) inspection staff in an attempt to further understanding and compliance with the North Carolina Hazardous Waste Regulations (RCRA). It is directed toward the on-site activities that facilities can take to ensure continued compliance. The manual includes the official interpretations of the regulations and policies as viewed by both the North Carolina HWS and the EPA. It is updated annually and as these regulations or policies change.

Throughout this manual you will find references to contacting the person who inspects your facility- your Environmental Senior Specialist. To find the Environmental Senior Specialist for your area, refer to the listing and organization chart on the next pages or look on the web at: http://portal.ncdenr.org/c/document_library/get_file?uuid=c658d898-89a2-4819-ad50-6fe63a678b10&groupId=38361

If you have any questions about this manual or managing hazardous waste in general, please do not hesitate to contact your Environmental Senior Specialist.

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# REGULATION SUMMARY

The purpose of this section is to review the hazardous waste regulations that will affect you and your business. It covers the identification of hazardous and solid wastes and the regulations with which both Small Quantity (SQG) and Large Quantity (LQG) generators must comply. Each section starts with the citation for the particular regulation being discussed. For reference, on the web at http://portal.ncdenr.org/web/wm/hw/rules/statelaws . The procedures to use to comply with these regulations and what the inspector is looking for at your facility are outlined in the Inspection section of this manual.

## Identification of Hazardous Wastes (40 CFR 261)

A hazardous waste, as defined under RCRA, is a solid waste that may: cause or significantly contribute to an increase in mortality or an increase in serious, irreversible or incapacitating, reversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed.

A solid waste is defined as any solid, liquid or contained gaseous material that you no longer use, and either recycle, throw away or store until you have enough to treat or dispose. A solid waste is hazardous if it is not excluded from regulation and it meets any of the following conditions:

- It exhibits any of the characteristics of a hazardous waste. It is ignitable, corrosive, reactive or toxic. These wastes have the waste codes D001 through D043 that identify the specific type of waste it is. (The Hazardous Waste Code is specific to a particular type of hazardous waste and does not ever change; e.g., all flammable hazardous wastes are D001. Wastes may have more than one code, for example if they are listed and characteristic);
- It has been named as a hazardous waste and appears on one of four lists in the regulations. These wastes have been listed because they exhibit either one or more of the above characteristics, or contain any number of toxic constituents shown to be harmful to health or the environment. These wastes will have the waste code that starts with either F, P, K or U, corresponding to the list in which the waste is found;
- It is a mixture containing a listed waste and a non-hazardous waste; or
- It is a waste derived from the treatment, storage or disposal of a listed hazardous waste.

The exclusions for certain materials from being solid wastes are located at 40 CFR 261.4(a) and the exclusions for certain materials from being hazardous wastes are found at 40 CFR 261.4(b). See Decision Diagram A & B in Appendix J for help in making a hazardous waste determination.

## Characteristics of Hazardous Wastes (40 CFR 261.20)

The EPA has identified four characteristics of hazardous wastes that are:

**Ignitability**- D001 - The material is a liquid and is capable of burning or causing fire. Examples include acetone, gasoline and industrial alcohols. (Flash point less than 140 degrees F).

**Corrosivity**- D002 - The material is a liquid and can erode materials and human tissue. Examples include alkaline cleaners, some chlorides, fluorides and acids. (pH less than or equal to 2 or greater than or equal to 12.5, or corrodes steel at a rate greater than 1/4 inch per year).

**Reactivity**- D003 - The material is capable of reacting with air or water, causing an explosion or a release of poisonous fumes. Examples include peroxides, isocynates, cyanides and chlorine.

**Toxicity Characteristic (TC) -** D004 - D043 - The material contains compounds that can poison humans. Examples include heavy metals and pesticide wastes. Wastes are determined to be TC wastes if they fail the Toxic Characteristic Leaching Procedure (TCLP) test, which is an analytical method designed to decide how much of a particular contaminant leaches from a material. Forty-three compounds are included; and they are listed in the following table. If a material leaches a compound on this list in amounts greater than the regulatory limit, it is a TC hazardous waste.

**Table 1. TC Constituents and Their Regulatory Levels**
(in parts per million)

| | | | |
|---|---|---|---|
| Arsenic (D004) | 5.0 | Hexochloro-1, 3-butadiene (D033) | 0.5 |
| Barium (D005) | 100 | Hexachloroethane (D034) | 3.0 |
| Benzene (D018) | 0.5 | Methyl Ethyl Ketone (D035) | 200 |
| Carbon tetrachloride (D019) | 0.5 | Lead (D008) | 5.0 |
| Cadmium (D006) | 1.0 | Lindane (D013) | 0.4 |
| Chlordane (D020) | 0.03 | Mercury (D009) | 0.2 |
| Chlorobenzene (D021) | 100 | Methoxychlor (D014) | 10.0 |
| Chloroform (D022) | 6.0 | Nitrobenzene (D036) | 2.0 |
| Chromium (D007) | 5.0 | Pentachlorophenol (D037) | 100 |
| o-Cresol (D023) | 200 | Pyridine (D038) | 5.0 |
| m-Cresol (D024) | 200 | Selenium (D010) | 1.0 |
| p-Cresol (D025) | 200 | Silver (D011) | 5.0 |
| Total Cresol (D026) | 200 | Tetrachloroethylene (D039) | 0.7 |
| 1,4-Dichlorobenzene (D027) | 7.5 | Trichloroethylene (D040) | 0.5 |
| 1,2-Dichlorobenzene (D028) | 0.5 | 2,4,5-Trichlorophenol (D041) | 400 |
| 1,1-Dichloroethylene (D029) | 0.7 | Toxaphene (D015) | 0.5 |
| 2,4-Dinitrotoluene (D030) | 0.13 | 2,4,6-Trichlorophenol (D042) | 2.0 |
| Endrin (D012) | 0.02 | Vinyl Chloride (D043) | 0.2 |
| Heptachlor (D031) | 0.008 | 2,4-D (D016) | 10 |
| Hexochlorbenzene (D032) | 0.13 | 2,4,5-TP (D017) | 1.0 |

## Listing of Hazardous Wastes (40 CFR 261.30)

A solid waste is hazardous if it is named on one of the three following lists (the U-list and the P-list are combined).

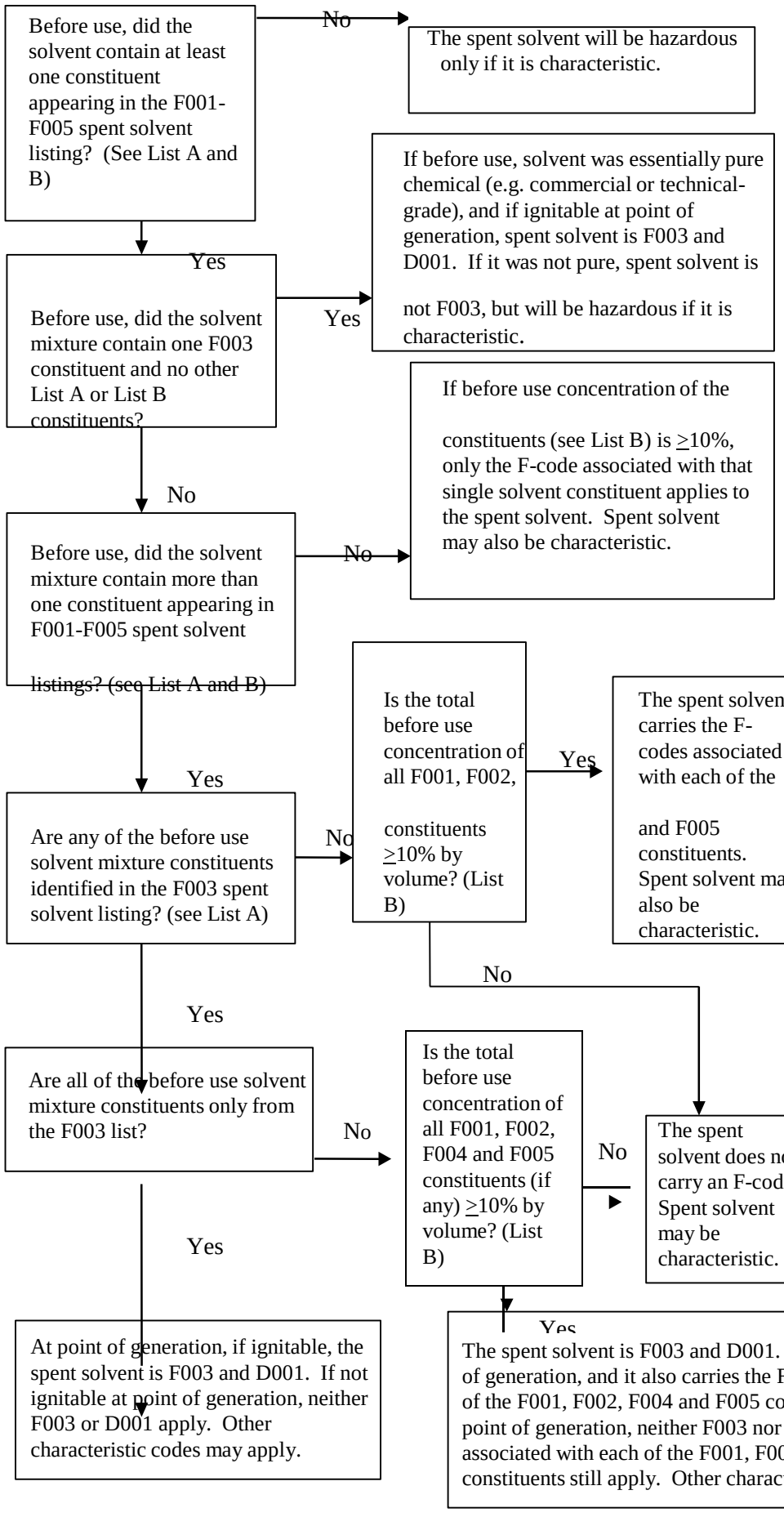
- **Non-specific Source Wastes** (40 CFR 261.31- "F" wastes) - These are generic wastes commonly produced by manufacturing and industrial processes. Examples from this list include spent halogenated solvents used in cleaning and degreasing (F001 or F002) or wastewater treatment sludge from electroplating processes (F006).
- **Specific Source Wastes** (40 CFR 261.32- "K" wastes) - This list consists of wastes from specifically identified industries such as wood preserving, petroleum refining, organic chemical manufacturing and others. These wastes typically include sludges, still bottoms, waste waters and spent catalysts. An example is wastewater treatment sludge from the production of chrome green pigment (K005).
- **Commercial Chemical Products** (40 CFR 261.33(e) and f)[P and U lists]- The third list consists of specific discarded commercial chemical products, off-specification products, container residues, and spill residues of any of the chemicals listed. This list includes chemicals such as chloroform and creosote, acids such hydrofluoric acid and pesticides such as DDT and kepone. Waste codes starting with "P" are designated as **Acute Hazardous Wastes** and are subject to the reduced quantity limitations of 2.2 pounds per month.

The table below is a copy of the first page of the lists of non-specific source waste (The F-listed wastes) from 261.31. This table shows the F001 through F005 listed wastes. And the following page shows a flow chart outlining the decision process for determining if a solvent waste meets the F001 through F005 listing criteria. These are the most commonly generated listed wastes and therefore, the ones that most generators have problems identifying correctly.

## Table 2. F001 through F005 Listed Hazardous Waste

| Industry and EPA hazardous waste No. | Hazardous waste | Hazard code |
|---|---|---|
| | | |
| F001 | The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | (T) |
| F002 | The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | (T) |
| F003 | The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | (I)* |
| F004 | The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | (T) |
| F005 | The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures | (I,T) |

## Flowchart for F-listed (F001-F005) Solvent Waste




**List A** – F003 Solvent Constituents

Acetone
n-Butyl alcohol
Cyclohexanone
Ethyl acetate
Ethyl benzene
Ethyl ether

Methanol
Methyl isobutyl ketone
Xylene

**List B** – F001, F002, F004 and F005 Solvent Constituents

| Constituent | Waste Code(s) |
|---|---|
| Benzene | F005 |
| Carbon disulfide | F005 |
| Carbon tetrachloride | F001 |
| Chlorobenzene | F002 |
| Cresylic acid | F004 |
| o-Dichlorobenzene | F002 |
| 2-Ethoxyethanol | F005 |
| Isobutyl alcohol | F005 |
| Methyl ethyl ketone | F005 |
| Methylene chloride | F001, F002 |
| Nitrobenzene | F004 |
| 2-Nitropropane | F005 |
| Pyridine | F005 |
| Tetrachloroethylene | F001, F002 |
| Toluene | F005 |
| 1,1,1–Trichloroethane | F001, F002 |
| 1,1,2–Trichloroethane | F002 |
| 1,1,2-Trichloro-1,2,2-trifluorothane | F001, F002 |
| Trichloroethylene | F001, F002 |
| Trichlorofluoromethane | F001, F0 |

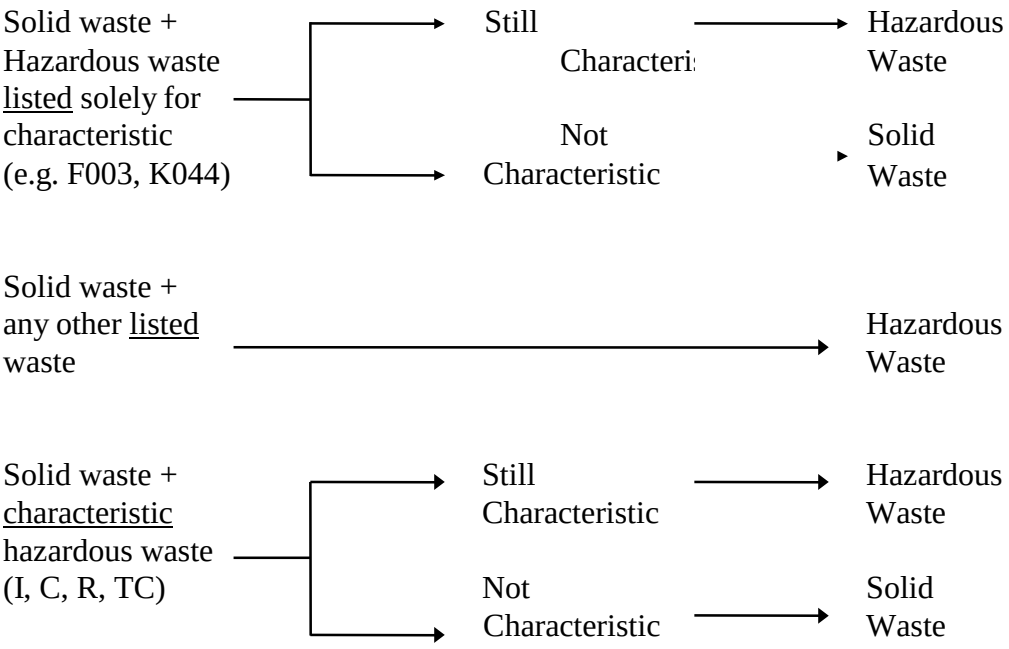
## Hazardous Waste Mixtures (40 CFR 261.3(a),(b) and (g))

A solid waste mixed with a characteristic hazardous waste is a hazardous waste if it still exhibits the characteristic. If it is a mixture of a waste that is listed, but only for a characteristic and the mixture does not exhibit the characteristic, it is not a hazardous waste. If it is a mixture of any other listed hazardous waste, the material is a hazardous waste. (See the diagram below).

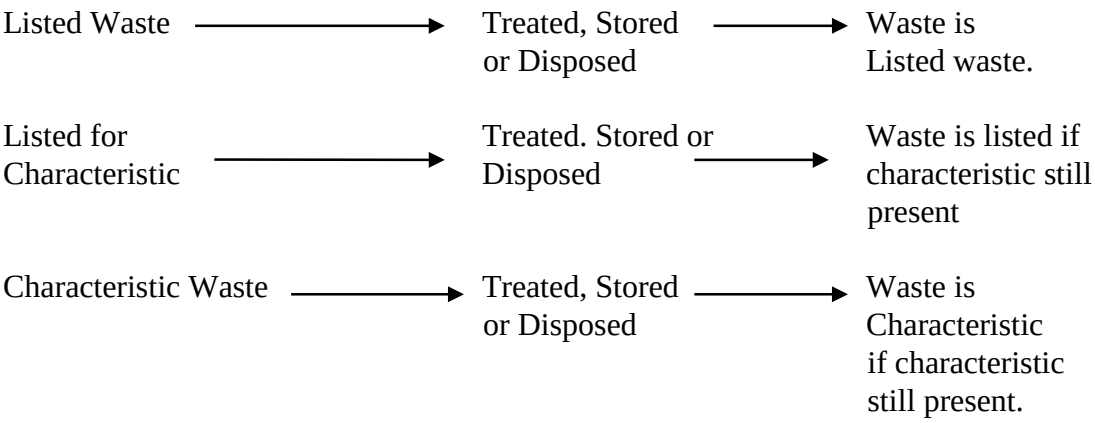
## Wastes Derived from Hazardous Wastes (40 CFR 261.3(c)(d)

Residues derived from the treatment, storage, or disposal of a characteristic hazardous waste is a hazardous waste if it still exhibits the characteristic. Residue derived from the treatment, storage or disposal of listed wastes which are listed for a characteristic only, are listed hazardous wastes if the residue still exhibits the characteristic. Residue derived from the treatment, storage or disposal of all other listed waste is a listed hazardous waste. See the following diagram for clarification.

## Mixtures




## Residue From Treatment, Storage Or Disposal




## Hazardous Waste in Soil - "Contained-in" Policy for Soil Contaminated with Listed Hazardous Waste

When soil has been contaminated from the release of a listed hazardous waste, the hazardous waste is considered to be "contained-in" the soil. While the soil itself is not a hazardous waste, when the waste is "generated" (i.e. removed from place or excavated), it must be managed as a hazardous waste. HWS policy, effective date December 21, 2000, designates levels at which soil contaminated with a listed hazardous waste no longer must be handled as if it were hazardous. The policy includes levels for 218 constituents below which the soil may be disposed in a Subtitle D municipal solid waste

landfill (MSWLF). There are lower levels designated at which the soil has no restrictions for its use. Soil must be analyzed according to the procedures outlined in the policy to determine the proper disposal method. This policy only applies to soil that has been contaminated with listed hazardous waste from a spill or release and will be excavated. It does not apply to soil contaminated with characteristic hazardous wastes. The policy is available on the web at: http://portal.ncdenr.org/c/document_library/get_file?p_l_id=38491&folderId=328599&name=DLFE-9853.pdf

## Sample Exclusion (40 CFR 261.4(d))

A sample of solid waste or a sample of water, soil or air, collected for the sole purpose of testing to decide its characteristic or composition, is not subject to the hazardous waste regulations when:

- The sample is being transported to a laboratory for testing;
- The sample is being transported back to the sample collector after testing;
- The sample is being stored by the sample collector before transport to a laboratory for testing;
- The sample is being stored in a laboratory before testing;
- The sample is being stored in a laboratory after testing but before it is returned to the sample collector; or
- The sample is being temporarily stored in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

If any of these conditions is not met, the sample is a hazardous waste if it is either from a listed hazardous waste or displays a characteristic of hazardous waste.

# Solvent-Contaminated Wipes Final Rule
# Summary Chart

This chart summarizes the federal regulations in regards to managing solvent-contaminated wipes under 40 CFR 261.4(a)(26), which conditionally excludes from the definition of solid waste solvent-contaminated wipes that are cleaned and reused ("reusable wipes"), and under 40 CFR 261.4(b)(18), which conditionally excludes from the definition of hazardous waste solvent-contaminated wipes that are disposed ("disposable wipes").

This summary chart is a guidance document provided by the U.S. Environmental Protection Agency (EPA). This is not a regulation and, therefore, does not add, eliminate, or change any existing regulatory requirements. The statements in this document are intended solely as guidance. Additionally, state regulations may be different from the federal program.

<table>
<tr><th></th><th>Solvent-Contaminated Reusable Wipes</th><th>Solvent-Contaminated Disposable Wipes</th></tr>
<tr><td>Regulation Citation</td><td>40 CFR 261.4(a)(26)<br>(Solid Waste Exclusion)</td><td>40 CFR 261.4(b)(18)<br>(Hazardous Waste Exclusion)</td></tr>
<tr><td>Description</td><td>Solvent-contaminated wipes that are sent for cleaning and reuse are not solid wastes, provided the conditions of the exclusion are met.</td><td>Solvent-contaminated wipes that are sent for disposal are not hazardous wastes, provided the conditions of the exclusion are met.</td></tr>
<tr><td>Includes</td><td colspan="2">➢ Wipes containing one or more F001-F005 listed solvents listed in § 261.31 or the corresponding P- or U- listed solvents found in § 261.33, including:<br><br>- Acetone<br>- Benzene<br>- n-Butanol<br>- Chlorobenzene<br>- Creosols<br>- Cyclohexanone<br>- 1,2-Dichlorobenzene<br>- Ethyl acetate<br>- Ethyl benzene<br>- 2-Ethoxyethanol<br>- Isobutyl alcohol<br>- Methanol<br>- Methyl ethyl ketone<br>- Methyl isobutyl ketone<br>- Methylene chloride<br>- Tetrachloroethylene<br>- Toluene<br>- 1,1,2- Trichloroethane<br>- Trichloroethylene (*For reusable wipes only.)<br>- Xylenes<br><br>➢ Wipes that exhibit a hazardous characteristic resulting from a solvent listed in part 261.<br>➢ Wipes that exhibit only the hazardous characteristic of ignitability when containing one or more non-listed solvents.</td></tr>
<tr><td>Does not include</td><td>➢ Wipes that contain listed hazardous waste other than solvents.<br>➢ Wipes that exhibit the characteristic of toxicity, corrosivity, or reactivity due to non-listed solvents or contaminants other than solvents.</td><td>➢ Wipes that contain listed hazardous waste other than solvents.<br>➢ Wipes that exhibit the characteristic of toxicity, corrosivity, or reactivity due to non-listed solvents or contaminants other than solvents.<br>➢ Wipes that are hazardous waste due to the presence of trichloroethylene.</td></tr>
</table>

| | | |
|---|---|---|
| **Storage Requirements** | Wipes must be accumulated, stored, and transported in non-leaking, closed containers that can contain free liquids, should they occur. | |
| **Labeling** | Containers must be labeled "Excluded Solvent-Contaminated Wipes." | |
| **Accumulation Time Limits** | Generators may accumulate wipes up to 180 days from the start date of accumulation prior to being sent for cleaning or disposal. | |
| **Recordkeeping** | Generators must maintain documentation that includes:<br>➢ name and address of the laundry, dry cleaner, landfill, or combustor<br>➢ documentation that the 180-day accumulation time limit is being met<br>➢ description of the process the generator is using to meet the "no free liquids" condition. | |
| **Condition of Wipes Prior to Transport** | Wipes must contain no free liquids prior to being sent for cleaning or disposal and there may not be free liquid in the container holding the wipes.<br><br>"No free liquids" condition is defined in 40 CFR 260.10 and is based on the EPA Methods Test 9095B (Paint Filter Liquids Test) or other authorized state standard. | |
| **Management of Free Liquids** | Free liquids removed from the wipes or from the wipes container must be managed according to applicable hazardous waste regulations in 40 CFR parts 260 through 273. | |
| **Eligible Handling Facilities** | Must go to a laundry or dry cleaner whose discharge, if any, is regulated under sections 301 and 402 or section 307 of the Clean Water Act. | Must go to a combustor regulated under section 129 of the Clean Air Act or to a hazardous waste combustor, boiler, or industrial furnace regulated under 40 CFR parts 264, 265, or 266 subpart H.<br><br>Must go to a municipal solid waste landfill regulated under 40 CFR part 258 (including § 258.40) or to a hazardous waste landfill regulated under 40 CFR parts 264 or 265. |
| **Storage at Handling Facilities** | Must store wipes in non-leaking, closed containers that are labeled "Excluded Solvent-Contaminated Wipes." Containers must be able to contain free liquids should they occur. | |
| **Management of Free Liquids by Handling Facilities** | Free liquids removed from the wipes or from the container holding the wipes must be managed according to applicable hazardous waste regulations in 40 CFR parts 260 through 273. | |

## Residues of Hazardous Waste in Empty Containers (40 CFR 261.7)

A container is empty if:

- All wastes have been removed that can be removed using practices commonly employed to remove materials from the container (e.g., pouring, pumping, and aspirating), and
  No more than one inch of residue remains in the bottom of the container; or
- No more than 3 percent (by weight) of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 119 gallons; or
- No more than 0.3 percent (by weight) of the total capacity of the container remains in the container or inner liner if the container is greater than 119 gallons.

Rule of Thumb: If the container is turned over and any material can still come out, it is NOT empty.
Note the word "and" between the first two requirements.
For acute hazardous wastes:

- A container or inner liner removed from a container that has held an acute hazardous waste [listed in Part 261.31, 261.32, or 261.33(e)] is empty if the container or inner liner has been triple rinsed using a solvent capable of removing the chemical product. (All of the rinsate used to triple rinse the container is a hazardous waste, however). For further information on acute hazardous waste, refer to 26.79b)(3).

## Categories of Hazardous Waste Generators (40 CFR 260)

- **Conditionally Exempt Small Quantity Generators - (CESQG)** Hazardous wastes generated are:
  Less than or equal to than 220 pounds in any calendar month
  or
  Less than or equal to 2.2 pounds of acute hazardous waste. *****
- **Small Quantity Generators - (SQG)** Hazardous wastes generated are:
  Between 220 – 2,200 pounds in any calendar month
  or
  Less than or equal to 2.2 pounds of acute hazardous waste. *****
- **Large Quantity Generators - (LQG)** Hazardous wastes generated are:
  Greater than 2,200 pounds in any calendar month
  or
  Greater than or equal to 2.2 pounds of acute hazardous waste.

***** *Any facility generating greater that 2.2 pounds of acute hazardous waste in a calendar month is a LQG.*

If you need to change your status from one category to another, contact your Environmental Senior Specialist for the appropriate notification forms and procedures or see Decision Diagram C in Appendix J for help in determining your generator category.

## Determining Your Generator Category

To determine which category of hazardous waste generator your business falls into, and therefore what requirements you must comply with, you must measure or "count" the hazardous wastes your business generates. Add up the weight of all the hazardous wastes your business generates in a calendar month; the total monthly weight will determine your generator category. Any month that exceeds the cut-off level causes you to move up to that category. Remember that each separate site where you operate must be treated individually. The following table summarizes the kinds of wastes you must count and wastes you do not need to count when you determine your generator status. Using Decision Diagram C in Appendix J will help to determine your generator category.

| **DO COUNT** | **DON'T COUNT** |
|---|---|
| All the quantities of "listed" and "characteristic" hazardous wastes that you: | Wastes that are specifically exempted from counting in 40 CFR 261. Examples are used oil that has not been mixed with hazardous waste or lead-acid batteries that will be sent off site for recycling; |
| Accumulate on-site for any period of time; | May be left in the bottom of containers that have been completely emptied using conventional means; |
| Package and transport off-site; | Are left as residue in the bottom of product storage tanks if the residue is not removed from the product tank; |
| | You reclaim continuously on-site without storing the waste prior to reclamation, such as dry cleaning solvents. (You do have to count any residue removed from the process, however); |
| | You manage in an elementary neutralization unit or wastewater treatment unit; |
| | Are directly discharged into a Publicly Owned Treatment Works (POTW) without being stored or accumulated first. The POTW must comply with the Clean Water Act; |
| | You have already counted once during the calendar month and treated on-site or reclaimed in some manner and used again. |

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# Waste Counting for On-Site Solvent Recycling

The purpose of this guidance is to assist the generator with an understanding of how to count and calculate the amount of hazardous waste solvent one generates in a calendar month which defines their generator status (exempt, small generator, large generator).

40 CFR 261.5(c) and (d) outline the requirement and define which hazardous wastes are to be included in the monthly totals defining ones generator status. 40 CFR 261.5(c) & (d) states the following:

**40 CFR 261.5(c)** - When making the quantity determinations of this part and 40 CFR part 262, the generator must include all hazardous waste that it generates, except hazardous waste that:

(1) Is exempt from regulation under 40 CFR 261.4(c) through (f), 261.6(a) (3), 261.7(a) (1), or 261.8; or

(2) Is managed immediately upon generation only in on-site elementary neutralization units, wastewater treatment units, or totally enclosed treatment facilities as defined in 40 CFR 260.10; or

(3) Is recycled, without prior storage or accumulation, only in an on-site process subject to regulation under 40 CFR 261.6(c) (2); or

(4) Is used oil managed under the requirements of 40 CFR 261.6(a) (4) and 40 CFR part 279; or

(5) Is spent lead-acid batteries managed under the requirements of 40 CFR part 266, subpart G; or

(6) Is universal waste managed under 40 CFR 261.9 and 40 CFR part 273;

(7) Is a hazardous waste that is an unused commercial chemical product (listed in 40 CFR part 261, subpart D or exhibiting one or more characteristics in 40 CFR part 261, subpart C) that is generated solely as a result of a laboratory clean-out conducted at an eligible academic entity pursuant to §262.213. For purposes of this provision, the term eligible academic entity shall have the meaning as defined in §262.200 of Part 262.

**40 CFR 261.5(d)** In determining the quantity of hazardous waste generated, a generator need not include:

(1) Hazardous waste when it is removed from on-site storage; or

(2) Hazardous waste produced by on-site treatment (including reclamation) of his hazardous waste, so long as the hazardous waste that is treated was counted once; or

(3) Spent materials that are generated, reclaimed, and subsequently reused on-site, so long as such spent materials have been counted once. **(Refer to EPA Guidance [August 1986 RCRA/Superfund Hotline Monthly Summary RO12699] which clarifies: 40 CFR 261.5(d)(3) states that a generator need not include spent materials that have been reclaimed and subsequently reused on-site in the quantity determination, provided they have already been counted once. The guidance adds the words: …provided they have already been counted once *within that month*.)**

Before beginning this exercise it is important to remember that a generator status (exempt, small, large) is determined by how much hazardous waste one generates in a given calendar month.

Three different scenarios will be considered for review.

## Scenario #1.

Waste solvent is generated, and IS NOT STORED in containers or tanks prior to being placed into a distillation unit.

In this scenario an individual may have a container of acetone which is being used to clean hand tools. Once the acetone becomes so dirty that it can no longer be used the worker takes the dirty acetone directly to the distillation unit and pours the dirty acetone directly into the still. Thus, there has been no prior storage of the dirty acetone prior to it being place into the still.

**40 CFR 261.5(c)(3)** states that when making the quantity determinations of this part and 40 CFR part 262, the generator must include all hazardous waste that it generates, **except hazardous waste that:**

Is recycled, without prior storage or accumulation, only in an on-site process subject to regulation under 40 CFR 261.6(c) (2); or

Thus, given this scenario, the dirty acetone does not have to be counted as waste generated to define his generator status. It is important to remember that the distillation unit will produce distillation "bottoms" from the distillation process. In this scenario the still bottoms, if regulated, would have to be counted.

## Scenario #2:

Waste solvent is generated, and IS STORED in containers or tanks prior to being placed into a distillation unit.

In this scenario an individual may have a container of acetone which is being used to clean hand tools. Once the acetone becomes so dirty that it can no longer be used the worker takes the dirty acetone directly a satellite accumulation container, tank, or a container located in the hazardous waste storage area and pours the dirty acetone directly into the unit used for storage. Thus, there has been storage of the dirty acetone prior to it being place into the still and that amount must be counted.

Again, one must remember that the distillation process will produce "still bottoms". However, because the waste has already been counted the still bottoms, if regulated, DO NOT HAVE TO BE COUNTED as per 40 CFR 261.5(d) (2) which states that "in determining the quantity of hazardous waste generated, a generator need not include: hazardous waste produced by on-site treatment (including reclamation) of his hazardous waste, so long as the hazardous waste that is treated was counted once.

## Scenario #3

Week #1

In this scenario, the generator accumulates and stores all the waste acetone he generates in one 55 gallon container. It generally takes a week to fill the 55 gallon container. On Friday morning he fills the distillation unit from the 55 gallon container. At this point in time, he has accumulated 55 gallons to be counted as outlined in scenario #2. The distillation process generates 5 gallons of "still bottoms". If regulated, the "still bottoms" do not have to be counted because they have already been counted as part of the original 55 gallons.

Week #2

Of the original 55 gallons, the operator now has 50 gallons of reclaimed solvent. He lost 5 gallons as "still bottoms". The operator does not have to replenish his operating inventory. At the end of

the week he now has approximately 50 gallons of dirty solvent stored in the 55 gallon waste storage container.

40 CFR 261.5(d)(2) states that in determining the quantity of hazardous waste generated, a generator need not include: hazardous waste produced by on-site treatment (including reclamation) of his hazardous waste, so long as the hazardous waste that is treated was counted once;

The acetone the operator used during Week #2 has already been counted for that month (it was counted at the end of Week #1). Thus, according to 40 CFR 261.5(d) (2) the generator did not generate any additional hazardous waste to be counted during Week #2.

## Regulations Applicable To Conditionally Exempt Small Quantity Generators (CESQG) (40 CFR 261.5)

A conditionally exempt CESQG must:

- Identify wastes generated to determine whether they are hazardous wastes;
- Not accumulate more than 2,200 pounds of hazardous waste at any one time (or 2.2 pounds of an acute hazardous waste);
- Must ensure that the waste is sent to either: 1) a permitted or interim status treatment, storage or disposal facility (TSDF); 2) a permitted municipal or industrial solid waste facility; 3) a recycling facility; or 4) treat or dispose of the waste on-site as long as it does not endanger the environment or human health.

## Regulations Applicable To Generators (40 CFR 262)

The regulations applicable to both SQGs and LQGs are found in 40 CFR part 262. There are specific regulations applicable to SQGs that are found in 40 CFR 262.34. In general, the requirements for SQGs are not as stringent as the requirements for LQGs. Each of the generator requirements is discussed below. Exceptions for SQGs are noted where applicable.

### Hazardous Waste Determination (40 CFR 262.11)

All generators are responsible for determining whether or not the waste generated at their site is hazardous. The steps that must be followed are outlined here.

The first step is to determine if the solid waste is excluded from regulation in Section 261.4. If it is not excluded, the generator must next look in Subpart D of 261.4 to see if it is a listed waste. If the waste is not a listed waste, the generator must then determine if the waste has a characteristic as described in Subpart C of 261.4. Generators can accomplish this by either testing the waste using the appropriate analytical method, or using knowledge of the waste, the processes involved and the materials used.

### EPA ID Number (40 CFR 262.12)

Each generator site must apply for a unique EPA identification number. Without this number, the generator is barred from treating, storing, disposing or transporting hazardous waste, or from offering hazardous waste for transportation. Each site must formally notify the HWS when changing status, moving or closing a site.

**Pre-transport Regulations (40 CFR 262.30-33)**

These regulations are designed to ensure the safe transportation of hazardous waste from its origin to its ultimate disposal. The EPA adopted the regulations used by the Department of Transportation (DOT) for transporting hazardous materials (49 CFR Parts 172, 173, 178 and 179). These DOT regulations require:

- Proper packaging to prevent leakage of hazardous waste during transport; and
- Labeling, marking and placarding of the packaged waste to identify the characteristics and dangers with transporting wastes. (The DOT regulations only apply to generators shipping waste off-site.)

Additional information on DOT requirements is provided in K to this manual

**Accumulation of Waste (40 CFR 262.34)**

Besides adopting the DOT regulations, the EPA developed regulations that cover the accumulation of waste before transportation. (Some of these regulations are referenced at the Facility Standards found at 40 CFR 265).

A LQG may accumulate hazardous waste for 90 days or less as long as the following requirements are met.

- Proper Storage- The waste is properly stored in containers or tanks marked with the words "Hazardous Waste" and the date when waste accumulation began.
- Emergency plan- (40 CFR 265 Subpart C and D)- A contingency plan and procedures to use in an emergency must be developed. Large generators are required to have a written plan, but SQGs are not.
- Personnel Training- (40 CFR 265.16)- Facility personnel must be trained in the proper handling of hazardous waste. Large generators are required to have an established, written training program. Small generators are exempt from having a written program, but must ensure that employees handling wastes are familiar with proper safety and management procedures.
- Container Regulations (40 CFR 265, Subpart I)- Drums and other containers are frequently used to accumulate and store wastes. The container regulations include:
    - Using containers in good condition. Wastes in leaking or damaged containers must be placed in a new a container; and
    - Ensuring the compatibility of the waste with the container (e.g., no corrosive waste stored in metal containers).

SQGs can store waste for up to 180 days, provided certain criteria are met (40 CFR 262.34(d)).

- The on-site quantity of waste cannot exceed 13,200 pounds at any time.
- The facility must have basic safety information (the telephone number of the fire department and the name and phone number for the coordinator for emergency activities)

posted at the telephone. (For more information on safety requirements see 40 CFR 262.34(d).)

- Additionally, SQGs who must transport their wastes for 200 miles or more for off-site treatment, storage or disposal are allowed to accumulate waste for up to 270 days (40 CFR 262.34(e)).

**The Manifest (40 CFR 262.20-23)**

By using a manifest, generators can track the movement of hazardous waste from the point of generation to the point of ultimate treatment, storage or disposal. RCRA manifests contain the:

- Name & EPA ID number of the generator, the transporter(s) and the facility where the waste is to be treated, stored or disposed;
- DOT description of the waste being transported;
- Quantities of the waste being transported; and
- Address of the TSD facility to which the waste is being shipped, called the designated facility.

Each shipment of hazardous waste must have an accompanying manifest. This document travels with the waste from generator, with the transporter, to the designated TSD facility, and back to the generator. Each entity retains a copy along the way. This acts as a chain-of-custody document and allows the generator to assure that its waste is disposed of properly. The TSD sends a signed copy back to the generator completing the chain of custody.

**Recordkeeping & Reporting (40 CFR 262.40-44)**

The generator regulations in 40 CFR Part 262 contain three primary record keeping and reporting requirements:

- Biennial Report- which details the generator's hazardous waste activities (LQGs only. SQGs must submit and retain on-site a copy of the Waste Minimization Questionnaire);
- Three-year retention of reports, manifests and inspection records;
- Exception reports- generators who ship waste off-site must submit an exception report to the HWS if they do not receive a copy of the manifest, signed and dated by the TSD facility, within 45 days from the date the waste was shipped off-site. SQGs must receive a copy within 60 days or file an exception report.

**Land Disposal Restrictions- (40 CFR Part 268)**

A generator of a hazardous waste must determine if the waste it generates has to be treated before it can be disposed on the land. This is done by determining if the waste meets the treatment standards in 268.40 or 268.45. If the waste does not meet the treatment standard, the generator must send a one-time written notice to each TSD facility receiving the waste. This notice must be sent with the initial shipment of waste to each TSD facility and a copy must be kept on file at the facility.

The notice must include:

- The EPA hazardous waste number and the manifest number;
- The constituents of concern for F001-F005, and F039 wastes, and the underlying hazardous constituents (for wastes that are not managed in a Clean Water Act (CWA) or CWA-equivalent facility); unless the waste will be treated and monitored for all constituents;
- The applicable wastewater/non-wastewater category and subdivisions made within a waste code (such as D003, reactive cyanide);
- Waste analysis data, if available;
- For hazardous debris, when treating with the alternative treatment technologies provided by 268.45, include the contaminants subject to treatment and an indication that these contaminants are being treated to comply with 268.45.

Alternatively, if the generator chooses not to make the determination of whether the waste must be treated, the notification must include the EPA Hazardous Waste Numbers and Manifest Number of the first shipment and must state "This hazardous waste may or may not be subject to the Land Disposal Restrictions treatment standards. The treatment facility must make the determination".

**Other Specific Regulations**

Depending on how you manage waste at your site, other sections of the hazardous waste regulations may apply to your business. For example, if you accumulate or store waste in tanks, you must comply with 40 CFR 265 Subpart J- the tank regulations. If you are a wood treater, regulations in 40 CFR 265 Subpart W applies to your facility. Both of these regulations, as well as the Air emission requirements (Subparts AA, BB and CC), containment building requirements (Subpart DD) and used oil regulations (40 CFR 279), are outlined in the appendices to this manual.

If you manage lights containing mercury or universal wastes at your site, read about the regulations in Appendix H of this manual. If you recycle waste at your facility, you are responsible for knowing about specific regulations and exemptions. These regulations and exemptions are discussed in the "Waste Minimization" section of the manual.

# Summary of Generator Requirements

| Regulatory Provision | Conditionally Exempt Small Quantity Generator (CESQG) | Small Quantity Generator (SQG) | Large Quantity Generator (LQG) |
|---|---|---|---|
| **Hazardous Waste Generation Rate** | ≤ 220 lbs (100 kg) non acute HW<br><br>≤ 2.2 lbs (1 kg) acute HW | > 220 lbs (100 kg) but <2200 lbs (1000kg)<br><br>≤ 2.2 lbs (1 kg) acute HW | ≥ 2200 lbs (1000 kg) non-acute HW<br><br>>2.2 lbs (1 kg) acute HW |
| **Notify EPA/State of HW activity and obtain EPA ID number** | No<br>40 CFR 261.5(b) | Yes<br>40 CFR 262.12(a-b) | Yes<br>40 CFR 262.12 (a-b) |
| **Maximum storage time** | No time limit | 180 days (270 days is waste is shipped 200 miles or more)<br>40 CFR 262.34(d-e) | 90 days<br>40 CFR 262.34(a) |
| **Maximum on-site waste accumulation** | 2200 lbs (1000 kg)<br>40 CFR 261.5(g)(2) | 13,2000 lbs (6000 kg)<br>40 CFR 262.34(f) | No quantity limit |
| **Allowable accumulation units** | Any (as long as none is placed on the land) | Containers per 40 CFR Part 265<br><br>Tanks per 40 CFR 265.201 | Containers per 40 CFR Part 265, Subpart I;<br>Tanks per 40 CFR 265, Subpart J;<br>Drip pads per 40 CFR 265 Subpart W;<br>Containment Bldgs per 40 CFR 265 Subpart DD |
| **"Hazardous Waste" label** | No labeling requirement | Required on each container and tank<br>40 CFR 262.34(d)(4) | Required on each container and tank<br>40 CFR 262.34(a)(3) |
| **Accumulation start date marking** | No marking requirement | Date appears on each container; recorded in facility log for tanks<br>40 CFR 262.34(d)(4) | Date appears on each container; recorded in facility log for tanks, drip pads, and containment bldgs<br>40 CFR 262.34(a)(2) |
| **Container location standards** | None<br>40 CFR 261.5(b) | None<br>40 CFR 262.34(d)(2) | At least 50 feet from property line for ignitable and reactive wastes<br>40 CFR 265.176 |
| **Use Manifest to ship waste off-site** | No<br>40 CFR 261.5(b) | Yes<br>40 CFR 262.20 - 262.23 | Yes<br>40 CFR 262.20 – 262.23 |
| **Use transporters with EPA ID numbers** | No<br>40 CFR 261.5(b) | Yes<br>40 CFR 262.1(c) | Yes<br>40 CFR 262.12(c) |
| **Prepare LDR notifications/certifications** | No<br>40 CFR 261.5(b) | Yes<br>40 CFR 268.1(b) | Yes<br>40 CFR 268.1(b) |
| **Allowable classes of facilities to receive off-site shipment** | Permitted or interim status HW facilities<br><br>HW recycling facilities<br><br>State-permitted, licensed, or registered municipal or industrial waste facilities<br>40 CFR 261.5(g)(3) | Permitted or interim status HW facilities<br><br>HW recycling facilities<br>40 CFR 260.10 "Designated Facility" | Permitted or interim status HW facilities<br><br>HW recycling facilities<br>40 CFR 260.10 "Designated facility" |
| **Personnel training** | No<br>40 CFR 261.5(b) | Yes<br>40 CFR 262.34(d)(5)(iii) | Yes<br>40 CFR 262.34(a)(4) |
| **Preparedness and prevention** | No<br>40 CFR 261.5(b) | Yes<br>40 CFR 262.34(d)(4) | Yes<br>40 CFR 262.34(a)(4) |
| **Contingency Plan and emergency procedures** | No<br>40 CFR 261.5(b) | Yes<br>40 CFR 262.34(d)(5) | Yes<br>40 CFR 262.34(a)(4) reference 40 CFR 265, Subpart D |
| **Weekly Inspections** | No<br>40 CFR 261.5(b) | Yes<br>40 CFR 262.34(d)(2) reference 40 CFR 265.174 | Yes<br>40 CFR 262.34(a)(1)(i) reference 40 CFR 265.174 |
| **Prepare/file records** | No regulatory requirements but should keep hazardous waste identification records and manifests | Yes<br>40 CFR 262.40(a, c-d), 262.42(b), 262.43, 262.44 | Yes<br>40 CFR 262.40, 262.41, 262.42(a), 262.43 |
| **Meet Subparts AA-CC organic air emission standards** | No<br>40 CFR 261.5(b) | No<br>40 CFR 262.34(d)(2) reference 40 CFR 265.201 | Yes for tanks<br>40 CFR 265.202<br>Yes for containers<br>40 CFR 265.178 |

# WASTE MINIMIZATION, POLLUTION PREVENTION and RECYCLING

There are several good reasons to reduce the quantity of hazardous waste you generate. The benefits have been widely documented. The reasons range from reducing exposure to workers and the environment, and enhancing the company image to reducing the cost of disposal and your on-site management costs. You can also decrease future RCRA or CERCLA liabilities, reduce your tax burden, improve energy efficiency and product yields, and possibly change your generator status.

## Current Regulations Requiring Waste Minimization

RCRA is primarily aimed at the management of hazardous wastes. With the passage of the 1984 Hazardous and Solid Waste Amendments (HSWA), hazardous waste minimization became a priority. These regulations set out a national policy that declared "... wherever feasible, the generation of hazardous waste is to be reduced or eliminated as expeditiously as possible."

Section 3002(b) of RCRA requires all hazardous waste generators to sign the certification that appears on the hazardous waste manifest that states:

> "... If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable; and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment." OR "…if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford."

LQGs must also identify in the biennial hazardous waste report: 1) the efforts undertaken during the year to reduce the volume or toxicity of the waste generated and 2) the changes in volume and toxicity achieved in comparison to previous years.

## Waste Minimization Plans

The basic elements of a waste minimization "program in place" allow companies to properly certify that they have implemented a program to reduce the volume and toxicity of hazardous waste to the extent "economically practicable." The generator defines the term "economically practicable" and therefore has the flexibility to determine what is feasible for its own particular circumstances.

SQGs are not subject to the same "program in place" certification requirement as LQGs. They must certify on their hazardous waste manifests that they have "made a good faith effort to minimize" their waste generation. SQGs are, however, encouraged to develop waste minimization programs to demonstrate their good faith efforts.

Past waste management practices used by hazardous waste generators have been "end-of-pipe collection," treatment and/or disposal. With the passage of HSWA in 1984, Congress established a new policy declaring that the reduction or elimination of hazardous waste at the source should take priority over the management of waste after generation. Section 1003(b) of RCRA declares it a national policy that, wherever feasible, the generation of hazardous waste is to be reduced or eliminated as expeditiously as possible. The national policy recognized that there will still be hazardous waste generated, and this waste must be managed in a way that "minimizes" present and future threats to human health and the environment.

The hierarchy established by Congress is prevention or source reduction, recycling, treatment and then disposal. These options are briefly discussed below.

**Source Reduction** is any practice that reduces the amount of a hazardous substance, pollutant or contaminant entering a waste stream and/or reduces the hazards to public health and the environment. Source reduction includes equipment or technology modifications, process or procedural modification, reformulation or redesign of products, substitution of raw materials and improvements to housekeeping, maintenance, training or inventory control.

**Recycling** and its regulation are discussed in detail in the next part of this section.

**Treatment or Disposal** is not a waste minimization technique or practice, but an activity that occurs after other opportunities for waste minimization have been pursued. Transfer of hazardous constituents from one environmental media to another also is not waste minimization. For example, use of an air stripper to evaporate volatile organic constituents from an aqueous waste stream only shifts the contaminant from water to air.

**Dilution** for toxicity reduction is not waste minimization and is illegal under RCRA.

## Elements of a Waste Minimization Plan

An effective waste minimization program contains the following basic elements. (This process may seem like a lot of work, but it only needs to be done once, and then only repeated as necessary when changes are made to your processes).

**Top management support and a written policy in support of waste minimization.**
In order to have a workable plan, you must first convince management (or the owner) of the importance of a waste minimization program. The company must become familiar with the benefits of waste minimization as previously discussed. At a minimum, the written policy should include the support of employee waste minimization training, statements of financial support for the program implementation, and a description of management's involvement in the waste minimization plan.

**Selection of personnel to develop the plan**
Using the team approach is best to get expertise and input from different aspects of your business's operations. Include technical, maintenance, purchasing, safety and manufacturing or "floor" personnel. This planning team should have a definite leader.

**Identification of process information**
Each process in your business must be reviewed including information on all raw products used, quantities used, where they are introduced into the process and where they may be "lost" (e.g. air emissions, etc.). Information must include MSD sheets and identification of substances listed under SARA, TSCA, etc.

**Identification of waste streams**
Waste streams generated from each manufacturing process must next be reviewed. Development of a flow diagram for each process is helpful in identifying points of generation, amount of raw products put into the process, quantities of each component material in the product, emissions, discharges to treatment systems, etc. Hazardous constituents in each waste stream, the amount of waste generated per process, and a ratio of waste generated to raw products should be shown.

**Identification of alternatives for minimizing wastes**
Determine various alternatives that may be applicable to the processes generating waste at your business. Usually there are several different options for each waste stream. Not all of these may

be feasible or affordable and will be evaluated in the next steps of this process, so do not limit the alternatives at this point in the planning.

**Determine the technical feasibility of each alternative chosen**

Questions that should be asked for each alternative are:

- Are there potential positive or negative impacts on worker safety, health or the environment?
- Is space available for the needed changes?
- How will production be affected?
- Do employees need to be specially trained?
- Are new operating procedures required?
- Are you truly reducing waste and not simply transferring it to a different media? (For example, air strippers for water treatment remove waste from water into the air but do not minimize the waste).
- Will other environmental laws affect the use of this alternative?
- Are there any other concerns with the alternative?

**Determine the cost of implementing each alternative**

You must determine the capital cost needed for each alternative including equipment, engineering, construction, consulting, training, start-up and utility costs. The current cost of managing the waste from each process must be determined. You must include the cost of storage, disposal, on-site handling, employee training, waste analysis, equipment, operating costs and liability insurance.

Compare the two costs to determine which alternatives are feasible at your site. Note that some alternatives, such as employee training, have no capital costs.

**Select the alternative then, implement the plan**

The most important part of this process is selecting the alternatives, writing, then implementing the waste minimization plan.

## Waste Minimization and The Compliance Inspection

The Compliance Branch of the HWS reviews facility waste minimization programs as part of the facility's hazardous waste inspection.

Hazardous waste generators and facilities have three waste minimization requirements previously described:

- LQGs must submit waste minimization information as part of their biennial report;

- LQGs must certify on their manifest that they have a waste minimization program in place; and SQGs must certify that they have reduced hazardous wastes to the point that is economically practicable.
- All TSD facilities must certify, in the biennial report, that they have a waste minimization program in place.

The regulations where these items are addressed are:

For generators - 40 CFR 262.20, 262.41(a)(6-8);
For hazardous waste exporters - 40 CFR 262.56(a)(5)(i-ii);
For TSD facilities - 40 CFR 264/265.75(h)(i-j), 264.73(b)(9) and GS 130A-294(k).

During an inspection, the Environmental Senior Specialist will ask to see a copy of the facility's waste minimization plan. If there is no written plan, the owner/operator cannot describe a waste minimization program, or cannot show evidence of a program; it will be considered a violation for failure to comply with the certification on the manifest. The inspection will include a visual check of the waste minimization "program in place." Any contradiction between plans, reports and other waste minimization activities on-site will be noted in the inspection report as potential violations.

## Sample Waste Minimization Plan

The following is a simplified, sample waste minimization plan. It is to be used as an illustration only. Your plan must be specific to your facility, its processes, and the waste generated. Remember that you can use the same process for reducing solid wastes, or include both in one waste minimization plan.

**SAMPLE WASTE MINIMIZATION PLAN- FABRICATED METAL INDUSTRY**
**"RUSTY'S METAL SHOP"**

Rusty's Metal Shop has encouraged waste reduction in its machining, cleaning and painting operations for a number of years to reduce the quantity and toxicity of its wastes, conserve natural resources and reduce costs.

CORPORATE POLICY STATEMENT OF SUPPORT FOR POLLUTION PREVENTION

As evidence of corporate support of the waste minimization program at Rusty's Metal Shop, management dispersed a memo describing the corporate pollution prevention plan and tactics for fulfilling the goals in the plan.

DESCRIPTION OF POLLUTION PREVENTION PLANNING TEAM

Management tasked the lead environmental engineer to coordinate all waste management and minimization efforts at the facility. This waste minimization coordinator communicates quarterly with management at Rusty's Metal Shop. The coordinator, along with management, plans the next steps for waste minimization efforts at the facility.

PLAN FOR COMMUNICATING SUCCESSES AND FAILURES OF POLLUTION PREVENTION PROGRAMS WITHIN THE COMPANY

The coordinator will compile an annual report on waste minimization activities at Rusty's Metal Shop and will ensure that the report is made available to all employees.

DESCRIPTION OF THE PROCESSES THAT PRODUCE, USE OR RELEASE HAZARDOUS OR TOXIC MATERIALS (INCLUDING AMOUNTS AND TYPES OF RELEASES)

Machining, cleaning and painting operations at Rusty's Metal Ship produce hazardous wastes and toxic materials. These wastes are noted on an attached list of wastes.

DESCRIPTION OF CURRENT AND PAST WASTE MINIMIZATION ACTIVITIES AT RUSTY'S METAL SHOP

Primary Waste Minimization Activity

In 2008, Rusty's Metal Shop evaluated possible waste minimization activities, including replacement of selected solvents with aqueous cleaners. This study indicated that Rusty's Metal Shop could reduce its waste by making this replacement. The facility implemented this change on a pilot basis for two months at the close of the fiscal year. The facility saw a reduction from its average 120 tons of hazardous waste for a two-month period to 105 tons for the two-month test period. The activity is being evaluated on other parameters such as process effectiveness, employee safety and cost. Based on the findings, it may be implemented within the first few months of the fiscal year.

Characterization of Waste

Rusty's Metal Shop has implemented a waste accounting system for a number of years. The system tracks wastes produced at the facility from generation to final destination. The findings from this accounting system are available for review.

Periodic Waste Minimization Assessment

Periodic assessment is incorporated into the waste minimization practices at Rusty's Metal Shop. These practices include tracking waste from generation to final destination and to identify source reduction opportunities and calculate the true cost of waste. For example, Rusty's Metal Shop plans to select one waste stream for assessment and identify source reduction opportunities.

Cost Allocation

Waste management costs are calculated for each step in the management process and directed back to the department producing the waste.

Encourage Technology Transfer

Rusty's Metal Shop shares information with other fabricated metal industries though participation in a local trade association.

Program Evaluation

The Waste Minimization Coordinator leads the annual evaluations for Rusty's Metal Shop's waste minimization program. This evaluation is completed through a thorough tracking of all wastes generated in the facility and through interviews with staff members from each area of Rusty's Metal Shop. The Waste Minimization Coordinator submits an annual report on the waste minimization activities to management at Rusty's Metal Shop.

## Tax Certification for Exemption from Ad Valorem Taxes

The HWS is promoting waste minimization and waste reduction by providing possible tax credits. Facilities may request these tax credits following the procedures described below. After review by the HWS, equipment used solely for recycling or reclaiming hazardous wastes may be given tax-exempt status as an ad valorem tax credit.

A business purchasing or constructing facilities or equipment exclusively for the recycling or resource recovery of hazardous waste may be entitled to special treatment for the following types of tax:

- Real and personal property tax;
- Corporate state income tax;
- Franchise tax on domestic and foreign corporations.

Facilities and equipment used part of the time for recycling or resource recovery do not qualify, and pro-rating of time is not allowed. Division of space is allowed, however, a small space within a larger building can qualify only if used exclusively for recycling. Incidental and supportive facilities and equipment (such as bathrooms and office areas) do not qualify. The standards for special tax treatment are found under Section .1500 of the North Carolina Solid Waste Management Rules.

## How to Apply for Certification for Special Tax Treatment

Submit a formal letter of request for certification to the HWS. It should include the following information:

- A description of the recycling project or process;
- A listing and description of the recycling or resource recovery equipment and facilities;
- Drawings of the facilities that include the area and general layout of activity areas and equipment;
- The name of the individual primarily responsible for management operation and maintenance; and
- The construction schedule and dates of purchase of equipment.

This request should be mailed to the HWS in Raleigh. Upon receipt, your Environmental Senior Specialist will inspect the equipment and facilities and render a decision. If certification is

denied, you may request a written description of the reasons for the denial. If you disagree with the results, you have the right to an appeal under the state Administrative Procedures Act.
For income and franchise tax purposes, send a copy of the certification with your annual income tax reporting form. For property tax purposes, obtain and fill out an application for exemption (Form AV-10) from your county tax assessor's office or the N.C. Department of Revenue (877-252-3052) or on line at http://www.dornc.com/downloads/av10.pdf. Send this completed form and a copy of the HWS's certification to the local county property tax office with your annual reporting form.
Forms and information for Tax Certification are found on the NCDENR web site at http://portal.ncdenr.org/web/wm/sw/taxcert. The site has links to the application form and the regulations governing the Tax Certification Program, as well as a description of the process for applying for the credit. Applications must be received before the first of the year for the year the facility wants to receive the credit. A list of Frequently Asked Questions (FAQs) found on the web site is shown below. .

**Tax Certification Program FAQ's and Examples**

1. When will the applicant receive the approved Tax Certification?

Unfortunately, there is no straight forward answer to this question. The process may take several weeks to several months. There are many factors involved including completeness of the application, the work-load of the Waste Management Specialist, and their supervisor and if all information needed is readily available during the inspection. It is a long process and there is no guarantee that the certification will meet the yearly deadlines set by counties. To meet deadlines set by the county, applications should be sent as early as possible.

2. Does previously certified property need to be listed on a new application?

No. The life of the Tax Certification is valid as long as it is owned by the applicant and continues to meet all the requirements of the statutes and rules. Therefore, if there is a change of ownership, the property must be re-applied for appropriately.

3. What if there is a dispute between the company and the County?

It is beyond the authority of our agency to be directly involved in any continuing dispute that might arise between the company and the County other than to assert our position relative to the standards.

4. Does Used Industrial Oil qualify?

Conceivably, the storage tanks, feed system, boilers could qualify (analogous to wood waste fired boilers), if they are exclusively used for used oil. If they are mixing waste oil in with virgin materials then only the feed system (for the waste oil) may qualify. Incinerators do not qualify but any special equipment dedicated to energy recovery may qualify.

5. What about hazardous waste?

Hazardous waste recycling or reduction should be referred to the Hazardous Waste Section. The Hazardous Waste Section has the expertise and authority to certify hazardous waste reduction.

**Examples**

**1.** A paper recovery business owns large containers where paper is placed for recycling. The business operates a truck that picks up the paper and delivers it to its facility, where a baler, a forklift truck, other large containers, and a second truck are used to prepare and ship the paper to paper mills for recycling.
*All of the containers, the forklift truck, the other two trucks and the baler qualify for special tax treatment. The operations area of the facility also qualifies. The rest rooms and office areas of the facility do not qualify.*

**2.** A retail store designates an area in its building for baling paper and cardboard for recycling. A forklift is used to transport the paper and cardboard to a loading dock.
*If used for no other purpose, the area of the store used for the baling and the baler would qualify for special tax treatment.*
*The loading dock and the forklift would only qualify if they were not used for any other purpose.*

**3.** A paper mill produces new newspaper from old newspaper. It shreds the old newspaper, makes a pulp, rolls and dries the pulp, and cuts sheets.
*The area of the mill where production takes place, plus the equipment used for these processes, would qualify for special tax treatment, provided the same equipment is not also used to manufacture product from non-recycled (virgin) materials.*

# Waste Minimization Priority Chemicals

EPA is focusing Waste Minimization efforts on five chemical groups. These chemicals were chosen because they are persistent in the environment, bioaccumulative, or toxic to health or the environment.

| Chemical | CAS# |
|---|---|
| 1,2,4-Trichlorobenzene | 120-82-1 |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3 |
| 2,4,5-Trichlorophenol | 95-95-4 |
| 4-Bromophenyl phenyl ether | 101-55-3 |
| Acenaphthene | 83-32-9 |
| Acenaphthylene | 208-96-8 |
| Anthracene | 120-12-7 |
| Benzo(g,h,i)perylene | 191-24-2 |
| Dioxins/Furans | |
| Dibezofuran | 132-64-9 |
| Endosulfan, alpha, | 959-98-8 |
| Endosulfan, beta | 33213-65-9 |
| Fluorene | 86-73-7 |
| Heptachlor | 76-44-8 |
| Heptachlor epoxide | 1024057-3 |
| Hexachlorocyclohexane, gamma- | 58-89-9 |
| Hexachloroethane | 67-72-1 |
| Methoxychlor | 72-43-5 |
| Naphthalene | 91-20-3 |
| PAH group (as defined in TRI) | |
| Pendimethalin | 40487-42-1 |
| Pentachlorobenzene | 608-93-5 |
| Pentachoronitrobenzene | 82-68-8 |
| Pentachlorophenol | 87-86-5 |
| Phenanthrene | 85-01-8 |
| Pyrene | 129-00-0 |
| Triflualin | 1582-09-8 |
| Metals | |
| Cadmium | 7440-43-9 |
| Lead | 7439-92-1 |
| Mercury | 7439-97-6 |

## Sources of Information for Waste Minimization

**Your Environmental Senior Specialist** – The names, addresses and phone numbers for the Environmental Senior Specialist for your area can be found at the front of this manual and are available on the internet at: http://portal.ncdenr.org/web/wm/hw/questions

**Tax Certification** – For forms and the application for the tax certification program are located at: http://portal.ncdenr.org/web/wm/sw/taxcert

**Division of Pollution Prevention and Environmental Assistance (DPPEA)**- The DPPEA offers free technical assistance to generators and TSD facilities on recycling and waste minimization issues. DPPEA is located in Raleigh, the phone number is: (919) 715-6500 or 1-800-832-7828. DPPEA's web site is http://p2pays.org/

**The Internet**

- NC Waste Trader- This is a waste exchange service is designed to divert recoverable materials from disposal while providing feedstocks and supplies to potential users. http://www.ncwastetrader.org/home.aspx
- NC Recycling Markets Listing is a document which lists companies which recycle many types of materials. It lists facilities alphabetically as well as by the materials it recycles. http://www.p2pays.org/dmrm/start.aspx
- Biomass Recycling is North Carolina's marketplace for biomass, bio-based feedstocks, and bio-based energy products and fuels. This exchange service is designed to provide a marketplace for biomass materials that can be used in bio-based manufacturing, converted to energy, or used in energy generating processes or technologies. http://www.ncbiomasstrader.org/home.aspx

# Recycling Regulations
# (40 CFR 261.1, 261.2, 261.6, 266)

After reducing waste at the source, recycling is the most preferred waste minimization method. Unfortunately, the regulations guiding the recycling of hazardous waste are not straight forward and the regulations that apply to various types of recycling or wastes to be recycled are in a variety of locations in RCRA. The following Section attempts to discuss and clarify the recycling regulations.

Recycling is defined in RCRA at 40 CFR 261.1(c)(7). The definition is: "A material is recycled if it is used, reused, or reclaimed."

Certain materials are not subject to regulation as a hazardous waste when they are recycled. These materials are specifically excluded under 40 CFR 261.4. These materials include:

- Scrap metal;
- A variety of reclaimed oils and oil-derived fuels associated with oil refining;
- Coke and coal tars from the iron and steel production process;
- Industrial ethyl alcohol that is reclaimed;
- Used batteries returned for regeneration; and
- Used oil exhibiting any of the characteristics of hazardous waste that is recycled in a manner other than burning for energy recovery.

Other materials are not classified as solid wastes, and therefore are not hazardous wastes, when they are recycled. These exclusions are found in 40 CFR 261.2. To determine if a material meets this exclusion and is or is not a solid waste when recycled, both the type of material and the manner of recycling must be considered.
Five types of materials are considered: spent materials, sludges, by-products, commercial chemical products, and scrap metal.

- A **Spent Material** is any material that has been used and, as a result of contamination, can no longer serve its intended purpose without re-processing (40 CFR 261.1(c)(1)). This includes spent solvents, spent plating bath solutions, and spent pickle liquor, among others.
- **Sludge** is a residue from a pollution control device, such as wastewater treatment plant sludges, baghouse dust or furnace dusts (40 CFR 260.10).
- **By-products** are process residues that are not one of the primary products of a production process. Some samples include slag, heavy ends and distillation column bottoms. By-

products should not be confused with **co-products**. A co-product is intentionally produced by the manufacturing process and is ordinarily used in its existing state as a commodity. Co-products must have a recognized use and be usable without reprocessing (40 CFR 261.1(c)(3)).

- **Commercial Chemical Products** are those compounds listed in 40 CFR 261.33 (P and U-listed wastes). These materials are either unused, pure products (not mixtures) or a product where the compound listed is the sole active ingredient.
- **Scrap Metals** are metal pieces and parts which, when worn or superfluous, can be recycled. Examples include scrap automobiles and machine shop turnings.

Next, examine the manner of recycling to determine if a material is a solid waste when recycled. The five types of use that must be considered are use in a manner constituting disposal, use as a fuel or burning for energy-recovery, reclamation, speculative accumulation and use/re-use.

- **Use Constituting Disposal** occurs when the material is applied to or placed on the land, or is contained in a product placed on the land (40 CFR 261.2(c)(1)). An example is Lindane-containing waste which is used as a pesticide.
- **Burned for Energy Recovery or Used as a Fuel** occurs when a material is used to produce a fuel, is contained in a fuel, or is burned for energy recovery in a boiler or industrial furnace (40 CFR 261.2(c)).
- A material is **Reclaimed** if it is processed to recover a usable product or if it is regenerated (40 CFR 261.1(c)(4)). Examples of reclamation are distillation and filtration.
- **Speculative Accumulation** is defined as the accumulation of waste materials prior to recycling without sufficient amounts being recycled. A sufficient amount is defined as recycling at least 75 percent of the total quantity generated during a calendar year (40 CFR 261.1(c)(8)).
    - **Use or Reuse** - A material is used or re-used if it is employed as an ingredient in an industrial process to manufacture a product, or is employed as an effective substitute for a commercial product (40 CFR 261.1(c)(5)(i and ii)). Materials are not solid wastes when they are used or reused, or returned directly into the original primary production process in which they were generated (40 CFR 261.2(e)(1)). However, materials must be used, re-used or returned to the original process without first being reclaimed. These exclusions do not apply to materials used in a manner constituting disposal, burned for energy recovery, or speculatively accumulated (40 CFR 261.2(e)(2)).

After you consider the type of material and the manner in which it will be recycled, you can determine whether the material is a solid waste when it is recycled. It is very important to ensure that you have defined both the type of material and the manner of recycling correctly. This is where many of the mistakes in application of the regulations occur. In the following chart, the type of the material is listed along the left side. The manner of use is listed across the top. If the box has an asterisk (*) in it, that material is a solid waste when it is recycled. If the box is blank, the material is not a solid waste, and therefore cannot be a hazardous waste. If this is the case, it is not subject to the hazardous waste rules when recycled.

**Table 3. Solid Waste Determination for Recycled Materials**

| | Use Constituting Disposal | Energy Recovery/ fuel | Reclamation | Speculative Accumulation |
|---|---|---|---|---|
| Spent Material | * | * | * | * |
| Sludges (listed) | * | * | * | * |
| Sludges (characteristic) | * | * | | * |
| By-Product (listed) | * | * | * | * |
| By-Product (characteristic) | * | * | | * |
| Commercial Chemical Product (listed) | * | * | | |
| Scrap Metal | * | * | * | * |

If the material being recycled is defined as a solid waste using Table 2, and it also meets the definition of a hazardous waste, then it is subject to the full set of hazardous waste regulations. This includes accumulation times, labeling, dating and manifesting, etc. Before being reclaimed, materials that are hazardous wastes are also subject to the full set of hazardous waste regulations (40 CFR Parts 262 and references and Parts 268 and 270). This includes proper containerization, labeling, dating and storage time limits.

Certain "inherently waste-like" materials are solid wastes when they are recycled in any manner (261.2(d)). Table 2. Is not applicable to these wastes. These include: listed wastes F020, F021, F022, F023, F026 and F028; and secondary materials fed to a halogen acid furnace that exhibit a characteristic of, or are listed as, a hazardous waste.

## Regulation of "Recyclable Materials" (40 CFR 261.6)

Certain recycling processes are not subject to the full set of hazardous waste regulations, but are addressed in 40 CFR 266 as Recyclable Materials. These regulations cover:

- Material used in a manner constituting disposal (Subpart C),
- Hazardous waste burned for energy recovery in boilers and industrial furnaces (Subpart H),
- Materials used for precious metals recovery (Subpart F),
- Spent lead-acid batteries being reclaimed (Subpart G),

And, in 40 CFR 279,

- Used oil management prior to recycling and energy recovery.

Note: Decision Diagram B, located in Appendix J, will help decide how your recyclable materials should be regulated. If you need further assistance, contact your Environmental Senior Specialist.

# THE HAZARDOUS WASTE INSPECTION

## Types of Hazardous Waste Inspections

There are many reasons why hazardous waste inspectors (Environmental Senior Specialists) may come to your facility. The most common reason will be for some type of formal inspection. Sometimes an inspection will be conducted in conjunction with an EPA or state initiative looking at compliance in a particular industry-type, or compliance with a particular section of the regulations. Because North Carolina is "under contract" with the EPA, its staff can accompany state inspectors on an inspection.

NOTE: Typically, only one inspector will conduct an inspection at your facility. In this section, however, we refer to inspectors in the plural form.

The most common type of hazardous waste inspection is the CEI, or Compliance Evaluation Inspection. This inspection evaluates your facility for all of the hazardous waste regulations applicable to your facility. The usual frequency of a CEI is once a year for TSD facilities, once every two years for LQGs, a percentage of SQGs each year, and as needed, for example for complaint investigations.

Inspections can either be announced or unannounced, however, most inspections are unannounced. When the inspectors arrive at your facility, it is with the intention of conducting and completing an inspection. In addition to the primary contact, your facility should have at least one other person on-site who knows where records are kept and is familiar with the basics of your hazardous waste program. This person can accompany the inspectors when the primary facility contact is not available.

## Entrance and Access to Your Business

When the inspectors arrive at your facility, they will identify themselves with an official DENR identification card and tell you why they are there. You may want them to sign in on a log or other document. The inspectors will not sign any document or log requiring them to agree to any terms. For personal safety reasons, inspectors can sign a visitor log only or leave a business card at the front desk so that you will know they are on-site in case of an emergency.

Under OSHA 1910.120 the inspectors are required to review or generate a specific site-safety plan before a facility tour can begin. Generally, a review of a facility's current contingency plan will suffice, however, an additional site-safety plan may be filled out by the inspectors. A copy of this form will not be left at the facility.

Normal inspection equipment includes cameras and sampling equipment. It can also include recording devices. Photographs will be taken and samples collected to document violations. Copies of documents will be requested for the same reason. The citation from the statutes that protects you from inspectors divulging trade secrets or proprietary information is located on the next page. If your company has a policy forbidding cameras from being used at the company site develop an understanding with your management that the hazardous waste inspector may elect to use a camera to document violations.

Inspectors determine the order in which the inspection is conducted. The inspectors will let you know what they will need to see and when. The statute citation that allows access to all parts of your facility the inspectors will need to see to determine regulatory compliance is located on the next page.

## GENERAL STATUTE 130A-304
## CONFIDENTIAL INFORMATION PROTECTED

(a) The following information received or prepared by the Department in the course of carrying out its duties and responsibilities under the Article is confidential information and shall not be subject to disclosure under G.S. 132-6:

(1) Information which the Secretary determines is entitled to confidential treatment, the Secretary shall inform the person who provided the information that determination at the time such determination is made. The Secretary may refuse to accept or may return any information that is claimed to be confidential that the Secretary determines is not entitled to confidential treatment.
(2) Information that is confidential under any provision of federal or state law.
(3) Information compiled in anticipation of enforcement or criminal proceedings, but only to the extent disclosure could reasonably be expected to interfere with the institution of such proceedings.

(b) Confidential information may be disclosed to officers, employees, or authorized representatives of federal or state agencies if such disclosure is necessary to carry out a proper function of the Department or the requesting agency or when relevant in a any proceeding under this Article.

(c) Except as provided in subsection (b) of this section or as otherwise provided by law, any officer or employee of the State who knowingly discloses information designated as confidential under this section shall be guilty of a misdemeanor punishable by a fine of not more than five hundred dollars ($500) or imprisonment for not more than two years or both and shall be removed from office or discharged from employment.

## GENERAL STATUTE 130A-17
## RIGHT OF ENTRY

The Secretary and local health director shall have the right to entry upon the premises of any place where entry is necessary to carry out the provisions of this Chapter or the rules adopted by the Commission or a local board of health. If consent for entry is not obtained, an administrative search and inspection warrant shall be obtained pursuant to G.S. 15-27.2. However, if an imminent hazard exists, no warrant is required for entry upon the premises.

**RECORD REVIEW**

All of the documents your facility is required to keep on-site under RCRA may be reviewed by the inspector. All records relating to hazardous waste must be kept on-site for at least three years with the exception of training records. This exception will be discussed later in this section.

## Manifests (40 CFR 262.20-23)

All hazardous wastes shipped off-site must be accompanied by a hazardous waste manifest. During an inspection, hazardous waste manifests will be reviewed usually from the date of the last inspection. The inspectors may, however, want to see all of your manifests, or just those for the last year. Manifests are reviewed to determine if they are filled out correctly. They are also checked to determine that the wastes shipped off-site match the wastes generated by your facility, that the quantities shipped match the quantities of waste generated, and the TSD facilities and transporters used are valid facilities.

The inspectors are also checking to see if your manifests have been signed by you, the transporter(s) and the TSD facility. If you have not received a signed manifest, you must have filed an exception report within 45 days of the date you shipped the waste. The exception report must be sent to the HWS and a copy kept on-site.

Remember, by signing the manifest you are certifying that all of the information is correct, including facility waste minimization information. If you do not fill out the manifest yourself, CHECK IT OVER CAREFULLY. Any mistakes made will be violations for your facility.

It is also important to remember that the hazardous waste laws mandate that once an entity generates a hazardous waste it is that entity's responsibility from the "cradle to the grave", that is from the time of generation and even after it has been treated and buried. This ownership was mandated by Congress, not the EPA. The manifest is the one official paper that documents the amount, type, date of shipment and the TSD that accepts the hazardous waste. The information documented on the manifest may prove to be very valuable if one finds themselves a "responsible party" at a site that has received their waste in the past and now needs cleaning up. The manifests will document how much waste has been sent to the TSD in question and one will be able to avoid paying an inflated amount based on speculation. For this reason it is suggested that all manifest be saved- never throw away a hazardous waste manifest.

The inspector may also ask you about shipments of non-hazardous waste if they have reason to believe that any could be hazardous and were shipped without a manifest.

Common problems and violations found during manifest review:

- Not using the appropriate waste codes for the hazardous waste shipped,
- Not using the correct DOT description for the waste,
- Not describing the waste appropriately,
- Not having a signed copy from the TSD facility and/or not having an exception report; and
- Failure to provide "land ban" notifications/ certifications (see the next section).

A copy of a manifest and the instructions for filling it out are on the next pages.

## Land Ban Notification (40 CFR 268)

A generator must determine if its hazardous waste must be treated before being land disposed. This is accomplished either by testing or by knowledge of the waste, and then checking the treatment standards listed in 40 CFR 268.40 or 268.45. All supporting information and data used to make this determination must be kept on file at the facility.

When a generator first ships hazardous waste to a TSD facility, the generator may supply a one-time notification. This notification tells the TSDF that the waste either does or does not meet a specific treatment standard. If the waste, processes or the receiving facility changes, the generator is required to send a new notice to the receiving facility. This new notice must also be kept in the files at the generator's site.

However, a generator may choose not to determine if their hazardous waste requires treatment prior to land disposal. If the generator chooses this approach, they must manifest the waste to a RCRA permitted TSD facility. The TSD facility will then have the responsibility to make the determination if the waste must be treated to meet the land disposal requirements.

The notice must include:

- The EPA Hazardous Waste Number and the associated manifest number;
- The constituents of concern for F001-F005, and F039 wastes, and the underlying hazardous constituents (for all wastes), unless the waste will be treated and monitored for all constituents;
- The applicable wastewater/non-wastewater category and subdivisions made within a waste code (such as D003, reactive cyanide);
- Waste analysis data if available;
- For hazardous debris, when treating with the alternative treatment technologies provided by 268.45: the contaminants subject to treatment and an indication that these contaminants are being treated to comply with 268.45; and
- Generator signature when certifying that the waste meets the treatment standards.

A copy of the notices must be kept on-site for three years. Electronic filing is allowed, however, there are no standards set for electronic filing at this time. If you use electronic filing, make sure you can "pull up" the documents for inspection and have adequate back up procedures.

Many hazardous waste vendors have developed excellent notification forms. Remember that the generator is ultimately responsible for the correctness of the notification and the resulting violations if the forms are filled out incorrectly.

Common errors made on the notification/certification forms include:

- Failing to list the constituents of concern for F001-F005 wastes and underlying hazardous constituents,
- Failing to identify wastewater or non-wastewater,
- Failing to retain a copy on-site and
- Failing to sign the certification when certifying that the treatment standards are met.

Please note that individual notifications are necessary with lab-packed waste shipments. They must be attached to the manifest and a copy retained on-site. There is no distinction between wastewater, non-wastewater or hazardous debris for lab-packed wastes.

## Training Records (40 CFR 265.16)

### RCRA Training Content

Because there are so many different types of processes and jobs related to hazardous waste, there is no approved training course specified in the regulations. It is the facility's responsibility to determine what employees need to know to ensure the facility's compliance with the regulations and to ensure personal safety. Each employee who has a job that causes them to contact or manage hazardous waste must be trained. The training must be for their actual duties handling hazardous waste or, as the regulation state: "relevant to the position in which they are employed." The employees must also be trained in emergency procedures so that they are able to respond effectively to emergencies. The training must include a review of your site-specific contingency plan. You may combine RCRA training with training required under OSHA 1910.120 in one course as long as all of the specific requirements under RCRA are met.

### Who Conducts RCRA Training

The person conducting the employee training must be trained in hazardous waste management. Notice, there is no EPA approved training program for instructors. You should have documents at the facility, however, showing that the person conducting the training is qualified to do so.

**Which Employees to Train**

All employees who handle hazardous wastes or have the potential to handle hazardous waste must be trained. This includes all personnel who actually handle hazardous wastes, emergency response crews and emergency coordinators. If an employee's only hazardous waste duty is to place hazardous wastes into a satellite container, and they would not respond if the container leaked or ruptured, that employee does not have to participate in the training. The HWS, however, recommends that you do train them. New employees (new employees to the facility and employees that are new to a position) have a "grace" period of six months to attend training. During this time, they cannot work unsupervised around hazardous wastes until they receive RCRA training.

**Training Documentation**

The following documents are required to be present at the facility:

- Job titles and job descriptions for positions that include hazardous waste responsibilities and the name of each employee filling that position. The description must include the requisite skill, education, or other qualifications and duties of facility personnel assigned to each position. This job description must describe the employee's duties specific to hazardous waste activities that are expected of that employee.
- The type and amount of both introductory and continuing training conducted, i.e., the content of what you used to train the employees.
- Records documenting that training has been given.

Training documents are the exception to the three-year record retention rule. All training documents must be kept on-site until the facility closes. Training records for former employees must be kept for three years (minimum) after the time the employee left the facility.

**Frequency of Training**

Training must be conducted annually, on or prior to the anniversary date of the previous training, not once per calendar year. This means that, if you trained employees on January 22, they must have their annual update on or before January 22 of the next year.

Common errors found in training programs include:

- Not maintaining training records,
- Job descriptions not specific to hazardous waste duties,
- Job descriptions not including the requisite skills needed to perform that job,
- Not training personnel on the contents of the contingency plan and emergency procedures,

- Not training emergency coordinators, and Not conducting training annually, by the anniversary date.

SAMPLE training documents are illustrated on the next pages.

# Hard Chrome Plating Company
# Job Description

Name: John Smith
Job Title: Plating Chemist

**Summary:** Plating Scientist is the level for very experience and/or advanced technical chemists. Must have the ability to effectively determine proper plating processes.

**Minimum Requirements:** Masters in Chemistry with 5+ years of experience or Bachelors with 10+ years of experience.

**Responsibilities:**

- Proposes and implements successful plating processes
- Designs experiments to address project goals based on interpretation of results, with limited guidance
- May train, supervise or direct other scientists at the associate level

**Technical Skills:**

- Expert understanding of applied theory of plating chemistry related to projects
- Broad knowledge of plating process reactions and their applications
- Basic understand of plating knowledge
- Effectively participates in development of project plan to meet goals and objectives

**Communication Skills:**

- Provides regular updates to colleagues
- Prepares written reports detailing plating processes
- Writes clear and concise entries in laboratory notebook

**Safety:**

- Accountable for maintaining safe working environment
- Observes Hard Chrome Plating Company safety policies and procedures
- Provides strong leadership by principle and by example

**Hazardous Waste Management:**

- Secondary Emergency Coordinator:
    - Remain familiar with the contingency plan and procedures set forth in the plan
    - Make appropriate communications in time of emergency with Fire/Police, Hard Chrome Plating executive staff as appropriate, with personnel in charge of environmental reporting, and environmental emergency response contractors as appropriate
    - Direct Emergency Personnel to appropriate locations
    - Act as liaison between emergency crews, response contractors and Hard Chrome Plating staff
    - Assist EH&S personnel with applicable environmental reporting as necessary and required
- Hazardous Waste Handler
    - Awareness and satellite waste accumulation (including but not limited to) caps, labeling, dating
    - Periodically removing satellite waste containers and deliver to less than 90 day storage area
    - General house keeping
    - Annual RCRA Training including Emergency Coordinator (secondary) refresher, Contingency Plan training, RCR hazardous waste training

**JOB DESCRIPTION/TRAINING RECORD FOR HAZARDOUS WASTE MANAGEMENT/DISPOSAL POSITIONS PER 40 CFR 265.16.**
This record must be maintained at the facility.

FACILITY: facility name UNIT: Plant number
ADDRESS: address of facility
PHONE: 000-000-0000 DATE: _____
EMPLOYEE NAME: _____
JOB TITLE: _____
HAZARDOUS WASTE RELATED QUALIFICATIONS AND DUTIES (INCLUDE REQUISITE SKILLS, EDUCATION, OR OTHER QUALIFICATIONS).

The above person works with and handles hazardous materials and wastes at the work site located at:_____, city, state. This person has the appropriate qualifications to read,

understand, apply, and communicate written and verbal information regarding handling and managing hazardous wastes. Training is required within six months of assuming duty and once a year thereafter. He/She is responsible for proper handling, documenting, inspecting, and transporting hazardous wastes. He/She is also responsible for responding to emergencies. The above individual commenced these duties on _____ 20__.

| DATE | DESCRIPTION OF TRAINING (FOR FORMAL TRAINING)<br>FOR INFORMAL TRAINING: ENTER "ON THE JOB TRAINING. ENTER THE TITLE, A BRIEF DESCRIPTION AND THE NAME OF THE INSTRUCTORS. | EMPLOYEE SIGNATURE |
|---|---|---|
| | | |
| | | |
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| | | |
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| | | |

**JOB DESCRIPTION/TRAINING RECORD FOR HAZARDOUS WASTE**
**40 CFR 265.16**

Facility: _____

Address: _____

_____

Phone: _____ Date: _____ Employee:
Job Title: _____

Job Description: **(This is an EXAMPLE. Do not use this as boiler plate!! Must include the requisite skill, education or other qualifications and duties of facility personnel assigned to each position.)**

"As the EH&S Supervisor, Mr. Smith is responsible for managing all environmental and safety programs as the facility. Mr. Smith is involved in every aspect of the hazardous waste program, to include: identifying and profiling hazardous waste at each facility; choosing and ordering proper containers, labels, placards, etc.; training associates who handle hazardous waste and prepare and offer hazardous material for transportation; performing weekly inspections of the hazardous waste storage area and random follow-up inspections of hazardous accumulation areas; updating the Contingency Plan and distributing it to internal and external emergency response personnel; responding to leaks and spills as a member of the Haz-Mat Emergency Response Team loading waste on to transport vehicles; placarding transport vehicles; completing and managing Hazardous Waste Manifests; and managing universal waste and used oil programs. Mr. Smith is also responsible for the administration of all Plant Contingency Plans, and assigning and training emergency response coordinators, alternates and the Spill Response Team in the Plan.

Introductory Training Required: **(This is an EXAMPLE. Do not use this as boiler plate!!)**

"Initial 8-hour Hazardous Waste/Used Oil Management Training 40 CFR 265.16 within six months after assigned to a position involving handing or management of hazardous waste."

Continuing Education Required: **(This is an EXAMPLE. Do not use this as boiler plate!!)**

"Annual 8-hour refresher training in Hazardous Waste/Used Oil Management."

| Date | Description of Training (Enter the title, a brief description and the name of the instructor. For informal training, enter "on the job training".) | Employee Signature |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

# Inspection Log (40 CFR 265.174 and 15A NCAC 13A .0010(i))

Facilities are required to inspect the areas where hazardous wastes are stored at least weekly. At a minimum, they should look for leaks and corrosion of containers. These inspections must be recorded in a log and maintain it on-site for at least three years. There is no set form for an inspection log. It should note specific items and the areas inspected, include the signature of the inspector, and the date and time the inspection was conducted. You should also include any problems noted and what actions were taken to correct them.

We recommend that inspections include all satellite accumulation areas and the testing and maintenance of emergency equipment as specified in 40 CFR 265.33.

It is not a violation for problems that you have noted and corrected to appear in your inspection log. Rather, it shows that inspections are being conscientiously conducted. On the other hand, if problems are noted by the inspectors in your storage areas, but your inspection log notes that everything is okay, it shows that inspections are not being conducted appropriately.

Inspections must be conducted weekly. If you are on vacation or your plant is closed, arrangements must be made to ensure that stored hazardous wastes are inspected and documented in your inspection log.

If your facility is part of the National Environmental Performance Track Program you may apply for alternate inspection schedules for monthly inspections rather than weekly.

SAMPLE inspection logs are illustrated on the next pages.

| HAZARDOUS WASTE - WEEKLY INSPECTIONS | | | | | |
|---|---|---|---|---|---|
| **262.34(d)(4) ref 265.174 - At least weekly, the owner or operator must inspect areas where containers are stored. (Weekly = 7 days, <180-day storage areas, SQG)** | | | | | |
| **MONTH:** | **DATE:** | **DATE:** | **DATE:** | **DATE:** | **DATE:** |
| **STORAGE AREA:** | **INSPECTOR:** | **INSPECTOR:** | **INSPECTOR:** | **INSPECTOR:** | **INSPECTOR:** |
| **LEAKING CONTAINERS/ CONTAINERS IN GOOD CONDITION (No Corrosion, dents, etc.):** | | | | | |
| **CONTAINERS CLOSED:** | | | | | |
| **CONTAINERS LABELED:** | | | | | |
| **CONTAINERS DATED:** | | | | | |
| **OLDEST ACCUMULATION START DATE:** | | | | | |
| **NUMBER OF HAZARDOUS WASTE CONTAINERS:** | | | | | |
| **SPILLS ON OUTSIDE OF CONTAINERS:** | | | | | |
| **PROPER AISLE SPACE (24 Inches):** | | | | | |
| **EMERGENCY EQUIPMENT (Fire Extinguisher, Spill Kit, Eye Wash, Communication Device, Water Sprinklers etc.):** | | | | | |
| **NOTES:** | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

# Weekly Hazardous Waste Container Inspection Log

Month: _____ Year: _____ Signature: _____

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inspection Date | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Initials | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Drum Integrity (no leaks, etc.) | Yes | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | | | | | | | | | | | | | | | | | | | | | | | | | |
| Drums Closed (bungs, etc.) | Yes | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | | | | | | | | | | | | | | | | | | | | | | | | | |
| Drums Labeled | Yes | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | | | | | | | | | | | | | | | | | | | | | | | | | |
| Evidence of Spills | Yes | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | | | | | | | | | | | | | | | | | | | | | | | | | |
| Accumulation Start Date | Yes | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Yes | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Yes | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Yes | | | | | | | | | | | | | | | | | | | | | | | | | |
| | No | | | | | | | | | | | | | | | | | | | | | | | | | |
| Remarks, Problems, Corrections, etc. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

**HAZARDOUS WASTE MANAGEMENT**
**WEEKLY SITE INSPECTION**

Date: _____

Time: _____

Inspector:_____

| | Circle |
|---|---|
| Log Up to Date | Yes No |
| Drums Labeled | Yes No |
| Drums Sealed | Yes No |
| Drums leaking | Yes No |
| Drums Dated | Yes No |
| Drums in good Condition | Yes No |
| Oldest Date | Yes No |
| Aisle Space Adequate | Yes No |
| Emergency Equipment | Yes No |
| Phone Working | Yes No |

Corrective Action Needed?Yes No
Describe:_____
_____
_____
_____
_____
_____

Date Corrected _____

## Contingency Plan (40 CFR 265.50 - 56 Subpart D)

The purpose of a RCRA contingency plan is to describe the procedures that will be used to respond to emergencies related to hazardous waste.

A list of required RCRA contingency plan items cited in the regulations and an example of a generic plan are included in this section. This generic plan is an example only. A RCRA contingency plan must be SPECIFIC TO YOUR FACILITY describing your facility, its wastes, emergency equipment and procedures.
Under the new " Burden Reduction" changes to RCRA you may combine other emergency plans

**Required Contingency Plan Items**

- Every Large Quantity Generator must have a contingency plan.
- The plan must be carried out immediately when there is a significant potential for hazardous waste constituents to be released, or they have already been released.
- The plan must describe actions personnel will take in the event of any release, fire or explosion of hazardous wastes or constituents.
- The plan must describe agreements made with local emergency response teams, fire departments, police, sheriff and hospitals.(See the next section for samples of documents for these arrangements).
- The names of the emergency coordinators must be listed, as well as their home addresses and phone numbers so they can be reached ANYTIME there is an emergency.
- All emergency equipment must be listed, including its location and its capabilities.
- An evacuation plan must be in the plan that includes the signals used to begin the evacuation.
- Both primary and secondary evacuation routes must be specified.
- Copies of the contingency plan must be kept at the facility and sent to local emergency agencies and hospitals.

Note: the definition of an emergency responder is a person that as the authority to use the recourses of the company and who can respond in a timely manner to an emergency

A contingency plan must be updated IMMEDIATELY when:

- The applicable regulations are changed,
- The plan fails in an emergency,
- The facility changes (changes in facility processes, a floor plan, etc.),
- Emergency coordinators change (including changes in address or phone number), or

- Emergency equipment changes.

The regulations also specify procedures you must take when your plan is used in an emergency. These procedures are specified in 40 CFR 265.56.

Generators should review their contingency plan often to determine if any changes should be made and update it promptly.

The following items are frequently not addressed in a generator's contingency plan:

- Description, capabilities and location of all emergency equipment within the facility.
- Description of alarms or signals used to evacuate the facility (e.g., horn, siren, buzzer, etc.).
- Description of the response to be taken in the event of an explosion involving hazardous waste.
- Failure to amend the plan when emergency coordinator information changes or the facility changes.
- Failure to send the plan to emergency responders or not documenting the submittal, and
- Not showing both primary and secondary evacuation routes.

The contingency plan is your guide and an assurance to fellow workers, emergency responders and the public that your company will respond in the most effective way to emergencies.

It is not a violation to combine this plan with emergency plans required by other regulations (e.g. SPCC plans), as long as all requirements for both plans are met. If you are combining plans, the EPA suggests that you use the National Response Team's "Integrated Contingency Plan guidance" as a template.

Suggested Outline- Hazardous Waste Management Facility Contingency Plan

1. Facility identification and general information
   a. Name of facility, location and address
   b. Phone numbers (office and hours)
   c. Primary Emergency Coordinator(s), name, home address, home phone, pager or cellular phone
   d. Type of facility
   e. Description of waste management practices
2. Emergency Coordinators
   a. Primary coordinator
   b. Alternate coordinator(s)
   c. Emergency duties and authority to commit resources.
3. Implementation of Contingency Plan
4. Emergency Response Procedures
   a. Notification
   b. Control and containment
   c. Follow-up
5. Emergency Equipment
   a. Inventory
   b. Location
   c. Capabilities
   d. Equipment available from other resources
6. Coordination Agreements
   a. Police
   b. Fire
   c. Other emergency response units
   d. Hospital
7. Evacuation Plan
   a. When to evacuate
   b. Signals to evacuate
   c. Primary evacuation routes
   d. Alternative evacuation routes

HARD CHROME PLATING & PAINTING COMPANY
**SAMPLE** CONTINGENCY PLAN

1. General Information:
   * Hard Chrome Plating & Painting Company
   * Location: 1997 Dismal Lane, Bacon, NC 29898
   * Contact: George Washington, 123 Easy St., Bacon, NC 29898.
     Home: (123)456-7890 Office: (123)654-0987
   * Emergency Coordinator: Flash Gordon, 2 Super Hero Rd., Bacon NC 29898
     Home: (123) 455-9836 Work: (123) 737-9875
   * Type of facility: Chrome plating and painting of machine parts primarily for the movie industry.
   * Description of wastes:
     - Waste water containing cyanide from plating tanks (F007)
     - Wastewater treatment sludge from the treatment of plating waste, contains cyanide and chrome (F006)
     - Waste Paint (D001)
       Paint related waste from cleaning of spray guns with solvent (D001, F003, F005)

2. Emergency Coordinators:
   * Primary: Flash Gordon, 2 Super Hero Rd., Bacon NC 29898
     Home:(123)455-9836 Work: (123)737-9875
   * Second: Robin Batman, 1 Bat Cave Rd., Bacon, NC 29898
     Home: (123) 666-6666
   * The emergency coordinators can deputize other employees to assist them in the event of an emergency.
   * The emergency coordinator has full authority to commit resources needed to respond to emergencies at this facility.
3. Implementation of the Contingency Plan

   The contingency plan will be implemented if an incident might threaten human health or the environment. The emergency coordinator has the full authority to make this determination. Examples of emergencies that may call for the implementation of the plan are: Release of plating bath solutions; formation of hydrogen cyanide gas; release from bulk storage containers, fire and explosion.
4. Emergency Response Procedures

   * Notification
   - Any employee discovering a fire, hazardous waste release, or potential for explosion that is not readily controllable with equipment and materials at hand must activate the emergency alarm system. This system automatically pages both the primary and secondary emergency coordinators and contacts the local police and fire department.
   - All employees hearing the alarm must close down and secure equipment (if it is safe to do so) and evacuate the building.
   - Evacuation routes (both primary and secondary) are specified in the map in section seven.
   - The Emergency Coordinator will contact the National Response Center if appropriate.

- Roll call of evacuated personnel will be conducted by the emergency coordinator or his/her deputy.

* Containment and Control

- Evacuate the facility in the event of a release of cyanide gas.
- In the event of a spill or release, absorbent material will be used to contain the flow. Portable pumps will be used to clean up the spill. Recovered material will be declared a hazardous waste if it cannot be used as is.
- In the event of a fire, explosion or potential for explosion, facility personnel will be evacuated and control of the site turned over to the fire department upon its arrival.

* Follow-up Actions

- All hazardous wastes generated during the emergency will be managed and disposed of properly.
- All emergency equipment will be replaced or restored to full working order.
- The cause of the emergency will be investigated by the Emergency Coordinator. Necessary steps will be taken to ensure that the incident cannot recur.

5. Emergency Equipment

* Each work unit is supplied with a chemical fire extinguisher (5 lb, ABC type) and a shower/eye fountain for spills.
* Each workstation is supplied with bags of absorbent for solvent clean up (50 lb. bag).
* In plating area, bags of absorbent (25 lb. bag) for cleanup of acid spills
* There are two fire hydrants that supply the facility.
* The hazardous waste storage area and the bulk chemical storage area are supplied with two spill kits, squeegees, additional absorbent materials and plastic shovels for spill cleanup.
* The entire facility is equipped with an alarm system with pulls at each workstation. Alarms can be heard at all areas in and around the facility.

6. Coordination Agreements

All of the agencies listed below have received a copy of the contingency plan. The fire department and hospital have copies of MSDS for the facility. The fire department makes yearly site inspections. The hospital has received special information on the hazards and illnesses of cyanide, metals and the corrosives used at this facility.

Phone numbers and description of arrangements made with local emergency authorities:

- Sparky Fire Department and Ambulance Service (911) or (123)-456-9911
  Primary responders in the event of a fire, explosion or spill.
- So Sorry Hospital (123) 777-7777
  Receive accident victims.
- Bacon Police Department (911) or (123) 777-2222
  Provide crowd control and help with evacuation in the event of an emergency.

7. Evacuation Plan

Attached map showing primary and secondary routes and congregation points.

Alarm (long, low pitched whooping sound) will sound continuously to alert evacuation.

# Sample Emergency Equipment List

| III. LIST OF EQUIPMENT | EMERGENCY EQUIPMENT FUNCTION | (Ref. 40CFR 265.52 (e) LOCTION(S) |
|---|---|---|
| Absorbent Socks | Absorbs hazardous waste liquid spills found at the facility for proper cleanup/disposal. | At all satellite areas, storage areas, and strategically placed throughout the facility. |
| Boots | Solvent resistant boots are large enough for personnel to wear over regular footwear. Prevents cleanup personnel from contaminating footwear in the event of a liquid spill. | Haz Mat storage area |
| Broom | Long handle and flat brush surface have the ability to collect absorbent materials or other dry materials. | Strategically placed throughout the facility |
| Face Mask | Breathing apparatus is designed to fit over the nose/mouth. Apparatus filters air by means of duel replaceable carbon cartridges. To be used when solvent vapors in confined areas might cause breathing difficulties or hazards to cleanup personnel. | Near all satellite areas and storage areas |
| Face Shield | Protects the eye/face from potential splashes and contacts with materials while allowing full visibility for working. | Satellite and storage areas |
| Fire Extinguisher | Multi-purpose (ABC) portable extinguisher is available to fight a fire which might occur during spill containment or collection. | Strategically placed throughout the facility |
| Floor Dry | Standard clay based industrial absorbent material used to absorb a spill and provide a temporary dike for spilled liquids. | Strategically placed throughout the facility |
| Gloves | Solvent-resistant gloves protect to the forearm and are used to minimize exposure to hazardous materials. | At all satellite areas, storage areas, and strategically placed throughout the facility |
| Goggles | Protects eyes/face from potential splashes and contact withy materials, while allowing full visibility for working. | At all satellite areas, storage areas, and strategically placed throughout the facility |
| Protective Suit | Suit covers body (excluding hands/feet/face) from contamination. Suit is disposable and resistant to liquids and solvents. | Haz Mat storage area |
| Rubber Floor Squeegee | Long handle and rubber blade for moving liquid material along an impermeable smooth surface. | Strategically placed throughout the facility |
| Shop Towels | Non-disposable cloth towels used to decontaminate non-disposable emergency equipment. | Strategically placed throughout the facility |
| Shovel | Long handle and flat blade for removing dry material from a surface or moving liquid toward a location. | Haz Mat storage area |

## Arrangements with Local Authorities (40 CFR 265.37)

You are required to document that you have made agreements with the agencies that will respond to your facility in the event of an emergency. This includes hospitals, fire, police, sheriff, hazardous material responders and other agencies that would be involved in a response.

The Hazardous Waste Section has found during inspections that many facilities do not have adequate arrangements or agreements with local emergency agencies as required by 40 CFR 265.52(c) and 265.37. The Hazardous Waste Section has drafted letters for your use. These letters must be customized to meet your particular facilities needs. Using these letters will help you be in compliance with 40 CFR 265.52(c) and 265.37(a). Examples of these letters are on the following pages.

## Sample Emergency Agreement Letters

A. Hospital
B. Fire Department
C. Police
D. Emergency Response Contractor
E. Emergency Authority back to the Generator

**LQG EXAMPLE - HOSPITAL**

_____Hospital
Street

City, State, zip

Dear Sir or Madam:

This letter is written as a requirement of the Hazardous Waste Regulations adopted by the State of North Carolina. The purpose of this letter is to familiarize your hospital and staff with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(Name of Facility) is located at (Address of Facility). As a result of the manufacturing process, hazardous waste is generated and stored at this facility. In accordance with 40 CFR 265.52 and 265.53, this facility is providing your hospital with a copy of our Emergency Contingency Plan that describes:

1) The actions our personnel will take in response to emergencies (e.g. fires, explosions, spills of hazardous waste, etc.).

2) Arrangements (Name of Facility) would like your hospital to agree to in the event of an emergency.

In accordance with the requirements of 40 CFR 265.37, the following information is also enclosed:

- A description of the properties of the hazardous waste handled at the facility. (Attach information or describe below)

- A description of the types of injuries or illnesses which could result from fires, explosions, or releases at the facility. (Attach information or describe below).

Please review the enclosed Emergency Contingency Plan. If you agree to the arrangements, complete and return the enclosed form letter. If you do not agree with the arrangements or have questions, please call me at (XXX) XXX-XXXX.

Sincerely,
XXXXXXXX

**LQG EXAMPLE - Fire Dept.**

_____ Fire Dept.
Street

City, State, zip

Dear Sir or Madam:

This letter is written as a requirement of the Hazardous Waste Regulations adopted by the State of North Carolina. The purpose of this letter is to make arrangements to familiarize the fire department with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility and possible evacuation routes.

(Name of Facility) is located at (Address of Facility). As a result of the manufacturing process, hazardous waste is generated and stored at this facility. In accordance with 40 CFR 265.37, 265.52 and 265.53, this facility is providing your agency with a copy of our Emergency Contingency Plan that describes:

1) The actions our personnel will take in response to emergencies (e.g. fires, explosions, spills of hazardous waste, etc.).

2) Arrangements (Name of Facility) would like your agency to agree to in the event of an emergency.

3) A layout of the facility showing hazardous waste generation and storage areas, safety equipment, entrances to roads inside the facility and possible evacuation routes.

4) A description of the properties and associated hazards of the hazardous wastes handled at our plant.

We are requesting that your agency provide the following services in the event of an emergency regarding hazardous waste storage at the facility:

- Describe the requested Fire Fighting Services (*If more than one fire department might respond to an emergency, please notify us any agreements designating primary emergency authority to a specific fire department, and agreements with any others to provide support to the primary emergency authority*.)

Please review the enclosed Emergency Contingency Plan. If you agree to the arrangements, complete and return the enclosed form letter. If you do not agree with the arrangements or have questions, please call me at (XXX) XXX-XXXX.

Sincerely,
XXXXXXXX

**LQG EXAMPLE - Police**

_____ Police Dept.
Street

City, State, zip

Dear Sir or Madam:

This letter is written as a requirement of the Hazardous Waste Regulations adopted by the State of North Carolina. The purpose of this letter is to make arrangements to familiarize the police department with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility and possible evacuation routes.

(Name of Facility) is located at (Address of Facility). As a result of the manufacturing process, hazardous waste is generated and stored at this facility. In accordance with 40 CFR 265.37, 265.52 and 265.53, this facility is providing your agency with a copy of our Emergency Contingency Plan that describes:

1) The actions our personnel will take in response to emergencies (e.g. fires, explosions, spills of hazardous waste, etc.).

2) Arrangements (Name of Facility) would like your agency to agree to in the event of an emergency.

3) A layout of the facility showing hazardous waste generation and storage areas, safety equipment, entrances to roads inside the facility and possible evacuation routes.

4) A description of the properties and associated hazards of the hazardous wastes handled at our plant.

We are requesting that your agency provide the following services in the event of an emergency regarding hazardous waste storage at the facility:

- Describe the requested Law Enforcement Services (*If more than one police department might respond to an emergency, please notify us any agreements designating primary emergency authority to a specific police department, and agreements with any others to provide support to the primary emergency authority*).

Please review the enclosed Emergency Contingency Plan. If you agree to the arrangements, complete and return the enclosed form letter. If you do not agree with the arrangements or have questions, please call me at (XXX) XXX-XXXX.

Sincerely,
XXXXXXXX

**LQG EXAMPLE – Emergency Response Contractors**

Emergency Response Contractor Co.
Street
City, State, zip

Dear Sir or Madam:

This letter is written as a requirement of the Hazardous Waste Regulations adopted by the State of North Carolina. The purpose of this letter is to make arrangements to familiarize emergency response contractor personnel with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility and possible evacuation routes.

(Name of Facility) is located at (Address of Facility). As a result of the manufacturing process, hazardous waste is generated and stored at this facility. In accordance with 40 CFR 265.37, 265.52 and 265.53, this facility is providing your agency with a copy of our Emergency Contingency Plan that describes:

1) The actions our personnel will take in response to emergencies (e.g. fires, explosions, spills of hazardous waste, etc.).

2) Arrangements (Name of Facility) would like your company to agree to in the event of an emergency.

3) A layout of the facility showing hazardous waste generation and storage areas, safety equipment, entrances and roads inside the facility and evacuation routes.

4) A description of the properties and associated hazards of the hazardous wastes handled at our plant.

In accordance with 40 CFR 265.37, below is a description of the arrangements that your agency/company agreed to provide in the event of an emergency regarding hazardous waste storage at the facility:

- Provide emergency response services, personnel and/or equipment as needed (or as described in a contract)

Please review the enclosed Emergency Contingency Plan. If you agree to the arrangements, complete and return the enclosed form letter. If you do not agree with the arrangements or have questions, please call me at (XXX) XXX-XXXX.

Sincerely,
XXXXXXXX

**LQG EXAMPLE – Response Letter from Emergency Authority to Facility**

Facility
Street
City, State, zip

Attention: XXXX
Primary Emergency Coordinator

Subject: Arrangements Response and Contingency Plan

Dear XXXX:

I have received the Emergency Contingency Plan submitted by (Name of Facility) to this office concerning hazardous waste generated and stored at your facility. Our agency agrees to, and is ready to provide services indicated in this plan. I am also aware of the types of hazardous wastes generated and stored at the facility and the possible hazards associated with such materials, as described in the contingency plan.

Sincerely,

(Your name)
(Your agency or authority)

## Waste Determination (40 CFR 262.11)

You are solely responsible for the accurate characterization of your hazardous waste and its proper disposal. Included in this manual are Decision Diagrams that can guide you in making a correct waste determination in Appendix J.

A generator can choose to call any material a hazardous waste, however, that material must then be managed as a hazardous waste from that point through disposal.

There are two methods for determining if a waste is or is not a hazardous waste: 1) the material can be tested; or 2) knowledge of the process generating the waste and its characteristics can be used. Whichever method is used, documentation must be kept on file for at least three years. This documentation may include:

- Testing lab, method used, and analytical results;
- MSD Sheets; and
- A description of the generation process and materials used.

Remember that a listed hazardous waste is always a hazardous waste and is fully regulated unless EPA has formally delisted it. EPA delistings are for a specific waste at a specific facility only and are memorialized in a published Federal Register.

The most common errors made by generators in making a waste determination are:

- Assuming materials recycled are not hazardous wastes (examples: nickel-cadmium batteries, mercury from broken thermometers).
- Assuming a waste is hazardous when it is not. Example: determining a basic material such as Sodium Hydroxide, with a pH less than 12.5 is hazardous.
- Contamination of a non-hazardous waste with a listed waste but disposed as a non-hazardous waste. Example: used oil contaminated with a listed hazardous waste..
- Relying on non-expert advice. Call your Environmental Senior Specialist for assistance.
- Disposal of containers that held acutely hazardous wastes that have not been triple rinsed as non-hazardous waste; and
- Disposal of containers that are not empty as non-hazardous**.**

## Biennial Report (40 CFR 262.41)

A copy of biennial reports that have been submitted to the HWS must be kept on-site for at least three years. Inspectors will check to see if the reports are on-site and may also check to determine they have been filled out accurately and reflect the facility manifests, generation and storage records. The biennial report will also be used when the inspectors are checking your facility's waste minimization efforts.

## Waste Minimization (40 CFR 262.20, 262.41(a)(6-8), and GS 130A-294(k))

During an inspection, Environmental Senior Specialists will ask to see a copy of the facility's waste minimization plan. It will be considered a violation for failure to comply with the certification on the manifest if there is not a written plan; the owner/operator cannot describe a waste minimization program or cannot demonstrate evidence of a program. The inspection will include a visual check of the waste minimization "program in place." Any contradictions between plans, reports and other waste minimization activity on-site will be noted in the inspection report as potential violations.

### FACILITY WALK-THROUGH

If inspectors have not been to your business before, they will want to walk through your entire process to become familiar with it. If they have been there before, they will want, at a minimum, to see areas where hazardous wastes are being generated, stored and accumulated.

## Generation Areas

All areas where hazardous wastes are being generated, areas where hazardous wastes may be generated, and areas where they are being accumulated will be inspected. Generation points are evaluated to determine that hazardous wastes are being handled correctly, from the point of generation, according to 40 CFR 265.31. (See the next entry). Generation points are often the same areas as the satellite accumulation sites, which the inspectors will also evaluate.

## Discharges and Releases (Spills) (40 CFR 265.31)

A release is any amount of hazardous waste that is not in a container or tank. There is no size or quantity limit. 40 CFR 265.31 requires generators to maintain their facility "in a manner that

prevents releases." This means any amount of hazardous wastes that is on top of containers or tanks, on the floor or walls, etc., of the facility is in violation of this regulation.

A discharge is a release or spill of hazardous waste to any land or water. Disposal is defined under RCRA as "the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid waste or hazardous waste into or on any land or water so that any constituent thereof may enter the environment of be emitted into the air or discharged into any waters, including groundwater". Therefore, a release to the environment is a discharge of hazardous waste and is defined as the disposal of hazardous waste. A generator may not dispose of hazardous waste without first obtaining a permit under RCRA. If disposal has occurred at a generator facility, the generator is in violation of the full set of applicable permit regulations in 40 CFR 264 or 265 and 270.

If a release occurs at your facility on the container or floor, etc., it must be cleaned up immediately. If a discharge occurs, the contingency plan must be immediately implemented, including emergency notification to the Department and other applicable emergency contacts.

## Satellite Accumulation (40 CFR 262.34)

The purpose of these regulations is to give generators a break on the 90-day accumulation time so partially full drums will not have to be shipped off-site. These regulations are meant for waste streams generated either very slowly or in very small quantities.

To accumulate waste without a permit for greater than 90 days, all of the following must be met:

- "**Must be in containers**": Hazardous wastes can be accumulated in any type of container as long as it meets the requirements of the container regulations, which are described in the "Storage Requirement" section of this manual. Tanks of any size cannot be satellite accumulation areas.

- **Less than 55 gallons**: You may accumulate a total of 55 gallons of hazardous waste at an accumulation point, not 55 gallons from each waste stream.

If you accumulate more than 55 gallons at a satellite generation point, you have three days to either remove the amount in excess of 55 gallon or comply with all of the < 90-day accumulation regulations, including dating all of the containers. This area then becomes a storage area and must be indicated as such on your contingency plan and inspected weekly.

- "**At or near the point of generation and under the control of the operator**": To meet the definition of less than 55 gallons, many generators attempt to separate the containers of waste. The requirement of "at or near the point of generation" and "under the control of the operator" must be met. "At or near" is deliberately vague to allow for a variety of manufacturing processes. If you are unclear of what would be in compliance at your facility, talk to the inspectors at the time of the inspection or call your Environmental Senior Specialist. You cannot have drums placed at random in the facility, in areas of high hazard or out of plain view. Usually, designated satellite accumulation areas are established by agreement between the inspector and the facility. "Under the control of operator" means the operator of the process generating the waste can see the containers, respond in an emergency and, in essence, routinely inspect them.

- **Labeled**: Containers at satellite accumulation areas must be labeled with the words "Hazardous Waste" or other markings to identify the waste in the container. Note: The words "Hazardous Waste" must be on the container when placed into storage.

- **Closed**: The containers must be closed except when adding or removing wastes. This means all bungs closed and lids secured to ensure that if the container were tipped over, the waste would not spill out.

  **Funnel use in satellite accumulation areas**: Safety funnels may be used in satellite accumulation areas and will meet the definition of "closed" as long as the following requirements are met:

  1) The funnel is securely fitted to the container (i.e., screwed tightly to the bung opening), AND

  2) The funnel is fitted with a gasket to firmly seal the funnel lid when closed AND the funnel is fitted with a locking mechanism on the lid and the lid is maintained in the closed position unless necessary to add or remove waste,

  OR

  3) The funnel is fitted with a one-way valve to allow waste to enter the container but prohibits waste/emissions from exiting the container and the lid is maintained in a closed position unless necessary to add or remove waste.

Containers meeting all five of these requirements do not have to be dated until the container is full or as soon as more than 55 gallons is accumulated (any time within the three-day "grace" period). When the container is full, the container must be moved to the storage area. The inspectors will be checking

the condition of the containers, the maintenance of the satellite accumulation area, and looking for releases or potential releases of hazardous wastes.

Common violations and problems found at satellite accumulation areas are:

- Keeping the containers closed,
- Not labeling the containers with the words "Hazardous Waste" or other identifying words,
- Accumulating more than 55 gallons,
- Having containers that are in poor condition or with evidence of releases, and
- Placing the containers in high hazard areas or not "under the control of the operator."

## Storage Areas (40 CFR 265.170 - 177)

In this manual we are discussing areas where hazardous wastes are stored for less than 90 days only (generator storage), not facilities with a permit to store waste (TSD facilities). The generator storage regulations are deliberately vague to allow for individual facility variations. The requirements for storing waste are listed first in this section. We have also included a few of the section's recommendations.

**Requirements for less than 90-day storage areas**:

- All containers must be dated with the date the first drop of hazardous waste was placed in that container (or the date the satellite drum was filled). These dates must not exceed 90 days. If you store waste for more than 90 days, you are operating as a non-permitted TSD facility.
- All containers must be labeled with the words "Hazardous Waste" and the labels must be visible for inspection. The words "Hazardous Waste" must be present even if you have used other words when the container was in a satellite accumulation area.
- All containers must be closed. (If your waste is volatile, the Subpart CC regulations require that all containers are DOT approved for the waste they contain and are closed with bungs, lids, or other closures to be completely tightened. See Appendix I for clarification).
- There must be aisle space adequate to get spill control, fire, and other emergency equipment to each container of waste. The minimum aisle space is defined as 24 inches. There must be enough room to safely inspect all of the containers and see all of the labels.
- Weekly inspections must be conducted and the inspection log maintained on-site;
- From the contingency plan regulations, you must have the required spill and fire control equipment at the storage area. You must also have a device available for summoning outside emergency help at your storage area.

- There are no specific regulations for how high, or in what manner, you store wastes in containers. However, you must operate your facility in a manner to reduce the threat of a hazardous waste release (40 CFR 265.31). This includes mismanagement practices such nearby smoking, storage located near heavy traffic, unstable stacking of containers, etc.
- The containers must be in good condition, not leaking, not rusting severely or dented severely, and
- If the waste is ignitable or reactive, "No Smoking" signs must be conspicuously posted, and the waste must be stored at least 50 feet from your property line.

**Special use of funnels in storage areas**

When the Subpart CC regulations became applicable to LQGs, the HWS became concerned about the practice of many generators' use of funnels in storage areas to facilitate the accumulation of wastes. Under the Subpart CC regulations, these funnels would not be allowed if the waste contains greater than 500 ppm volatile organic constituents. (Wastes with no VOCs or a VOC concentration less than 500 ppm are not affected by these regulations.) The NC HWS asked EPA Region IV for an interpretation on this issue. EPA determined that funnels may be used in storage areas for wastes with a VOC concentration of greater than 500 ppm as long as the following conditions are met:

- The funnel is securely fitted to the container (i.e., screwed tightly to the bung opening) AND
- The funnel is fitted with a one-way valve to allow material/ waste to enter the container but prohibits waste/emissions from exiting the container, OR
- The funnel is fitted with a gasket to firmly seal the funnel lid when closed, AND
- The funnel is fitted with a locking mechanism on the lid and the lid is maintained in the closed position unless necessary to add or remove waste. The time limit is 15 minutes between these operations.

If these funnel requirements are not met, the container will be cited as being an open container.

NOTE: If you must comply with Subpart CC (waste with VOC concentration > 500 ppm), and you are using a gasket and locking mechanism, the funnel may NOT be vapor tight. The slot for the hinge is usually open and vapors can escape. If you must comply with Subpart CC and you wish to use funnels, you should use a funnel with a one-way valve.

**Recommendations for Storage Areas**

To ensure that your wastes are stored safely, the HWS suggests the following:

- Store containers on an impervious pad,
- Post signs indicating that hazardous wastes are stored in that area,
- Have the area fenced and locked,
- Restrict access to only designated people, and
- Dike and cover the storage area.

Keep in mind that other regulations, such as local building and fire codes, may influence how you are allowed to store your wastes.

Common storage violations found during inspections include:

- Dates older than (exceeding) 90 days,
- Inadequate or no aisle space,
- The words "Hazardous Waste" not present, or start accumulation dates not present,
- Labels and dates not visible for inspection,
- Containers open,
- Containers in poor condition, and containers with evidence of releases.

## Preparedness and Prevention (40 CFR 265.30-37)

The inspectors will check to see if you have the required procedures and equipment necessary to protect employees and the public if an emergency should occur. These requirements include:

- Ensuring that your business is operated and maintained in a manner that prevents releases of hazardous wastes or their constituents.
- Adequate alarms or procedures must be available to alert facility personnel to evacuate,
- Adequate communications to summon outside emergency assistance.
- Emergency response equipment adequate for your type of waste and the type of emergencies expected.
- The facility must have adequate water volume for fire suppression.
- Adequate aisle space between containers of waste to allow access to the containers.
- Employees must have immediate access to an alarm or a communication device when mixing or pouring hazardous waste.
- All emergency equipment must be tested and maintained to ensure that it is functioning in the event of an emergency, and

- Arrangements must be made with local emergency responders (police, sheriff, fire and other emergency response agencies) and local hospitals. These arrangements must include information on the type of wastes you generate, type of emergencies expected, layouts of the facility and evacuation routes. These coordination agreements must be documented, and the documentation kept on-site. To ensure that you have adequate documentation on-site, we suggest you send all correspondence by certified mail, return-receipt. (See Previous Section).

When any of the items listed above are not used, a detailed explanation must be given as to why it is not needed. A description of an alternate system included in the contingency plan (i.e., using the "buddy system").

## Raw Product Storage Areas and General Facility Condition (40 CFR 265.31)

Areas where you store raw products will be evaluated by the inspectors to determine if any releases of these materials have occurred. Often these materials can be classified as hazardous wastes when released and must be handled appropriately. For the same reason, we will also check the condition of work areas where chemicals are used and areas outside the facility.

## Other RCRA Units

If you have any other hazardous waste units at your facility, we will inspect them for the applicable regulations while we are on-site. The regulations covering tanks, drip pads and containment buildings are discussed in the Appendices to this manual.

## Other Regulations

The inspectors are obligated to report obvious or suspected violations of other regulations that we notice while we are in your facility, such as the Clean Air or OSHA regulations. We do not enforce these regulations, but we do report them to the proper agency for investigation.

## Exit Interview

When inspectors finish the inspection, they will review their findings with you. They will always let you know at the end of the inspection of any violations or potential violations found. You will receive a report of the inspection, either at the end of the inspection or by mail, shortly after the inspection occurs.

# ENFORCEMENT ACTIONS
# FOR HAZARDOUS WASTE VIOLATIONS

This section describes the enforcement tools used by the HWS when violations of the regulations are discovered at a facility. These enforcement documents are intended to ensure that facilities are notified of the violations found and what actions are they required to take to come into compliance with the regulations. Some enforcement documents are intended to ensure an "even playing field" between those facilities that are in compliance with the regulations and those that are not. The Section achieves this by assessing penalties to those facilities that are economically benefiting from being out of compliance.

If violations are found or you receive an enforcement document after an inspection, make the corrections necessary to come into compliance before the follow- up inspection date shown in the enforcement action. If you have questions about what is required, ask the inspector before the follow-up inspection date. Follow-up inspections are conducted for all enforcement actions.

## Technical Assistance Recommendations

Inspectors may make recommendations on an inspection report to enhance your business's hazardous waste management practices. These are not violations of the rules. The recommendations may include ideas on improving waste minimization practices, emergency response or record-keeping practices. During the next inspection, the Environmental Senior Specialist will see if the recommendations have been carried out and how effective they were.

## U.S. EPA Region IV Hazardous Waste Enforcement Policy

The HWS uses the U.S. EPA's Region IV Hazardous Waste Enforcement Policy to provide consistent enforcement and determination of the severity of RCRA violations. Under this policy there are two categories of facilities that have violations. These two categories are Significant Non-Compiler (SNC) and Secondary Violators (SV).

**Significant Non-Compliers** are those facilities that caused actual exposure, or a substantial likelihood of exposure, are chronic or recalcitrant violators, or those that deviate substantially from the terms of a permit, order, agreement, or from RCRA requirements. The determination that a violation causes a substantial likelihood of exposure depends on the many factors. They include the type and severity of the violation, the characteristics of the hazardous waste; the receptors involved

(e.g., worker or environmental exposure), and the location of the violation (e.g., industrial area or residential area). Facilities are deemed chronic or recalcitrant violators if the facility has the same violation over a period of years. This could include the same company operating in different locations that all have the same violation in the past. This indicates corporate noncompliance. Record reviews can be conducted to determine multiple violations of other environmental areas, such as recurring air and water regulation violations. The determination of "substantial deviation from the requirements" does not have a strict definition or limits. It must be interpreted in the terms of each situation. Any violation that causes exposures or severe potential exposures is especially considered in this category. If a violator is determined to be a SNC, a Compliance Order with penalty is issued to the facility.

**Secondary Violators** are those that do not meet the above category as a SNC. These can be first time violators with no history of recalcitrance, facilities with violations that may be corrected easily and quickly, and violations that pose no actual or a low threat to human health or the environment. If a violator is determined to be a SV, a Notice of Deficiency or a Notice of Violation is issued to the facility.

## Notices of Deficiency (NOD)

In October of 2011, to be consistent with the Departments three-tiered approach to enforcement, the HWS added a new type of enforcement document. The Notice of Deficiency (NOD) was developed, which is an enforcement document for minor violations that result in little or no harm to human health or the environment. The violation must be "of minor gravity and duration" and not been committed willfully or intentionally. The HWS typically issues a NOD for first time violators, if the conditions above are met. Previously, the NOV was used for this purpose.

## Notices of Violation (NOV)

Notices of Violation are issued to businesses that are in violation of the regulations that exceed the conditions for a NOD. There are no penalties associated with the NOV. There is one exception to this, if the NOV cites Rule 0.0109 (Storing, disposing or treating of hazardous waste without a permit), the facility will be charged the fee for being a TSD facility which is $1200. There are three types of NOVs issued.

- **Ticket NOVs** are issued by the Environmental Senior Specialist, normally if there are only six or fewer violations. A compliance schedule is indicated, typically for 30 days after the inspection, at the discretion of the inspector.

- **Standard NOVs** are developed by the Environmental Senior Specialist and issued by the HWS Chief usually for facilities with more than six violations, repeat violations, or those that have posed a significant, potential threat to human health and the environment. Again, a compliance schedule is indicated, usually for 30 days after the NOV.
- **Immediate Action NOVs** are developed by the Environmental Senior Specialists and issued by the Section Chief for violations that pose potential immediate health or environmental threats. They are used in cases involving management of unknowns, spills that have not been controlled or other situations that can immediately threaten human health or the environment. The compliance schedule will specify steps that must be taken to assess and remediate any environmental contamination.

Follow-up inspections are scheduled soon after the specified compliance date. If a facility anticipates that it cannot meet any of the deadlines, it should submit a written extension request to the Hazardous Waste Compliance Supervisor as soon as possible. Extensions can be granted for up to 30 days, no longer. Requests made after the compliance date will be denied. Facilities that are not in compliance at the re-inspection, and have not asked for an extension, can expect further enforcement action.

## Compliance Orders with Administrative Penalty

- **Short form** Orders are issued to facilities that have not complied with a NOV or have not violated the rules in a way that creates an imminent potential threat to human health or the environment. A maximum penalty of $5,000 per violation can be assessed. Examples include violations for record-keeping and minor errors on a manifest or land ban forms, and others.
- **Standard orders** are issued to facilities that have significant violations, have not complied with a NOV, have repeat violations, and/or are cited for a violation that can create an immediate threat to human health or the environment. A maximum penalty of $32,500 per day, per violation, can be assessed. Examples include violations for not having proper waste determinations or treating or disposing of hazardous waste without a permit among others.

Penalties are assessed according to the civil penalty procedures in 15A NCAC 13A .0700. They are based on the nature of the violation, the cost of rectifying any damage, and the violator's previous compliance record. The Environmental Senior Specialists will document: the type of violation and waste involved; the duration of the violation; whether it was due to negligence, recklessness, intentional act, or just forgotten; the potential effect on human health and the environment; and what response was taken to remedy the violation.

A facility can appeal a Compliance Order by filing an appeal with the Office of Administrative Hearings (OAH) within 30 days of receipt of an order. The HWS will discuss the order with the facility and try to resolve any issue relating to the violations or the penalty. If the differences cannot be resolved, the HWS is represented at the hearing by the Attorney General's staff.

The department posts on their web site information on all penalties assessed. The data identifies the facility, summarizes the violations found and the total penalty assessed. This information is available for the media and citizens to review.

## Other Enforcement Actions

- **A Consent Order** is entered into by both the division and a facility based on a resolution to an order or it can also result from the voluntary action of a facility identifying a problem and proposing a remedy to the situation. Typically, a stipulated penalty is included.
- **A Civil Injunction** may be obtained by the HWS to immediately address a violation of the rules. This action may be used if a facility fails to respond to earlier enforcement actions or if human health or the environment is immediately threatened.
- **Criminal Investigations** are conducted on those facilities that knowingly and willingly violate the rules. These investigations may be conducted in cooperation with the SBI, FBI or EPA criminal investigation teams. Other environmental agencies such as air and/or water quality may also be involved as multimedia cases.

## Settlement Tools

- **Supplemental Environmental Projects (SEPs)-** Facilities may offer to conduct projects or activities that are beyond compliance with the regulations to reduce the penalty they have been assessed. Projects can be a win/win for both the business and the department. The environment can benefit from a company going beyond just complying with the regulations. The facility can also benefit with pollution prevention activities that reduce future emissions, disposal costs, etc. The main consideration for approval of a project is its benefit to the environment and human health. Pending the settlement of a lawsuit filed against the State by the Board of Education, SEPs cannot be used as a settlement tool in North Carolina
- **Self-Confessor Policy** - The department has established an enforcement penalty policy for self-reported violations. If a company meets the five conditions set forth in the policy (located on the next page), the department will not seek administrative or civil penalties beyond the economic

benefit the company received by non-compliance. If not all of the conditions have been met, the department may consider the nature and extent of any audit or compliance system in deciding the appropriate enforcement response. The Department may elect to mitigate civil penalties if one or more of the conditions have been met. The policy is located on the web at: http://portal.ncdenr.org/web/guest/self-reported-penalty-policy

# Enforcement Penalty for Self-Reported Violations

**Eff. Date: Sept 1, 1995**
**Revised: July 10, 2000**

## Background

The former Department of Environment, Health, and Natural Resources (DEHNR), now the Department of Environment and Natural Resources (DENR), issued a policy statement, effective September 1, 1995, with the intent of enhancing environmental self regulation and at the recommendation of the Pollution Prevention Advisory Committee.
This statement is not intended nor should it be interpreted to be a rule as defined in the Administrative Procedures Act. It is a non-binding interpretive statement within the delegated enforcement authority of the Department that also sets forth criteria and guidelines to be used by the Department staff in settlement of enforcement cases. It does not confer any legal rights. This policy does not apply to resource damage assessments, costs associated with clean-up efforts, or costs incurred in response to an environmental emergency. The Department intends to evaluate result of its use over the year following adoption.

## Purpose

A. Environmental protection is enhanced if deficiencies are identified and corrected as soon as possible. The regulated community is often in the best position to rapidly identify deficiencies, promptly correct them, and with suitable advice and approval, to develop and implement a corrective action plan to ensure that the "root cause" has been addressed and the public health and the environment are protected.

B. Currently, some members of the regulated community may perceive that internal environmental audit reports and deficiencies identified in those reports may be used against them by regulatory agencies and third parties. As a result, some audit findings and recommendations may not be comprehensive, candidly reported, or performed at all.

C. The Department believes that the public interest and environmental protection would be best served by providing meaningful incentives to the regulated community to promptly identify and correct deficiencies in environmental compliance and protection. This policy aims to maximize incentives for regulated persons or entities who make good faith efforts to comply with environmental regulations to use comprehensive and candid environmental audits,; to disclose the results of those audits as fully as possible; and to remedy deficiencies discovered in such audits as promptly as is feasible and in a manner that protects human health and the environment.

## Policy

A. Conditions for penalty waiver

Each division within the Department will not seek administrative or civil

penalties, beyond the economic benefit of any noncompliance, or initiate criminal investigations, for deficiencies identified in audits or by compliance systems, when the division finds in its sole discretion that all of the following conditions are present:

1. The deficiency was not due to a lack of good faith efforts to understand or comply with applicable environmental, health or safety laws, or a lack of good faith efforts to correct past deficiencies.
2. The deficiency was not done knowingly and willfully.
3. The deficiency did not cause a significant harm to the environment or risk to public health.
4. The regulated person or entity voluntarily and promptly notifies the Department of the deficiency before the Department learns of it and completely discloses the deficiency to the Department in writing. (A disclosure is not considered to be "voluntary" if (i) that disclosure is required by law, regulation or permit and if (ii) self-monitoring for such deficiency is required of a facility or part of a facility),
5. The regulated person or entity, upon discovery of the deficiency, takes immediate and effective action under appropriate technical supervision to cease or remediate any continuing violation, avoid repeated violations, and remediate the deficiency or where appropriate, agrees in writing with the Department to take those steps needed to address the deficiency in amanner that is acceptable to the Department.

B. Conditions for penalty reduction

In those cases where any of the above conditions have hot been met, the Department may consider the nature and extent of any internal audit or compliance system in deciding the appropriate enforcement response and may elect to mitigate any civil penalties based on a showing that one or more conditions have been met.

C. Recovery of economic benefit

In all cases, the Department may seek to recover any economic benefit afforded to the regulated person or entity from the deficiency in the same manner as if the Department undertook an enforcement action.

D. Burden of persuasion; documentation

In all cases, the regulated person or entity seeking penalty waiver or reduction must provide sufficient documentation to the Department to prove eligibility for the application of this policy, and must bear the burden of persuasion that waiver or reduction is appropriate and that there has been no economic benefit from the deficiency. The Department will not request copies of audit reports themselves in connection with administration of the policy. However, a regulated person or entity who cannot otherwise demonstrate the nature and extent of its audit practices may wish to produce audit reports voluntarily for that purpose.

# APPENDIX A
# LIST OF ACRONYMS and USEFUL DEFINITIONS

**Acute Hazardous Waste** - Those wastes designated with the hazard code of (H) under Section 261.33(e) and dioxin-bearing waste (i.e., F020, F021, F023, F026 and F027).

**"At or Near"** - This phrase is used in Section 262.34(c). "A generator may accumulate... hazardous waste... in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste..." At or near means that the containers are in the process area, not outside the building or room where the waste is generated, and that the supervisor of the generating process can see the drums in the course of performing his or her job.

**Biennial Report** – A report submitted by LQGs of hazardous waste to the HWS.

**CAA** - Clean Air Act

**CEI** - Compliance Evaluation Inspection

**CESQG** - Conditionally Exempt Small Quantity Generator

**CFC** - Chlorofluorocarbon

**CFR** - Code of Federal Regulations

**Closed Container** - Drums or containers are required to be closed during storage and while in satellite accumulation areas except when it is necessary to add or remove waste (40 CFR 265.173(a)). An operation definition of "closed" is as follows: the lid is secured so that if the drum or container is tipped over, the waste will not leak out.

**"Contained In"** - Contaminated environmental media must be managed as if they were hazardous wastes until media no longer contains the listed waste, or no longer exhibits a characteristic.

**Container** - Any portable device, in which a material is stored, transported, treated, disposed of or otherwise handled.

**CWA** - Clean Water Act

**Department** - Department of Environment and Natural Resources (**DENR**)

**D list (D waste)** – This is a waste that exhibits a characteristic of hazardous waste.

**Discharge or Hazardous Waste Discharge** - The accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying or dumping of hazardous waste onto any land or water.

**Disposal** - The discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwater.

**Division** – Division of Waste Management (**DWM**)

**DOT** - Department of Transportation

**DPPEA** - Division of Pollution Prevention and Environmental Assistance

**DWQ** - North Carolina Division of Water Quality

**Empty Container** - The definition of an empty container is found at Section 261.7(b), which reads as follows: "(1) A container or an inner liner that has held any hazardous waste, except a waste that is a compressed gas or that is identified as an acute hazardous waste listed in Section 261.31, 261.32, or 261.33(e) of this chapter is empty if: (i) All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and (ii) No more that 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or (iii) No more that 3 percent by weight of the total capacity of the container remains in the container or liner if the container is less than or equal to 110 gallons in size. (2) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric pressure. (3) A container or an inner liner removed from a container that has held an acute hazardous waste listed in Sections 261.31, 261.32, or 261.33(e) is empty if: (i) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate; (ii) The container or inner liner has been cleaned by another method that has been shown in the scientific

literature, or by tests conducted by the generator, to achieve equivalent removal; or (iii) In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing intermediate with the container, has been removed.

**EPA** - Environmental Protection Agency

**Equipment** - Any valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or control device or system.

**Facility** - All contiguous land, structures, other appurtenances and improvements on the land used for generating, treating, storing or disposing of hazardous waste.

**FBI** - Federal Bureau of Investigation

**F list (F waste)** - Listed hazardous wastes from non-specific sources.

**Generator** - Any owner or operator who first creates a hazardous waste or any person who first makes the waste subject to the RCRA Subtitle C regulations.

**Groundwater** – The water occurring in the subsurface under saturated conditions.

**Hazardous Waste** – Waste that because of its quantity, concentration or physical, chemical or infectious characteristics may cause or significantly contribute to an increase in mortality or serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly managed (40 CFR 261.3).

**Hazardous Waste Code** – The number assigned by EPA to each hazardous waste listed in 40 CFR 261, Subpart D, and to each characteristic waste identified in 40 CFR 261, Subpart C.

**HSWA** - Hazardous and Solid Waste Amendments

**HWS** - Hazardous Waste Section

**ID Number** - Identification Number, refers to EPA Identification number for a facility.

**Impervious** - The term used in the regulations to refer to floors and vaults near hazardous waste tanks. Concrete is not an impervious material, and requires coating, usually of a chemically resistant epoxy material, to be considered impervious.

**K list (K waste)** - Listed hazardous wastes from specific sources

**Lab Pack Wastes** – A lab pack waste is an overpack container, usually a steel or fiber drum, and containing small quantities of chemicals of the same hazard class, packed with vermiculite or some other absorptive material.

**LCM** - Lights Containing Mercury

**LDR** – Land disposal restrictions, also known as "land ban".

**Liquid** - A hazardous waste is considered a liquid if it does not pass the Paint Filter Liquids Test as described in EPA Publication No. SW-846, *Test Methods for Evaluating Solid Wastes. Physical/Chemical Methods*.

**LQG** - Large Quantity Generator

**LQHUW** - Large Quantity Handler of Universal Waste

**Manifest** – The shipping document, EPA form 8700-22, used for identifying the quantity, composition, origin, routing and designation of hazardous waste during its transportation from the point of generation to the point of treatment, storage or disposal.

**MSDS** - Material Safety Data Sheet

**NCAC** – North Carolina Administrative Code

**NOD** – Notice of Deficiency

**NOV** - Notice of Violation

**OAH** - Office of Administrative Hearings

**Onsite** - Means the same or geographically contiguous property. The property may be divided by public or private right-of-ways, provided the entrance and exit between the properties is at a crossroads or intersection, and access is by crossing as opposed to going along the right-of-ways. Noncontiguous properties owned by the same person but connected by a right-of-way that the person controls and to which the public does not have access, is also considered onsite property.

**Operator** - The person responsible for the overall operation of a facility.

**Owner** - the person who owns a facility or part of a facility.

**OSHA** - Occupational Safety and Health Administration

**PBT** – Persistent Bioaccumulative toxin

**Person** - is an individual, corporation, company, association, partnership, or unit of local government, State agency, federal agency, or other legal entity.

**P list (P waste)** - Listed wastes that are off- specification materials and are acutely hazardous wastes.

**POTW** - Publicly Owned Treatment Works

**Process Vent** - any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or a tank associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping.

**RCRA** - Resource Conservation and Recovery Act

**Release** – NC HWS definition: Any amount of hazardous waste not in a container, tank or other hazardous waste management unit (drip pad, containment building). NC DWQ definition: Any spilling, leaking, emitting, discharging, escaping, leaching, or disposing of a substance into groundwater, surface water or soil.

**SBI** - State Bureau of Investigation

**SNC** – Significant Non-complier

**Solid Waste** – As defined by RCRA, the term "solid waste" means any garbage, refuse or sludge from a waste treatment plan, water supply treatment plant or air pollution control facility and other discarded material including solid, liquid, semisolid or contained gaseous material resulting from industrial, commercial, mining, agricultural operations and from community activities.

**Spill** – A release.

**SQG** - Small Quantity Generator

**SQHUW** - Small Quantity Handler of Universal Waste

**Storage** - The containment of solid waste, either on a temporary basis or for a period of years, in a manner that does not constitute disposal.

**Surface Impoundment** - A facility or part of a facility which is a natural topographic depression, man-made excavation or diked area formed primarily of earthen materials which is designated to hold an accumulation of liquid wastes or wastes containing free liquids and which is not an injection well. A sump is considered a surface impoundment if it is thought it would not be self-supporting if placed on a flat surface. See entry under "Tank".

**Tank** - A stationary device designed to contain an accumulation of hazardous waste and that is constructed primarily of non-earthen material that provides structural support. Sumps are considered tanks under RCRA if it is thought that the sump would be self-supporting if placed on a flat surface. See entry under "Surface Impoundment.

**TC** - Toxicity Characteristic

**TCLP** - Toxicity Characteristic Leaching Procedure

**TSD(F)** - Treatment, Storage and Disposal (Facility)

**Tolling Agreement** - A tolling agreement is a contract between a SQG and a recycling facility that arranges for both the collection and reclamation of specified waste and for redelivery of regenerated material at a specified frequency.

**Transfer Facility** - Any transportation-related facility, including loading docks, parking areas, storage areas and other similar areas, where shipments of hazardous waste are held during the normal course of transportation.

**Treatment -** Any method, technique or process, including neutralization, designed to change the physical, chemical or biological character or composition of any hazardous waste so as to: neutralize it or render it nonhazardous or less hazardous; to recover it; make it safer to transport, store or dispose of; or amenable for recovery, storage or volume reduction. "Treatment" includes any activity or processing designed to change the physical form or chemical composition of hazardous waste so as to render it non-hazardous.

**U list (U waste) -** Listed wastes that are off-specification materials.

**UST** – Underground Storage Tank

**Used Oil** - Used oil is 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. It must be derived from crude or synthetic oil.

**VOC** - Volatile Organic Compound

**Waste Pile -** An accumulation of solid hazardous waste managed in a pile. Requires a hazardous waste permit and must comply with Subpart L of 40 CFR 264.

**Waste Oil** – This does not equal used oil. Defined as waste oils or oily wastes, including bottom clean out waste from virgin fuel storage tanks, virgin oil spill clean up or other oil waste that has not been used.

# APPENDIX B
# USEFUL AGENCY NAMES AND NUMBERS

**Air Quality**
Division of Air Quality
(919) 707-8400
http://www.ncair.org/

**Asbestos Program**
Occupational and Environmental Epidemiology
(919) 707-5950
http://www.epi.state.nc.us/epi/asbestos.html

**Customer Service Center**
DENR
1-877-623-6748
http://www.envhelp.org/

**Drinking Water**
Public Water Supply
919-707-5854
http://www.deh.enr.state.nc.us/

**Drinking Water (Safe)**
EPA Hotline
1-800-426-4791
http://www.epa.gov/safewater/

**Environmental Emergencies 24 hour**
1-800-858-0368

**Environmental Crimes**
NC State Bureau of Crimes
1-800-662-7610
http://ncdoj.gov/About-DOJ/State-Bureau-of-Investigation/Special-Operations/Diversion-and-Environmental-Crimes.aspx

**Environmental Crimes**
EPA
704-344-6844
http://epa.gov/compliance/criminal/intergovernmental/environcrimes.html#Charlotte

**Environmental Education**
Office of Environmental Education
919-707-8125
http://www.eenorthcarolina.org/

**NC Cooperative Extension Service**
NCSU
919-515-2770
http://www.ces.ncsu.edu/

**Federal Registers (copies)**
1-866-272-6272
http://www.archives.gov/federal-register/the-federal-register/

**Fluorescent Light Disposal**
**Fluorescent Lights**
Green lights Hotline
202-775-6650
EPA Energy Star
1-888-782-7937

**Freon**
Air Quality (919)
707-8400
http://daq.state.nc.us/

**Groundwater**
Division of Water Quality
919-807-6300
http://portal.ncdenr.org/web/wq/aps

**Hazardous Waste**
Hazardous Waste Section
919-707-8200
http://portal.ncdenr.org/web/wm/hw

**Household Hazardous Waste**
Solid Waste Section (919) 707-8200
http://portal.ncdenr.org/web/wm/sw/hhw

**Lead**
Occupational and Environmental Epidemiology
919-733-3421
http://www.epi.state.nc.us/epi/lead.html

**Medical Waste**
Solid Waste Section
919-707-8200
http://portal.ncdenr.org/web/wm/sw/medicalwaste

**OSHA Assistance**
NC Dept of Labor
800-NCLABOR
http://www.nclabor.com/osha/osh.htm

**PCPs**
TSCA, EPA Region IV
404-562-8980/8977

**TSCA Hotline**
1-202-554-1404
tsca-hotline@epamail.epa.gov

**Pesticides**
Pesticide Disposal Specialist (919) 733-6100
http://www.ncagr.gov/SPCAP/pesticides/contact.htm

**Public Water Supply**
Environmental Health
919-733-3232
http://www.ncpublichealth.com/

**Public Right to Know/Employee Right to Know**
OSHA, Dept. Of Labor
(919) 807-2796

**Radioactive Materials**
Radiation Protection
919-571-4141
http://www.ncradiation.net/

**Run-off, Water Quality**
Water Quality Section
919-807-6300
http://h2o.enr.state.nc.us/

**SARA Title III**
Emergency Planning & Community Right to Know
Release Reporting, Emergency Management
1-800-451-1403 (24 hour)

**Septic Tanks**
**E**nvironmental Health
919-733-2895
http://www.ncpublichealth.com/lhd/lhd.htm

**Solid Waste Disposal and Landfills**
Solid Waste Section
919-707-8200
http://portal.ncdenr.org/web/wm/sw

**Superfund**
Federal Superfund and Inactive Sites
919-508-8400
http://portal.ncdenr.org/web/wm/sf

**Toxicology**
Epidemiology Section
919-707-5950
http://epi.publichealth.nc.gov/oee/programs/ih_consult.html

**Transportation of Hazardous Materials**

**Division of Motor Vehicles** -919-861-3015

**US-DOT**-919-856-4360

**Placarding**-919-861-3186

**Underground Storage Tanks**
UST Section (919) 707-8171
http://portal.ncdenr.org/web/wm/ust

**Waste Minimization**
Pollution Prevention and Env. Assistance
(919) 707-8100
http://www.p2pays.org/

# APPENDIX C
# GUIDANCE DOCUMENTS AVAILABLE FROM THE HAZARDOUS WASTE SECTION
## http://portal.ncdenr.org/web/wm/hw/technical/guidance

| Category | Document |
|---|---|
| **Closure / Post Closure** | Generator Closure Guidelines for Cleanup of Soil or Debris at Generator Sites Where Groundwater has not been Affected |
| | Requirements of the Use of Thermal Desorption for Generators Closure |
| | Guidance on Post-Closure Financial Assurance |
| **Contained-in Policy** | "Contained-in" Policy for Soil Contaminated with Listed Hazardous Waste, May 2005 |
| **Electronic Waste** | Management of Cathode Ray Tubes (CRTs) from Computer Monitors and Televisions |
| **Groundwater Monitoring** | North Carolina Hazardous Waste Section Guidelines for Groundwater Monitoring Reports |
| **Lead Waste** | Sandblasting of Lead Based Paint |
| | **Flowchart** on Lead Waste Identification and Disposal |
| **Remediation** | North Carolina Hazardous Waste Section Guidelines for Establishing Remediation Goals at RCRA Hazardous Waste Sites, May 2005. |
| | Establishing Groundwater Protection Standards in RCRA Permits per 264.92 and 264.94 |
| | Guidance on Developing a Monitored Natural Attenuation Remedial Proposal for Chlorinated Organics in Ground Water |
| | Persistent, Bioaccumulative and Toxic Chemical Fact-sheet |
| **Risk Assessment** | North Carolina Protocol for Performing Indirect Exposure Risk Assessments for Hazardous Waste Combustion Units, January 1997. |
| **Sampling** | Sampling Method 5035 |
| **Universal Waste** | Fluorescent Lights Guidelines – DPPEA |
| | Lights Containing Mercury (LCMs) - General Guidelines |
| | Lights Containing Mercury (LCMs) - Frequently Asked Questions |
| | Universal Waste Management |
| | What Never to Do with a Mercury Spill (CFLs & more) |
| | Spent Lead Acid Battery Management |
| **Used Oil** | Used Motor Oil Guidance |
| | Used Oil Filter Fact Sheet |
| **Wipes** | Guidance on Handling Contaminated Wipes |
| **Wood Treating** | CCA Wood Treating Plant Conversion to non-CCA |

# APPENDIX D TANK REGULATIONS (40 CFR 265.190 - 201, Subpart J)

A tank is defined as "a stationary device, designed to contain an accumulation of hazardous waste, which is constructed, primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide support." A tank system is defined as "a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system" (40 CFR 260.10). If your facility uses a tank or tank system to accumulate or store hazardous wastes, you must comply with the requirements outlined below.

## Assessment of Integrity (40 CFR 265.191)

You must assess the tank to determine that it is not leaking and fit for use. A written assessment by a qualified engineer must be obtained and kept on file. The assessment must determine that the tank system is adequately designed, has sufficient structural strength and compatibility with the wastes to be stored, and ensure that it will not collapse, rupture or fail. The regulations in 40 CFR 265.191 and 192 outline specific items that must be included in this assessment.

## Containment and Detection of Releases (40 CFR 265.193)

To prevent releases of hazardous wastes to the environment, secondary containment must be provided for all new tank systems prior to their being put into service. All tank systems must have secondary containment except tank systems that store waste that contains no free-liquids and are inside a building with an impermeable floor (40 CFR 265.190).

The secondary containment must be capable of collecting and detecting releases and accumulated liquids. It must also ensure that releases are prevented from entering the environment. It must include one (or more) of the following devices: a liner, a vault or a double-walled tank. It must be provided with leak detection equipment. Detailed specifications for each of these secondary containment devices are outlined in 40 CFR 265.193(e).

All ancillary equipment must also be supplied with secondary containment and leak detection devices. The only exception is certain equipment that is inspected on a daily basis. These exceptions are found in 40 CFR 265.193(f).

**General Operating Conditions (40 CFR 265.194)**

Controls and practices must be employed to prevent spills and overflows from the tank and the secondary containment. These include, at a minimum: spill prevention controls, overfill prevention controls and the maintenance of sufficient freeboard on uncovered tanks to prevent releases. Hazardous wastes that could cause the tank to corrode, rupture or otherwise fail must not be placed into a tank.

**Inspections (40 CFR 265.195)**

The following must be inspected at least once each operating day:

- Overfill and spill control equipment,
- The above ground portion of the tank looking for releases or corrosion,
- Data gathered from monitoring and leak-detection equipment, and
- The construction materials and the area immediately around the tank to check for evidence or signs of releases of hazardous waste.
- Ancillary equipment must be inspected at least once a week if it is provided with secondary containment. If there is no secondary containment, it must be inspected at least once each operating day.

**Response to Leaks or Spills (40 CFR 265.196)**

A tank or secondary containment that has had a release or spill must be removed from service immediately. All hazardous wastes must be removed from the system and prevented from entering the system. The spill or release must be cleaned up and the tank system either repaired or closed according to 40 CFR 265.197. A report must be filed with the HWS if there was a release to the environment. Section 265.196 specifies the content and time frame for this notification and provides provisions for returning the tank system to operation.

**Closure (40 CFR 265.197)**

When a tank system is closed, all waste residues, contaminated containment components, soils, and structures must be collected and managed as hazardous wastes. If all of the contaminated soils cannot be removed or decontaminated, the tank must be closed as a landfill and a permit must be obtained to meet all of the closure and post-closure requirements of a landfill outlined in 40 CFR 265.310 and Subparts G and H**.**

## Special Requirements for Ignitable, Reactive and Incompatible Wastes

Essentially, reactive or ignitable wastes cannot be placed into a tank system unless certain provisions are met. The waste must be treated, rendered, or mixed so that the resulting material no longer meets the definition of ignitability or reactivity, or the waste is protected from any condition that may cause it to ignite or react. The additional provisions outlined in 40 CFR 265.17(b) and 265.198 and 199 must be met.

## Generator Requirements

The words "Hazardous Waste" must be placed on each tank holding hazardous waste, so that they are clearly visible (40 CFR 262.34(a)(3)). The tank must not hold the waste for more than 90 days (180 days for SQGs) or the facility becomes a storage facility subject to the requirements in 40 CFR 264 and 265 and the permit requirements in 40 CFR 270 (40 CFR 262.34(b)). Documentation that the waste has not been stored greater than 90 days will be required.

# APPENDIX E
# CONTAINMENT BUILDINGS
# (40 CFR 265.1100 - 1102, Subpart DD)

If hazardous wastes at a generator's facility are not stored in containers, tanks or drip pads, they must be stored or accumulated in containment buildings if the facility does not have a hazardous waste storage permit.

Containment buildings must be specifically engineered and designed to keep wastes from entering the environment while being accumulated depending on the type of waste being stored. The design specifications for these buildings are outlined in 40 CFR 265.1101. Prior to operation, a qualified professional engineer must certify that the building meets those specifications. This certification must be maintained at the facility.

These units must be operated safely. That means not placing any waste into the building that would cause it to fail in any way, taking adequate measures to not track waste out of the building, and controlling fugitive emissions from the building. The building and monitoring equipment must be inspected at least once every seven days. The record of the inspections must be maintained in a log at the facility.

If the containment building fails in any way causing wastes to be released, the impaired portion must be removed from service and promptly repaired. A verbal notice to the HWS must be made within seven days followed by a written notice within 14 days. When repairs are made, a certification must be sent to the HWS by a qualified professional engineer.

40 CFR 265.1102 outlines the activities that must take place upon closure of the containment building. At closure of the containment building, all contaminated residues, building components and soil must be managed as hazardous waste. If all of the contaminated soils cannot be removed or decontaminated, the containment building must be closed as a landfill. Then, a permit must be obtained and all of the closure and post-closure requirements for a landfill outlined in 40 CFR 265.310 and Subparts G and H must be met.

# APPENDIX F
# DRIP PADS
# (40 CFR 265.440 - 445, Subpart W)

## Definition (40 CFR 260.10(25))

A drip pad is defined as "an engineered structure consisting of a curbed, free-draining base, constructed of non-earthen materials. It is designed to convey preservative kickback or drippage from treated wood, precipitation and surface water run-on to an associated collection system at wood preserving facilities" (40 CFR 250.10).

The regulations in Subpart W of 40 CFR 265 apply to both new and existing drip pads. This section does not apply to the incidental or infrequent drippage in storage yards as long as the facility maintains and complies with a contingency plan. The plan must describe how the owner will clean up the drippage, document the clean up and manage the contaminated media properly.

## Assessment of Existing Drip Pad Integrity (40 CFR 265.441)

A drip pad must be evaluated to determine that it meets all of the requirements of this section. This assessment must be reviewed and certified by a qualified professional engineer. All documentation and certifications must be maintained at the facility.

If the drip pad evaluation shows that it is leaking, is unfit for use, or cannot be made to comply with this section, it must be closed according to 40 CFR 265.445.

## Design and Operating Requirements (40 CFR 265.443)

Owners and operators of drip pads may comply with either 40 CFR 265.442 (a) or (b). The regulations in 40 CFR 265.442(a) require all drip pads to be constructed of non-earthen materials (not including non-structurally supported asphalt) and be designed to slope in order to free-drain liquids to the associated collection system. They must have a berm or curb around the perimeter and be of sufficient strength to prevent failure due to physical contact, climactic conditions or other stresses.

The regulations in 40 CFR 265.442(b) require that drip pads have a synthetic liner that will keep the drip pad from leaking over the entire life of the pad. The liner must be chemically resistant to the waste. It must be installed to prevent rupture due to stresses, and to cover the

surrounding earth that may contact the waste. A leak detection and collection system must be provided. It must detect failure or leakage from the drip pad at the earliest possible time and allow for the recovery of leakage.

**Management Practices**

All drip pads must be maintained free of cracks or corrosion that would allow hazardous waste to be released. The pad and associated collection system must be designed to prevent run-off from the pad. It must either be covered, or equipped with a maintained run-on protection system.

Drip pads must be cleaned and waste removed to allow weekly inspections of the integrity of the unit. A log of inspections must be maintained that notes the date and time of each cleaning. The pad must be managed to minimize the tracking of waste from the pad by personnel or equipment. Treated wood must not be removed from the pad until it has stopped dripping. The regulations in 40 CFR 262.34(a)(1)(iii) require that the waste be removed from the drip pad every 90 days and a record of each removal is maintained on-site. SQGs must remove waste every 180 days and maintain records of each removal.

If the drip pad fails or causes a release at any time, the owner must remove it from service until repairs can be made, or it if it cannot be repaired, it must be closed. A report to the HWS must be made. A record of the release event, and the steps taken to remediate the release, must be kept at the facility**.**

**Inspections (40 CFR 265.444)**

In addition to the inspection requirements previously discussed, a facility is required to inspect the pad weekly and after storms. Inspections should detect any deterioration, malfunctions or improper operation of the run-on or run-off control systems. The proper functioning of and/or the presence of material in the leak detection systems and the condition of the pad surface must also be checked. During construction, all phases of work must be inspected and certified by a qualified professional engineer.

**Closure (40 CFR 265.445)**

When drip pads are closed, all contaminated residues, components and soil must be managed as hazardous waste. If all of the contaminated soils cannot be removed or decontaminated, the drip pad must be closed as a landfill. To do so, you must obtain a permit that meets all of the

closure and post-closure requirements for a landfill as outlined in 40 CFR 265.310 and Subparts G and H.

If the owner of an existing drip pad does not comply with the liner requirements in 40 CFR 265.443(b), a closure plan and a post closure plan, that includes contingencies for not being able to meet clean closure standards (e.g., not all contamination can be removed) must be developed and maintained on-site.

The Hazardous Waste Section has a policy detailing the requirements that must be met when "closing" a drip pad by changing to a non-hazardous treatment process. This guidance may be found on the internet at: http://portal.ncdenr.org/c/document_library/get_file?uuid=f3042d65-9954-49a3-8ced-67bf20e10161&groupId=38361
or by calling your Environmental Senior Specialist.

# APPENDIX G
# USED OIL REGULATIONS
# (40 CFR 279 and North Carolina General Statutes 130A - 209(b) and 309.15-24)

Used oil and the burning of used oil for energy recovery are regulated under RCRA at 40 CFR 279. These regulations apply in addition to any other regulations affecting used oil management. Some of these other regulations are: underground storage tank regulations, the Clean Water Act and the Oil Pollution Act and Spill Prevention Control and Countermeasures Act. You can get information on these regulations from the agencies listed in Appendix B.

## Definition of "Used Oil" (G.S. 130A-209(b))

"Used oil is any oil that has been refined from crude oil or synthetic oil and, as a result of use, storage or handling, has become unsuitable for its original purpose due to the presence of impurities or loss of original properties, but which may be suitable for further use and is economically recyclable".

EPA presumes that all waste oil is to be recycled, if possible. For example, burning for energy recovery is considered recycling. If the used oil is to be disposed instead of being recycled, a hazardous waste determination must be made before disposal. All generators and handlers of used oil must meet the requirements listed in this section.

## Prohibitions (40 CFR 279.12 and G.S. 130A - 290(b) and G.S. 130A - 309.15)

Used oil cannot:

- Be knowingly collected, transported, stored, recycled, used or disposed of in any manner that could endanger the public health or welfare;
- Be discharged into sewers, drainage systems, septic tanks, surface waters or groundwater;
- Be disposed of in landfills;
- Mixed with solid waste that is to be disposed of in landfills;
- Mixed with hazardous substances that cause it to be unsuitable for recycling;
- Be managed in surface impoundments or waste piles unless they have a hazardous waste permit as required under 40 CFR 264 and 270;
- Be used as a dust suppressant, road oiling, weed abatement or other purposes that cause used oil to be released to the environment;
- Be burned for energy recovery in units other than:
    - Industrial furnaces,

- Boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products,
- Utility boilers used to produce electric power, steam, or heated or cooled air, and
- Used oil-fired space heaters, if the burner meets the provisions of 40 CFR 279.23,

**Specification of Used Oil and Mixtures (40 CFR 279.10(b)-(e) and 279.11)**

All used oil is now classified as either "on- specification" (on-spec) or "off-specification" (off-spec) according to the criteria below.

Used oil is considered to be off-spec if it exceeds the following levels:

| | |
|---|---|
| Arsenic | 5ppm |
| Cadmium | 2 ppm |
| Chromium | 10 ppm |
| Lead | 100 ppm |
| Flash Point | 100 degrees F |
| Total Halogens | 4,000 ppm * |

* Used oil with a total halogen level of 1,000 ppm is presumed to be mixed with hazardous waste and must be managed as such unless this assumption is rebutted by testing. If you have used oil with total halogen levels between 1,000 and 4,000 ppm, and you prove that the halogen content did not come from hazardous waste, you have on-spec used oil. If your used oil contains CFC's that are to be **reclaimed,** or is metal working fluid/oils that contain chlorinated paraffins and are reclaimed through a tolling agreement, you are not required to prove that your used oil has not been mixed with hazardous waste.

If the used oil does not exceed these levels, it is not subject to these regulations if it is burned for energy recovery as long as the person complies with 40 CFR 279.72, 279.73, and 279.74(b).

**Mixtures of Used Oil**

A mixture of used oil and a listed hazardous waste is a listed hazardous waste. If the used oil is mixed with an ignitable characteristic waste and the characteristic is no longer present, the waste is regulated as used oil.

If used oil is mixed with, or is part of a solid waste (as in oil filters), all free flowing used oil must be removed. If all visible signs of free flowing used oil are gone, the material is regulated as solid waste. However, it is regulated under 40 CFR 279 before the separation. If these materials are to be burned, all of the burner regulations apply, even if all of the oil is removed. For information specific to oil filters, see the end of this section.

## Disposal

Placement of used oil onto the ground in any manner, is considered disposal. If used oil is disposed instead of being recycled, a hazardous waste determination is required to prove that it is not a hazardous waste. For more details, see the Prohibitions section. Used oil that exhibits the characteristic of a hazardous waste must be managed as a hazardous waste when disposed. Any liquid, including used oil, is banned from being disposed of in a Municipal landfill.

## Standards for Used Oil Generators (40 CFR 279.20 - 24)

Used oil generators are different from hazardous waste generators. There are no distinctions based on the quantity of used oil generated. A used oil generator is defined as “any person(s), by site, whose act or process first causes used oil to become subject to regulation”. The only exceptions are household "do-it-yourself" generators and farmers who generate an average of 25 gallons per month or less from farm vehicles or machinery.

## Storage (40 CFR 279.22)

Used oil may only be stored in containers or tanks that are in good condition, not leaking, and are clearly marked with the words "Used Oil." Fill pipes used to transfer used oil into underground storage tanks must also be labeled "Used Oil."

If a container or tank holding used oil leaks, the generator must, at a minimum, stop and contain the release. They must also clean up and manage the contaminated material properly, and repair the damage to prevent further releases. We recommended that secondary containment is provided for both tanks and containers that store used oil to prevent accidental releases.

## On-site Burning in Space Heaters (40 CFR 279.23)

A used oil generator can burn used oil in space heaters as long as the following conditions are met:

- The heater must burn only used oil that the facility generates, or used oil received from household do-it-yourself generators.
- The heater must also be designed to have no more than 0.5 million Btu per hour; and the gasses must be vented to the ambient air.

This type of activity does not classify the used oil generator as a used oil burner.

**Off-site Shipments**

Used oil generators may use their own vehicle to transport up to 55 gallons of their own used oil to an approved collection center. If more than 55 gallons is transported, the generator must obtain a transporter EPA ID number. Used oil can also be transported without an ID number if the used oil is reclaimed under a contractual tolling agreement, and the reclaimed oil is returned to the generator. If either of these two exemptions is not met, the used oil generator must ensure that the used oil is transported exclusively by transporters with an EPA identification number.

A used oil generator does not have to notify the HWS of used oil activities or get an EPA ID number unless the generator is the first to claim "on-spec" used oil. This is true whether the used oil is burned for energy recovery on-site or off-site.

Used oil generators who burn "off-spec" used oil (not including burning in on-site space heaters) must also comply with the standards for burners. If the used oil is sent directly to a burner, then the generator must comply with the used oil marketer regulations. (See citations listed below).

**Used Oil Regulations for Other Management Practices**

There are specific regulations for used oil collection facilities, transporters, burners, marketers, and processors that have not been discussed in this manual. They can be read in the following regulation citations: Collection Facilities: 40 CFR 279.30 – 32, Transporters and Transfer Facilities: CFR 279. 40 – 47; Processors and Re-refiners: CFR 279.50 – 57; Used Oil burners: CFR 279.60 – 67 and Marketers: CFR 279.70 – 75. If you have questions concerning these regulations, contact your Environmental Senior Specialist.

**Procedure for Notification of Used Oil Activities**

To obtain a used oil notification form, contact your Environmental Senior Specialist or the Raleigh Office. The form is provided by and completed forms are sent to:

Hazardous Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646
919-707-8200

After the form is received and processed, you will be issued an EPA identification number specific to your site.

You are required to notify the HWS of your used oil activities if you are a:

- Transporter, Processor/Re-refiner, Burner, Marketer, or the first to claim used oil to be burned is on-specification used oil.

**Management of Used Oil Filters**

Used oil filters must be drained of oil before being disposed. All free-flowing oil must be removed from the filter. If the filter is hot drained for 24 hours, punctured and drained until all oil is removed, or crushed and drained, it may be sent to a sanitary landfill. This does not apply to TERNE oil filters. (Terne is an alloy of tin and lead). These filters and the contained oil are classified as hazardous waste for lead (D008).

Used oil filters can be recycled. The HWS has listings for facilities that will accept crushed and/or drained oil filters. Contact your Environmental Senior Specialist for a list.

**Management of CFCs (Chlorofluorocarbons)**

CFCs from refrigeration units, chillers and air conditioners may be managed as used oil as long as they are being reclaimed. You do not have to prove that the CFCs have not been mixed with hazardous waste, even if the total halogen concentration is greater than 1,000 ppm, as long as the CFCs are destined to be reclaimed (279.10(b)(ii)(b).) Used oils contaminated with CFCs from units other than chillers, etc. do have to prove that the material has not been mixed with hazardous waste. To allow for reclamation, the CFCs should be managed separately from other used oils or wastes.

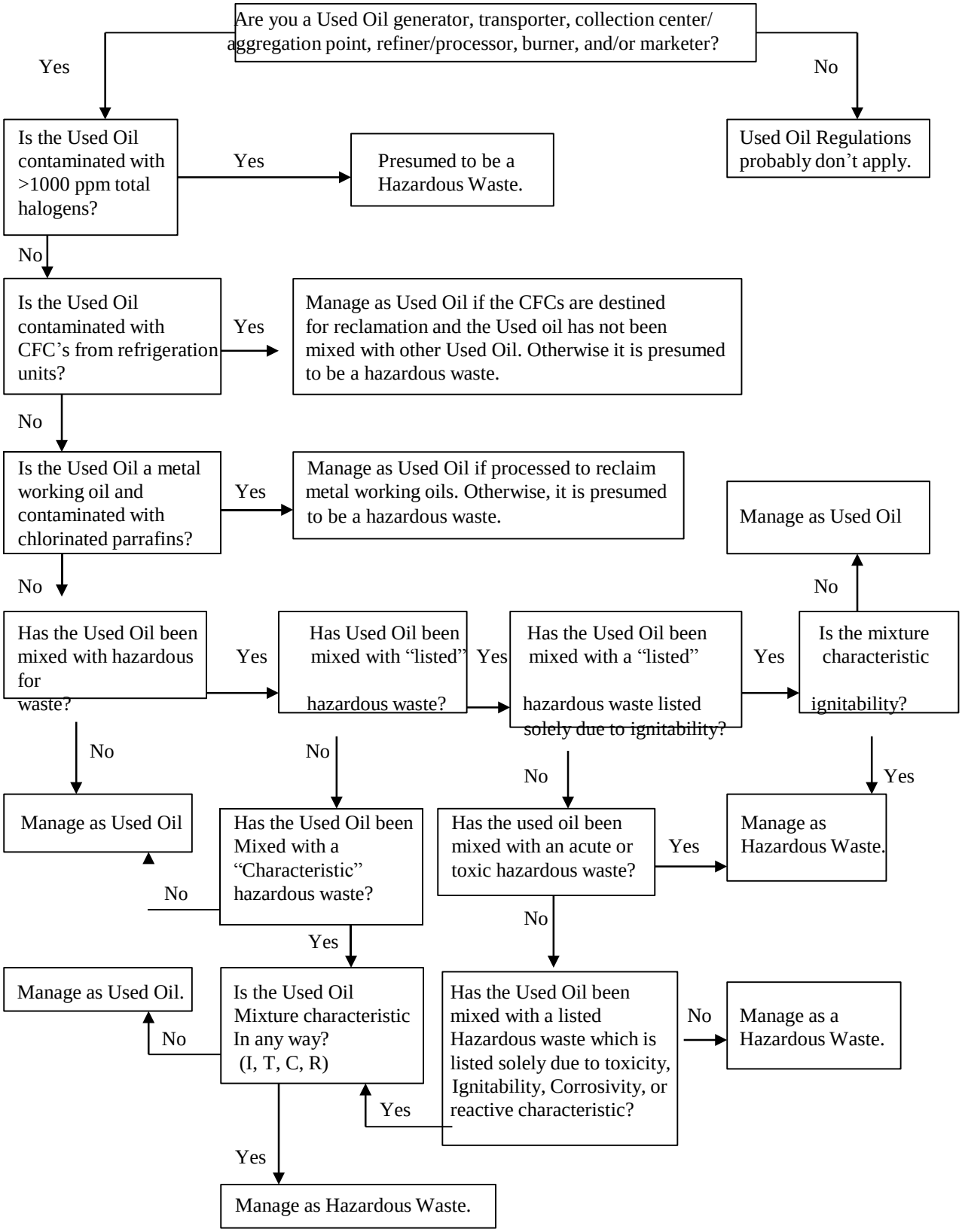
## Used Oil Regulation Summary Table

| | **Generator*** **Subparts C and D** | **Transporter/ Transfer Facility** **Subpart E** | **Processor/ Re-Refiner Subpart F** | **Off-Spec Burner** **Subpart G** | **Marketer**** |
|---|---|---|---|---|---|
| Storage in containers and Aboveground Tanks | Good condition | Good Condition | Good condition | Good condition | NA |
| Labels for Tanks and Containers | Yes | Yes | Yes | Yes | NA |
| Secondary Containment System | No | Yes, for transfer facilities<br>NA for transporters | Yes | Yes | NA |
| Environmental Release Cleanup | Yes | Yes | Yes | Yes | NA |
| EPA Identification Number and Notification | NO | Yes | Yes | Yes | Yes |
| Tracking | NO | Yes, acceptance and delivery | Yes, acceptance and delivery | Yes, acceptance records | Yes, on-specification or off spec delivery records |
| Analysis | NO | Yes, information or testing that shows that the total halogen content is above or below 1000ppm | Yes, create and follow an analysis plan that includes determining total halogen content | Yes, information or testing that shows that the total halogen content is above or below 1000ppm | Yes, Information or testing to determine specification type. |
| Recordkeeping | NO | Yes, copies of information or test data of total halogen content for rebuttal presumption; acceptance and delivery records | Yes, copies of information or test data of total halogen content for rebuttal presumption; acceptance and delivery records | Yes, copies of information or test data of total halogen content for rebuttal presumption; acceptance and delivery records | Yes, Information or testing to determine specification type, If off-spec- burner certification. |
| Preparedness and Contingency Plan | No | No | Yes, same as 264/265 subpart D | NO | NA |
| Biennial Reporting | NO | NO | Yes | NO | NA |
| Closure | NO | NO | Yes | No | NA |
| Dust suppression Ban | Yes | Yes | Yes | Yes | NA |
| Surface Impoundment Ban | Yes | Yes | Yes | Yes | NA |

* Generator requirements apply to aggregation points and collection centers.

** Marketers also come under regulation as generator, transporter, and/or processor or re-refiners. No used oil handler can be solely a marketer.

# Is your Used Oil Actually Hazardous Waste?



# APPENDIX H
# UNIVERSAL WASTE RULE

On May 11, 1995, EPA finalized the Universal Waste Rule. This rule established simplified guidelines for the accumulation and transportation of waste that otherwise would have to be managed under the full hazardous waste standards. EPA revised these regulations in 1999 to include lights containing mercury. The revisions became effective on January 6, 2000 in North Carolina.

The universal waste rule sets up a simplified process for the accumulation of certain types of hazardous waste. The goal is to encourage companies and organizations to efficiently and effectively collect these wastes and keep them from being sent to municipal landfills. The following items are eligible for management under the universal waste program: **batteries, mercury containing equipment (added in 2005), pesticides suspended or canceled under FIFRA or collected in a waste pesticide collection program, and lamps containing mercury**. These items would otherwise be classified as hazardous wastes.

These wastes come from a wide variety of generators in large quantities. Compared with other types of hazardous wastes the risk of managing these wastes under the streamlined universal waste program is relatively low. Under the universal waste program, collection systems for these wastes should ensure close stewardship of the waste. It should also increase the likelihood that the waste will be diverted from non-hazardous waste systems (municipal landfills, storm sewers, etc.) to recycling, treatment or disposal options in compliance with hazardous waste provisions.

Different groups of universal waste managers are designated. These groupings are similar to, but not the same as, hazardous waste generator categories. The term "handler" is used as a broader term to avoid confusion with the term "generator".

**Small Quantity Handlers of Universal Waste (SQHUW)**

Is anyone who generates (including contractors who take components out of service), collects, accumulates (but does not treat/dispose) less than 5,000 kg of universal waste at any one time. The total quantity includes of all types of universal waste.

**Large Quantity Handlers of Universal Waste (LQHUW)-**

Is anyone who generates collects, accumulates (but does not treat/dispose) greater than 5,000 kg of universal waste at any one time.

**Transporter**

Is someone who transports universal waste off site. This category includes companies transporting their own wastes to another plant location in any quantity.

**Destination Facility**

Is a facility permitted to receive universal waste for storage, treatment, recycling or disposal.

**Requirements for ALL Handlers**

Universal waste must be managed to prevent releases by keeping containers closed and using structurally sound and compatible containers. If tanks are used, they must meet the Subpart J (40 CFR 265) requirements. Transport vehicles must be closed, structurally sound, and compatible with the materials being transported. If there is a release, it must be immediately contained and managed in compliance with the hazardous waste generator regulations (40 CFR 262).

- The Universal Waste must be identified as: "Universal Waste _____(insert type of waste here)", "Waste _____", or "Used _____."
- Waste can be accumulated or stored up to one year. An inventory management or labeling system must be in place to document the storage time.
- Waste must be shipped only to another handler or a destination facility and DOT shipping procedures for hazardous materials must be followed.

**Small Quantity Handlers**

- No notification to the HWS is required unless more than 5,000 kg of universal waste is accumulated or stored (total amount of batteries, pesticides, mercury containing equipment and lamps). If this occurs, the facility immediately becomes a LQHUW.
- Employees must be informed of proper handling and emergency procedures appropriate for the universal waste managed.
- Shipping records do not have to be maintained.

**Large Quantity Handlers**

- Must notify the HWS of the wastes they are managing under the universal waste program. If they already have an EPA ID number, they do not have to re-notify.
- Employees must be thoroughly familiar with proper handling and emergency procedures appropriate for the universal waste managed.
- Shipping records (bill of lading, invoices, etc.) must be maintained for at least three years from the date the waste left the facility.

**Transporters**

- Are prohibited from diluting, treating or disposing of waste.
- Must comply with applicable DOT requirements for hazardous materials.
- May store waste for ten days at a transfer facility.
- Must immediately contain all releases of waste. If the resulting contamination is a hazardous waste, they are subject to the hazardous waste generator regulations.
- Can only take the waste to a universal waste handler or a destination facility.

**Destination Facility**

Destination facilities are subject to the full set of hazardous waste TSD regulations. They can only send a waste to another handler or destination facility. If a destination facility rejects a shipment, they must send the waste back to the original shipper. If hazardous waste is received that is not a universal waste, the destination facility must immediately notify the EPA. If a non-hazardous/non-universal waste is received, the destination facility must manage the waste in compliance with any applicable waste regulations. Shipping records must be maintained for at least three years from the time the waste is received.

# APPENDIX I

# SUBPART AA, BB and CC RULES- AIR EMISSIONS CONTROLS AT WASTE MANAGEMENT FACILITIES

## History and Background of Air Emission Regulations under RCRA

In 1984, EPA implemented the RCRA Land Disposal Restriction regulations, which requires the treatment of hazardous wastes before their disposal on the land. These regulations significantly increased the volume of hazardous wastes that were being treated. After these regulations were implemented, an air emission survey was conducted. EPA found that 8% of the volatile organic emission in the United States are produced from the treatment, storage and disposal of hazardous wastes. As TSD facilities are regulated under RCRA, these emissions are not regulated by the Clean Air Act. For this reason, EPA developed air emission regulations aimed at volatile organic emissions as part of RCRA. To avoid regulation duplication, these air emission regulations do not apply to any operations already covered by an existing Clean Air Act permit.

EPA added the air emission regulations in phases. The first phase was the Subparts AA and BB regulations that cover emissions from process vents and equipment leaks. Initially, these Subparts only applied to TSD facilities. In the second phase, in 1995, EPA made Subparts AA and BB effective at LQG facilities. They also developed Subpart CC regulations to cover volatile organic air emissions from containers, tanks and surface impoundments. LQGs had to comply with these regulations no later than June 8,1999.

Each of the Subparts is independent of each other. Each unit and process must be scrutinized separately for each regulation to determine if the applicability. If one Subpart does not apply to your facility, you cannot assume that the others do not.

## Subpart AA- Air Emission Standards for Process Vents (264/265.1030-1035)

### Applicability

This Subpart regulates organic emissions from the process vents for six specific types of hazardous waste units. To determine if Subpart AA applies to your facility, answer the questions listed below:

1) Is the unit
   - A permitted or interim status unit? (Does it have a RCRA permit)?
   - A recycling unit at a permitted or interim status facility?
   - At a LQG?

If you answered **yes** to any question, move to the next question. If you answered **no**, Subpart AA does not apply.

2) Is the unit a
   - Distillation unit?
   - Fractionation unit?
   - Thin-film evaporation unit?
   - Solvent extractor?
   - Air stripper?
   - Steam stripper?

If you answered **yes** to any question, move to the next question. If you answered **no**, Subpart AA does not apply.

3) Is the unit exempt from 264/265.1? In other words, is it exempt from having a RCRA permit? Some exemptions are:
   - waste water treatment units,
   - elementary neutralization units,
   - municipal solid waste facilities, and
   - Universal Waste handlers and transporters.

If you answered **no**, move to the next question. If you answered **yes**, Subpart AA does not apply.

4) Is the unit associated with a process vent? The definition for a process vent is: “any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or a tank associated with distillation, fractionation, thin-

film evaporation, solvent extraction, or air or steam stripping". This definition is located at 40 CFR 264.1031.

If you answered **yes**, move to the next question. If you answered **no**, Subpart AA does not apply.

5) Does the unit manage waste that has an organic concentration of greater than, or equal to, 10 parts per million by weight? (NOTE: This is 10 parts per million, not 10 percent by weight.)

If you answered **yes**, move to the next question. If you answered **no**, Subpart AA does not apply.

6) Is the vent on a recycling unit at a 90-day generator facility (LQG)?

If you answered **no**, Subpart AA applies to your unit/facility. If you answered **yes**, Subpart AA does not apply.

Therefore, for LQGs, Subpart AA applies only to process vents on containers or tanks that are associated with the subject recycling systems. Process vents on the recycling system itself are not regulated. One example would be, if you operate a distillation unit at a facility where waste is collected and then poured into the distillation unit. If the distillation unit has no connected container or tank, or if a connected container or tank does not have a process vent, Subpart AA does not apply. If your facility has a tank system that feeds into a distillation unit, Subpart AA applies to any process vent on the tank. In both instances, Subpart AA does not apply to any process vent on the distillation unit itself.

**Requirements**

If you have regulated process vents at your facility, you are required to reduce the organic emissions from the vents to 3.0 pounds per hour and 3.1 tons per year OR reduce the organic air emissions from all of the affected vents by 95%. These figures are based on the aggregated emissions from all vents subject to Subpart AA at the facility. The steps to take if you have process vents subject to Subpart AA is to first identify all of the affected vents at the facility, determine the emission rates, then sum the rates and compare them to the rate limits above.

**Control Devices**

If your emission rates are above the limits, a control device must be installed to remove or destroy emissions levels to below the listed rates. The facility has the option of choosing which vents to reduce emissions. In this way, the facility can optimize the costs of complying with the regulations. They can choose to reduce emissions on all the vents or simply those vents causing the most problem. The regulations do not dictate which types of control devices

must be used. However, performance requirements are specified for some types of devices. Some examples include vapor recovery systems, carbon absorption, flares and others. A closed-vent system is required to conduct organic emissions to a control device designed to operate with no detectable emissions. No detectable emissions are defined as less than 500 parts per million above background and none by visual inspection. The closed-vent system and the control device are required to be operable at all times when emissions may be vented.

**Inspection and Monitoring**

The control device must be inspected once each operating day. The closed-vent system must be monitored for emissions annually and the control device monitored based on the type of device used. Operational problems with the control device or emissions must be corrected immediately. With the closed-vent system, they must be reported within 15 days of detection.

**Record Keeping**

The facility must keep records for at least three years for waste determination information. They must also keep identification of affected vents, emission rate determinations, monitoring data and inspection records for at least three years.

## Subpart BB-Air Emission Standards from Equipment Leaks (264/265.1050-1064)

### Applicability

This subpart regulates the volatile organic emission from equipment leaks associated with hazardous waste management units. This regulation requires preventative maintenance and repair procedures to ensure that equipment is operating properly to reduce emissions. To determine if Subpart BB applies to your facility, answer the questions listed below:

1) Is the unit
   - A permitted or interim status unit? (Does the unit have a RCRA permit)?
   - A recycling unit at a permitted or interim status facility?
   - A container, a tank or a tank system at a LQG?

If you answered **yes** to any question, move to the next question. If you answered **no**, Subpart BB does not apply.

2) Does the unit have equipment as defined in 264.1031?
   Equipment is defined as "any valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or control device or system".

If you answered **yes**, move to the next question. If you answered **no**, Subpart BB does not apply.

3) Is the unit exempt from 264/265.1? In other words, is it exempt from having a RCRA permit? Some exemptions are:
   - waste water treatment units,
   - elementary neutralization units,
   - municipal solid waste facilities, and
   - Universal Waste handlers and transporters.

If you answered **no**, move to the next question. If you answered **yes**, Subpart BB does not apply.

4) Does the equipment come in contact with hazardous waste that has an organic content of at least 10% by weight? Please note that this is different from the Subpart AA requirements, which specify an organic content of 10 ppmw.

If you answer **yes**, move to the next question. If you answer **no**, Subpart BB does not apply.

5) Does the equipment contact the hazardous waste for at least 300 hours per year?

If you answered **yes**, move to the next question. If you answered **no**, Subpart BB does not apply.

6) Is the equipment in vacuum service?

If you answered **no**, Subpart BB applies to your equipment. If you answered **yes**, Subpart BB does not apply.

As you can see, for LQGs, Subpart BB applies to all "equipment" associated with containers, tanks or tank systems that accumulate or store hazardous waste for less than 90 days. Subpart BB applies to all containers and tanks that manage hazardous waste at a site, not just units that are subject to Subpart AA. For example, if you have a compressor or other "equipment" on a container or tank, subpart BB would apply.

**Requirements**

Each piece of equipment affected by Subpart BB must be marked in a way that allows it to be distinguished from other equipment at the facility. Each type of equipment has specific design and operating standards specified. The standards vary depending upon the type of "service" the equipment is used for. These types of service are light liquid, heavy liquid, or gas/vapor service. Light liquid service is defined as equipment that contains compound(s) with a vapor pressure of greater than 0.3 kilopascals at 20 degrees Celsius. Gas/vapor service is a piece of equipment that contains or contacts a hazardous waste in gas or vapor state at operating conditions. Heavy liquid is a piece of equipment that is not in light liquid or gas/vapor service. Each piece of equipment defined in the regulations has standards specific to the type of service it is used for. For example, pumps in light liquid service have standards in 265.1052; valves in gas/vapor or light liquid service have standards in 264.1057.

**Inspection and Monitoring**

Each piece of equipment has specific monitoring and inspection requirements. These requirements depend on the type of service it is used for.

**Leak Detection**

Leak detection and repair programs are proscribed for each type of equipment. These programs are different for each type of service and each type of equipment.

**Record Keeping**

The facility is required to maintain waste determination records. It must also maintain design documentation, monitoring, and operation and inspection records for each piece of affected equipment. All records must be maintained for at least three years.

## Subpart CC- Air Emission Controls for Containers and Tanks (40 CFR 264/265.1080 – 1091)

The purpose of these regulations is to reduce air emissions from units (containers, tanks, etc.) where hazardous wastes are being stored.

### Applicability

This rule applies to wastes that have, at the point of generation, an average volatile organic concentration of greater than or equal to 500 ppm by weight**,** AND

- Are at TSDs or Large Quantity Generators (SQGs are exempt),
- In <90 day storage areas (satellite accumulation is exempt), and
- In containers, tanks or surface impoundments, or in Subpart X units.

### Exemptions and Exclusions from CC Rules

- Farmers disposing of waste pesticides,
- Universal Waste handlers,
- Transporters holding waste at a transfer facility,
- Absorbent materials added to hazardous wastes in containers,
- RCRA empty containers,
- Units associated with RCRA, or CERCLA remediation (not voluntary cleanups),
- Mixed radioactive and hazardous wastes,
- Units used to recycle hazardous wastes into usable products (AA and BB may apply),
- CESQG and SQG,
- Satellite accumulation areas,
- Containers less than 26.4 gallons,
- Wastewater treatment and elementary neutralization units,
- Totally enclosed treatment units,
- Units used solely for emergency spill management,
- Units in closure (at permitted facilities),
- Units operating with attached Clean Air Act air emission controls,
- Units that meet the LDR standards for organic wastes, and
- Biological treatment units.

### Waste Determination

A determination of volatile organic concentration is made at the point of generation of the waste. For LQGs, this is before entering the unit (container or tank). For TSDs, it occurs at the point where the owner/operator accepts delivery or takes possession of the waste. When the facility accepts the manifest is an example. Generator knowledge or testing may be used.

Documentation for the waste determination must be kept on-site whether generator knowledge or testing is used to make the waste determination.

If testing is used, the owner/operator must collect a minimum of four individual samples, without mixing them, for an averaging period of up to one year. Sampling and collection methods must be in accordance with SW-846. Analytical methods can be EPA methods 25D, 624, 625, 1624 and 1625.

Information on these test methods is available from your Environmental Senior Specialist or can be found on the Internet at: http://www.epa.gov/epaoswer/hazwaste/test/main.htm.

Both LQGs and TSDs must update the waste determination annually. The update can be an assertion that nothing has changed in the generating process or constituents of the waste. For TSD facilities, these procedures must be part of the written sampling plan.

## Compliance Options for Containers

Containers are regulated according to size and organic content.

- **Level 1 container**- greater than 26.4 gallons but less than 122 gallons, or greater than 122 gallons **and not** managing waste "in light material service" *****.
- **Level 2 container**- greater than 122 gallons and managing waste in light material service.
- **Level 3 container**- greater than 26.4 gallons and it is used to stabilize waste that has an average volatile organic concentration of greater than 500 ppm. These containers can only be at TSD facilities.

> *****"***In light material service***" *the hazardous waste in the container meets both of these conditions:*
> - *The vapor pressure of one or more of the organic constituents in the waste is greater than 0.3 kilopascals (kPa) at 20 C.*
> - *The total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20 C is equal to or greater than 20 percent by weight.*

## Level 1 Container Controls

There are three options available to comply with Subpart CC for level 1 containers.

- Use a container that meets DOT regulations under parts 172, 173, 178, 179 and 180. No exceptions are allowed under DOT except for lab packs as specified in 49 CFR 173.12(b).
- Use a cover and control device on the container to ensure there are no visible gaps. Tighten bungs and rings. Conservation vents may be used.
- Use organic vapor suppression barriers on or above the hazardous waste in the container so that no waste is exposed to the atmosphere. One example is organic vapor-suppressing foam.

**Other Level 1 Container Requirements**

- The container must be kept closed except when transferring waste into or out of the container. The container must be closed between batch transfers that exceed 15 minutes.
- Repair requirements require you to attempt to make repairs within 24 hours, with a maximum five days. If repairs cannot be made within five days, the container must be emptied and removed from service.
- Inspections are required when transferring waste into a container to ensure that the container is closed when the transfer is complete. Containers must be inspected when they initially arrive at the facility. They must be inspected annually if the container remains at the facility for more than one year. (The weekly inspections required of LQGs meets this requirement).
- Inspection records must be maintained on-site for at least three years.

**Special use of Funnels for Level 1 Containers in Storage Areas**

When the Subpart CC regulations became applicable to generators, the NC HWS became concerned that many generators that funnels in hazardous waste storage areas would no longer be able to do so. Funnels can facilitate the accumulation of wastes in these areas. However, under the Subpart CC regulations, the use of funnels would not be allowed if the waste had greater than 500 ppm volatile organic constituents. The reason is because the container would not meet DOT requirements or would not meet the definition of "closed." (Hazardous wastes with no VOCs or a VOC concentration less than 500 ppm are not affected by these regulations).

The NC HWS asked EPA Region IV for an interpretation on this issue. EPA determined that funnels may be used in storage areas for wastes with a VOC concentration of greater than 500 ppm as long as the following conditions are met:

- The funnel is securely fitted to the container (i.e., screwed tightly to the bung opening)
  AND
- The funnel is fitted with a one-way valve to allow material/ waste to enter the container but prohibits waste/emissions from exiting the container; or The funnel is fitted with a gasket to firmly seal the funnel lid when closed
  AND
- The funnel is fitted with a locking mechanism on the lid and the lid is maintained in the closed position unless it is necessary to add or remove waste. The time limit is 15 minutes between operations.

**Level 2 Container Controls**

There are three options for complying with the Level 2 Container Regulations.

- Use a container that meets DOT regulations under parts 172, 173, 178, 179 and 180. No DOT exceptions are allowed, except for lab packs as specified in 49 CFR 173.12(b).
- Use a container that operates with no detectable organic emissions using the Method 21 test. There must be no emissions above 500 ppm. Monitoring is required when the container is filled.
- Use a container demonstrated to be vapor tight within the last 12 months. Use the Method 27 test.

**Other Level 2 Container Requirements**

- Waste must be transferred into or out of the container in a way that minimizes the exposure of the waste to the atmosphere. Examples include the use of submerged-fill pipes, vapor-balancing systems, or vapor recovery systems.
- All covers and closure devices must be secured and kept closed, except during filling and removal operations.
- Repair requirements state that you must attempt to make repairs within 24 hours, with a maximum five days. If repairs cannot be made within five days, the container must be emptied and removed from service.
- Inspections are required when transferring waste into a container to ensure that the container is closed when the transfer is complete. Containers must be inspected when they initially arrive at the facility. Inspect them annually if the container remains at the facility for more than one year. (The weekly inspections required of LQGs meets this requirement).
- Maintain inspection records on-site for at least three years

**Level 3 Container Controls**

The options for complying with Level 3 containers are not discussed in this manual. These containers are only found at TSD facilities.

**Table 3. Compliance Summary for Containers**

| Container Level | Conditions to Meet | Controls/Requirements |
|---|---|---|
| 1 | Less than 122 gallons. Or Greater than 122 gallons and not in light service. No waste stabilization. | 1- Use a container that meets DOT regulations, or<br>2- Use organic suppression barrier, or<br>3- Use a cover and a control device. |
| 2 | Greater than 122 gallons in light service. | 1- Use a container that meets DOT regulations, or<br>2- Use a container that operates with no detectable organic emissions (Method 21), or<br>3- Use a container that is vapor tight by Method 27. |

## Tanks

Subpart CC applies to tanks that hold hazardous wastes with a volatile organic concentration of greater than 500 parts per million by weight. The regulations specify two types, or levels of tanks.

**Level 1 Tank** A level 1 tank must meet ALL three conditions described here.

1. There is no heating to temperatures greater than the temperature at which the vapor pressure is determined.
2. No waste stabilization occurs in the tank.
3. The maximum organic vapor pressure of the waste is less than the cut-off for the tank design capacity as specified in the table here.

| Tank Size | Maximum Vapor Pressure |
|---|---|
| 40,000 gallons | 5.2 kPa or 0.54 PSI |
| 20,000 to 40,000 gallons | 27.6 kPa or 4.0 PSI |
| 20,000 gallons or less | 76.6 kPa or 11.1 PSI |

**Level 2 Tank** A Level 2 tank is one that exceeds any of the Level 1 conditions. In other words, the waste is heated, or the vapor pressure of the waste is greater than the limits for the tank.

**Level 1 Tank Controls**

The emission-control device specified for Level 1 tank consists of a stationary fixed-roof. This is a roof that does not fluctuate with the level of the material in the tank. The roof may

separate from the rest of the tank, but it cannot have visible cracks, holes, gaps or other open spaces in the seams and mountings. It must be maintained in a closed position, except to access the waste. A pressure relief device is allowed.

**Other Level 1 Tank Requirements**

The generator must determine the initial vapor pressure of the waste in the tank and again if the composition of the waste changes to cause a different vapor pressure. The fixed-roof must be inspected when it first is subject to Subpart CC rules and at least once per year thereafter. Inspection records and waste determination records must be maintained on-site for at least three years.

**Level 2 Controls** there are five options for complying with the Level 2 tank requirements.

1. Fixed roof with an internal floating roof,
2. External floating roof,
3. Cover vented to a control device,
4. Pressure tank,
5. Tank inside enclosure vented to a combustion control device.

Each of these options has detailed inspection, record keeping, waste transfer, repair and operation requirements, as well as safety device requirements. As LQGs usually do not operate Level 2 tanks, these compliance options will not be discussed in this manual. Information about these requirements is available through your Environmental Senior Specialist.

**Other Units**

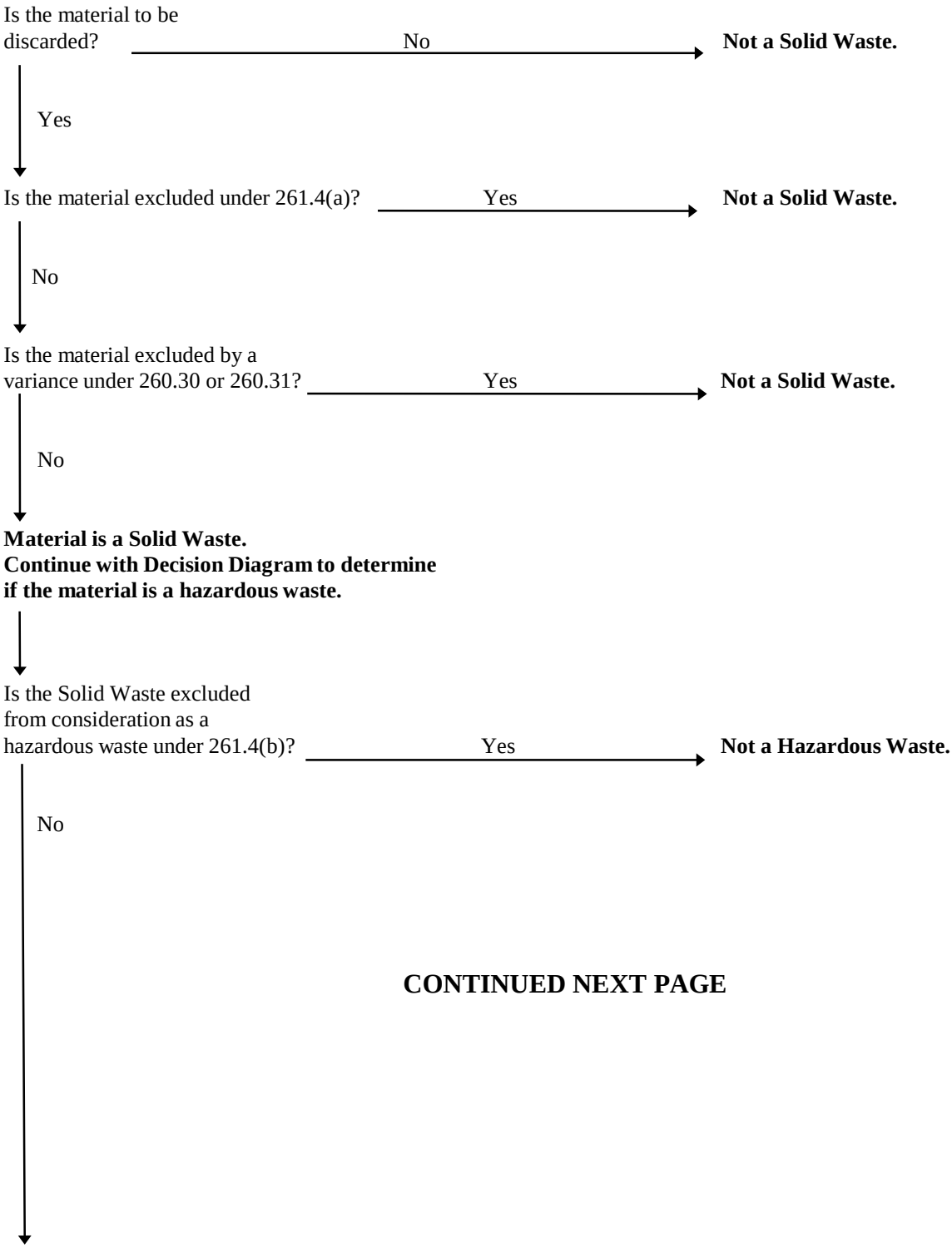
Subpart CC also regulates surface impoundments and specifies requirements for emission control devices such as closed vent systems, incinerators, flares, etc. These regulations will not be discussed in this manual as these units are only found at TSD facilities. Information about these requirements is available through your Environmental Senior Specialist.

**Table 4. Compliance Summary for Tanks**

| Tank Level | Conditions to meet | Requirements |
|---|---|---|
| 1 | 1- Maximum organic vapor pressure less than cut-off for the tank capacity<br>2- No heating<br>3- No waste stabilization | Tank must be equipped with a fixed roof with no visible cracks, holes, gaps or other open spaces in roof seams and mountings,<br><br>and<br><br>Tank size and vapor limits consistent with existing CAA-NSPS standards for volatile organic liquid storage,<br><br>and<br><br>Closure devices must be maintained in a closed - position.<br><br>Initial inspections and annually thereafter.<br><br>Records of inspections and waste determinations maintained. |
| 2 | Exceed any of the Level 1 conditions. | 1- Fixed roof with floating roof, or<br>2- Floating roof, or<br>3- Cover vented to control device, or<br>4- Pressure tank, or<br>5- Tank inside closure vented to combustion control device. |

# APPENDIX J
# DECISION DIAGRAMS

## DECISION DIAGRAM A- Determining if Your Waste Is Regulated

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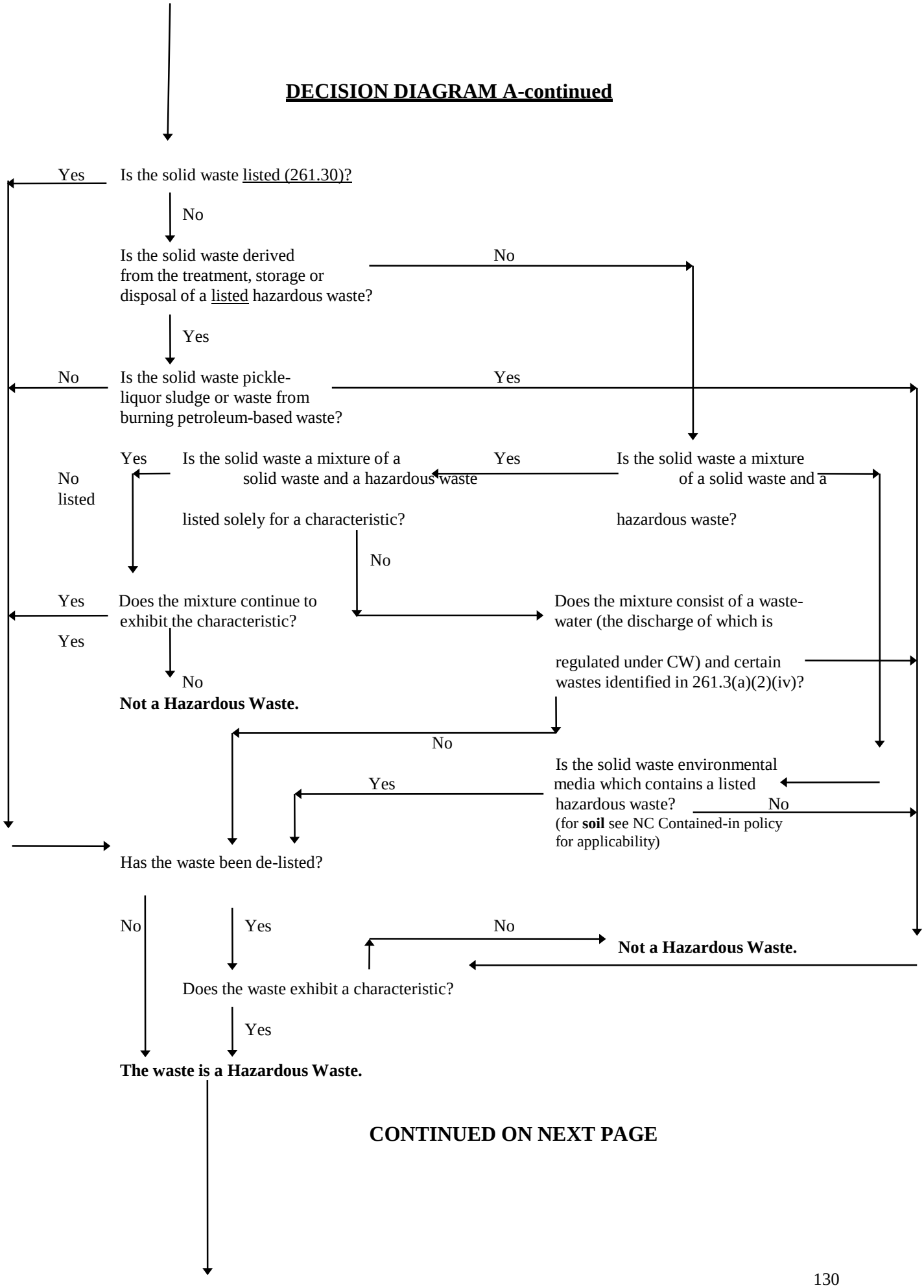
## DECISION DIAGRAM A-continued

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## DECISION DIAGRAM A-continued

Is the hazardous waste recycled? (See Decision Diagram B) — Yes → The recyclable material may be determined not to be a solid waste, regulated under 266, 279 or be a hazardous waste. (See Diagram B)

No ↓

Is the hazardous waste generated by a SQG or CESQG? (See Diagram C) — Yes → **The hazardous waste may subject to limited regulation under 261.5 or 262.**

No ↓

Does the hazardous waste occur under any of the following special management practices?

**Are the materials....**

Wastes that are generated and remain in a product or raw material tank, transport vehicle or process unit? — Yes → Has the storage tank or unit ceased to operate and remain out of operation for more than 90 days?

No ↓

Were samples collected? — Yes → (to Not a Hazardous Waste)

No ↓

Residue remaining in an empty container per 261.7(a)(1)? — Yes → **Not a Hazardous Waste.**

No ↓

PCB-containing fluid or equipment containing such fluid regulated under TCSA? — Yes → (to Not a Hazardous Waste)

No ↓

Process equipment which no longer comes in contact with chlorophenolic preservatives provided that the equipment has been properly cleaned and records kept? — Yes → (to Not a Hazardous Waste)

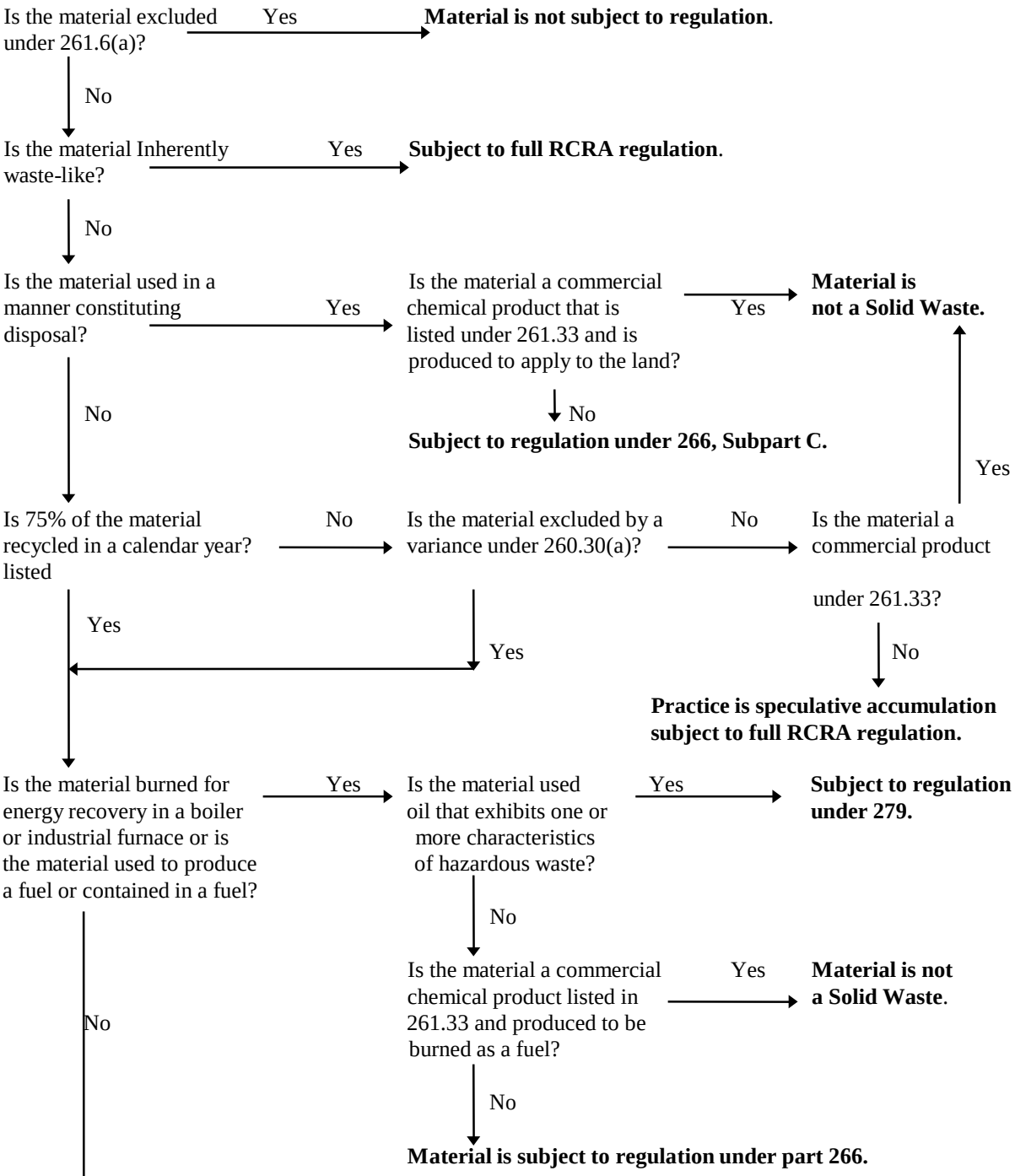
No ↓

**The waste is a regulated Hazardous Waste and is subject to the full set of RCRA regulations.**

Has the storage tank or unit ceased to operate and remain out of operation for more than 90 days? — No → (to The waste is a regulated Hazardous Waste)

Yes → (to Not a Hazardous Waste)

## DECISION DIAGRAM B
## Hazardous Waste Recycling

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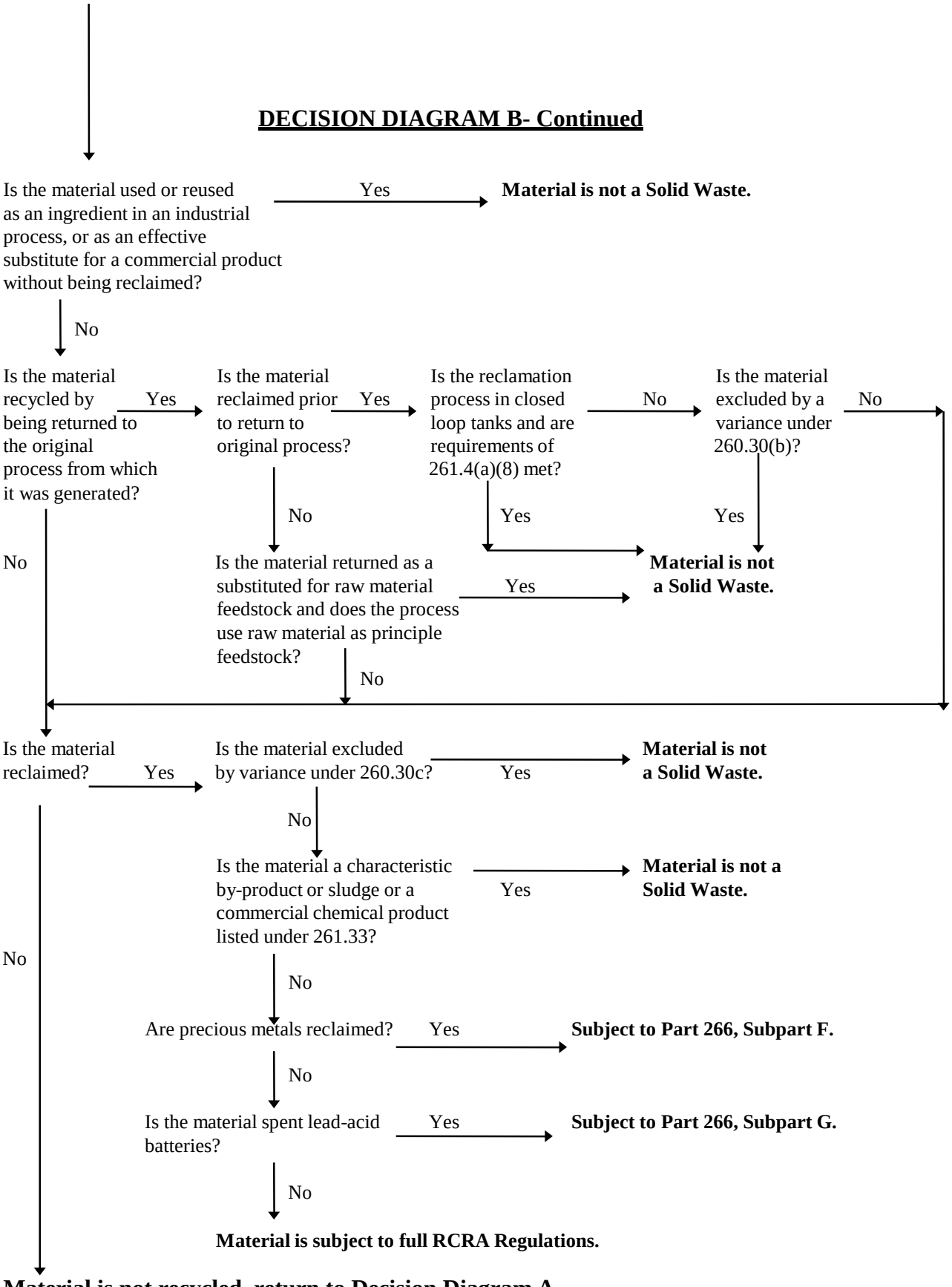
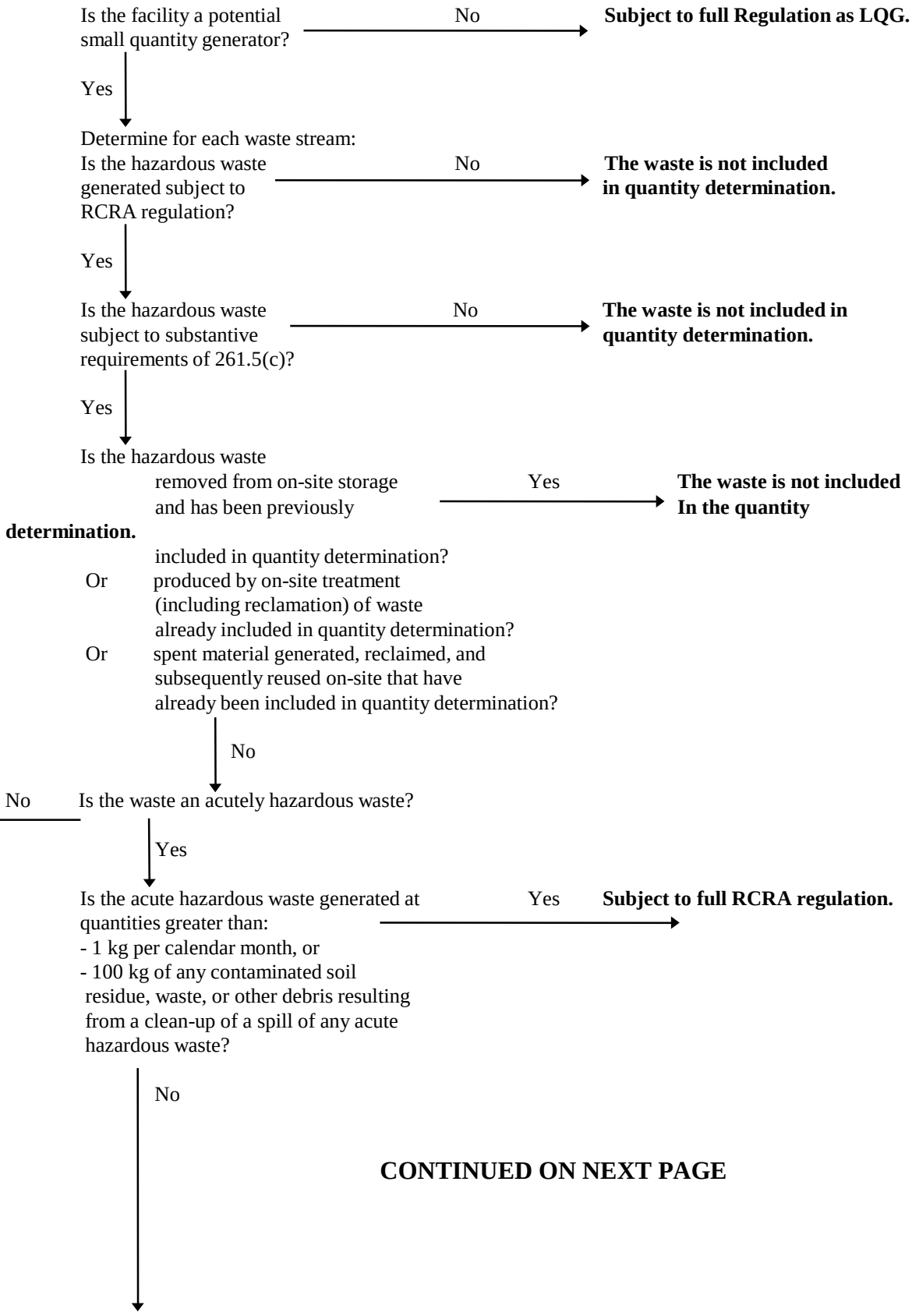
## DECISION DIAGRAM B- Continued



## DECISION DIAGRAM C
## Determining Your Generator Status

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## DECISION DIAGRAM C- Continued

Does the generator comply with requirements in 261.5(f)? — No → **Subject to full RCRA Regulation.**

Yes ↓

**The waste is conditionally exempt.**

Is the sum of the waste to be included in the quantity determination ≤ 100 kg of non-acute hazardous hazardous waste per calendar month? — No → Does the sum of the wastes equal between 100 kg and 1000 kg per calendar month? — Yes → **The waste may be subject to special requirements under Part 262.**

No ↓ **Subject to full RCRA regulation.**

Yes ↓

Does generator at any time accumulate more than 1,000 kg of hazardous waste? — Yes → **All of the accumulated wastes are subject to modified Part 262 Regulation at the time accumulation first exceeds 1,000 kg.**

No ↓

Is the hazardous waste mixed with solid waste and does the resultant mixture exceed the quantity limitations? — Yes → Does the mixture exhibit a characteristic? — Yes → **Subject to full RCRA regulation.**

No → **The waste is conditionally exempt.**

No ↓

Is the waste mixed with used oil and is the resultant mixture to be used for energy recovery? — Yes → **The mixture, in addition to any material produced from such a mixture by processing, blending, or other treatment if also destined for energy recovery, is subject to regulation under Part 279.**

No ↓

Does the generator comply with requirements set forth in 251.5(g)? — No → **Subject to full RCRA regulation.**

Yes ↓

**The generator is a conditionally exempt small quantity generator during the measured calendar month.**

# APPENDIX K
# MANIFEST AND INSTRUCTIONS

Manifest 8700–22

The following statement must be included with each Uniform Hazardous Waste Manifest, either on the form, in the instructions to the form, or accompanying the form:

Public reporting burden for this collection of information is estimated to average: 30 minutes for generators, 10 minutes for transporters, and 25 minutes for owners or operators of treatment, storage, and disposal facilities. This includes time for reviewing instructions, gathering data, completing, reviewing and transmitting the form. Any correspondence regarding the PRA burden statement for the manifest must be sent to the Director of the Collection Strategies Division in EPA's Office of Information Collection at the following address: U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW., Washington, DC 20460. Do not send the completed form to this address.

I. Instructions for Generators

Manifest 8700–22

The following statement must be included with each Uniform Hazardous Waste Manifest, either on the form, in the instructions to the form, or accompanying the form:

Public reporting burden for this collection of information is estimated to average: 30 minutes for generators, 10 minutes for transporters, and 25 minutes for owners or operators of treatment, storage, and disposal facilities. This includes time for reviewing instructions, gathering data, completing, reviewing and transmitting the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to: Chief, Information Policy Branch (2136), U.S. Environmental Protection Agency, Ariel Rios Building; 1200 Pennsylvania Ave., NW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

I. Instructions for Generators

*Item 1. Generator's U.S. EPA Identification Number*

Enter the generator's U.S. EPA twelve digit identification number, or the State generator identification number if the generator site does not have an EPA identification number.

*Item 2. Page 1 of _*

Enter the total number of pages used to complete this Manifest ( *i.e.* , the first page (EPA Form 8700–22) plus the number of Continuation Sheets (EPA Form 8700–22A), if any).

*Item 3. Emergency Response Phone Number*

Enter a phone number for which emergency response information can be obtained in the event of an incident during transportation. The emergency response phone number must:

1. Be the number of the generator or the number of an agency or organization who is capable of and accepts responsibility for providing detailed information about the shipment;

2. Reach a phone that is monitored 24 hours a day at all times the waste is in transportation (including transportation related storage); and

3. Reach someone who is either knowledgeable of the hazardous waste being shipped and has comprehensive emergency response and spill cleanup/incident mitigation information for the material being shipped or has immediate access to a person who has that knowledge and information about the shipment.

Note: Emergency Response phone number information should only be entered in Item 3 when there is one phone number that applies to all the waste materials described in Item 9b. If a situation ( *e.g.* , consolidated shipments) arises where more than one Emergency Response phone number applies to the various wastes listed on the manifest, the phone numbers associated with each specific material should be entered after its description in Item 9b.

*Item 4. Manifest Tracking Number*

This unique tracking number must be pre-printed on the manifest by the forms printer.

*Item 5. Generator's Mailing Address, Phone Number and Site Address*

Enter the name of the generator, the mailing address to which the completed manifest signed by the designated facility should be mailed, and the generator's telephone number. Note, the telephone number (including area code) should be the normal business number for the generator, or the number where the generator or his authorized agent may be reached to provide instructions in the event the designated and/or alternate (if any) facility rejects some or all of the shipment. Also enter the physical site address from which the shipment originates only if this address is different than the mailing address.

*Item 6. Transporter 1 Company Name, and U.S. EPA ID Number*

Enter the company name and U.S. EPA ID number of the first transporter who will transport the waste. Vehicle or driver information may not be entered here.

*Item 7. Transporter 2 Company Name and U.S. EPA ID Number*

If applicable, enter the company name and U.S. EPA ID number of the second transporter who will transport the waste. Vehicle or driver information may not be entered here.

If more than two transporters are needed, use a Continuation Sheet(s) (EPA Form 8700–22A).

*Item 8. Designated Facility Name, Site Address, and U.S. EPA ID Number*

Enter the company name and site address of the facility designated to receive the waste listed on this manifest. Also enter the facility's phone number and the U.S. EPA twelve digit identification number of the facility.

*Item 9. U.S. DOT Description (Including Proper Shipping Name, Hazard Class or Division, Identification Number, and Packing Group)*

*Item 9a.* If the wastes identified in Item 9b consist of both hazardous and nonhazardous materials, then identify the hazardous materials by entering an “X” in this Item next to the corresponding hazardous material identified in Item 9b.

If applicable, enter the name of the person accepting the waste on behalf of the second transporter. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

*Item 9b.* Enter the U.S. DOT Proper Shipping Name, Hazard Class or Division, Identification Number (UN/NA) and Packing Group for each waste as identified in 49 CFR 172. Include technical name(s) and reportable quantity references, if applicable.

Note: If additional space is needed for waste descriptions, enter these additional descriptions in Item 27 on the Continuation Sheet (EPA Form 8700–22A). Also, if more than one Emergency Response phone number applies to the various wastes described in either Item 9b or Item 27, enter applicable Emergency Response phone numbers immediately following the shipping descriptions for those Items.

*Item 10. Containers (Number and Type)*

Enter the number of containers for each waste and the appropriate abbreviation from Table I (below) for the type of container.

**Table I—Types of Containers**

| |
|---|
| BA = Burlap, cloth, paper, or plastic bags. |
| CF = Fiber or plastic boxes, cartons, cases. |
| CM = Metal boxes, cartons, cases (including roll-offs). |
| CW = Wooden boxes, cartons, cases. |
| CY = Cylinders. |
| DF = Fiberboard or plastic drums, barrels, kegs. |
| DM = Metal drums, barrels, kegs. |
| DT = Dump truck. |
| DW = Wooden drums, barrels, kegs. |
| HG = Hopper or gondola cars. |
| TC = Tank cars. |
| TP = Portable tanks. |
| TT = Cargo tanks (tank trucks). |

*Item 11. Total Quantity*

Enter, in designated boxes, the total quantity of waste. Round partial units to the nearest whole unit, and *do not* enter decimals or fractions. To the extent practical, report quantities using appropriate units of measure that will allow you to report quantities with precision. Waste quantities entered should be based on actual measurements or reasonably accurate estimates of actual quantities shipped. Container capacities are not acceptable as estimates.

*Item 12. Units of Measure (Weight/Volume)*

Enter, in designated boxes, the appropriate abbreviation from Table II (below) for the unit of measure.

**Table II—Units of Measure**

| |
|---|
| G = Gallons (liquids only). |
| K = Kilograms. |
| L = Liters (liquids only). |
| M = Metric Tons (1000 kilograms). |
| N = Cubic Meters. |
| P = Pounds. |
| T = Tons (2000 pounds). |
| Y = Cubic Yards. |

**Note:** Tons, Metric Tons, Cubic Meters, and Cubic Yards should only be reported in connection with very large bulk shipments, such as rail cars, tank trucks, or barges.

*Item 13. Waste Codes*

Enter up to six federal and state waste codes to describe each waste stream identified in Item 9b. State waste codes that are not redundant with federal codes must be entered here, in addition to the federal waste codes which are most representative of the properties of the waste.

*Item 14. Special Handling Instructions and Additional Information.*

1. Generators may enter any special handling or shipment-specific information necessary for the proper management or tracking of the materials under the generator's or other handler's business processes, such as waste profile numbers, container codes, bar codes, or response guide numbers. Generators also may use this space to enter additional descriptive information about their shipped materials, such as chemical names, constituent percentages, physical state, or specific gravity of wastes identified with volume units in Item 12.

2. This space may be used to record limited types of federally required information for which there is no specific space provided on the manifest, including any alternate facility designations; the manifest tracking number of the original manifest for rejected wastes and residues that are re-shipped under a second manifest; and the specification of PCB waste descriptions and PCB out-of-service dates required under 40 CFR 761.207. Generators, however, cannot be required to enter information in this space to meet state regulatory requirements.

*Item 15. Generator's/Offeror's Certifications*

1. The generator must read, sign, and date the waste minimization certification statement. In signing the waste minimization certification statement, those generators who have not been exempted by statute or regulation from the duty to make a waste minimization certification under section 3002(b) of RCRA are also certifying that they have complied with the waste minimization requirements. The Generator's Certification also contains the required attestation that the shipment has been properly prepared and is in proper condition for transportation (the shipper's certification). The content of the shipper's certification statement

is as follows: “I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked, and labeled/placarded, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.” When a party other than the generator prepares the shipment for transportation, this party may also sign the shipper's certification statement as the offeror of the shipment.

2. Generator or Offeror personnel may preprint the words, “On behalf of” in the signature block or may hand write this statement in the signature block prior to signing the generator/offeror certification, to indicate that the individual signs as the employee or agent of the named principal.

Note: All of the above information except the handwritten signature required in Item 15 may be pre-printed.

II. Instructions for International Shipment Block

*Item 16. International Shipments*

For export shipments, the primary exporter must check the export box, and enter the point of exit (city and state) from the United States. For import shipments, the importer must check the import box and enter the point of entry (city and state) into the United States. For exports, the transporter must sign and date the manifest to indicate the day the shipment left the United States. Transporters of hazardous waste shipments must deliver a copy of the manifest to the U.S. Customs when exporting the waste across U.S. borders.

III. Instructions for Transporters

*Item 17. Transporters' Acknowledgments of Receipt*

Enter the name of the person accepting the waste on behalf of the first transporter. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt. Only one signature per transportation company is required. Signatures are not required to track the movement of wastes in and out of transfer facilities, unless there is a change of custody between transporters.

If applicable, enter the name of the person accepting the waste on behalf of the second transporter. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

Note: Transporters carrying imports, who are acting as importers, may have responsibilities to enter information in the International Shipments Block. Transporters carrying exports may also have responsibilities to enter information in the International Shipments Block. See above instructions for Item 16.

IV. Instructions for Owners and Operators of Treatment, Storage, and Disposal Facilities

*Item 18. Discrepancy*

Item 18a. Discrepancy Indication Space

1. The authorized representative of the designated (or alternate) facility's owner or operator must note in this space any discrepancies between the waste described on the Manifest and

the waste actually received at the facility. Manifest discrepancies are: significant differences (as defined by §§264.72(b) and 265.72(b)) between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity and type of hazardous waste a facility actually receives, rejected wastes, which may be a full or partial shipment of hazardous waste that the TSDF cannot accept, or container residues, which are residues that exceed the quantity limits for "empty" containers set forth in 40 CFR 261.7(b).

2. For rejected loads and residues (40 CFR 264.72(d), (e), and (f), or 40 CFR 265.72(d), (e), or (f)), check the appropriate box if the shipment is a rejected load ( *i.e.* , rejected by the designated and/or alternate facility and is sent to an alternate facility or returned to the generator) or a regulated residue that cannot be removed from a container. Enter the reason for the rejection or the inability to remove the residue and a description of the waste. Also, reference the manifest tracking number for any additional manifests being used to track the rejected waste or residue shipment on the original manifest. Indicate the original manifest tracking number in Item 14, the Special Handling Block and Additional Information Block of the additional manifests.

3. Owners or operators of facilities located in unauthorized States ( *i.e.* , states in which the U.S. EPA administers the hazardous waste management program) who cannot resolve significant differences in quantity or type within 15 days of receiving the waste must submit to their Regional Administrator a letter with a copy of the Manifest at issue describing the discrepancy and attempts to reconcile it (40 CFR 264.72(c) and 265.72(c)).

4. Owners or operators of facilities located in authorized States ( *i.e.* , those States that have received authorization from the U.S. EPA to administer the hazardous waste management program) should contact their State agency for information on where to report discrepancies involving "significant differences" to state officials.

Item 18b. Alternate Facility (or Generator) for Receipt of Full Load Rejections

Enter the name, address, phone number, and EPA Identification Number of the Alternate Facility which the rejecting TSDF has designated, after consulting with the generator, to receive a fully rejected waste shipment. In the event that a fully rejected shipment is being returned to the generator, the rejecting TSDF may enter the generator's site information in this space. This field is not to be used to forward partially rejected loads or residue waste shipments.

Item 18c. Alternate Facility (or Generator) Signature

The authorized representative of the alternate facility (or the generator in the event of a returned shipment) must sign and date this field of the form to acknowledge receipt of the fully rejected wastes or residues identified by the initial TSDF.

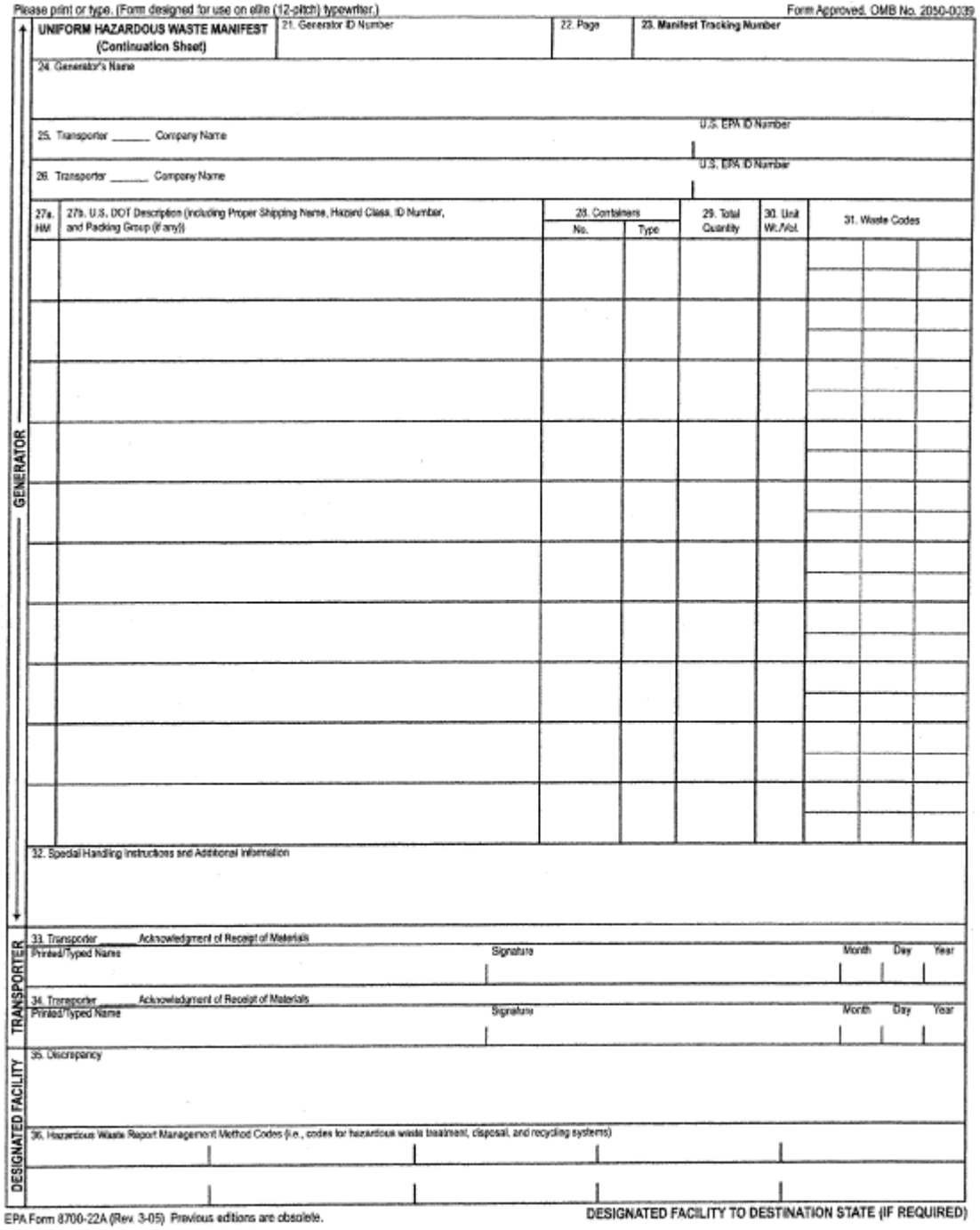
*Item 19. Hazardous Waste Report Management Method Codes*

Enter the most appropriate Hazardous Waste Report Management Method code for each waste listed in Item 9. The Hazardous Waste Report Management Method code is to be entered by the first treatment, storage, or disposal facility (TSDF) that receives the waste and is the code that best describes the way in which the waste is to be managed when received by the TSDF.

*Item 20. Designated Facility Owner or Operator Certification of Receipt (Except As Noted in Item 18a)*

Enter the name of the person receiving the waste on behalf of the owner or operator of the facility. That person must acknowledge receipt or rejection of the waste described on the Manifest by signing and entering the date of receipt or rejection where indicated. Since the Facility Certification acknowledges receipt of the waste except as noted in the Discrepancy Space in Item 18a, the certification should be signed for both waste receipt and waste rejection, with the rejection being noted and described in the space provided in Item 18a. Fully rejected wastes may be forwarded or returned using Item 18b after consultation with the generator. Enter the name of the person accepting the waste on behalf of the owner or operator of the alternate facility or the original generator. That person must acknowledge receipt or rejection of the waste described on the Manifest by signing and entering the date they received or rejected the waste in Item 18c. Partially rejected wastes and residues must be re-shipped under a new manifest, to be initiated and signed by the rejecting TSDF as offeror of the shipment.

Manifest Continuation Sheet



Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

**UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)** | 21. Generator ID Number | 22. Page | 23. Manifest Tracking Number

24. Generator's Name

25. Transporter _____ Company Name | U.S. EPA ID Number

26. Transporter _____ Company Name | U.S. EPA ID Number

| 27a. HM | 27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) | 28. Containers No. | 28. Containers Type | 29. Total Quantity | 30. Unit Wt./Vol. | 31. Waste Codes | | |
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32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Instructions—Continuation Sheet, U.S. EPA Form 8700–22A

Read all instructions before completing this form. This form has been designed for use on a 12-pitch (elite) typewriter; a firm point pen may also be used—press down hard.

This form must be used as a continuation sheet to U.S. EPA Form 8700–22 if:

• More than two transporters are to be used to transport the waste; or

• More space is required for the U.S. DOT descriptions and related information in Item 9 of U.S. EPA Form 8700–22.

Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, or disposal facilities to use the uniform hazardous waste manifest (EPA Form 8700–22) and, if necessary, this continuation sheet (EPA Form 8700–22A) for both interstate and intrastate transportation.

*Item 21. Generator's ID Number*

Enter the generator's U.S. EPA twelve digit identification number or, the State generator identification number if the generator site does not have an EPA identification number.

*Item 22. Page _—*

Enter the page number of this Continuation Sheet.

*Item 23. Manifest Tracking Number*

Enter the Manifest Tracking number from Item 4 of the Manifest form to which this continuation sheet is attached.

*Item 24. Generator's Name—*

Enter the generator's name as it appears in Item 5 on the first page of the Manifest.

*Item 25. Transporter—Company Name*

If additional transporters are used to transport the waste described on this Manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word “Transporter” the order of the transporter. For example, Transporter 3 Company Name. Also enter the U.S. EPA twelve digit identification number of the transporter described in Item 25.

*Item 26. Transporter—Company Name*

If additional transporters are used to transport the waste described on this Manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word “Transporter” the order of the transporter. For example, Transporter 4 Company Name. Each Continuation Sheet can record the names of two additional transporters. Also enter the U.S. EPA twelve digit identification number of the transporter named in Item 26.

*Item 27. U.S. D.O.T. Description Including Proper Shipping Name, Hazardous Class, and ID Number (UN/NA)*

For each row enter a sequential number under Item 27b that corresponds to the order of waste codes from one continuation sheet to the next, to reflect the total number of wastes being shipped. Refer to instructions for Item 9 of the manifest for the information to be entered.

*Item 28. Containers (No. And Type)*

Refer to the instructions for Item 10 of the manifest for information to be entered.

*Item 29. Total Quantity*

Refer to the instructions for Item 11 of the manifest form.

*Item 30. Units of Measure (Weight/Volume)*

Refer to the instructions for Item 12 of the manifest form.

*Item 31. Waste Codes*

Refer to the instructions for Item 13 of the manifest form.

*Item 32. Special Handling Instructions and Additional Information*

Refer to the instructions for Item 14 of the manifest form.

Transporters

*Item 33. Transporter—Acknowledgment of Receipt of Materials*

Enter the same number of the Transporter as identified in Item 25. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in Item 25. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

*Item 34. Transporter—Acknowledgment of Receipt of Materials*

Enter the same number of the Transporter as identified in Item 26. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in Item 26. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Owner and Operators of Treatment, Storage, or Disposal Facilities

*Item 35. Discrepancy Indication Space*

Refer to Item 18. This space may be used to more fully describe information on discrepancies identified in Item 18a of the manifest form.

*Item 36. Hazardous Waste Report Management Method Codes*

For each field here, enter the sequential number that corresponds to the waste materials described under Item 27, and enter the appropriate process code that describes how the materials will be processed when received. If additional continuation sheets are attached, continue numbering the waste materials and process code fields sequentially, and enter on each sheet the process codes corresponding to the waste materials identified on that sheet.