

INTERIM GUIDANCE
FOR
STATEWIDE RULE 98
STANDARDS FOR MANAGEMENT
OF HAZARDOUS OIL AND GAS WASTE



RAILROAD COMMISSION
OF TEXAS

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Richard A. Varela, Director

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INTERIM GUIDANCE FOR STATEWIDE RULE 98

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Railroad Commission of Texas
Austin, Texas

Elizabeth A. Jones
Chairman

Michael L. Williams
Commissioner

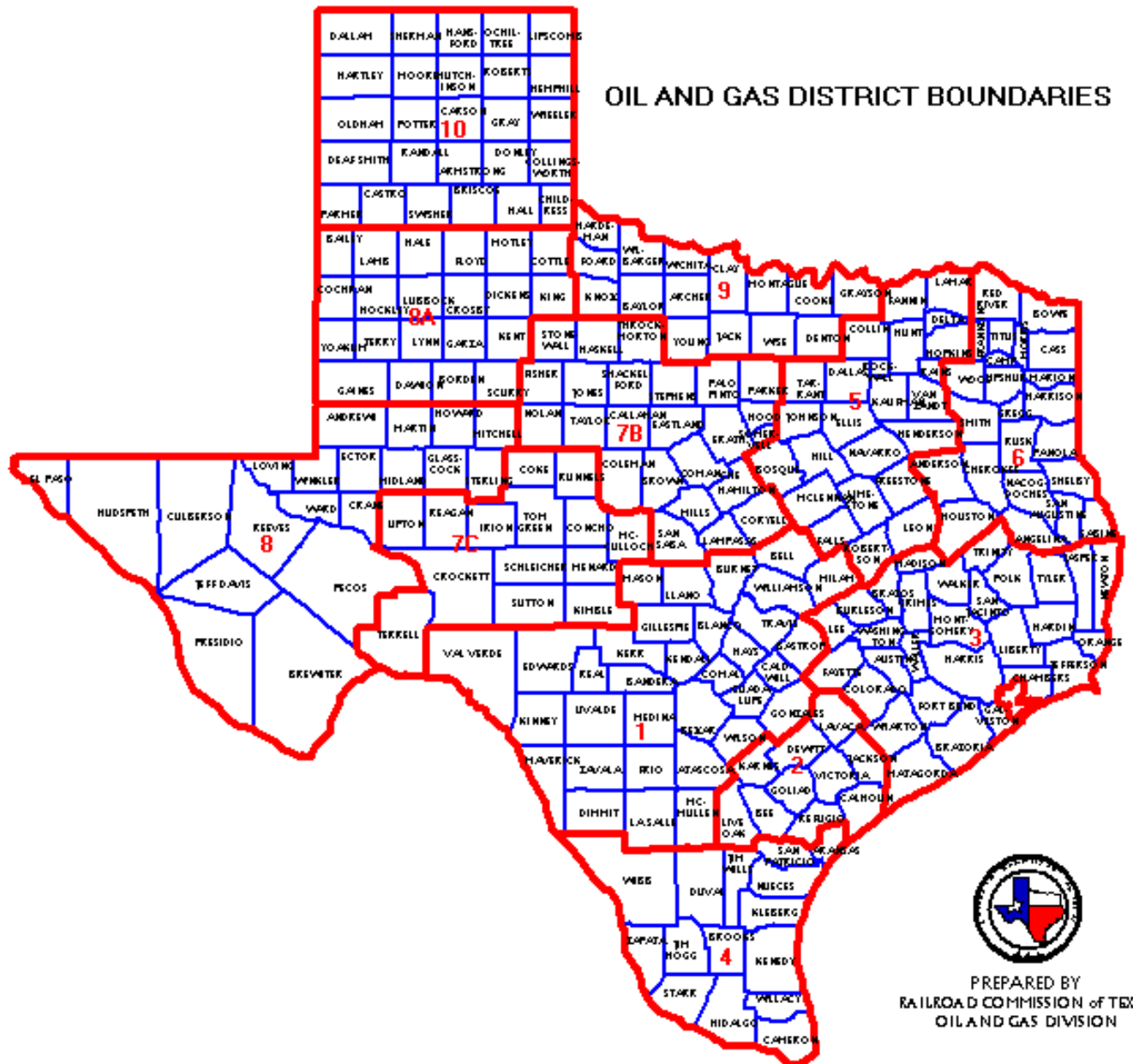
Victor G. Carrillo
Commissioner

Oil and Gas Division

DISTRICT OFFICES AND DIRECTORS

Districts 1 & 2 San Antonio 78205-1689	District Director Assistant District Director 112 E Pecan St., Suite 705	(210) 227-1313 FAX (210) 227-4822
District 3 Houston 77008-3135	District Director Assistant District Director 1706 Seamist Drive, Suite 501	(713) 869-5001 FAX (713) 869-9621
District 4 Corpus Christi 78460-0307	District Director Assistant District Director 10320 IH 37, P. O. Box 10307	(361) 242-3113 FAX (361) 242-9613
Districts 5 & 6 Kilgore 75662-5998	District Director Assistant District Director 2005 N State Hwy 42	(903) 984-3026 FAX (903) 983-3413
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District 9 Wichita Falls 76301-6798	District Director Assistant District Director 5800 Kell Blvd, Suite 300	(940) 723-2153 FAX (940) 723-5088
District 10 Pampa 79066-0941	District Director City Hall Building, 200 W. Foster P. O. Box 941	(806) 665-1653 FAX (806) 665-4217

DISTRICT MAP



CHAPTER 1

INTRODUCTION

ABOUT THIS GUIDANCE DOCUMENT

The Railroad Commission of Texas (RRC) adopted Statewide Rule 98, "Standards for Management of Hazardous Oil and Gas Waste," on November 7, 1995. Rule 98 took effect on April 1, 1996.

This guidance document is designed to assist you, as a generator or transporter of hazardous oil and gas waste, in determining your needs with respect to complying with Rule 98. As well as complying with Rule 98, you still must continue to comply with the federal hazardous waste regulations under the Resource Conservation and Recovery Act, Subtitle C (RCRA) enforced by the U.S. Environmental Protection Agency (EPA Region 6). This document explains which wastes are subject to regulation under Rule 98 and the role of other federal and state agencies in regulating hazardous waste generated by oil and gas exploration and production operations (see "Interim Period" and "Delegation of Authority" below for further explanation).

This guidance document references various subsections of Rule 98. For the user's convenience, the complete text of Rule 98 is included as Appendix A. Note that Rule 98 continues to adopt by reference the November 7, 1995, edition of the Code of Federal Regulations (CFR). Therefore, federal rule changes that have been made since November 1995 are generally not adopted by Rule 98. For example, oil and gas wastes that are universal wastes are defined in the November 1995 edition of the CFR and do not include hazardous lamps in accordance with more recent federal rule changes.

THE PURPOSE OF RULE 98

Rule 98 establishes standards for management of hazardous oil and gas waste. This includes any waste that:

- arises out of or incidental to the drilling for or producing of oil and gas (including pipeline transportation of oil and gas), brine mining activities, and exploration, development, and production of geothermal resources; and
- is a hazardous waste as defined by EPA (taking into account the E&P exemption in RCRA).

Rule 98 is intended to prevent pollution of surface and subsurface waters of the state and to prevent injury to life or property that may be caused by mismanagement of hazardous oil and gas waste.

DELEGATION OF RCRA AUTHORITY

Rule 98 is as strict as the federal hazardous waste regulations under RCRA. The RRC will pursue authorization from EPA to administer the provisions of RCRA for hazardous oil and gas waste. The time period between the effective date of Rule 98 (April 1, 1996) and the RRC's authorization to administer RCRA is not known. It is important that jurisdiction of the involved state and federal agencies be understood in this interim period.

Interim Period

During the interim period between the effective date of Rule 98 and the RRC's authorization to administer RCRA, generators of hazardous oil and gas waste (as defined in Chapter 2) must comply with RRC Rule 98 **and** the federal RCRA hazardous waste regulations enforced by EPA Region 6.

Also, during the interim period, the Texas Commission on Environmental Quality (TCEQ) has jurisdiction over hazardous waste generated in connection with activities at natural gas processing plants, repressurization plants, and pressure maintenance plants.*

The term "Regional Administrator and the RRC" appears in several sections of this document. The federal hazardous waste regulations require that certain reports, notices, and requests for variances from regulatory requirements be submitted to the EPA Regional Administrator. During the interim period the EPA Regional Administrator must be contacted when required by federal regulations. The RRC also must be contacted in each of these instances. Contact with the Regional Administrator may be accomplished by sending a carbon copy of correspondence to the RRC.

Upon obtaining "Delegation of Authority" from EPA, the RRC will be the Regional Administrator's "designee." As the Regional Administrator's designee, the RRC will be authorized to accept most submitted reports, notices, and requests for variances as required by federal regulations.

* Note: Natural gas processing plant (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both. A separator, dehydration unit, heater treater, sweetening unit, compressor or similar equipment is not considered a part of a natural gas processing plant unless such equipment is physically located within a natural gas processing plant site. Also, a pressure maintenance plant or repressurizing plant is a plant for processing natural gas for reinjection (for reservoir pressure maintenance or repressurizing) in a natural gas recycling project. These terms do not include a compressor station along a natural gas pipeline or a pump station along a crude oil pipeline system.

After Delegation of Authority

Upon delegation of RCRA authority to the RRC by EPA, the RRC will enforce the requirements of federal hazardous waste regulations under RCRA by virtue of enforcing Rule 98. At that time, Rule 98 will also apply to hazardous waste generated in connection with activities at natural gas processing plants and activities at repressurization and pressure maintenance plants. Therefore, operators will then respond only to the RRC with respect to regulation of the management of hazardous waste at RRC-regulated facilities.

WHAT THIS GUIDANCE DOCUMENT PROVIDES

The chapters of this document provide guidance for complying with the provisions of Rule 98 that apply to sites that generate hazardous oil and gas waste. The following discussion provides a brief description of the chapters of this document.

Chapter 2 - Hazardous Waste Determination

The first step, and a requirement of Rule 98, subsection (e), is to determine what, if any, hazardous oil and gas wastes you generate. Chapter 2 discusses the process for determining whether or not an oil and gas waste is hazardous. Many oil and gas operators regulated by the RRC may find that they do not generate hazardous oil and gas waste, and therefore, need not be concerned with Rule 98 standards for managing that waste.

Chapter 3 - Hazardous Waste Generator Classification

If you determine that you are generating hazardous oil and gas waste, the second step must be taken. You must determine the quantity of hazardous waste you are generating in a month. Based upon that quantity, you will fall into one of three classifications: Conditionally Exempt Small Quantity Generator (CESQG), Small Quantity Generator (SQG); or Large Quantity Generator (LQG). Chapter 3 provides the information you need to determine your generator classification and accumulation limits.

Chapter 4 - Notification Requirements

LQGs and SQGs must notify the RRC of their status as a hazardous oil and gas waste generator and obtain an EPA Identification Number. Chapter 4 provides guidance on how and when to provide the required notification.

Chapter 5 - Standards for Management of Hazardous Oil & Gas Waste

The requirements of Rule 98 vary for each generator classification. In general, the requirements become more extensive as the classification goes from CESQG to LQG. Chapter 5 first provides guidance for CESQGs on complying with the requirements of Rule 98 and then provides guidance on Rule 98 compliance for LQGs and SQGs. Federal regulations that Rule 98 adopts by reference are described where applicable.

Chapter 6 - Discharges and Emergency Permits

Generators and transporters must take certain actions in the event of a release or discharge either of hazardous oil and gas waste or of a substance that creates a hazardous oil and gas waste. Chapter 6 describes these actions. In some instances, an emergency permit may be required for treatment, storage, or disposal of hazardous oil and gas waste released, discharged, or created by a release or discharge. Chapter 6 discusses emergency permit requirements and the procedure for obtaining an emergency permit.

Chapter 7 - LQG and SQG Fees

LQGs and SQGs must pay an annual fee. Chapter 7 describes how the fee is calculated, starting with a base fee, and how to determine adjustments to that base fee based on factors such as the waste volumes from spills or discharges and the amount of hazardous oil and gas waste that has been recycled. The chapter also provides information on the method of fee payment.

Chapter 8 - Standards Applicable to Transporters of Hazardous Oil and Gas Waste

Chapter 8 describes the Rule 98 requirements that apply to transporters of hazardous oil and gas waste, including notification and EPA ID Numbers, transfer facility requirements, manifest requirements (and exceptions from manifest requirements), and recordkeeping.

Appendices

The appendices provide examples of the notification forms, referenced lists of hazardous wastes from the Code of Federal Regulations (CFR), and certain procedures under Rule 98. Also, EPA's regulatory determination and clarification (from the *Federal Register*) for the E&P waste exemption are included as an appendix. The last appendix, Appendix L, provides definitions of terms used in the federal hazardous waste regulations.

PERMITS FOR HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL

Rule 98 does not provide for issuance of permits to treat, store, or dispose of hazardous oil and gas waste. (Rule 98 does provide for *emergency* permits. See Chapter 6.) Because relatively small quantities of hazardous oil and gas waste are actually generated, the RRC does not anticipate that there will be sufficient demand from the regulated community for permits to treat, store, or dispose of hazardous oil and gas waste to justify development of a RRC program for issuing these types of permits. Instead, the RRC believes that its resources will be better used through implementing standards that will ensure that hazardous oil and gas waste is properly managed and safely transported to a facility authorized to treat, store, dispose of, recycle, or reclaim the waste. Such authorized facilities include facilities permitted by the TCEQ and the EPA.

WASTE MINIMIZATION

Regulations regarding oil and gas waste management are becoming increasingly more stringent. Costs for disposal of oil and gas wastes, particularly hazardous oil and gas wastes, are also increasing, not only in terms of disposal fees, but also, in many cases, in terms of potential liability. In the case of hazardous oil and gas wastes, operators may incur the costs of generator fees paid to the RRC. The old saying that an ounce of prevention is worth a pound of cure holds true for the oil field. Waste minimization is often cheaper in the long-run than disposal.

Company personnel may consider performing a detailed internal audit to identify the products the company uses, waste-generating processes, wastes generated, classification of the wastes, and waste management practices. This information, along with information concerning environmental conditions of defined areas, could help the company develop specific waste management plans to reduce waste generation and manage waste streams from specific operations in an environmentally sound manner.

Valuable benefits may be gained by reducing or eliminating the hazardous oil and gas waste streams that you generate. First, by eliminating the generation of hazardous oil and gas waste, you will also eliminate the need to comply with the requirements of Rule 98. Second, by eliminating or reducing the volume of hazardous waste, you will reduce the costs associated with managing your wastes. These benefits may be obtained by following the hierarchy of preferred waste management choices:

Most Preferred

Source Reduction

Recycling

Treatment

Disposal

Least Preferred

Source reduction and recycling comprise waste minimization. A brief discussion of these components of waste minimization is provided in the following paragraphs.

Waste Minimization

Source Reduction: First and foremost, the quantity and/or relative toxicity of the waste generated should be reduced. Opportunities for waste volume reduction may be limited for some E&P wastes. However, many technically and economically feasible source reduction opportunities do exist. Every effort should be made to take advantage of these opportunities.

Products that will result in less toxic waste should be substituted for products that are currently being used. For example, biocides, corrosion inhibitors, coagulants,

cleaners (particularly organic solvents), dispersants, emulsion breakers, scale inhibitors, viscosifiers, gas sweetening and dehydration agents, weighting agents, and any other products used in exploration, production operations should be selected with potential environmental impacts and disposal needs in mind. Such substitution is an effective means of reducing the potential for generating hazardous oil and gas waste. Also, segregation of hazardous oil and gas waste streams will reduce waste management concerns. In general, a mixture of hazardous oil and gas waste and nonhazardous waste becomes subject to regulation as hazardous waste. Therefore, as a general rule, waste streams that have a higher pollution potential should be segregated from those with a lower pollution potential.

Good housekeeping, such as installing lined sumps to catch leaks or drips from equipment, and equipment maintenance are also two very simple ways to reduce the volumes of waste that are generated at oil and gas facilities.

Recycling: There are also many opportunities for recycling oil and gas wastes. In many instances, nonexempt oily waste may be sent to a refinery for processing. For example, paraffin from a pipeline pigging operation may be recovered as by-product, processed, and returned to the production stream, thus avoiding its management as hazardous oil and gas waste. Drilling wastes generated at one well site should be reused for plugging or spudding-in of other wells; oil-based drilling fluids should be recovered and sent back to the vendor for reprocessing; tank bottoms should be reclaimed; waste lubricating oils and hydraulic fluids should be segregated, collected, and sent to a recycler; non-contaminated metal should be sent to a metal recycler; empty drums should be sent to a drum recycler; and waste antifreeze should be re-distilled.

The Least Preferred Waste Management Options

Treatment: Techniques should be employed to reduce the volume or the relative toxicity of waste that has been unavoidably generated. A smart company will investigate treatment options to decrease the potential long-term environmental and human health impacts of wastes that are generated. Dewatering, washing, neutralization, and solidification are a few of the treatment options.

Disposal: The choice of a disposal option for a particular waste that has been unavoidably generated should be made after careful consideration of the type of waste, applicable state and federal regulations, the volume of the waste, the disposal environment, short- and long-term impacts to the environment and human health, lease restrictions, and long-term liabilities. If a commercial disposal facility is used, the waste generator should audit the oil and gas waste hauler and the disposal facility for the proper permits, a good compliance history, and environmentally sound waste management practices.

Waste Minimization Assistance Offered by the RRC

The Railroad Commission's Waste Minimization Program offers assistance to oil and gas operators. The Waste Minimization Program is a voluntary pollution prevention program created to help the industry effectively reduce the volume of waste that must be treated or disposed of. Operators who have participated in the program have proven

that the following benefits may be gained through reducing or recycling oil and gas waste:

- Many waste minimization opportunities are cost effective; you can save money and increase revenue.
- Waste minimization can result in more efficient operations.
- Your potential liability associated with generated wastes can decrease.
- Your concerns with regulatory compliance can be lessened.
- Successful waste minimization can improve public relations for the oil and gas industry.
- Successful waste minimization can help "stem the tide" of new regulations.

The Commission's Waste Minimization Program offers the following products and services to help you in your waste minimization efforts

Waste Minimization in the Oil Field: This manual, developed with the assistance of the oil and gas industry, offers source reduction and recycling (i.e., waste minimization) concepts, cost effective and practical examples of source reduction and recycling opportunities in the oil field, and information on how to develop an individualized waste minimization plan. This manual is used as a training aid in the Waste Minimization Workshops. The manual is available free of charge, either in hard copy or from the Waste Minimization Program web page at <http://www.rrc.state.tx.us/divisions/og/key-programs/ogkwast.html>.

Annotated Bibliography: We have published the Annotated Bibliography of Waste Minimization Technology for Crude Oil and Natural Gas Exploration, Production, and Pipeline Transportation Operations. The bibliography is also available on the Waste Minimization Program web page. The bibliography provides references which offer waste minimization techniques for wastes generated in the entire spectrum of oil and gas operations.

Technology Transfer: We provide oil and gas operators with technical assistance. If you have a question about minimization of oil and gas exploration and production waste, contact the Waste Minimization Program. We can provide citations that include author, title, and an abstract. In many cases, we can also provide hard copies of cited technical papers and articles.

Waste Minimization Workshops: The Waste Minimization Program occasionally offers a one-day Waste Minimization Workshop. The workshop is designed to help operators and their employees reduce oil and gas waste volumes, operating costs and potential liabilities through effective waste minimization. Generally, the workshop is presented once per year at the International Petroleum Environmental Conference.

Service Company and Vendor Information: We maintain a file of companies and vendors who offer services and products that will help you in your waste minimization efforts. Several examples of these companies are cited in the preceding discussions of source reduction and recycling. Upon your request, we will send you materials provided by appropriate companies, along with a RRC disclaimer. Please note also, that any company or vendor who provides services that compliment waste

minimization activities is welcome to provide their materials to the Waste Minimization Program for inclusion in the file.

Waste Minimization Planning Software: We have developed a waste minimization planning software package called *WasteMin*. *WasteMin* is a Windows-based PC program that will assist you in developing a waste minimization plan for a facility or site. Using *WasteMin*, you can tailor and generate, with some data entry, a document that will contain a plan introduction, an inventory of waste streams, specific waste management information, waste minimization opportunities, and pertinent technical references. The program also includes a cursory technical and economic feasibility analysis for selected waste minimization techniques.

On-Site Assistance in Waste Minimization Planning: We will assist oil and gas operators in assessing their operations and developing individualized waste minimization plans. First, we will help develop an inventory of waste streams generated in the operation and help classify each waste stream with respect to applicable regulations. Then we will help identify waste minimization opportunities. The operator can then develop a waste minimization plan that will provide the greatest benefits (e.g., cost savings and added revenue)!

**To contact the Waste Minimization Program call
(512) 463-3840**

CHAPTER 2

HAZARDOUS OIL AND GAS WASTE DETERMINATION

RULE 98 REQUIREMENT

Rule 98, subsection (e) requires that you determine if any waste you generate is hazardous oil and gas waste. You must also maintain a record of each determination for three years. A hazardous oil and gas waste is a waste that meets all four of the following criteria:

- it is an oil and gas waste regulated by the RRC;
- it is a solid waste as defined by federal hazardous waste regulations;
- it is not specifically exempt from federal hazardous waste regulations in 40 CFR Part 261 (i.e., a “nonexempt waste”); and
- it is either listed as a hazardous waste or exhibits a hazardous waste characteristic.

This chapter takes you through the steps necessary to determine which, if any, of your wastes are hazardous. Each of the criteria listed above is discussed and the relevant Rule 98 requirements are identified.

OIL AND GAS WASTE AND THE E&P EXEMPTION

Oil and Gas Wastes Regulated by the RRC

Oil and gas wastes subject to the jurisdiction of the Railroad Commission (RRC) are all wastes, including “E&P nonexempt wastes,” generated in connection with the following activities:

- drilling, operation, and plugging of wells associated with the exploration, development, or production of oil or gas, including oil or gas wells, fluid injection wells used in enhanced recovery projects, and disposal wells;
- separation and treatment of produced fluids in the field or at natural gas processing plants*;

*Note: Exempt and nonhazardous wastes generated at natural gas processing plants are under the jurisdiction of the RRC. Any hazardous waste generated at a natural gas processing plant will remain under TCEQ jurisdiction until the RRC receives authorization from EPA to administer the federal hazardous waste program. At that time, hazardous waste generated at natural gas processing plants will fall under RRC jurisdiction (also see note on page 1-2).

- transportation of crude oil or natural gas by pipeline;
- storage of crude oil before it enters a refinery;
- solution mining of brine; and
- storage, hauling, disposal, or reclamation of wastes generated by these activities.

It is important to note that exempt E&P wastes are but a subset of RRC-regulated oil and gas waste.

Solid Waste as Defined by RCRA

A solid waste is any discarded material as defined in 40 CFR (Code of Federal Regulations) section (§) 261.2. "Solid waste" may be in a solid, semi-solid, liquid, or gaseous form. Discarded materials include: 1) abandoned materials; 2) materials recycled in a manner that constitutes disposal; and 3) certain inherently waste-like materials. Certain wastes that are excluded from the federal definition of solid waste are discussed in "Oil and Gas Wastes Excluded From Regulation or Subject to Reduced Regulation" later in this chapter.

Rule 98, RCRA, and the E&P Exemption

In 1980, recognizing the unique characteristics of oil and gas wastes, Congress specifically exempted "drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas or geothermal energy" from regulation under RCRA Subtitle C as hazardous wastes pending further study by EPA. In 1988, EPA completed its study and recommended that the exemption be retained. This exemption is commonly called the "E&P Exemption" and is found in 40 CFR §261.4(b)(5). EPA's "Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes" (53 *Federal Register* 25446-25459 (July 6, 1988)) explains the E&P exemption and is provided in Appendix B.

Rule 98, subsection (e)(1)(C), adopts by reference the E&P exemption. The following section explains how to determine if a waste is exempt or nonexempt. Nonexempt wastes must be evaluated to determine whether or not they are subject to regulation as hazardous waste. Also, note that exempt oil and gas wastes and nonexempt *nonhazardous* oil and gas wastes are subject to the requirements of Statewide Rule 8 (e.g., minor permits, permitted oil and gas waste hauler provisions, and disposal).

What Is An Exempt Waste? Exempt wastes are those wastes associated with the exploration, development, and production of oil and gas. To be exempt a waste must be **uniquely associated** with **primary field operations**.

- With respect to **natural gas production**, primary field operations are those activities occurring at or near the wellhead, production facility, or gas plant (including gathering lines to the plant), but before the point of transfer of the gas to a carrier for transport to market.

- With respect to **oil production**, primary field operations include activities occurring at or near the wellhead and production facility, but before the point where the custody of the oil is transferred from an individual field facility to a carrier for transport to a refiner. In the event no custody transfer occurs, the primary field operation ends at the last point of separation of impurities from the oil in the field. Crude oil stock tanks are considered separation devices for the purpose of defining areas of primary field operations.

EPA further describes the oil and gas exemption from hazardous waste regulation in "Clarification of the Regulatory Determination for Wastes from the Exploration, Development and Production of Crude Oil, Natural Gas and Geothermal Energy," (58 *Federal Register* 15284-15287 (Mar. 22, 1993)) (provided in Appendix B) as follows:

In particular, for a waste to be exempt from regulation as a hazardous waste under RCRA Subtitle C, it must be associated with operations to locate or remove oil or gas from the ground or to remove impurities from such substances and it must be intrinsic to and uniquely associated with oil and gas exploration, development or production operations (commonly referred to as exploration and production or E&P); the waste must not be generated by transportation or manufacturing operations ... One common belief is that any wastes generated by, in support of, or intended for use by the oil and gas E&P industry ... are exempt. This is not the case; in fact, only wastes generated by activities uniquely associated with the exploration, development or production of crude oil or natural gas ... (i.e., wastes from down-hole or wastes that have otherwise been generated by contact with the production stream during the removal of produced water or other contaminants from the product) are exempt from regulation under RCRA Subtitle C ...

Clearly, wastes such as produced water and drilling fluid are unique to the oil and gas E&P industry and are therefore exempt. However, certain wastes commonly generated in E&P operations are also used in other types of industries. For example, cleaning wastes, painting wastes, and waste lubricating oil are commonly generated in connection with non-E&P activities and, therefore, are not unique and not covered by the E&P exemption. As a "rule-of-thumb," E&P wastes are RCRA-exempt if they have:

- come from downhole (i.e., brought to the surface) during E&P operations (e.g., when drilling, working over, treating, or producing oil and natural gas wells, including produced water disposal wells and EOR, pressure maintenance, or recycling injection wells); or
- been in contact with the oil and gas production stream during the removal of produced water or other contaminants from the product.

As an example, a spent paraffin solvent used in a well is an exempt oil and gas waste when it is recovered from the wellbore. If that same solvent is used to degrease surface equipment, the resulting spent solvent is not unique to E&P, and therefore is nonexempt, and a hazardous waste determination must be made.

The following additional guidelines clarify the application of the exemption to oil and gas wastes in specific instances:

- The off-site transport of exempt waste from a primary field site for treatment, reclamation, or disposal does not negate the exemption.
- Wastes derived from the treatment of an exempt waste, including any product recovered from an exempt waste (e.g., crude oil reclamation of exempt tank bottoms), generally remain exempt from the requirements of Rule 98 and RCRA.
- Vacuum truck and drum rinsate from trucks and drums transporting or containing exempt wastes is exempt, provided that the trucks or drums only contain E&P-related exempt wastes and that the water or fluid used in the rinsing is not subject to Rule 98 and RCRA (i.e., is itself nonhazardous).
- Wastes generated by a service company (e.g., *unused* frac or stimulation fluids) that are not uniquely associated with oil and gas E&P operations are not exempt from Subtitle C under the oil and gas exemption.
- The treatment of hydrogen sulfide gas at a gas plant to recover elemental sulfur is considered treatment of an exempt waste.
- Wastes uniquely associated with operations to recover natural gas from reservoirs and solution-mined salt caverns used for natural gas storage are covered by the exemption.
- The actual point of waste generation is important in determining whether the exemption applies. For example, if a gas well experiences equipment problems which allow produced water to enter a transportation pipeline to which it is directly tied, the produced water generated from the transportation pipeline is nonexempt because its point of generation is not in primary field operations.

Exempt wastes make up the bulk (over 99.9%) of all wastes that are regulated by the RRC. Table 1 is a partial list of those wastes designated as exempt by EPA.

What is a nonexempt waste?: Nonexempt wastes are wastes that EPA has determined are not covered under the exemption and that may be hazardous wastes subject to regulation under the RCRA. Nonexempt wastes include: wastes that are not uniquely associated with an exploration and production activity, such as cleaning wastes or lubricating oil; and all wastes that are not associated with primary field operations, such as wastes associated with transportation or manufacturing (e.g., refining) activities.

Table 2 provides the list of nonexempt wastes identified in EPA's Regulatory Determination. This is a listing of most, but not all, oil and gas wastes that are not exempt from regulation as hazardous wastes.

Not all nonexempt wastes are hazardous wastes. "Hazardous Oil and Gas Wastes" on page 2-7 explains how an operator may determine whether a nonexempt oil and gas waste is hazardous or nonhazardous.

**TABLE 1: OIL AND GAS WASTES EXEMPT FROM RCRA AND
RULE 98 HAZARDOUS WASTE REGULATION**

- Produced water
- Drilling fluids and drill cuttings
- Drilling fluids and cuttings from offshore operations disposed on-shore
- Rigwash
- Well completion, treatment, and stimulation fluids
- Workover wastes
- Basic sediment & water and other tank bottom sludge from storage facilities that hold product and exempt waste*
- Accumulated materials such as hydrocarbons, solids, sand, and emulsion from production separators, fluid treating vessels, and production impoundments
- Pit sludges and contaminated bottoms from storage or disposal of exempt wastes
- Gas plant dehydration wastes, including glycol-based compounds, glycol filters, filter media, backwash, and molecular sieves
- Gas plant sweetening wastes for sulfur removal, including amine, amine filters, amine filter media, backwash, precipitated amine sludge, iron sponge, and hydrogen sulfide scrubber liquid and sludge
- Cooling tower blowdown
- Spent filters, filter media, and backwash (assuming the filter itself is not hazardous and the residue in it is from an exempt waste stream)
- Packing fluids
- Produced sand
- Pipe scale, hydrocarbon solids, hydrates, and other deposits removed from piping and equipment prior to transportation
- Hydrocarbon-bearing soil (generated in primary field operations)
- Pigging wastes from gathering lines
- Wastes from subsurface gas storage and retrieval
- Constituents removed from produced water before it is injected or otherwise disposed of
- Liquid hydrocarbons removed from the production stream but not from oil refining
- Gases removed from the production stream, such as hydrogen sulfide and carbon dioxide, and volatilized hydrocarbons
- Materials ejected from a producing well during blowdown
- Waste crude oil from primary field operations and production
- Light organics volatilized from exempt wastes in reserve pits or impoundments or production equipment

* BS&W from primary field operations only.

TABLE 2: RCRA AND RULE 98 NONEXEMPT OIL AND GAS WASTES

- Unused fracturing fluids or acids
- Gas plant cooling tower cleaning wastes
- Painting wastes
- Oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids
- Liquid and solid wastes generated by crude oil and tank bottom reclaimers
- Vacuum truck and drum rinsate from trucks and drums transporting or containing nonexempt waste
- Used equipment lubrication oils
- Waste compressor oil, filters, and blowdown
- Used hydraulic fluids
- Waste solvents
- Waste in transportation pipeline-related pits
- Caustic or acid cleaners
- Boiler cleaning wastes
- Boiler refractory bricks
- Boiler scrubber fluids, sludges, and ash
- Incinerator ash
- Laboratory wastes
- Sanitary wastes
- Pesticide wastes
- Radioactive tracer wastes
- Drums, insulation, and miscellaneous solids

(EPA also included refinery wastes in this list. However, refinery wastes are not under the jurisdiction of the Railroad Commission.)

HAZARDOUS OIL AND GAS WASTE

Once you have determined that a waste is regulated by the RRC, is a solid waste, and is nonexempt, you must determine if it is hazardous. Rule 98, subsection (e)(1)(D), adopts by reference the hazardous waste identification procedures established by EPA. A nonexempt solid waste is classified as a hazardous waste if EPA has specifically listed it as such, or if it tests positive for one of four hazardous waste characteristics.

You may make the hazardous waste determination (for unlisted waste) by testing the waste using approved EPA methods (see “Test Methods”). You also may make the determination by using **“process knowledge.”** Process knowledge is applying knowledge of the hazardous characteristics of the waste in light of the materials or processes used. For example, a material safety data sheet (MSDS) may indicate that a material used in a process contains no hazardous constituents or exhibits no hazardous characteristic. The waste may be determined nonhazardous if the process itself contributes no hazardous constituents and does not result in the waste exhibiting a hazardous characteristic.

Listed Hazardous Oil and Gas Wastes

The first step in determining if a nonexempt oil and gas waste is hazardous is to see if it is listed as a hazardous waste. EPA has listed numerous types or classes of solid wastes as hazardous wastes because they:

- typically exhibit one or more of the characteristics of hazardous waste;
- have been shown to meet certain human toxicity criteria; or
- contain any one of the chemical compounds or substances listed by EPA as hazardous constituents.

EPA's regulations contain four lists of listed hazardous wastes; the F, K, P, and U lists. Table 3, “Listed RCRA Hazardous Oil and Gas Wastes,” provides a brief description of the four lists. Also, Appendix C provides the complete lists of hazardous wastes (40 CFR Part 261, Subpart D) and their respective hazardous waste numbers. These lists contain over 400 hazardous wastes. P-list wastes are considered acutely hazardous wastes, and small amounts are regulated the same way as larger amounts of other hazardous wastes.

If a *nonexempt* oil and gas waste is identified on any of these four lists, the waste must be managed as a listed hazardous oil and gas waste. For example, spent carbon tetrachloride (i.e., waste solvent) from use as a degreaser on surface equipment is nonexempt and is listed as hazardous waste number F001.

TABLE 3: LISTED RCRA HAZARDOUS OIL AND GAS WASTES

(Complete lists are provided in Appendix C)

EPA LIST	TYPE OF WASTE	EXAMPLES OF OIL & GAS WASTES THAT MIGHT BE FOUND ON EPA LISTS
F-List	Hazardous wastes from non-specific sources	Spent solvents (trichloroethylene, methylene chloride, tetrachloroethylene, xylene, acetone, benzene, ethyl benzene, methyl ethyl ketone, n-butyl alcohol, methanol, toluene, and solvent mixtures/blends that contain more than 10% of these solvents)
K-List	Hazardous waste from specific sources	None identified
P-List	Commercial chemical products that become acute hazardous wastes when disposed of)	Acrolein, beryllium, carbon disulfide, vanadium pentoxide
U-List	Commercial chemical products that become toxic wastes when disposed of)	Acetone, benzene, carbon tetrachloride, chloroform, chrysene, formaldehyde, formic acid, hydrogen fluoride, hydrogen sulfide, lindane, mercury, methanol, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride, naphthalene, toluene, xylene

* Note: Commercial chemical products (P and U lists) are defined as materials which contain either the pure or technical grade of the listed chemical, crude product, or a formulation in which the listed chemical is *the sole active ingredient*. (Please refer to the comment under 40 CFR §261.33(d), which is provided in Appendix C.)

Characteristically Hazardous Oil and Gas Wastes

If the nonexempt oil and gas waste is not identified on any of the lists of hazardous waste, it must be determined whether the waste exhibits one or more of the four hazardous waste characteristics. Typically, characteristic hazardous oil and gas waste will be of more concern to operators of oil and gas exploration and production

facilities. If the nonexempt oil and gas waste is determined to exhibit one or more of the characteristics, it is classified as a characteristically hazardous oil and gas waste. The four characteristics of hazardous waste are ignitability, corrosivity, reactivity, and toxicity.

Table 4 provides a description of the four hazardous waste characteristics. In addition, Appendix C provides the federal definition of characteristically hazardous waste and their respective hazardous waste numbers (40 CFR §§261.20-261.24).

The generator can either test the waste material using an accepted EPA analytical method (see “Test Methods below) or can apply process knowledge in determining whether the waste in question is characteristically hazardous. A generator who relies on process knowledge in determining if a waste is characteristically hazardous should be prepared to demonstrate that this determination is reasonable in terms of the materials and process used. For example, documentation that supports the determination should be on record and include items such as material safety data sheets, other manufacturer’s data, baseline analytical test results, and pertinent operating parameters.

Test Methods

Ignitability: The test methods for ignitability are provided by 40 CFR §261.21. Ignitability of a liquid is determined using the Pensky-Martens Closed Cup Tester using: 1) the test method specified in ASTM Standard D-93-79 or D-93-80; or 2) the Setaflash Closed Cup Tester using the test method specified in ASTM Standard D-3278-78.

Corrosivity: The test methods for corrosivity are provided by 40 CFR §261.22. Corrosivity of an aqueous solution is determined by a pH meter using Method 9040 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846 (SW-846). Also, a liquid is corrosive if it corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.25 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in SW-846.

Reactivity: No specific test methods are cited for reactivity by 40 CFR §261.23. Rather reactivity is defined by properties exhibited by waste.

Toxicity: The test method for toxicity is provided by 40 CFR §261.24. Toxicity is determined by using the Toxicity Characteristic Leaching Procedure (TCLP), which is test method 1311 in SW-846. The TCLP is a relatively expensive test method, particularly when all TC-listed constituents are tested. Process knowledge may allow you to determine specific TC constituents that require analysis and eliminate unnecessary testing. However, under certain circumstances, the TCLP may not need to be used. The following discussion explains your alternatives for determining if a waste exhibits the toxicity characteristic.

TABLE 4: RCRA AND RULE 98 HAZARDOUS WASTE CHARACTERISTICS

➤ **IGNITABILITY**

- Liquids with a flash point less than 140°F
- Ignitable compressed gas
- Materials other than liquids that at standard conditions are capable of causing fire by spontaneous chemical changes, by absorption of moisture, or through friction.

Examples: certain cleaning solvents (may also be listed hazardous wastes), certain degreasers, certain transportation-pipeline pigging wastes, certain paint wastes

➤ **CORROSIVITY**

- Aqueous materials with a pH of less than or equal to 2.0 or greater than or equal to 12.5.
- Liquid materials that corrode steel (SAE 1020) at a rate greater than 0.250 inch per year at a test temperature of 130°F.

Examples: certain acid or caustic cleaning wastes, unused well acidizing fluids (that have not been down the borehole), certain rust removers, waste battery acid

➤ **REACTIVITY**

- Any waste that reacts violently with water, forms explosive mixtures with water, or generates any toxic fumes with water
- Any waste that is explosive at standard conditions or if heated
- Any waste that contains cyanide or sulfide at a concentration that will emit toxic cyanide or sulfide gases when exposed to a pH of 2.0 to 12.5.

Examples: certain waste oxidizers

➤ **TOXICITY**

- Potential to contaminate ground water by leaching as determined in a laboratory using the Toxicity Characteristic Leaching Procedure (TCLP) Test.

Table 4 continues on the next page.

TABLE 4: RCRA HAZARDOUS WASTE CHARACTERISTICS (CONTINUED)

TCLP leachable components* that cause a waste to test hazardous are:

Organics:	Benzene	0.5 mg/l
	Carbon tetrachloride	0.5 mg/l
	Chlordane	0.03 mg/l
	Chlorobenzene	100.0 mg/l
	Chloroform	6.0 mg/l
	o-Cresol	200.0 mg/l
	m-Cresol	200.0 mg/l
	p-Cresol	200.0 mg/l
	Cresol	200.0 mg/l
	2,4-D	10.0 mg/l
	1,4-Dichlorobenzene	7.5 mg/l
	1,2-Dichloroethane	0.5 mg/l
	1,1-Dichloroethylene	0.7 mg/l
	2,4-Dinitrotoluene	0.13 mg/l
	Endrin	0.02 mg/l
	Heptachlor (& its epoxide)	0.008 mg/l
	Hexachlorobenzene	0.13 mg/l
	Hexachlorobutadiene	0.5 mg/l
	Hexachloroethane	3.0 mg/l
	Lindane	0.4 mg/l
	Methoxychlor	10.0 mg/l
	Methyl ethyl ketone	200.0 mg/l
	Nitrobenzene	2.0 mg/l
	Pentachlorophenol	100.0 mg/l
	Pyridine	5.0 mg/l
	Tetrachloroethylene	0.7 mg/l
	Toxaphene	0.5 mg/l
	Trichloroethylene	0.5 mg/l
	2,4,5-Trichlorophenol	400.0 mg/l
	2,4,6-Trichlorophenol	2.0 mg/l
	2,4,5-TP (Silvex)	1.0 mg/l
	Vinyl chloride	0.2 mg/l
Metals:	Arsenic	5.0 mg/l
	Barium	100.0 mg/l
	Cadmium	1.0 mg/l
	Chromium	5.0 mg/l
	Lead	5.0 mg/l
	Mercury	0.2 mg/l
	Selenium	1.0 mg/l
	Silver	5.0 mg/l

Examples of types of wastes that may test hazardous include:

- unused pipe dope (lead)
- unused biocides (chromium)
- cleaning wastes or solvents (benzene)
- transportation pipeline pigging wastes (benzene)

* Note: When at concentrations equal to or greater than the respective value given in the table.

For certain wastes, you can test waste for total constituent content and apply the "Rule of Twenty" (apply the 20-fold dilution factor inherent in the TCLP method) to determine whether a sample has to be tested using the TCLP method. As noted above, the TCLP test method is generally more expensive than the test required to determine total constituent concentrations.

A TCLP test is not required if total analysis demonstrates that contaminants are not present or are present in such low concentrations they could not possibly exceed the toxicity regulatory limits.

Theoretically, in a total constituent analysis, 100% of the constituent is extracted from a solid sample for analysis using a 1:1 extraction (one part sample to one part extraction fluid). However, for a solid sample, the extraction fluid in the TCLP test method is not designed to have a 100% extraction efficiency, since a relatively weak acid is used as the extraction fluid. Furthermore, for a solid sample, the TCLP test includes a dilution of 20-fold by the extraction fluid. The "Rule of Twenty" refers to the 20-fold dilution.

EPA Method 1311 requires the following:

- For liquid wastes (i.e., those containing less than 0.5% dry solid material), the waste, after filtration through a 0.6 to 0.8 micrometer glass fiber filter, is defined as the TCLP extract. If the waste contains less than 0.5% filterable solids, the waste itself, after filtering, is considered to be the extract.
- For wastes containing greater than or equal to 0.5% solids, the liquid, if any, is separated from the solid phase and stored for later analysis; the particle size of the solid phase is reduced, if necessary. *The solid phase is extracted with an amount of extraction fluid equal to 20 times the weight of the solid phase.* The extraction fluid employed is a function of the alkalinity of the solid phase of the waste. A special extractor vessel is used when testing for volatile analytes. Following extraction, the liquid extract is separated from the solid phase by filtration through a 0.6 to 0.8 micrometer glass fiber filter.
- If compatible (i.e., multiple phases will not form on combination), the initial liquid phase of the waste is added to the liquid extract, and these are analyzed together. If incompatible, the liquids are analyzed separately and the results are mathematically combined to yield a volume-weighted average concentration.

The assumption in the "Rule of Twenty" is that all of the contaminant of concern is dissolved in the extraction fluid, which is then analyzed. Since this calculation assumes a 100% extraction efficiency of the TCLP, it represents a conservative assumption that the waste is not TC hazardous.

Therefore, if the analytical total concentration of a constituent in a solid is "x," and "x" divided by 20 is still less than the regulatory TCLP concentration, then the solid can be assumed not to fail the TCLP test and not to exhibit the hazardous characteristic of toxicity. ***Note that this "rule" will not work for any waste that has greater than or equal to 0.5% liquids.*** This calculation can only be used for materials that

are in a solid form since liquids themselves (i.e., wastes containing less than 0.5% dry solid material) are defined as the TCLP extract; hence, the 20-fold dilution factor calculation is not relevant. Therefore, this procedure is acceptable for soils and other wastes in a dry, solid form.

For example: The regulatory limit for mercury is 0.2 mg/l using the TCLP test. Using the "Rule of Twenty," $0.2 \text{ mg/l} \times 20 = 4 \text{ mg/l}$ (at these levels mg/l is approximately equivalent to mg/kg.). If the total analysis of a soil sample results in a total mercury concentration of less than 4 mg/kg, the soil sample can be assumed not to fail the TCLP test for mercury (i.e., will not exceed the regulatory limit for mercury).

If this analysis of the waste and rule of thumb calculation demonstrates that the individual analytes are not present in the waste, or that they are present in such low levels that the regulatory levels could not be exceeded, the TCLP need not be run. However, you should perform the TCLP if total analysis results indicate that the TCLP level is close to the regulatory limit for a constituent. In the absence of sufficient process knowledge or inferred evidence using the Rule of Twenty, the TCLP must be used for the toxicity characteristic determination.

MIXING EXEMPT AND NONEXEMPT WASTES

Mixing exempt and nonexempt wastes creates a special set of problems. Whenever possible, mixing nonexempt wastes with exempt wastes should be avoided, because the resulting mixture may become a hazardous waste and require management under Rule 98 and RCRA Subtitle C regulations. Furthermore, mixing a characteristically hazardous waste with a nonhazardous or exempt waste *for the purpose of rendering the hazardous waste nonhazardous or less hazardous* is considered by EPA to be a treatment process subject to the RCRA Subtitle C hazardous waste regulations (and possibly permitting requirements).

Some basic guidelines for determining the regulatory status of a mixture of exempt and nonexempt wastes are provided below. Also, Table 5 on page 2-15 provides a flowchart that depicts the various mixtures and their regulatory status.

- Mixing a nonhazardous (exempt or nonexempt) waste with an exempt waste results in a mixture that is nonhazardous.

Example: If nonhazardous wash water from rinsing road dust off equipment or vehicles is mixed with the contents of a reserve pit containing exempt drilling waste, the wastes in the pit are not subject to hazardous waste regulations regardless of the characteristics of the waste mixture in the pit.

- If, after mixing a nonexempt characteristically hazardous waste with an exempt waste, the resulting mixture exhibits any of the same hazardous characteristics as the hazardous waste (ignitability, corrosivity, reactivity, or toxicity due to a particular constituent), then the mixture is a nonexempt hazardous waste.

Example: If nonexempt caustic soda (corrosive) is mixed with exempt waste and the resultant mixture exhibits the hazardous characteristic of corrosivity as determined

from pH or steel corrosion tests, then the entire mixture becomes a nonexempt hazardous waste.

Example: If a nonexempt solvent that is characteristically hazardous because of benzene is mixed with an exempt waste, and the resultant mixture exhibits the hazardous characteristic for benzene, then the entire mixture becomes a nonexempt hazardous waste.

- If, after mixing a nonexempt characteristically hazardous waste with an exempt waste, the resulting mixture does not exhibit any of the same hazardous characteristics as the hazardous waste, the mixture is not subject to regulation as a hazardous waste. Even if the mixture exhibits some other characteristic of a hazardous waste, it is still not subject to regulation as a hazardous waste.

Example: If, after mixing nonexempt hydrochloric acid (corrosive characteristic only) with an exempt waste, the resultant mixture does not exhibit the hazardous characteristic of corrosivity, then the mixture is not subject to hazardous waste regulation (even if it exhibits some other hazardous characteristic, such as toxicity).

Example: If, after mixing a nonexempt waste exhibiting the hazardous characteristic for lead with an exempt waste exhibiting the hazardous characteristic for benzene, the resultant mixture exhibits the hazardous characteristic for benzene but not for lead, then the mixture is not subject to hazardous waste regulation.

- Generally, if a listed hazardous waste is mixed with an exempt waste, regardless of the proportions, the mixture is a nonexempt hazardous waste.

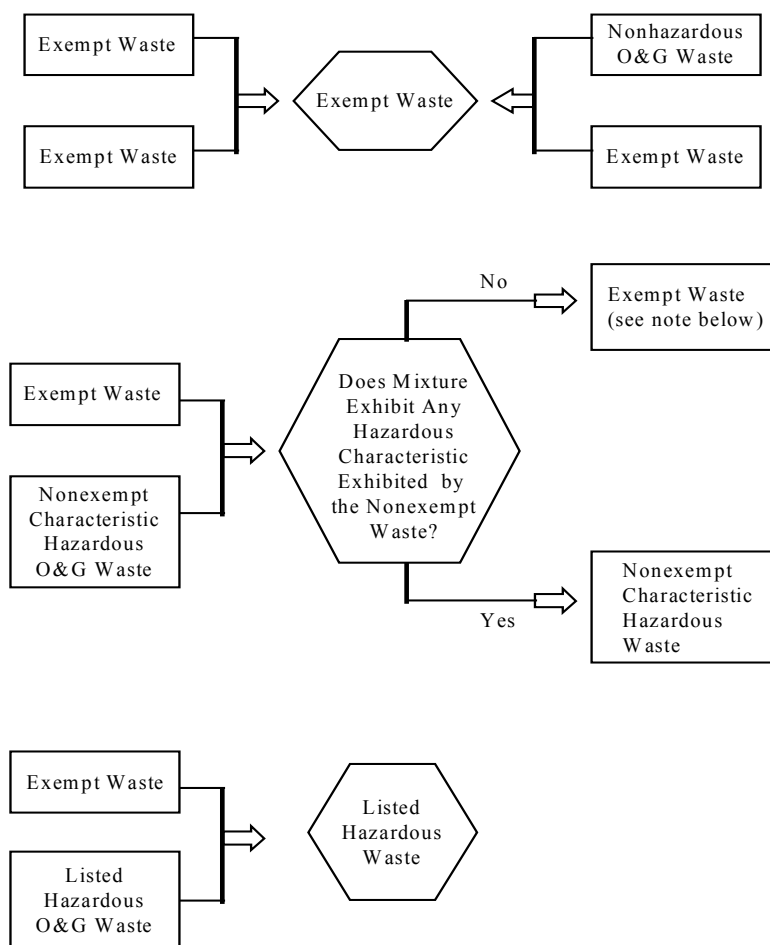
Example: Discarding a half-empty container of a listed solvent in a reserve pit would cause the otherwise exempt pit contents to become a listed hazardous waste and result in expensive closing of the pit under RCRA hazardous waste regulations.

An exception to this rule occurs when the listed hazardous waste in the mixture is listed solely because it exhibits a hazardous characteristic (ignitability, corrosivity or reactivity only) and the mixture does not exhibit the characteristic.

Example: The use of acetone (listed because of ignitability only) as a solvent and washing it off with fresh water would create a mixture that would be nonhazardous if the mixture did not exhibit the ignitability characteristic.

Note that the mixture in this example is created prior to the point of waste generation. However, remember that the elimination of the hazardous characteristic(s) exhibited by the nonexempt waste as a result of intentionally mixing it with exempt waste may be considered treatment. Treatment of a hazardous waste may require a permit under RCRA regulations or be subject to specific management standards if conducted on the generation site by the generator.

TABLE 5: WASTE MIXTURES



Note: This mixture is considered treatment to remove the hazardous characteristic, and, in general, requires a permit. Also, see treatment in accumulation tanks and containers in Chapter 5.

DERIVED FROM AND CONTAINED-IN RULES

EPA's regulations also state that a solid waste (such as sludge or ash) *derived from* (i.e., generated by the treatment, storage, or disposal of) a listed hazardous waste is a hazardous waste. If the waste is “derived from” a characteristic hazardous waste, it is not hazardous if it does not exhibit a characteristic.

In addition, Rule 98 and EPA's regulations require that a waste (such as soil, debris, or absorbent material) that *contains* a listed hazardous waste be managed as if it *were* a hazardous waste. Therefore, if an operator spills a listed hazardous waste, such as unused methanol, the contaminated soil or debris “contains” a listed hazardous waste and must itself be managed as a hazardous waste. In particular, debris may be considered to no longer contain hazardous waste if treated by a required destruction technology (see Rule 98, (e)(3)(B)(v), and 40 CFR Part 268.45). The RRC and EPA may each make a determination that soil or debris no longer “contain” hazardous waste.

OIL AND GAS WASTES EXCLUDED FROM REGULATION OR SUBJECT TO REDUCED REGULATION UNDER RULE 98

Rule 98, subsection (e)(3), adopts by reference the federal exclusions of certain wastes from regulation as hazardous waste. A waste may be either:

- excluded from definition as a solid waste (therefore, excluded from regulation as a hazardous waste);
- defined as a solid waste, but excluded from hazardous waste regulation; or
- a hazardous waste, but excluded from regulation because it is recycled (note this exclusion applies only to certain recycled waste).

In certain instances, a solid waste is excluded from “full regulation,” but instead subject to reduced regulation under RCRA (e.g., see “Universal Waste”). Also, certain wastes are not required to be counted when determining a generation site classification (discussed in Chapter 3). The following discussion highlights the wastes that are applicable to exploration and production operations. You should refer to 40 CFR Part 261 for a complete description of the wastes excluded from hazardous waste regulation.

Some, but not all, of the wastes described below are excluded from regulation under Rule 98. For example, the wastes excluded from regulation under Rule 98 include those under the provisions of subsection (e)(3)(B)(i)-(iii). Rule 98, subsection (e)(3)(B)(i)-(iii), excludes the wastes described in 40 CFR 261.6(a)(2) and (3) and 279.10(b). Note that Rule 98, subsection (z), (relating to LQG and SQG fees) provides that these wastes may still be counted toward the total volume of hazardous oil and gas waste recycled, reclaimed, or reused for the purpose of determining the additional annual fee (see “Additional Fee for Less Than 50% Recycling” in Chapter 7).

Hazardous oil and gas waste that is managed (treated) immediately upon generation only in on-site elementary neutralization units, totally enclosed treatment

units, or wastewater treatment units is not counted as hazardous oil and gas waste in determining a generation site classification. In addition, these wastes may be counted as recycled, reused, or reclaimed waste. These three treatment units are discussed in Chapter 5. It is important to note that the hazardous oil and gas wastes managed in these units *are* subject to the land disposal restrictions of 40 CFR Part 268 (see Land Disposal Restrictions on page 5-26).

Generator Site Classification and Oil and Gas Wastes Excluded From Regulation or Subject to Reduced Regulation Under Rule 98

Some of the oil and gas wastes discussed below are not counted when determining a generation site's classification (discussed in Chapter 3). Table 6 provides a summary of these wastes. Please note that these wastes may still be subject to either reduced regulation under RCRA or other federal and state regulations.

Materials That Are Not Solid Waste

A material must be a solid waste as defined by 40 CFR 261.2 to be considered a hazardous oil and gas waste. Rule 98 adopts the federal definition of solid waste in subsection (e)(1) and the related definitions of waste and solid waste in subsection (b). Therefore, the following materials that are excluded from definition as solid wastes will not be considered hazardous oil and gas waste subject regulation under Rule 98.

By-products: 40 CFR §261.2 specifically excludes from the definition of solid waste by-products that exhibit a hazardous waste characteristic and are reclaimed. A by-product is a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. A by-product is reclaimed if it is processed to recover a usable product or if it is regenerated. An example would be transportation pipeline pigging waste that is primarily paraffin which is reclaimed.

Commercial Chemical Products: 40 CFR §261.2 excludes commercial chemical products from the definition of solid waste if they are reclaimed. (Commercial chemical products are listed in 40 CFR §261.33 and discussed in "Listed Hazardous Oil and Gas Wastes" on page 2-7.) For example, an operator who has commercial chemical product that has become unusable can avoid its disposal as a hazardous waste if he sends the commercial chemical product to a facility that legitimately reclaims it.

This exclusion also applies to "commercial chemical products" that are not included in the P-list or the U-list. For example, unused mineral spirits that are not listed as hazardous waste, but would otherwise be characteristically hazardous if disposed of (i.e., for ignitability), would be excluded from the definition of solid waste if reclaimed.

Recycled Materials: Also, 40 CFR §261.2 provides that certain materials are not solid wastes when recycled. These include: materials used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed; materials that are used or reused as effective substitutes for commercial products; or materials that are returned to the original process from which they are

generated without first being reclaimed or land disposed (i.e., the material must be returned directly as a substitute for feedstock materials). This exclusion does not apply to materials that are used in a manner constituting disposal, burned for energy recovery (or used in a fuel), accumulated speculatively, or considered “inherently waste-like materials” (inherently waste-like materials are defined in 40 CFR §261.2(d)(1) and (2)).

Wastewater Discharges: 40 CFR §261.4(a)(2) provides that industrial wastewater discharges that are point source discharges subject to regulation under section 402 of the Clean Water Act (CWA) are not solid wastes for the purpose of hazardous waste identification. A discharge permit under section 402 of the CWA is known as a NPDES permit (National Pollutant Discharge Elimination System). This exclusion applies only to the actual point discharge and does not exclude wastewaters while they are being collected, stored or treated before discharge. Also, the sludges that are generated by wastewater treatment are not excluded.

Recovered Oil: Recovered oil from petroleum refining, exploration and production, and from transportation (i.e., pipelines) is not a solid waste if it is inserted into the petroleum refining process along with normal process streams (40 CFR §261.4(a)(12)). This exclusion does not include used lubricating oil (also see “Used Lubricating Oil” on page 2-20).

Solid Waste Excluded From Regulation Under Rule 98

The most important exclusion is the E&P exemption which is described in this chapter. Rule 98, subsection (e)(1)(C), adopts the E&P exemption in 40 CFR §261.4(b)(5).

Another specific exclusion of solid waste provided by 40 CFR §261.4(b) is non-terne plated used oil filters (terne is an alloy of lead and tin). The exclusion applies to these filters if they have been gravity hot-drained using an approved method (e.g., puncturing the filter anti-drain back valve or the filter dome end).

Recycled Wastes Not Subject to Rule 98 or RCRA Regulation

Rule 98, subsection (e)(3), exempts from regulation as hazardous oil and gas waste certain recycled wastes. Rule 98 adopts by reference this recycling and reclamation exemption from 40 CFR §261.6(a)(2), (3), and (4).

40 CFR §261.6(a)(2) excludes certain recycled wastes from comprehensive hazardous waste regulation, but instead requires that they be managed according to the requirements of 40 CFR Part 266 (“Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities”). Recyclable materials excluded by §261.6(a)(2) include:

- spent lead-acid batteries being reclaimed;
- hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under 40 CFR Parts 264 or 265; and
- materials from which precious metals are reclaimed.

Table 6: OIL AND GAS WASTES THAT ARE NOT COUNTED IN DETERMINING GENERATION SITE CLASSIFICATION

- Drilling fluids, produced waters, and wastes associated with oil and gas exploration and production (the “E&P exemption”).
- Used lubricating oil that is recycled (including certain mixtures of used lubricating oil and hazardous waste).
- Commercial chemical products that are reclaimed.
- By-products that are reclaimed.
- Hazardous oil and gas waste that is reclaimed and reused on the generation site with no prior accumulation or storage. (Note: If accumulated prior to on-site reclamation, the reclaimed waste is counted once per month.)
- Recovered oil from petroleum refining, exploration and production, and from transportation (i.e., pipelines) if it is inserted into the petroleum refining process along with normal process streams.
- Residues of hazardous waste in empty containers and inner liners removed from empty containers.
- Wastewater point source discharges subject to regulation under section 402 of the Clean Water Act (CWA).
- Scrap metal that is recycled.
- Non-terne plated used oil filters (terne is an alloy of lead and tin).
- Universal Waste (used batteries returned for regeneration; mercury thermostats; and pesticides that are suspended or recalled).
- Spent lead-acid batteries being reclaimed (regulated under 40 CFR Part 266).
- Hazardous oil and gas waste that is managed (treated) immediately upon generation only in on-site elementary neutralization units, totally enclosed treatment units, or wastewater treatment units.
- PCB-containing dielectric fluid and electric equipment containing such fluid that is regulated under 40 CFR Part 761.
- Materials used or reused as ingredients in an industrial process to make a product or that are returned to the original process from which they are generated.
- Materials that are used or reused as effective substitutes for commercial products.

40 CFR §261.6(a)(3) provides that the following recyclable materials are not subject to hazardous waste regulation:

- scrap metal;
- fuels produced from oil-bearing hazardous waste (note that the oil-bearing hazardous waste itself is subject to regulation); and
- industrial ethyl alcohol.

Used Lubricating Oil: 40 CFR §261.6(a)(4) excludes from hazardous waste regulation used lubricating oil that is recycled and is hazardous solely because it exhibits a hazardous characteristic. Instead, recycled used lubricating oil is subject to the requirements of 40 CFR Part 279 (“Standards for the Management of Used Lubricating Oil”). Note that Part 279 specifies that used lubricating oil that contains more than 1,000 ppm total halogens is presumed to be hazardous waste subject to all hazardous waste regulations (40 CFR §279.10(b)). However, this presumption may be rebutted if the generator can show that the used lubricating oil does not contain any of the halogens listed in 40 CFR Part 261, Appendix VIII (regarding hazardous constituents).

Also, 40 CFR §279.10(b) addresses mixtures of used lubricating oil and hazardous waste. Most mixtures of used lubricating and hazardous waste are subject to full hazardous waste regulation. Two important exceptions that are subject to the Part 279 requirements are: a mixture of used lubricating oil and characteristically hazardous waste(s) (or a listed hazardous waste that is listed solely because it exhibits a characteristic), *if* the mixture does not exhibit the characteristic(s); and a mixture of used lubricating oil and CESQG hazardous waste subject to the reduced requirements of 40 CFR §261.5.

Empty Containers: 40 CFR §261.7 provides that residues of hazardous waste in empty containers and inner liners removed from empty containers are excluded from regulation as hazardous waste. “Empty container” is precisely defined.

In general, a hazardous waste container or inner liner (excluding compressed gas and acute hazardous waste containers) is empty if all waste has been removed and no more than one inch of residue remain on the bottom; or if no more than 3% by weight of the total capacity of the container remains if the container is less than or equal to 110 gallons in size, or if no more than 0.3% by weight of the total capacity of the container remains if the container is greater than 110 gallons in size.

For containers that have held a hazardous waste that is a compressed gas, the container is empty when its pressure approaches atmospheric.

For containers or inner liners that have held acute hazardous waste (e.g., P-listed waste), the container is empty only after it has been tripled rinsed using a solvent capable of removing the commercial chemical product. The rinsate itself must be managed as the P-listed hazardous waste.

PCB Wastes: 40 CFR §261.8 excludes from hazardous waste regulation the disposal of PCB-containing dielectric fluid and electric equipment containing such fluid that is regulated under 40 CFR Part 761 (“Polychlorinated Biphenyls (PCBs)

Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions”) and that are hazardous only because they fail the toxicity characteristic test (for waste codes D018 through D043 only).

Universal Waste: 40 CFR §261.9 specifies three wastes that are regulated under the Universal Waste requirements of 40 CFR Part 273. The three wastes, as defined in Part 273, are not subject to full regulation as hazardous waste. In general, Universal Wastes are: used batteries (except those regulated under 40 CFR Part 266) returned for regeneration; mercury thermostats; and pesticides that are suspended or recalled. You should refer to 40 CFR Part 273 for the specific requirements for managing Universal Waste. Note that oil and gas wastes that are universal wastes are defined in the November 1995 edition of the CFR and do not include hazardous lamps in accordance with more recent federal rule changes.

Hazardous Wastes Reclaimed and Reused On-Site

Hazardous oil and gas waste that is reclaimed on the generation site and reused by the generator may be subject to reduced requirements as provided by 40 CFR §§261.5(c) and (d).

A good example of the 40 CFR §261.5(c) provision is a generator who regenerates (i.e., reclaims) spent solvent using an on-site still and reuses the reclaimed solvent. If the hazardous oil and gas waste (e.g., spent solvent) is not accumulated or stored prior to its reclamation, the reclaimed hazardous oil and gas waste is not counted toward the quantity determination when determining generation site classification (see 40 CFR §261.5(c)(3)). However, the generator is required to provide notification of this activity (see “Notification” in Chapter 4). Note, however, that any residual waste (e.g., sludge or still bottoms) from the reclamation of the hazardous oil and gas waste must be counted toward generator classification and be managed as hazardous oil and gas waste (also see the “derived from” rule discussed on page 2-14).

If a generator accumulates or stores hazardous waste *prior* to its on-site reclamation, he must count it toward the quantity determination as provided by 40 CFR §261.5(d)(2). However, the volume of hazardous oil and gas waste that is accumulated and then reclaimed is counted only once in the particular month it is generated, accumulated, and reclaimed. This quantity is determined on a month-by-month basis. Also, note that since the reclaimed hazardous oil and gas waste has been included in the quantity determination, any residual waste from the reclamation is included in that quantity and need not be recounted.

ADDITIONAL GUIDANCE REGARDING DRUMS AND CONTAINERS

Drums and containers are common to all oil and gas operations. The operator must make a hazardous oil and gas waste determination for each drum and/or container on the generation site that has become a waste. While empty containers may not be subject to regulation as hazardous waste (see “Empty Containers” above), drums and containers which are partially filled or contain unusable chemical or material may be hazardous oil and gas waste if discarded. The operator must demonstrate that the

chemical or material in the drum or container is not discarded and is intended for use; otherwise a hazardous oil and gas waste determination must be made.

Remember that commercial chemical products that are returned to the vendor or a facility for reclamation are not considered solid waste. Therefore, managing excess commercial chemical product in this way can save an operator regulatory compliance concerns and disposal costs.

A hazardous waste determination may require relatively expensive sampling and laboratory analysis. However, proper labeling of commercial chemical product containers in addition to maintaining detailed manufacturer's information (e.g., material safety data sheets) may ensure adequate "process knowledge" in the event a determination must be made (see "process knowledge").

Inventory control is an effective way to reduce the volume of waste chemicals and materials in drums and containers and the associated waste management requirements. An operator who maintains up-to-date records on the locations, volumes, and expiration dates of chemicals and materials can make efficient use of them. And, as noted above, an operator can return known excess or unusable chemical products to the vendor for reclamation. The result is a reduction in the unnecessary purchase of chemicals and the volume of waste chemical that must be disposed of.

CHAPTER 3

GENERATOR CLASSIFICATION AND ACCUMULATION TIME

The step following the required hazardous waste determination(s) is to establish the hazardous oil and gas waste generator classification for each **generation site** you operate. A generator of hazardous oil and gas waste will fall into one of three classifications. The classifications are based on the volume of hazardous oil and gas waste generated in one month, or the volume of hazardous oil and gas waste accumulated on a **generation site**.

GENERATION SITE

"Generation site" is defined by Rule 98, subsection (b)(29), as any of the following operational units (except with respect to pipeline systems and natural gas processing plants) that are owned or operated by one person and at which hazardous oil and gas waste is produced or where actions first cause a hazardous oil and gas waste to become subject to regulation:

- all oil and gas wells that produce to one set of storage or treatment vessels, such as a tank battery, the storage or treatment vessels, associated flowlines, and related land surface;
- an injection or disposal site (that is not part of a generation site described in the previous item), its related injection or disposal wells, associated injection lines, and related land surface;
- an offshore platform; or
- any other site, including all structures, appurtenances, or other improvements associated with that facility that are geographically contiguous, but which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right-of-way.

Generation sites on pipeline systems (other than a field flowline or injection line system) may be an equipment station (such as a pump station, breakout station, or compressor station) or any other location along a pipeline (such as a drip pot, pigging station, or rupture), together with any and all structures, other appurtenances, and improvements:

- that are geographically contiguous with or are physically related to an equipment station or other location described in this paragraph, but excluding any pipeline that connects two or more such stations or locations;

- that are owned or operated by one person; and
- at which hazardous oil and gas waste is produced or where actions first cause a hazardous oil and gas waste to become subject to regulation.

A natural gas processing plant or a natural gas liquids processing plant is defined as a generation site. However, the TCEQ has jurisdiction over hazardous wastes generated at natural gas processing plants (please see note at the bottom of page 1-2).

As indicated above, an operator may be responsible for compliance with Rule 98 at a number of different generation sites.

HAZARDOUS OIL AND GAS GENERATOR SITE CLASSIFICATIONS

The three classifications described in Rule 98, subsection (f), are:

- Conditionally Exempt Small Quantity Generator (CESQG),
- Small Quantity Generator (SQG), and
- Large Quantity Generator (LQG).

Generator site classification is determined on a month-by-month basis, rather than on a monthly average. Each generation site you operate may have a different classification, and therefore, be subject to different Rule 98 requirements. In general, the requirements become more extensive as the classification increases from CESQG to LQG. A simplified summary of generator classification guidelines is shown in a decision tree provided in Appendix G. See Chapter 5 for more information on the specific management requirements of Rule 98. An explanation of each classification, including a brief discussion of requirements, is provided below.

When classifying a generation site, you must know precisely which wastes are hazardous oil and gas wastes that are to be included in the volume calculation. Chapter 2 provides guidance on making hazardous oil and gas waste determinations. Chapter 2 also includes, on page 2-16, a detailed discussion of oil and gas wastes excluded from hazardous waste regulation or subject to reduced hazardous waste regulation. Many of these wastes are not counted when determining a generation site classification. Refer to Chapter 2 to ensure that you include only applicable hazardous oil and gas waste volumes when classifying your generation site.

Conditionally Exempt Small Quantity Generator

CESQG Classification: To be classified as a CESQG *during any calendar month*, a generator of hazardous oil and gas waste must:

- generate no more than 100 kilograms (220.46 pounds) of hazardous oil and gas waste in that calendar month; and

- accumulate no more than 1,000 kilograms (2,204.60 pounds) of hazardous oil and gas waste on-site at any one time.

CESQG Acute Hazardous Waste Generation: Also, a CESQG must meet more stringent (i.e., LQG) management standards if he generates in one calendar month or accumulates on-site at any one time more than a total of:

- one kilogram (2.20 pounds) of any acute hazardous waste, or
- 100 kilograms (220.46 pounds) of contaminated media resulting from the clean up of a discharge into or on any land or water of any acute hazardous waste.

Note: In general, the acute hazardous wastes of concern to E&P operations are those listed in 40 CFR §261.33(e) (P-list). Acute hazardous wastes also include those also listed in 40 CFR §261.31 (F-list) and 40 CFR §261.32 (K-list) with an “H” designation. Please refer to the hazardous waste lists in Appendix C.

All acute hazardous wastes in excess of the thresholds cited above must be managed as though generated by an LQG. The LQG accumulation time period for such acute hazardous wastes begins at the time the maximum quantity specified above is exceeded.

CESQGs may accumulate their hazardous oil and gas waste on-site indefinitely, as long as the accumulation limits are not exceeded.

CESQG Requirements: A CESQG site must comply with all requirements of Rule 98 applicable to CESQGs. **However**, a CESQG may be subject to SQG or LQG requirements if conditionally exempt waste is mixed with waste from an episodic event that exceeds the amount cited above. (See “Episodic Generation” on page 3-6.)

Small Quantity Generator

SQG Classification: To be classified as a SQG site in any calendar month, a generator of hazardous oil and gas waste must:

- generate greater than 100 kilograms but less than 1,000 kilograms (2,204.60 pounds) of hazardous oil and gas waste in that calendar month;
- not allow any particular quantity of hazardous oil and gas waste to remain on-site for a period of more than:
 - 180 days from the date that particular quantity was generated; or
 - 270 days from the date that particular quantity was generated, but only if the waste must be transported or offered for transport to a treatment, storage, or disposal facility that is located a distance of 200 miles or more from the point of generation; and
- not accumulate more than 6,000 kilograms (13,227.70 pounds) of hazardous oil and gas waste on-site at any one time.

SQG Requirements: A SQG must accumulate all hazardous oil and gas waste in tanks or containers that meet the requirements of Rule 98 and comply with all requirements of Rule 98 applicable to SQGs.

However, a SQG may be subject to LQG requirements if waste generated in months classified as SQG is mixed with waste from an episodic event that exceeds the amount cited above. (See "Episodic Generation".)

The accumulation period specified for SQGs may be extended an additional 30 days if the RRC, at its sole discretion, determines that unforeseen, temporary, and uncontrollable circumstances require that hazardous oil and gas waste remain on-site for a longer time period. Appendix D provides instructions for requesting a 30-day extension from the RRC.

Large Quantity Generator

LQG Classification: Any generator of hazardous oil and gas waste not classified as a CESQG or SQG is classified as a LQG.

LQG Requirements: A LQG must accumulate hazardous oil and gas waste in tanks or containers that meet the requirements of Rule 98 and comply with all other requirements of Rule 98 applicable to LQGs.

In some months, a LQG may generate hazardous oil and gas waste at volumes classified as SQG or CESQG. Under those circumstances, the LQG need not meet the LQG requirements for the SQG or CESQG waste, **if** that waste is not mixed with the LQG waste. (See "Episodic Generation".)

An LQG shall not accumulate any particular quantity of hazardous oil and gas waste on-site for more than 90 days from the date that particular quantity was generated. However, an LQG's hazardous oil and gas waste may be accumulated on-site in excess of 90 days **if** an extension has been granted in accordance with the following provision. The specified 90-day accumulation period may be extended an additional 30 days if the RRC, at its sole discretion, determines that unforeseen, temporary, and uncontrollable circumstances require that hazardous oil and gas waste remain on-site for longer than 90 days. Appendix D provides instructions for requesting a 30-day extension from the RRC.

ACCUMULATION IN CONTAINERS AT THE POINT OF GENERATION

A LQG or a SQG may accumulate, **at the point of generation**, hazardous oil and gas waste in containers up to 55 gallons or a total of one kilogram (about one quart) of acute hazardous wastes (See Appendix C for the list of acute hazardous wastes) without having to manage such hazardous oil and gas waste in accordance with the accumulation time limits applicable to LQGs or SQGs. Also under these circumstances, a LQG or SQG does not have to comply with Rule 98 requirements for preparedness and prevention, contingency plan and emergency procedures, personnel training, standards for use of containers, and standards for use of tank systems.

This exception is allowed provided that all hazardous oil and gas waste accumulated at the point of generation is accumulated in containers that:

- are at a location that is under the control of the generator and at or near the point of generation;
- meet the requirements relating to container condition, compatibility of waste with container, and closing containers (see appropriate sections in Chapter 5 under "Standards for Use of Containers"); and
- are marked with the words "Hazardous Waste" or with other words that identify the contents of the containers.

If the amount of hazardous waste accumulated on-site at or near the point of generation exceeds 55 gallons, or one kilogram (about one quart) of acute hazardous waste, the generator must, with respect to such excess waste, comply with all applicable provisions of Rule 98 within three days of the date that such maximum amount is exceeded.

30-DAY EXTENSION OF ACCUMULATION TIME FOR LQGS AND SQGS

As noted above, LQGs and SQGs may obtain a 30-day extension of the accumulation time if the RRC, at its sole discretion, determines that unforeseen, temporary, and uncontrollable circumstances require that hazardous oil and gas waste remain on-site for a longer time period. The 30-day extension allows the operator to store hazardous oil and gas waste beyond the accumulation time limit without obtaining a hazardous waste storage permit.

Appendix D provides instructions for requesting a 30-day extension from the RRC.

ONE-TIME SHIPMENTS OF HAZARDOUS OIL AND GAS WASTE

A situation may arise where an oil and gas operator may generate hazardous oil and gas waste at a site that has not historically generated hazardous oil and gas waste, and future generation of hazardous oil and gas waste at that site is not anticipated ("one-time generation site"). Examples might be a site impacted by a spilled drum of chemicals or a meter station on a transportation pipeline. Further guidance is provided below.

Any hazardous oil and gas waste that is generated at a one-time generation site must be managed under Rule 98 requirements and federal hazardous waste regulations. For example, off-site shipment of hazardous oil and gas waste in accordance with the requirements of Rule 98 may require the use of the TCEQ Uniform Hazardous Waste Manifest. An EPA Identification Number (EPA ID Number) is required to complete the manifest.

In general, EPA ID Numbers are required only for sites where the total quantity of hazardous waste generated in a single month exceeds 100 kilograms (220 pounds) or greater than 1 kilogram of acute hazardous waste. Such quantities result in the site's classification as a Large Quantity Generator or Small Quantity Generator as described in this chapter.

Please also note that if the total volume of hazardous oil and gas waste generated at any site in any month is less than 100 kilograms, the site is classified as Conditionally Exempt Small Quantity Generator (CESQG). A CESQG may use the generic EPA ID Number "TXRRCCESQG" if a manifest is otherwise necessary (e.g., the receiving facility insists on one).

EPA ID Numbers for one-time shipments of hazardous oil and gas waste will not be issued for sites that are reasonably anticipated to generate hazardous oil and gas waste in the future. An example is a compressor station on a pipeline. For such sites, the operator must register the site (submit EPA Form 8700-12 and RRC Form H-20) to obtain a permanent EPA ID Number. Please see Chapter 4 for notification and registration requirements.

Hazardous waste generators subject to the requirements of Rule 98 may obtain an EPA ID Number for a one-time shipment of hazardous oil and gas waste by contacting the RRC Hazardous Waste Program in Austin. Information required with the one-time shipment request is provided in Appendix E.

EPISODIC GENERATION

Occasionally a generator's classification may vary from one month to another. The hazardous oil and gas waste generated during any particular month must be managed in accordance with the requirements applicable to the generator's classification for that month. **However**, stricter management standards may apply if waste generated in one month is mixed with waste generated in another month. Rule 98, subsection (f)(5), specifies how such mixtures must be managed in three situations, which are described below:

- If hazardous oil and gas waste generated by a generator who is classified as a CESQG during a particular month is mixed with waste generated in a month during which the generator is considered an LQG, the mixture shall be managed in accordance with the standards applicable to LQGs.
- If hazardous oil and gas waste generated by a generator who is classified as a CESQG during a particular month is mixed with waste generated in a month during which the generator is considered an SQG, the mixture shall be managed in accordance with the standards applicable to SQGs.
- If hazardous oil and gas waste generated by a generator who is classified as an SQG during a particular month is mixed with waste generated in a month during which the generator is considered an LQG, the mixture shall be managed in accordance with the standards applicable to LQGs.

CHAPTER 4

NOTIFICATION AND EPA ID NUMBERS

WHO MUST NOTIFY?

Each individual LQG and SQG must notify the RRC of their activities that are subject to the provisions of Rule 98 and obtain a permanent EPA ID number. A notification must be made *for each generation site* as required by Rule 98, subsection (g).

CESQGs **are not** required to notify the RRC of their hazardous oil and gas waste generation and management activities.

Transporters of hazardous oil and gas waste also must notify an approved regulatory agency and obtain an EPA ID number. Transporters may notify either RRC, TCEQ, or EPA (see "How Do You Notify?" below). However, those who wish to register as transporters will typically want to handle all hazardous waste including that regulated by the TCEQ. Therefore, it is recommended that except in very specific instances, transporters register with the TCEQ.

HOW DO YOU NOTIFY?

Notification by a generator to the RRC must be made by filing RRC Form H-20 ("Hazardous Oil and Gas Waste Generator [and Transporter] Notification," revised February 2002) and EPA Form 8700-12 ("RCRA Subtitle C Site Identification Form"). Send the forms to the RRC. *Do not send the Form 8700-12 to EPA or TCEQ.* Note that EPA Form 8700-12 was formerly titled "Notification of Regulated Waste Activity." You now must use the "RCRA Subtitle C Site Identification Form" revised January 2004.

RRC Form H-20 provides information necessary for efficient administration of the Hazardous Waste Program and that is not entered on the EPA Form 8700-12. The RRC will forward the EPA Form 8700-12 to EPA for ID number assignment, and EPA will return to you a notice of registration (NOR) with the assigned EPA ID number.

Transporter notification may be made by filing EPA Form 8700-12 with the appropriate regulatory entity (either RRC, TCEQ, or EPA). In most instances, transporter notification to the RRC will be made by RRC-permitted (under SWR 8) oil and gas waste haulers who want to also transport hazardous oil and gas waste. (Note that LQGs and SQGs may use hazardous waste transporters who have filed notifications with either TCEQ or EPA but are not RRC-permitted oil and gas waste haulers.)

Appendix F provides examples of the EPA Form 8700-12 and the RRC Form H-20 with their respective instructions.

Important note: If you have submitted an EPA Form 8700-12 to EPA or TCEQ hazardous waste programs prior to April 1, 1996, you may comply with Rule 98 notification requirements by sending the RRC a photocopy of the initial notification form, any subsequent notification forms, and the NOR returned to you by EPA or TCEQ.

Where Can You Get RRC Form H-20 and EPA Form 8700-12?

EPA Form 8700-12 and RRC Form H-20 are available in the Forms Library on the RRC's web site at <http://www.rrc.state.tx.us/divisions/og/form-library/index.html>. The forms are also available at all RRC district offices and at RRC Austin headquarters (refer to the list of RRC addresses and phone numbers at the beginning of this guidance document). The EPA Form 8700-12 available at RRC offices has "Railroad Commission of Texas" annotated on the bottom margin of the form's first page. (Please use these annotated forms in order that your notification to the RRC is easily recognized by EPA and TCEQ as notification for a RRC-regulated site.)

When Must You Notify?

Notification must be made to the RRC by July 1, 1996, or within 10 days of the date that the LQG or SQG becomes subject to the provisions of Rule 98, whichever is later.

ONE-TIME SHIPMENTS

Also note that certain situations may meet the criteria for a one-time shipment of hazardous oil and gas waste using a "temporary" EPA ID number. For those situations notification does not require the use of the forms discussed in this chapter. Please refer to "One-Time Shipments of Hazardous Oil and Gas Waste" in Chapter 3 on page 3-5 and in Appendix E for guidance.

EPA IDENTIFICATION NUMBERS

Subsequent to notification, an EPA ID number is assigned to the individual large or small quantity hazardous oil and gas waste generating site. Upon assignment of an EPA ID number, a registration is established in RRC and EPA records. The EPA ID number and registration stay with that particular site forever.

SUBSEQUENT NOTIFICATIONS

In the event any information in a site's registration changes, a subsequent notification is required. For example, the owner and operator of a site, the site contact person, and/or the generator classification of the site may change. A subsequent notification is made by filing EPA Form 8700-12 and RRC Form H-20 as described above.

CHAPTER 5

STANDARDS FOR MANAGEMENT OF HAZARDOUS OIL AND GAS WASTE

INTRODUCTION

The management standards of Rule 98 parallel those in the federal regulations. Rule 98 adopts by reference these management standards from Titles 40 and 49 of the Code of Federal Regulations (CFR), 1994 edition as amended through November 7, 1995. Appendix G provides a listing of these federal regulations.

In general, the applicable requirements or standards become more extensive as a generator's classification increases from CESQG to SQG to LQG. Management standards that are applicable to SQGs and LQGs include:

- accumulation time and disposition;
- use of tank systems and containers;
- manifesting and transportation;
- packaging, labeling, marking and placarding shipments;
- preparedness and prevention, contingency plans and emergency procedures, and personnel training;
- response to discharges; and
- recordkeeping and reporting.

Appendix H provides a table which presents a general overview of the Rule 98 requirements applicable to CESQGs, SQGs, and LQGs.

The following sections of Chapter 5 provide guidance, beginning with the reduced standards applicable to CESQGs, and continuing with standards applicable to LQGs and SQGs. The standards applicable to transporters are presented in Chapter 8.

STANDARDS FOR MANAGEMENT OF HAZARDOUS OIL AND GAS WASTE BY CESQGS

CESQG standards are much less stringent than those for SQGs and LQGs. For example, requirements regarding manifesting and transportation, preparedness and prevention, and contingency plans and emergency procedures do not apply to CESQGs. Also, CESQGs are not required to notify the RRC and do not have a time limit on their hazardous waste accumulation. The reduced standards applicable to CESQGs are found in 40 CFR §261.5. The standards for management of hazardous oil and gas waste which apply to CESQGs are discussed in the following sections.

CESQG Fee Exemption

A generator who is classified as a CESQG during all months of the entire calendar year in which he generates hazardous oil and gas waste **is not** subject to the annual fee.

CESQG Management of Hazardous Oil and Gas Waste

Transport to Another Facility: With a few exceptions (including applicability of other state and federal requirements), a generator must send his waste to an authorized facility for treatment, storage, disposal, recycling, or reclamation. For LQGs and SQGs, this means the waste must be sent to a facility that has obtained a permit in accordance with federal hazardous waste regulations. However, a CESQG may send his waste to:

- a facility permitted, licensed, or registered by a state to manage municipal or industrial solid waste (EPA requires nonhazardous waste landfills to be specifically permitted to accept CESQG waste); or
- a centralized waste collection facility (CWCF) that meets the requirements of subsection (m)(3) of Rule 98 (CWCFs are described below).

Also, CESQGs are not required to use the hazardous waste manifest described on page 5-31. However, in some instances a CESQG may find he needs to use a manifest. If that is the case, refer to Appendix I for instructions for use of the manifest and “generic numbers” for oil and gas operators’ use.

Centralized Waste Collection Facilities: Rule 98, subsection (m)(3), provides an additional and beneficial option for CESQGs. An operator who has more than one CESQG site may accumulate the hazardous waste from those CESQG sites at a Centralized Waste Collection Facility (CWCF). Prior to receipt of CESQG hazardous oil and gas waste generated off-site, a person who operates a CWCF must register with the RRC by filing with the RRC a notice that includes the following information:

- a map showing the location of the CWCF and each individual hazardous oil and gas waste CESQG site that may contribute waste to the collection facility. In lieu of a map, the person who operates the CWCF may provide to the RRC the name and lease number, field name and number, or other identifying information acceptable to the RRC, of the CWCF and each generation site that may contribute waste to the collection facility;
- the person's P-5 operator number; and
- the EPA ID number (if one exists) for the CWCF host site.

All hazardous oil and gas waste received at the CWCF must be kept in closed containers that are marked with the words "Hazardous Waste."

A person operating a CWCF shall not maintain at the CWCF at any one time more than 5,000 kilograms (11,023 pounds) of hazardous oil and gas waste or more

than five kilograms (11 pounds, or about five quarts) of any acute hazardous oil and gas waste (those on the "P-list" in 40 CFR §261.33(e), provided in Appendix C).

CESQG On-Site Treatment, Storage, Disposal, Recycling, or Reclamation of Hazardous Oil and Gas Waste

CESQGs are subject to the general prohibition of treating, storing, disposing of, recycling, or reclaiming hazardous oil and gas waste on the generation site. However, Rule 98 provides certain exceptions to the general prohibition. The following exceptions apply to CESQGs.

CESQGs do not have to comply with the LQG/SQG container management standards. However, a CESQG is subject to certain requirements if he mixes certain wastes with hazardous oil and gas waste in his containers. Rule 98, subsection (k)(3), provides that CESQGs, and only CESQGs, may mix their hazardous oil and gas waste with nonhazardous waste in a container even though the resultant mixture exceeds the accumulation quantity limitations for CESQGs (see Chapter 3), **unless** the mixture exhibits any of the hazardous waste characteristics of the hazardous oil and gas waste in the mixture.

In addition, if a CESQG mixes his hazardous oil and gas waste with used oil, the mixture is subject to standards for the management of used oil found in 40 CFR Part 279 (Rule 98, subsection (k)(3)). (Note: See 40 CFR §§261.5(b) and 279.10(b)(3).) If the mixture is destined to be burned for energy recovery, it must also meet the specification requirements found in 40 CFR §279.11. Additionally, any material produced from such a mixture by processing, blending, or other treatment must also meet the specification requirements if it is destined to be burned for energy recovery.

CESQG On-Site Treatment of Hazardous Oil and Gas Waste: CESQGs **are not** required to comply with the standards for the use of containers or tank systems. However, a CESQG may treat CESQG hazardous oil and gas waste on-site in a container or tank. If a CESQG treats hazardous oil and gas waste in a container or tank, he must comply with the container requirements or the tank system requirements (see "Standards for Use of Containers" and "Standards for Use of Tank Systems" in this chapter).

LQG AND SQG MANAGEMENT STANDARDS: PREPAREDNESS AND PREVENTION

General Requirements

In addition to all other applicable requirements of Rule 98, all generators of hazardous oil and gas waste must employ reasonable and appropriate measures (considering the nature and location of the facility and the types and quantities of hazardous oil and gas waste maintained at the site) in the operation and maintenance of the generation site to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous oil and gas wastes or hazardous oil and gas waste constituents to air, soil, or surface water that could threaten human health or the environment.

LQG and SQG Preparedness and Prevention

LQGs and SQGs who accumulate hazardous oil and gas waste at the generation site must comply with 40 CFR Part 265, Subpart C, as required by Rule 98, subsection (h). These requirements are somewhat flexible, in that the measures taken need only address the level of hazard posed by the waste being managed. A description of each requirement is provided below:

Required Equipment: All facilities must be equipped with the following, ***unless*** none of the hazards posed by the waste handled at the facility could require a particular kind of equipment specified below:

- An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.
- A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance (e.g., fire department or emergency response team).
- Portable fire extinguishers, appropriate fire control equipment, spill control equipment, and decontamination equipment.
- Water at adequate volume and pressure to supply hose streams or foam producing equipment, or automatic sprinklers, or water spray systems.

Testing and Maintenance of Equipment: All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

Access to Communications or Alarm System: ***Unless*** the equipment listed above is not required:

- all personnel involved in an operation must have immediate access to an internal alarm or emergency communication device whenever hazardous waste is being poured, mixed, spread, or otherwise handled, and
- if only one person is on an operating site, he or she must have immediate access to a communications device capable of summoning emergency assistance.

Required Aisle Space: LQGs and SQGs must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, ***unless*** aisle space is not needed for any of these purposes.

Arrangements With Local Authorities: LQGs and SQGs must attempt to make arrangements with the following organizations to familiarize them with the facility (e.g., site layout, road access, and types/hazards of the handled waste) and assign response responsibility (e.g., overlapping jurisdictions), ***as appropriate*** for the type of waste handled and the potential need for their particular services:

- police departments,
- fire departments,
- emergency response teams (contractors),
- equipment suppliers,
- state emergency response teams (e.g., RRC), and
- local hospitals.

Where state or local authorities decline to enter into such an arrangement, you must document the refusal in the facility's operating record.

LQG AND SQG MANAGEMENT STANDARDS: CONTINGENCY PLAN AND EMERGENCY PROCEDURES

The Contingency Plan and Emergency Procedures requirements of Rule 98, subsection (i), differ for LQGs and SQGs. LQG requirements are more extensive than SQG requirements.

LQG Contingency Plan and Emergency Procedures Requirements

A LQG who accumulates hazardous oil and gas waste at the generation site must comply with the contingency plan and emergency procedures provisions of 40 CFR Part 265, Subpart D. These provisions are described below.

Purpose and Implementation of the Contingency Plan: The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or water. Whenever such an event occurs, the provisions of the plan must be immediately carried out.

Under some circumstances, a site may be required to prepare emergency response plans required by regulations other than Rule 98 and federal hazardous waste regulations. EPA, as the chair of the National Response Team, has provided an **“Integrated Contingency Plan Guidance”** intended to be used by facilities to prepare emergency response plans. The intent of the “Integrated Contingency Plan Guidance” is to provide a mechanism for consolidating multiple plans that facilities may have prepared to comply with various regulations into one functional emergency response plan. EPA’s notice of this guidance is provided in 61 *Federal Register* 28642 (Wednesday, June 5, 1996). Also, a correction to the June 5, 1996, notice was published in 61 *Federal Register* 31103 (June 19, 1996). EPA clarifies that the policies set out in the notices are intended solely as guidance. Copies of the “Integrated Contingency Plan Guidance” can be obtained by calling EPA’s EPCRA/RCRA/Superfund Hotline at (800) 424-9346.

Content of the Contingency Plan: Contingency plans must contain certain information. Plans required under other regulations, such as Spill Prevention Control and Countermeasures Plans (SPCC Plans required by 40 CFR Part 112), may be used as contingency plans if modified to include all information required by Rule 98, subsection (i). Rule 98 requires that the plan must:

- describe the actions facility or site personnel must take in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents;
- describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services (see "Preparedness and Prevention");
- list the names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator and designate the primary emergency coordinator and alternate emergency coordinators;
- list all emergency equipment at the facility or site (e.g., fire extinguishing systems), and decontamination equipment (where required), including the location, physical description, and capabilities (a brief outline) of the equipment; and
- include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary (the evacuation plan must describe signals to begin evacuation and primary and alternate evacuation routes).

Copies of the Contingency Plan: A copy of the contingency plan and all revisions must be maintained at the facility or site. Also, a copy of the contingency plan must be submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon.

Amendment of the Contingency Plan: The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

- applicable regulations are revised;
- the plan fails in an emergency;
- the facility or site changes (e.g., in its design, construction, operation, or maintenance) in such a way that materially increases the potential for an emergency event or the response necessary for an emergency event;
- the list of emergency coordinators changes; or
- the list of emergency equipment changes.

Emergency Coordinator: The emergency coordinator is responsible for coordinating all emergency response measures. At all times, at least one emergency

coordinator (either primary or alternate) must be either on-site or on call (i.e., able to reach the site within a short period of time).

The emergency coordinator must be thoroughly familiar with all aspects of the contingency plan and all operations and activities at the facility or site. In addition, the emergency coordinator must have the authority to commit the resources needed to carry out the contingency plan.

Emergency Procedures: Whenever there is an imminent or actual emergency situation, the emergency coordinator (or when on call, his designee) must immediately activate internal facility or site alarms or communications systems, where applicable, to notify all personnel. The emergency coordinator must also immediately notify the appropriate state or local agencies with designated response roles, if their help is needed.

Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and the areal extent of any released materials. He may do this by observation or review of facility records or manifests and, if necessary by chemical analysis. Concurrently, the emergency coordinator must assess possible hazards to human health and the environment, both direct and indirect, that may result from the emergency (e.g., toxic gases that are generated).

If the emergency coordinator determines that the emergency situation could affect areas outside the facility, he must make the following immediate notifications:

- the National Response Center (**24-hour toll free number: 800-424-8802**; also see "Discharges, Reporting Requirements" in Chapter 6); and
- the appropriate local authorities if the assessment indicates that evacuation may be necessary (also, must be available to help in making the decision to evacuate).

During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers. In the event processes or operations are stopped, the emergency coordinator must also monitor for leaks, pressure buildup, gas generation, or ruptures, wherever this is appropriate.

Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

The emergency coordinator must ensure that in the affected areas of the facility:

- no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; (see Appendix J for examples of incompatible wastes); and

- all emergency equipment listed in the plan is cleaned and fit for its intended use before operations are resumed.

(Note: You must notify the Regional Administrator, the RRC, and appropriate state and local authorities that you have taken the above steps before resuming operations.)

You must record in the facility's operating record the time, date, and details of any incident that requires implementing the contingency plan. In addition, within 15 days, you must submit a written report to the Regional Administrator and the RRC. The report must include:

- name, address, and telephone number of the owner or operator;
- name, address, and telephone number of the facility;
- date, time, and type of incident;
- name and quantity of material(s) involved;
- the extent of injuries if any;
- an assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- estimated quantity and disposal of recovered material that resulted from the incident.

SQG Contingency Plan and Emergency Procedures Requirements

SQGs who accumulate hazardous oil and gas waste at the generation site must comply with the provisions of 40 CFR §262.34(d)(5) (relating to emergency response). These provisions require that:

- there must be at least one employee (the emergency coordinator) either on the premises or on call (i.e., able to respond in a short time) with the responsibility for coordinating emergency response measures specified below;
- the generator must post the following information next to the telephone:
1) the name and telephone number of the emergency coordinator, 2) location of fire extinguishers and spill control equipment, and if present, fire alarm, and
3) the telephone number of the fire department, unless the facility has a direct alarm; and
- the generator must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities during normal facility operations and emergencies.

The emergency coordinator or his designee must respond to any emergencies that arise. The appropriate responses are:

- in the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;
- in the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil; and
- in the event of an emergency which could threaten human health outside the facility or when the generator has knowledge that a spill has reached surface water, the generator must immediately notify the National Emergency Response Center (**NRC 24-hour toll free phone number: 800-424-8802**; also see "Discharges, Reporting Requirements" in Chapter 6).

The report to the NRC must include the following information:

- the name, address and U.S. EPA Identification Number of the generator;
- the date, time, and type of incident;
- the quantity and type of hazardous waste involved in the incident;
- the extent of injuries, if any; and
- the estimated quantity and disposition of recovered materials, if any.

Note, also, that the accumulation requirements (see Chapter 3) apply to any hazardous waste generated as a result of an emergency incident.

LQG AND SQG MANAGEMENT STANDARDS: PERSONNEL TRAINING

LQGs who accumulate hazardous oil and gas waste at the generation site must comply with the provisions of 40 CFR §265.16, which requires training of facility personnel. The personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with Rule 98. In particular, training should address the preparedness and prevention and contingency plan and emergency procedures requirements. Each person must receive training in hazardous waste management procedures relevant to the positions in which they are employed.

SQGs **are not** required to comply with these training requirements.

The training program must be directed by a person trained in hazardous waste management procedures.

Minimum Training Program Requirements

The training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

- procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
- key parameters for automatic waste feed cut-off systems;
- communications or alarm systems;
- response to fires or explosions;
- response to ground water contamination incidents; and
- shutdown of operations.

Facility personnel must successfully complete the training program within 6 months after the date of their employment or assignment to the facility, or to a new position at the facility, whichever is later. Employees must not work in unsupervised positions until they have completed the training requirements described above.

Also, each employee must take part in an annual review of the initial training described above.

Recordkeeping Requirements

The owner or operator of the facility must maintain the appropriate documents and records at the facility. For facilities ordinarily unmanned during business hours, the records must be maintained at the nearest office in the state having day-to-day operational control of the facility or site. The following documents and records are required:

- the job title for each position at the facility related to hazardous waste management, and the name of each employee filling each job;
- a written job description for each position at the facility related to hazardous waste management (Note: This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location, but must include the requisite skill, education, or other qualifications, and duties assigned.);
- a written description of the type and amount of both introductory and continuing training that will be given to each employee;
- records that document the required training or job experience has been given to facility personnel; and

- training records on current personnel until closure of the facility, and training records on former employees at least three years after the last day the employee worked at the facility. (Note: Training records may accompany personnel transferred within the same company.)

LQG AND SQG MANAGEMENT STANDARDS: STANDARDS FOR USE OF CONTAINERS

Standards for the use of containers for hazardous oil and gas waste vary, depending on the generator classification. In general, the requirements increase as the volume of generated waste increases.

LQGs and SQGs must clearly mark each container being used to accumulate hazardous oil and gas waste on-site with the words "Hazardous Waste" and with the date accumulation begins. The container and its marking must be in a manner and location visible for inspection.

LQGs and SQGs accumulating hazardous oil and gas waste in containers must also comply with the provisions of 40 CFR Part 265, Subpart I (relating to use and management of containers), except that SQGs do not have to comply with 40 CFR §265.176 (relating to distance from property lines and noted below). 40 CFR Part 265, Subpart I requires that:

- the container be in good condition and not leak, and if the container begins to leak, the hazardous waste must be transferred to a container in good condition (or managed in some other way that complies with 40 CFR Part 265, Subpart I);
- the container be compatible with the hazardous waste (i.e., the hazardous waste will not impair the ability of the container to contain the waste);
- the container must always be closed, except when necessary to add or remove waste, and must not be opened, handled, or stored in a manner which may cause a rupture or leak;
- the owner or operator must inspect, at least weekly, the container storage area for leaks and deterioration (caused by corrosion or other factors); and
- containers holding ignitable or reactive waste must be located at least 50 feet from the facility's property line (**this requirement does not apply to SQGs**).

40 CFR Part 265, Subpart I also requires special handling of incompatible wastes in containers (see Appendix J for examples of incompatible wastes). Subpart I requires that:

- incompatible wastes not be placed in the same container;
- hazardous waste must not be placed in an unwashed container that previously held an incompatible waste; and

- a storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated by means such as a dike or wall.

Note: You may mix incompatible wastes in a container if you comply with 40 CFR §264.17(b) (also see "Elementary Neutralization Units");

Organic Air Emission Standards for Containers

40 CFR, Subpart I, requires that LQGs use containers in compliance with the organic air emission standards in 40 CFR Subparts AA, BB and CC. A discussion of these requirements is provided on page 5-17.

LQG AND SQG MANAGEMENT STANDARDS: STANDARDS FOR USE OF TANK SYSTEMS

Standards for the use of tank systems (Rule 98, subsection (I)), also vary, depending on the generator classification. The requirements are greater for LQGs than for SQGs. CESQGs **are not** required to comply with the standards for the use of tank systems.

LQGs and SQGs must clearly label or mark each tank being used to accumulate hazardous oil and gas waste on-site with the words "Hazardous Waste."

LQG Standards for Use of Tank Systems

LQGs accumulating hazardous oil and gas waste in tanks must comply with the provisions of 40 CFR Part 265, Subpart J, except §§265.197(c) and 265.200.

Tanks are exempted from these requirements under numerous conditions (see 40 CFR §265.1(c) for complete list). Exemptions that may be applicable to RRC-regulated operators include:

- elementary neutralization units or wastewater treatment units (defined in Appendix L), provided that the operator is diluting hazardous ignitable wastes or corrosive wastes and complying with 40 CFR §265.17(b) (see "Elementary Neutralization Units"), and
- **in general**, tanks used in treatment or containment activities during immediate response to a discharge of a hazardous waste or an imminent and substantial threat of a discharge of hazardous waste.

In general, the provisions that apply to LQGs are as follows.

Assessment of Tank System Integrity: The integrity of the tank system must be assessed to determine that it is not leaking or unfit for use and that it is adequately designed and has sufficient structural strength and compatibility with the wastes to ensure it will not fail. An assessment must consider design standards, hazardous characteristics of the waste to be handled, existing corrosion protection methods,

documentation of the age of the tank (or estimate), and results of a leak test, internal inspection, or other tank integrity examination. A leak test is required for non-enterable, underground tanks and must be capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects (also required if used for other tanks). The assessment must be performed within 12 months after the date that the waste becomes a hazardous waste. Finally, the assessment must be reviewed and certified by an independent, qualified, registered professional engineer. The engineer's certification must state:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Design and Installation of New Tank Systems or Components: A LQG must also ensure that new tank systems or components are adequately designed (e.g., foundation, structural support, seams, connections, and pressure controls) and that the system has adequate structural strength, waste compatibility, and corrosion protection so that it will not collapse, rupture, or fail. These requirements are fairly detailed and may be found in 40 CFR §265.192. In general, an assessment similar to the one described for existing tank integrity (including certification by an engineer) must be performed. In addition, the assessment must consider the potential for corrosion if the tank is or will be in contact with the soil or with water and a determination of the type and degree of external corrosion protection that are needed to ensure the integrity of the tank system or component.

Containment and Detection of Releases: Secondary containment must be (exceptions are discussed below) provided for all new and existing tank systems in order to prevent the release of hazardous waste or hazardous waste constituents to the environment. (Note: *New tank system* and *existing tank system* are defined in Appendix L). Secondary containment systems must be capable of preventing the migration of wastes or accumulated liquid out of the system and capable of detecting and collecting releases and accumulated liquids until the collected material is removed. Secondary containment must include one or more of the following devices: 1) a liner (external to the tank), 2) a vault, 3) a double-walled tank, or 4) an equivalent device as approved by the Regional Administrator and the RRC. The secondary containment requirements are fairly detailed and may be found in 40 CFR §265.193.

Secondary containment **is not** required under certain circumstances. Tank systems, including sumps (see definition), that serve as part of a secondary containment system are exempted from these requirements. If inspected for leaks on a daily basis, any ancillary equipment such as aboveground piping, welded flanges, welded joints and connections, sealless or magnetic coupling pumps, sealless valves, and pressurized aboveground piping systems with automatic shut-off devices are not

required to have secondary containment. Also, a LQG may obtain from the Regional Administrator and the RRC (see 40 CFR §265.193(h) for procedure) a variance from the secondary containment requirements if it is demonstrated that either: 1) alternative design and operating practices, together with location characteristics, will prevent the migration of hazardous waste or hazardous waste constituents into ground water or surface water as effectively as secondary containment; or 2) a release that does migrate to ground water or surface water poses no substantial present or potential hazard to human health or the environment. (Note that if such a release occurs, you must comply with certain release mitigation and cleanup requirements.) New underground tank systems are not eligible for this variance. Numerous factors (found in 40 CFR §265.193(g)(1) and (2)) are considered in evaluating a variance request.

Also, tank systems that are used to store or treat hazardous waste which contains no free liquids and that are situated inside a building with an impermeable floor are exempted from the containment and release detection requirements of 40 CFR §265.193.

General Operating Requirements: In general, you must operate a hazardous waste tank system such that a release of the waste to the environment does not occur. Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the secondary containment system to rupture, leak, corrode, or otherwise fail. Also, you must use appropriate controls and practices (i.e., check valves, dry disconnect couplings, overfill prevention controls, maintenance of sufficient freeboard in uncovered tanks).

Inspections: LQGs are required to perform inspections of tank systems and remedy any deterioration or malfunction that is found. Also, the inspections must be documented in the operating record of the facility (i.e., site). LQGs must inspect daily:

- overfill/spill control equipment,
- aboveground portions of the tank system (for corrosion or leaks),
- data gathered from monitoring and leak detection equipment,
- the area and construction materials immediately surrounding the externally accessible portions of the tank system, and
- the integrity of the secondary containment system.

Cathodic protection systems (if present) must also be inspected, but at less frequent intervals. A cathodic protection system must be inspected for proper operation 6 months after installation and annually thereafter. Also, all sources of impressed current must be inspected and/or tested at least every other month. The following references may be used, where applicable, as guidelines in maintaining and inspecting cathodic protection systems: 1) National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85) - Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and 2) American Petroleum Institute (API) Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems."

Response to Leaks or Spills and Disposition of Leaking or Unfit-for-Use Tank Systems: A LQG is required to follow certain procedures if a hazardous waste tank system leaks, suffers a spill, or becomes unfit for use. The LQG must immediately remove the system from service and take the following steps:

- immediately stop the flow of hazardous waste into the tank system or secondary containment system and determine the cause of the release;
- remove the waste from the tank system or secondary containment system within 24 hours after detection or, if it can be demonstrated for a tank system that it is not possible, at the earliest practicable time remove as much of the waste as necessary to prevent further release and to allow inspection and repair (Note: All waste must be removed from a secondary containment system within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.); and
- prevent further migration of the waste to soils or surface water and remove and properly dispose of any visible contamination of the soil or surface water.

A release or spill of hazardous waste from a tank or secondary containment system is a discharge and must be reported as required by subsection (x) of Rule 98 (see Chapter 6). Notification and reporting is not required if the quantity of the spilled or leaked waste is less than or equal to one pound, and the released waste is immediately contained and cleaned up.

Closure and Post-Closure Care: The requirements for closure and post-closure care of tank systems and secondary containment systems (40 CFR §265.197) vary depending on the circumstances. These requirements are fairly extensive, and the applicable parts of the CFR (discussed below) should be studied. In general, a LQG is required to remove or decontaminate all waste residues, contaminated system equipment and components, contaminated soils, and structures. The closure plan, closure activities, and financial responsibility must meet the requirements of 40 CFR Part 265 Subparts G and H. If all contaminated soils cannot be practicably removed or decontaminated, then the tank system must be closed in accordance with the requirements of 40 CFR §265.310 (relating to requirements for landfill closure).

Special Requirements for Incompatible Wastes: Incompatible wastes, or incompatible waste and materials, must not be placed in the same tank system. Also, hazardous waste must not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material (Appendix J provides examples of incompatible wastes).

These requirements do not apply if 40 CFR §265.17(b) is complied with (also see "Elementary Neutralization Units").

Organic Air Emission Standards for Tank Systems: 40 CFR Part 265, Subpart J, requires that LQGs operate tank systems in compliance with the organic air emission standards in 40 CFR Subparts AA, BB and CC. A discussion of these requirements is provided on page 5-17.

SQG Standards for Use of Tank Systems

SQGs accumulating hazardous oil and gas waste in tanks must comply with the provisions of 40 CFR §265.201. These requirements are similar to some of the LQG requirements. General operating requirements are that:

- treatment or storage of hazardous waste in tanks must comply with 40 CFR §265.17(b) (see "Elementary Neutralization Units"),
- hazardous wastes or treatment reagents must not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode, or otherwise fail,
- uncovered tanks must be operated to maintain at least 2 feet of freeboard, unless the tank is equipped with a containment structure, a drainage control system, or a diversion structure with a capacity equal to the volume of the top 2 feet of the tank, and
- if waste is continuously fed into the tank, the tank must be equipped with a means to stop the waste inflow (e.g., a cut-off system or bypass).

SQGs must also inspect hazardous waste tank systems. Where present, SQGs must inspect:

- discharge control equipment (e.g., waste feed cut-off systems, by-pass systems, and drainage systems) at least once each operating day, to ensure that it is in good operating order,
- data gathered from monitoring equipment at least once each operating day to ensure that the tank is being operated according to its design,
- the level of the waste in the tank at least once each operating day to ensure 2 feet of freeboard is maintained (if required),
- the construction materials of the tank at least weekly to detect corrosion or leaking of fixtures or seams, and
- the construction materials of, and the area immediately surrounding, discharge confinement structures at least weekly to detect erosion or obvious signs of leakage.

Upon closure of a facility (i.e., site), SQGs must remove all hazardous waste from tanks, discharge control equipment, and discharge confinement structures.

SQGs must also comply with special requirements for ignitable or reactive waste. These wastes must not be placed in a tank unless: 1) the waste is treated, rendered, or mixed before or immediately after placement in a tank so that the resulting waste, mixture, or dissolution of material is no longer ignitable or reactive and 40 CFR §265.17(b) is complied with; or 2) the waste is stored or treated in such a way

that it is protected from any material or conditions that may cause the waste to ignite or react; or 3) the tank is used solely for emergencies. Also, if a SQG treats or stores ignitable or reactive waste in a covered tank, he must comply with the buffer zone requirements found in Tables 2-1 through 2-6 of the National Fire Protection Association's (NFPA) "Flammable and Combustible Liquids Code," (1977 or 1981).

Finally, SQGs must comply with requirements for incompatible wastes unless 40 CFR §265.17(b) is complied with (see "Elementary Neutralization Units"). Otherwise the SQG: 1) must not place incompatible wastes, or incompatible wastes and materials, in the same tank, and 2) must not place hazardous waste in an unwashed tank which previously held an incompatible waste or material. Appendix J provides examples of incompatible wastes.

ORGANIC AIR EMISSION STANDARDS FOR TANKS AND CONTAINERS

LQGs must comply with the organic air emission standards for tanks and containers of Subparts AA, BB, and CC of 40 CFR Part 265. 40 CFR Part 265 Subparts AA, BB, and CC establish standards for the control of air emissions from process vents, equipment leaks, and tanks and containers used to store or treat hazardous waste. In particular, the standards target volatile organic compounds. SQGs and CESQGs are not subject to these organic air emission standards.

Subpart AA is covered by 40 CFR 265.1030-1035 and applies to air emission standards for process vents. Subpart BB is covered by 40 CFR 265.1050-1064 and applies to air emission standards for equipment leaks. Subpart CC is covered by 40 CFR 265.1080-1091 and applies to air emission standards for tanks, surface impoundments, and containers. The final rule for these standards was published in 61 *Federal Register* 59932 (November 25, 1996). This final rule should be referenced for substantive amendments to the regulations in 40 CFR (edition revised as of July 1, 1995).

This guidance is intended to provide general information regarding the applicability and basic standards required for the control of air emissions. Because many of the requirements under the standards are detailed and specific to the type of device used, the reader is referred to the CFR and the final rule in 61 *Federal Register* 59932 (November 25, 1996). (**Important note:** The final rule in 61 *Federal Register* makes significant revisions and amendments to Subparts AA, BB, and CC. Any reference to the federal regulations must include this *Federal Register* notice.)

General Applicability

In general, 90-day accumulation units operated by LQGs are subject to the requirements of 40 CFR Part 265 Subparts AA, BB, and CC. SQGs and CESQGs **are not** subject to these requirements.

Other exclusions include:

- elementary neutralization units;

- waste water treatment systems regulated under CWA;
- satellite accumulation units;
- units with CAA controls for air toxics or new source performance standards;
- units used on-site for federal or state cleanups;
- containers with a capacity less than 26.4 gallons (0.1 m³);
- units managing mixed radioactive and hazardous waste;
- tanks or containers managing wastes from organic peroxide manufacturing or laboratory operations (provided certain notification requirements are met);
- units used by LQGs to recycle hazardous waste or manage reclaimed oil; and
- transporters storing manifested shipments of hazardous waste in containers meeting the requirements of 40 CFR §262.30 at a transfer facility for a period of ten days or less.

Subpart AA: Air Emission Standards for Process Vents
(40 CFR §§265.1030-1035)

Applicability: Subpart AA standards apply to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or stream stripping operations that manage hazardous wastes with organic concentrations of at least 10 ppmw, if these operations are conducted in one of the following:

- A unit that is subject to the permitting requirements of part 270, or
- A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of 40 CFR §262.34(a) (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of 40 CFR Part 270, or
- A unit that is exempt from permitting under the provisions of 40 CFR §262.34(a) (i.e., a 90-day tank or container).

For the purposes of Rule 98 applicability, this means LQGs are subject to these requirements. An example would be a process vent associated with an air stripping operation or carbon adsorption unit treating benzene-contaminated hydrotest water in a 90-day tank.

Standards for Process Vents: Total organic emissions from all affected process vents at the facility must be reduced below 1.4 kg/h (3 lb./h) and 2.8Mg/yr

(3.1 tons/yr.); or by the use of a control device, total organic emissions from all affected process vents at the facility must be reduced by 95 weight percent.

Standards for Closed Vent Systems and Control Devices: A control device involving vapor recovery (e.g., a condenser or carbon adsorber) must achieve the same reduction efficiency as for process vents.

Enclosed combustion devices (e.g., a vapor incinerator, boiler, or process heater) and flares will very rarely be used by operators regulated by Rule 98. In such an instances, the operator should refer to 40 CFR §265.1033(c)-(e). Standards for these devices are fairly extensive.

Also, control devices must be monitored and inspected to ensure proper operation and maintenance. 40 CFR §265.1033(f) establishes these requirements, which include flow and temperature monitoring for various control devices. 40 CFR §265.1034 establishes test methods and procedures (e.g., to test for compliance with no detectable emissions).

Recordkeeping Requirements: Recordkeeping requirements for process vents, closed vent systems and control devices are detailed. Essentially all information and data regarding the installation, description, locations, monitoring, and maintenance (including repairs) of these devices is required. 40 CFR §265.1035 provides the recordkeeping requirements.

Subpart BB: Air Emission Standards for Equipment Leaks
(40 CFR §§265.1050-1064)

Applicability: 40 CFR Subpart BB standards apply to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight that are managed in one of the following:

- A unit that is subject to the permitting requirements of part 270, or
- A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of 40 CFR §262.34(a) (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of 40 CFR Part 270, or
- A unit that is exempt from permitting under the provisions of 40 CFR §262.34(a) (i.e., a 90-day tank or container).

For the purposes of Rule 98 applicability, this means LQGs are subject to these requirements. An example would be equipment associated with an air stripping operation treating benzene-contaminated hydrotest water in a 90-day tank.

40 CFR §265.1050(d) and (e) **exclude** from the Subpart BB requirements equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for a period of less than 300 hours per calendar year; and equipment that is in vacuum service. However, the exclusion applies only if

records are kept for such equipment. Please note that standards for test methods and procedures and recordkeeping do apply to these types of equipment.

Standards: Subpart BB establishes standards for the monitoring, inspection, and operation of:

- pumps in light liquid service;
- compressors;
- pressure relief devices in gas/vapor service;
- sampling connecting systems;
- open-ended valves or lines;
- valves in gas/vapor service or in light liquid service;
- pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors; and
- closed-vent systems and control devices.

Subpart BB establishes standards that address necessary delay of repairs. Also, alternative standards are provided for valves in gas/vapor service or in light liquid service. The alternative standards are based on less than 2% leakage and/or alternative work practices for leak detection and repair.

Subpart BB also establishes requirements regarding test methods and recordkeeping.

The standards cited above are specific to each type of equipment. Please refer to Subpart BB for detailed guidance.

Subpart CC: Air Emission Standards for Tanks, Surface Impoundments, and Containers (40 CFR §§265.1080-1091)

Applicability: Subpart CC requirements apply to all facilities that treat, store, or dispose of hazardous waste in tanks, surface impoundments, or containers subject to either subparts I (relating to use and management of containers), J (relating to tank systems), or K (relating to surface impoundments) of Part 40 CFR Part 265. Large quantity generators that accumulate hazardous oil and gas waste in tank systems and/or containers are subject to the requirements of Subpart CC. Please note that Rule 98, subsection (m)(1), prohibits the storage of hazardous oil and gas waste in surface impoundments at generation sites.

For the purposes of Rule 98, Subpart CC **excludes** from air emission standards for tanks and containers:

- a container that has a design capacity less than or equal to 0.1 m³ (26.4 gallons);
- a tank in which an owner or operator has stopped adding hazardous waste and has begun implementing or completed closure pursuant to an approved closure plan;
- a waste management unit that is used solely for on-site treatment or storage of hazardous waste that is generated as the result of implementing remedial activities required under a federal or state corrective action authority;
- a waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act;
- *in general*, a hazardous waste management unit that the owner or operator certifies is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation; and
- a tank that has a process vent. *Process vent* means any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous waste distillation, fractionation, thin-film evaporation, or air or steam stripping operations.

In addition, Subpart CC excludes a tank or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste generation of less than 500 parts per million by weight (ppmw). The average VO concentration is determined using the waste determination procedures specified in 40 CFR §265.1084(a).^{*} The owner or operator shall review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous waste streams entering the unit.

^{*} Note: The waste determination procedures in 40 CFR §265.1084(a) specify that organic compounds in the waste with Henry's law constant values of less than 0.1 mole-fraction-in-the-gas-phase/ mole-fraction-in-the-liquid-phase (which can also be expressed as 1.8x10⁻⁶ atmospheres/gram-mole/m³) at 25° Celsius are not required to be included in the calculation of the average VO concentration. Appendix VI to 40 CFR Part 265 provides a list of organic compounds that meet this criteria.

Another exclusion from Part CC requirements is provided for a tank or container for which the organic content of all the hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process. To fall under this exclusion, Subpart CC requires that one of several conditions be achieved. In particular, the conditions relate to specific processes that remove or destroy the organics contained in the hazardous waste, and the rates and efficiency of which are defined by procedures specified in 40 CFR §265.1084(a) and (b) (i.e., waste determination procedures). Please refer to 40 CFR §265.1083(c)(2) for these detailed requirements.

Also excluded by 40 CFR §265.1083(c)(4) is a tank or container for which all hazardous waste in the unit either meets the numerical concentration limits for organic hazardous constituents specified in the Land Disposal Restrictions (40 CFR §268.40) or has been treated by the treatment technology established by EPA or an equivalent method for the waste in 40 CFR §268.42(a) and (b), respectively

Standards for Tanks: Tanks that are not excluded from Subpart CC, as described above, must meet the control standards of 40 CFR §265.1085. The controls require that the organic vapors be contained within an enclosed unit, such as a closed-top tank. In some cases, the vapors must also be vented to a control device that destroys or removes at least 95% of the organics.

Tanks may be subject to either “Level 1” controls or “Level 2” controls, depending on the vapor pressure of the waste in the tank and the capacity of the tank. Level 1 controls apply to the following: tanks $\geq 40,000$ gallons with vapor pressure < 0.75 psi; tanks $\geq 20,000$ but $< 40,000$ gallons with vapor pressure < 4.0 psi; and tanks $< 20,000$ gallons with vapor pressure < 11.1 psi. Level 1 controls simply require that tanks be equipped with a closed-top cover, such as a fixed roof. However, if the criteria (tank capacity versus vapor pressure) for Level 1 controls is exceeded, Level 2 controls must be implemented.

Level 2 control requirements are stricter. Level 2 tanks designs include: a tank with a fixed roof where the vapors are vented through a closed vent system to a control device that destroys or removes 95% of the organics; a fixed roof tank equipped with an internal floating roof; a tank equipped within an external floating roof; a pressure tank; or a tank located inside an enclosure that is vented through a closed vent system to an enclosed combustion control device.

40 CFR §265.1085 should be referenced for detailed requirements for the control of air emissions from tanks and the associated monitoring and recordkeeping requirements. Also, please refer to the appropriate sections of Subpart AA for specific guidance regarding closed vent systems and control devices.

Standards for Containers: Containers subject to Subpart CC requirements include 55-gallon drums, bags, totes, roll-offs, railcars, tank trucks, and any other portable unit in which hazardous waste is stored, treated, or otherwise handled.

As noted above, containers with a capacity less than 26.4 gallons (0.1 m^3) are excluded from the Subpart CC requirements. Containers with capacities greater than 26.4 gallons are subject to the Subpart CC requirements. However, Subpart CC

requirements reference, to some extent, the U.S. Department of Transportation (DOT) standards. The DOT standard containers are commonly used; therefore, most operators should already be complying with much of the Subpart CC requirements for containers.

Container standards are established for three levels. Level 1 containers are between 26.4 and 122 gallons; Level 2 containers are larger than 122 gallons and are not in light material service; and Level 3 containers are larger than 24.6 gallons and used to treat a hazardous waste by a stabilization process. Light material service means 20% or more of the organic material in the container has a vapor pressure greater than 0.3 kilopascals at 20°C.

Level 1 options for compliance include:

- meet DOT standards of 49 CFR Parts 107, 172, 173, 178, 179, and 180;
- cover the containers and ensure that there are no visible gaps; or
- use a vapor suppressing barrier on or above the container.

Level 2 options for compliance include:

- meet DOT standards of 49 CFR Parts 107, 172, 173, 178, 179, and 180;
- ensure no detectable emissions from the container under Method 21 of 40 CFR 60, Appendix A; or
- ensure the container is vapor tight under Method 27 of 40 CFR 60, Appendix A.

Level 3 options for compliance include:

- vent vapors from the container and destroy them in a control device; or
- put the container in a "Procedure T" 40 CFR 52.741 enclosure, vent vapors, and destroy them in a control device.

The container standards also include operation, design, inspection, repair, recordkeeping, and waste transfer requirements. 40 CFR §265.1087 should be referenced for detailed requirements.

LQG AND SQG MANAGEMENT STANDARDS: DISPOSITION OF HAZARDOUS OIL AND GAS WASTE

Rule 98, subsection (m), requires, with a few exceptions, that hazardous oil and gas waste be treated, stored, disposed of, recycled, or reclaimed at an off-site location as described below. In other words, Rule 98 generally prohibits such activities on the generation site. The exceptions to this general prohibition are also described below.

Transport to Another Facility

With a few exceptions (including applicability of other state and federal requirements), a generator must send his waste to one of the following categories of facilities for treatment, storage, disposal, recycling, or reclamation:

- an authorized recycling or reclamation facility;
- an authorized treatment, storage, or disposal facility;
- a facility located outside the United States, provided that the additional requirements applicable to international shipments (subsection (v)(1) of Rule 98) are met;
- a transfer facility, provided that the waste is packaged in containers as required by Rule 98, subsection (p), and the waste is stored at the transfer facility no longer than 10 days.

A Note on Transport of Hazardous Oil and Gas Waste Off-Site

Rule 8 (Water Protection) contains a provision that authorizes permitted oil and gas waste haulers, under certain conditions, to use RRC-permitted disposal facilities, disposal systems authorized under authority of a minor permit, and disposal facilities permitted by another agency or state. Rule 98, subsection (m)(2)(D), and Rule 8, subsection (f)(1)(C)(vi), provide that the use of an EPA-registered hazardous waste transporter, when required by Rule 98, satisfies the permitted waste hauler requirements of Rule 8.

Also, Rule 8, subsection (d)(1), provides that disposition of hazardous oil and gas waste as required by Rule 98 is authorized under Rule 8. In other words, shipments of hazardous oil and gas waste in compliance with Rule 98 requirements (e.g., use of a manifest and EPA-registered hazardous waste transporter) is authorized under Rule 8 and a minor permit under Rule 8 is not required. The manifest will be accepted as RRC authorization for disposal at a facility permitted by another agency (e.g., TCEQ) or another state facility. Refer to "Manifests" in this chapter and "Hazardous Oil and Gas Waste Transporter Standards" in Chapter 8.

On-Site Treatment Permitted by Rule 98

Rule 98, subsection (m), provides options for on-site treatment of certain hazardous oil and gas waste. RCRA permits are not required for these treatment options, although a wastewater treatment unit will need a permit under the Clean Water Act. As well, the following treatment units are excluded from the requirements of 40 CFR Part 265 (see 40 CFR §§265.1(c)(9) and (10)).

Please note that on-site treatment will require you to meet the land disposal restriction requirements (LDR) of 40 CFR Part 268. Be sure to read the next section on LDR requirements.

On-site treatment includes the following options.

An **Elementary Neutralization Unit** is a device which:

- is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in 40 CFR §261.22, or they are listed in 40 CFR Part 261, subpart D, only for this reason; and
- meets the definition of tank, tank system, container, transport vehicle, or vessel in 40 CFR §260.10 (also see the definitions in Appendix L).

A **Totally Enclosed Treatment Facility** may be used for on-site treatment of corrosive, ignitable, and reactive hazardous oil and gas waste. A totally enclosed treatment unit is a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment (e.g., a pipe in which waste acid is neutralized). EPA interpretation of “production process” excludes transportation operations, such as truck, rail, or pipeline. Therefore, totally enclosed treatment units may be appropriate only at E&P sites such as natural gas processing plants.

A **Wastewater Treatment Unit** is a device which:

- is part of a wastewater treatment facility that is subject to regulation under either section 402 or 307(b) of the Clean Water Act; and
- receives and treats or stores an influent wastewater that is a hazardous waste as defined in 40 CFR §261.3, or that generates and accumulates a wastewater treatment sludge that is a hazardous waste as defined in 40 CFR §261.3, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in 40 CFR §261.; and
- meets the definition of tank or tank system in 40 CFR §260.10 (also see the definition in Appendix L).

Typically, a wastewater treatment used in E&P operations has a NPDES (National Pollutant Discharge Elimination System) permit under section 402 of the Clean Water Act.

Note that an operator of a wastewater treatment unit must comply with 40 CFR §265.17(b) if he is diluting ignitable hazardous oil and gas waste (other than those with high total organic content (TOC > 10%) as defined in 40 CFR §268.42, Table 2), or reactive waste to remove the characteristic before land disposal. 40 CFR §265.17(b) requires that the operator must take precautions to prevent reactions which:

- generate extreme heat or pressure, fire or explosions, or violent reactions;
- produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;

- produce uncontrollable flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
- damage the structural integrity of the device or facility; or
- through other like means threaten human health or the environment.

You must document compliance with the requirements listed above. This documentation may be based on references to published scientific or engineering literature, data from trial tests, waste analyses, or the results of treatment of similar wastes by similar processes and under similar operating conditions.

Special Note Regarding Treatment in an Elementary Neutralization Unit, Totally Enclosed Treatment Unit, or Wastewater Treatment Unit: Waste that is managed *immediately upon generation* in the appropriate unit listed above is not included in the volume calculation for the purpose of determining the generation site classification (see Rule 98, (z)(B)(2), and 40 CFR 261.5(c)(2)). However, it is important to note that the land disposal restrictions of 40 CFR Part 268 do apply to these treated wastes when they are removed from the unit (see Land Disposal Restrictions below).

On-Site Treatment in Tanks and Containers: While waste is being accumulated on-site in accordance with the requirements applicable to your generator classification (see subsection (f) of Rule 98), you may treat hazardous oil and gas waste on-site in tanks or containers that comply with the applicable provisions of subsections (k) and (l) of Rule 98 (standards for use of containers and tank systems, respectively).

LAND DISPOSAL RESTRICTIONS (40 CFR PART 268)

Rule 98, subsection (e)(2), requires that Large Quantity Generators (LQGs) and Small Quantity Generators (SQGs) identify those hazardous oil and gas wastes that are prohibited from land disposal under the provisions of 40 CFR Part 268. With respect to disposal of those prohibited wastes, the generator must first comply with the Land Disposal Restrictions (LDR) of 40 CFR Part 268. CESQGs **are not** subject to the LDR. The LDR were established by the Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act (HSWA) enacted on November 8, 1984). The LDR, under HSWA, largely prohibit the land disposal (defined below) of untreated hazardous wastes.

Important note: This section provides *general* guidance for complying with Rule 98 requirements regarding the LDR of 40 CFR Part 268. Oil and gas operators should refer to 40 CFR Part 268 for specific requirements to ensure they are in full compliance.

The LDR found in 40 CFR Part 268 are intended to protect human health and the environment by establishing specific treatment standards for hazardous waste, or meet specified levels for hazardous constituents, prior to land disposal. “Land disposal” means placement in or on the land, except in a corrective action management unit, and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation,

salt bed formation, underground mine or cave, or placement in a concrete vault or bunker intended for disposal purposes. The LDR accomplishes its objective by establishing treatment standards for each hazardous waste code (e.g., D018 indicating benzene toxicity characteristic) and standards for managing hazardous wastes under the LDR (e.g., notifications, waste analysis plans, and recordkeeping). Once a hazardous waste is prohibited from land disposal, HSWA provides only two options: meet the treatment standards prior to land disposal; or dispose of the waste in a land disposal unit that has been found to satisfy the statutory no migration test.

Specifically, subsection (e)(2) of Rule 98 (relating to hazardous waste determination and land ban) requires that each LQG and SQG determine whether the hazardous oil and gas waste it generates is prohibited from land disposal under the provisions of 40 CFR Part 268. If the waste is prohibited from land disposal, the LQG or SQG must comply with all applicable provisions of 40 CFR Part 268 (relating to management of land ban wastes) prior to disposing of such waste.

Exclusions From Regulation Under LDR

As noted above, CESQGs are excluded from regulation under Part 268. Also excluded from regulation under Part 268 are low volume releases such as de minimis losses and laboratory chemicals that are mixed with a facility's wastewater and are discharged under the regulation of the Clean Water Act (CWA). Finally, Part 268 excludes newly identified or listed hazardous wastes for which EPA has yet to promulgate land disposal prohibitions or treatment standards.

Hazardous oil and gas wastes are also excluded from the LDR if they are disposed of in facilities that have met the "no migration test." No migration means that the disposal facility has demonstrated that there will be no migration of hazardous constituents from the unit far as long as the waste remains hazardous. Typically, "no migration" facilities have been Class I hazardous waste injection wells.

Subsection (e)(3)(B)(v) of Rule 98 exempts from Rule 98 regulation debris, as that term is defined in 40 CFR §268.2, that is an oil and gas waste and: 1) that contains or contained a hazardous oil and gas waste listed in 40 CFR, Part 261, Subpart D or that exhibits or exhibited a hazardous waste characteristic identified in 40 CFR Part 261, Subpart C; and 2) that has been treated using one of the required destruction technologies specified in Table 1 of 40 CFR §268.45 or that is determined by the administrator and RRC to be no longer contaminated with hazardous oil and gas waste.

LDR Requirements of Hazardous Oil and Gas Waste Generators

LQGs and SQGs must determine if their hazardous oil and gas waste is subject to LDR at the point of generation. Just as in making a hazardous waste determination, the generator may make this determination by testing or by applying knowledge. If a hazardous oil and gas waste is subject to LDR and does not meet the applicable treatment standards (see "Treatment Standards"), the generator must notify the receiving TSDF in writing (40 CFR §268.7(a)(1)). The written notice accompanies the hazardous waste manifest and includes the following information:

- EPA hazardous waste code(s);
- Identification of the waste as a wastewater or nonwastewater;
- Manifest number associated with the waste shipment;
- Waste analysis data (if available);
- For certain wastes, any additional hazardous constituents present; and
- Where hazardous debris is to be treated by an alternative technology under 40 CFR §268.45, a statement to that effect and the contaminants subject to treatment.

If a generator's hazardous oil and gas waste already meets applicable treatment standards, the generator, in accordance with 40 CFR §268.7(a)(2), must submit the following signed certification, which accompanies the notification statement described above.

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA section 3004(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

Generators may treat hazardous oil and gas waste in accumulation containers or tanks provided that the operator complies with the container and tank standards of 40 CFR Part 265, Subparts I and J, respectively. A generator who treats hazardous oil and gas waste to meet the LDR treatment standards must comply with the requirements of 40 CFR 268.7(a)(4), which require the preparation of a waste analysis plan (WAP). The WAP must justify the frequency of testing based on a detailed analysis of a representative sample of the waste. The WAP must contain all information necessary for proper treatment of the waste in accordance with Part 268, and must be retained in the facility's records. Generators who are conducting partial treatment, but not treating to meet treatment standards, or that are treating wastes in units not subject to 40 CFR 262.34 (relating to accumulation time), are not required to have a WAP.

LDR Requirements for Characteristically Hazardous Oil and Gas Waste

Just like listed hazardous wastes, restricted characteristically hazardous wastes must also meet treatment standards before they are eligible for land disposal. Since the LDR attach to the waste at the point of generation, treatment standards applicable to characteristic hazardous wastes cannot be circumvented by simply removing the characteristic. Once a waste has been decharacterized and treated to

meet standards that applied at the point of generation, however, the waste may be land disposed in a RCRA Subtitle D facility (e.g., an industrial waste landfill).

Special requirements have been established regarding wastes that exhibit a characteristic (40 CFR §268.9). As a general principle, a hazardous waste must meet all applicable treatment standards to be eligible for land disposal. For purposes of LDR, a generator with a listed hazardous waste must determine if the waste also exhibits any hazardous waste characteristics. If the listed waste exhibits a characteristic of hazardous waste, the treatment standard for both waste codes must be met. An exception occurs, however, when the treatment standard for the listed waste specifically includes a standard for the constituent that causes the waste to exhibit the characteristic. In that case, compliance with the treatment standard for the listed waste will satisfy both requirements, as the standard for the listed waste will operate in lieu of the treatment standard for the characteristic waste code.

While characteristic wastes are subject to the standard notification requirements of 40 CFR §268.7, there are special provisions for wastes from which the characteristic has been removed. When these wastes meet treatment standards and no longer exhibit any characteristic, LDR notification and certification paperwork need not accompany the shipment to a Subtitle D facility. Instead, 40 CFR 268.9(d) requires that a one-time notice and certification be filed with the implementing agency and maintained on site. Subsequent shipments of similar waste would not require additional notice except on an annual basis if the process or recipient facility changed. The one-time notice must include the following information:

- Name and address of the RCRA Subtitle D facility receiving the waste shipment;
- A description of the waste as initially generated, including the applicable EPA Hazardous Waste Number(s), treatability group(s), and underlying hazardous constituents (as defined in 40 CFR 268.2(i) in D001 and D002 wastes prohibited under 40 CFR §268.37, or D012-D043 wastes under 40 CFR §268.38); and
- One of the following certifications (40 CFR 268.7(b)(5)) signed by an authorized representative:
 - For wastes with treatment standards expressed as concentrations in the waste extract or in the waste (40 CFR §268.41 or §268.43), or for wastes prohibited under 40 CFR §268.32 or RCRA section 3004(d) which are not subject to any treatment standards under 40 CFR Subpart D:

I certify under penalty of law that I personally have examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the performance levels specified in 40 CFR part 268, subpart D, and all applicable prohibitions set

forth in 40 CFR 268.32 or RCRA section 3004(d) without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

- For waste with treatment standards expressed as technologies (40 CFR §268.42):

I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.42. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

- For wastes with treatment standards expressed as concentrations in the waste pursuant to 40 CFR §268.43, if in compliance with the treatment standards in 40 CFR Part 268 Subpart D is based in part or in whole on the analytical detection limit alternative specified in 40 CFR §268.43(c):

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by incineration in units operated in accordance with 40 CFR part 264, subpart O or 40 CFR part 265, subpart O, or by combustion in fuel substitution units operating in accordance with applicable technical requirements, and I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

- For characteristic wastes D001, D002, and D012-D043 that are: subject to the treatment standards in 40 CFR §268.40 (other than those expressed as a required method of treatment); that are reasonably expected to contain underlying hazardous constituents as defined in 40 CFR §268.2(i); are treated on-site to remove the hazardous characteristic; and are then sent off-site for treatment of underlying constituents:

I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false

certification, including the possibility of a fine and imprisonment.

Important Note: EPA has yet to provide regulatory guidance to clarify that hazardous waste which has been decharacterized and treated to LDR standards may be disposed of in Class II oil and gas waste disposal wells. Until that time, such treated hazardous oil and gas waste must be managed as described above or disposed of in a Class I disposal well.

SQG Manifest Exclusion and the LDR

Subsection (o)(1)(E) of Rule 98 provides that a SQG can establish a “hazardous waste reclamation agreement” (or “tolling agreement”) and not be required to comply with the manifest provisions of Rule 98. One of the criteria for use of the hazardous waste reclamation agreement (Rule 98, (o)(1)(E)(iii)) is that the SQG comply with the provisions of 40 CFR §268.7(a)(10) (relating to land disposal restricted wastes subject to tolling agreements) if the waste is determined to be prohibited from land disposal under subsection (e)(2) of this section (relating to land disposal restricted wastes).

In general, 40 CFR §268.7(a)(10) requires that the SQG comply with the applicable notification and certification requirements for the initial shipment of the waste subject to the agreement. Also, a copy of the notification, certification, and tolling agreement must be kept on-site for at least three years after termination or expiration of the agreement.

Treatment Standards

40 CFR Part 268 establishes treatment standards for listed hazardous waste and characteristically hazardous waste. A hazardous waste may be land disposed only after being treated to meet the standards. The treatment standards are provided in two tables.

The “Consolidated Table of Treatment Standards” provided in 40 CFR §268.40 sets standards for specific wastewaters and non-wastewaters. The standards may be constituent concentrations of the waste or the waste extract, or the standards may be specified technologies.

The “Universal Treatment Standards (UTS),” provided in 40 CFR §268.48, set standards for hazardous constituents. The purpose of the UTS is to provide a consistent standard for hazardous constituents that may be present in several specific wastes listed in the Consolidated Table of Treatment Standards.

Hazardous oil and gas waste generators who wish to treat their waste on-site should refer to 40 CFR §§268.40 and 268.48 for guidance in meeting treatment standards.

LQG AND SQG MANAGEMENT STANDARDS: USE OF MANIFESTS

General Requirements

A LQG or SQG must prepare a manifest form each time he transports, or offers for transport, hazardous oil and gas waste to an authorized facility (for authorized facilities, see "Disposition"). The use of a manifest form ***is not required*** under certain conditions (see "When is a Manifest Form Not Required?").

The LQG or SQG must specify on the manifest one authorized facility to handle the hazardous oil and gas waste described on the manifest (the "primary designated facility").

The LQG or SQG may also specify on the manifest one alternate authorized facility to handle the hazardous oil and gas waste (the "alternate designated facility") in the event an emergency prevents delivery of the hazardous oil and gas waste to the primary designated facility.

A situation may occur where the transporter is unable to deliver the hazardous oil and gas waste to the primary designated facility or the alternate designated facility. Chapter 8 discusses the transporter requirements of Rule 98 and the role the generator must take in ensuring proper transportation of his hazardous waste.

What Manifest Form Must You Use?

If the waste was generated in Texas and is being transferred to an authorized facility located within Texas, the generator must use the TCEQ Uniform Hazardous Waste Manifest ("TCEQ manifest"). An example of the TCEQ manifest is provided in Appendix I.

If the authorized facility is located outside Texas, but within the U.S. (in a "consignment state"), the generator must use the manifest specified by the consignment state. If the consignment state does not specify a particular manifest form for use, then the generator must use the TCEQ manifest.

In certain instances, you may generate a hazardous oil and gas waste in a state of the U.S. other than Texas. In those instances, the generator must use the TCEQ manifest if transporting the waste to an authorized facility located within Texas.

When is a Manifest Form Not Required?

CESQGs are not required to use the manifest.

An SQG is not required to prepare a manifest form if his hazardous oil and gas waste is reclaimed under a contractual agreement, or "hazardous waste reclamation agreement" (also see "SQG Exception from Manifest Requirements" in Chapter 8). The hazardous waste reclamation agreement must provide that:

- the type of hazardous oil and gas waste and frequency of shipments are specified; and

- the vehicle used to transport the hazardous oil and gas waste to the hazardous waste reclamation facility and to deliver regenerated material back to the generator is owned and operated by the hazardous waste reclamation facility.

Also, the SQG must maintain a copy of the hazardous waste reclamation agreement in his files for a period of at least three years after termination or expiration of the reclamation agreement.

Finally, the SQG must comply with the provisions of 40 CFR §268.7(a)(10) (relating to land ban wastes subject to tolling agreements) if the waste is determined to be prohibited from land disposal under subsection (e)(2) of Rule 98 (relating to land ban wastes). See “SQG Manifest Exclusion and the LDR for more information.

Use of the Manifest

Instructions for completing the TCEQ hazardous waste manifest are provided in Appendix I.

Shipments Within Texas

The generator must ensure that the manifest consists of at least the number of copies that will provide the generator, each transporter, and the owner or operator of the designated facility with one copy each for their records and one additional copy to be returned to the generator by the owner or operator of the designated facility to which the waste was delivered. For example, if the generator is sending waste to a facility and one transporter makes a direct delivery, four copies would be required.

This provision and the following required procedure ensure that the generator documents the proper delivery of his hazardous oil and gas waste to the authorized facility.

The generator must:

- sign the manifest certification by hand;
- obtain the handwritten signature of the initial transporter and date of acceptance of the shipment by the initial transporter on the manifest;
- retain one copy of the manifest signed by the initial transporter until the copy signed by the operator of the designated facility is received;
- give the transporter the remaining copies of the manifest; and
- obtain one copy of the manifest, signed by the owner or operator of the designated facility that received the hazardous oil and gas waste, and retain that copy for three years from the date the hazardous oil and gas waste was accepted for shipment by the initial transporter.

**Shipments Within the United States Solely by Water
(Bulk Shipments Only)**

The generator must send three copies of the manifest, dated and signed in accordance with the provisions applicable to shipments within Texas (see above) to either:

- the owner or operator of the designated facility; or
- if exported by water, the last water transporter expected to handle the hazardous oil and gas waste in the United States. Copies of the manifest are not required for each transporter.

Rail Shipments Within the United States

For rail shipments that originate at the generation site, the generator must send at least three copies of the manifest, dated and signed in accordance with the provisions applicable to shipments within Texas, to:

- the next non-rail transporter, if any;
- the designated facility, if transported solely by rail; or
- if exported by rail, the last rail transporter expected to handle the hazardous oil and gas waste in the United States.

Shipments to a Designated Facility Located Outside Texas

If a shipment is made to a designated facility in an authorized state that has not yet obtained authorization from the EPA to regulate that particular waste as hazardous, the generator must determine that the owner or operator of the designated facility agrees to sign and return the manifest to the generator and that any out-of-state transporter agrees to comply with Rule 98 requirements applicable to transporters).

LQG AND SQG MANAGEMENT STANDARDS: PRE-TRANSPORTATION REQUIREMENTS; PACKAGING, LABELING, MARKING AND PLACARDING

Packaging

Before transporting hazardous oil and gas waste or offering hazardous oil and gas waste for transportation off-site, an LQG or SQG must package the hazardous oil and gas waste in accordance with the applicable DOT packaging regulations set out in 49 CFR Parts 173, 178, and 179.

Labeling

Before transporting hazardous oil and gas waste or offering hazardous oil and gas waste for transportation off-site, LQGs and SQGs must label each package that

contains hazardous oil and gas waste in accordance with the applicable DOT regulations set out in 49 CFR Part 172.

Marking

Before transporting hazardous oil and gas waste or offering hazardous oil and gas waste for transportation off-site, LQGs and SQGs must mark each package that contains hazardous oil and gas waste in accordance with the applicable DOT regulations set out in 49 CFR Part 172.

Non-bulk (110 gallons or less as specified in 40 CFR §262.32(b)), must be marked with the following words and information. Such words and information must be displayed in accordance with the applicable requirements of 49 CFR §172.304. The generator must include his name and address and the manifest document number in the appropriate space:

HAZARDOUS WASTE-Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

Generator's Name and Address: _____

Manifest Document Number: _____

Placarding

Before transporting hazardous oil and gas waste or offering hazardous oil and gas waste for transportation off-site, LQGs and SQGs must placard the vehicle or vehicles used to transport such hazardous oil and gas waste, or offer to the initial transporter the appropriate placards. Appropriate placards shall be determined according to DOT regulations set out in 49 CFR Part 172, Subpart F.

LQG AND SQG MANAGEMENT STANDARDS: RECORDKEEPING AND REPORTING

Recordkeeping

Rule 98, subsection(u), establishes specific recordkeeping requirements. The following paragraphs provide an overview of these recordkeeping requirements.

Waste Determination: Each LQG and SQG must keep records of any and all test results, waste analyses, or other determinations made in accordance with the hazardous waste determination requirements of Rule 98, subsection(e), for at least three years from the date that the waste was last sent to an authorized facility (also see "Hazardous Waste Determination" in Chapter 2).

Reports: LQGs and SQGs must maintain for at least three years records of annual reports, exception reports, and inspection reports.

Additional Recordkeeping for LQGs and SQGs: LQGs and SQGs must also maintain for at least three years records of compliance with applicable Rule 98 requirements, such as Preparedness and Prevention Plans, Contingency Plans and Emergency Procedures, Personnel Training, Container and Tank Inspections, and Manifests (including land disposal notification and certification).

Extension of Recordkeeping Period: The three-year period for recordkeeping is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or upon request of the RRC.

Reporting

Annual Reports: Any generator who is classified as an LQG or SQG during any calendar month of a calendar year must prepare and submit a single copy of an annual report to the RRC on Railroad Commission Form H-21. The required H-21 form with instructions will be mailed to each registered site contact person. Otherwise, the form and instructions will be available at RRC district offices and at RRC headquarters in Austin. *Do not send biennial reports to the U.S. EPA.*

Remember, CESQGs are not required to submit an annual report. Therefore, a generator who has been classified and reported as a LQG or SQG in previous years is not required to submit a report for a subsequent year in which the site remained CESQG for all months of the year.

The annual report must be filed on or before the first day of March of the following calendar year and must be accompanied by the fee assessed under the provisions of Rule 98, subsection (z), (discussed under "Fees" in Chapter7).

The annual report must contain a certification signed by the generator. The annual report must cover activities occurring at the generation site during the month(s) of the reporting year that the site was classified as a LQG or SQG and will include the following information as required on the annual report form:

- the name of the generator followed by the generator's P-5 operator number in parentheses, the EPA ID number for the generation site, and the address of the generation site or other site-identifying information (such as the lease number, unit number, or T-4 number (in the case of pipelines);
- the calendar year covered by the report;
- the name, EPA ID number, if any, and address for each authorized facility within the United States to which hazardous oil and gas waste was shipped during the year;
- the name and EPA ID number of each transporter used during the year for shipments to an authorized facility within the United States;
- a description, EPA hazardous waste number (from 40 CFR Part 261, Subpart C or D), United States DOT hazard class, and quantity of each hazardous oil and gas waste shipped to an authorized facility within the

United States. This information must be listed by the EPA ID number of each facility to which hazardous oil and gas waste was shipped. If the waste was shipped to an authorized facility that does not have an EPA ID number, the type of facility (reclamation or recycling) must be designated on the report;

Inspection Reports: A copy of each inspection report (also see "Standards for Use of Tank Systems, Inspections") required by Rule 98, subsection (t)(4), must be retained by the generator for a period of at least three years from the due date of the report.

Extension: The periods of record retention specified above are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or upon request by the RRC.

Exception Reports

LQGs: An LQG who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 35 days from the date the hazardous oil and gas waste was accepted by the initial transporter for shipment must contact the transporter and, if necessary, the owner or operator of the designated facility to determine the status of the hazardous oil and gas waste shipment.

An LQG must submit an exception report to the RRC if he has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 45 days from the date the hazardous oil and gas waste was accepted by the initial transporter for shipment. The exception report must include:

- a legible copy of the manifest for that shipment of hazardous oil and gas waste for which the generator does not have confirmation of delivery; and
- a letter signed by the generator explaining the efforts taken to locate the hazardous oil and gas waste and the results of those efforts.

SQGs: A SQG who does not receive confirmation of delivery of hazardous oil and gas waste by receipt of a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 60 days from the date the hazardous oil and gas waste was accepted by the initial transporter for shipment, must submit to the RRC an exception report. The exception report must include:

- a legible copy of the manifest for which the generator does not have confirmation of delivery; and
- a notation, either typed or handwritten, indicating that the generator has not received confirmation of delivery of the shipment to the designated facility.

Exception Reports for Interstate Shipments: In the case of interstate shipments of hazardous oil and gas waste for which a manifest has not been returned within 45 days of acceptance of the hazardous oil and gas waste for shipment by the initial transporter, an LQG or SQG shall notify the appropriate regulatory agency of the state in which the designated facility is located, and the appropriate regulatory agency

of each state in which the shipment may have been delivered, that the manifest has not been received. If a state required to be notified has not received interim or final authorization pursuant to RCRA, the LQG or SQG shall notify the administrator that the manifest has not been returned.

Additional Reporting

The RRC may require any generator of hazardous oil and gas waste to furnish additional reports concerning the quantities and disposition of hazardous oil and gas waste generated.

CHAPTER 6

DISCHARGES AND EMERGENCY PERMITS

DISCHARGES

Reporting Requirements

If a discharge in which a reportable quantity of a hazardous substance, including hazardous oil and gas waste, occurs, you must immediately, upon discovery of the discharge, notify the appropriate RRC district office. You must also notify federal authorities as required by 40 CFR Parts 117, 263, and 302 (see CFR for details). Notification to the **National Response Center (NRC)** will meet the immediate notification requirements of these parts of the CFR. **The NRC toll free phone number is (800) 424-8802.**

The RRC and the NRC will request the following information:

- name of the reporter;
- name and address of the company represented by the reporter;
- phone number where the reporter can be contacted;
- date, time, and location of the incident;
- the extent of injuries if any; and
- classification, name, and quantity of hazardous materials (or wastes) involved, if such information is available.

Under some circumstances, a written report must be provided to the NRC. Refer to the CFR for details.

What is a Reportable Quantity?

A reportable quantity of hazardous substance is the quantity released in a 24-hour period that must be reported under the provisions of 40 CFR Part 117 (for spills to water) or Part 302 (for any spill). Parts 117 and 302 contain extensive lists of chemicals and materials (hazardous materials) and their respective reportable quantities.

Initial Response

Immediate Action: Upon discovery of a discharge, either of hazardous oil and gas waste or a substance that creates a hazardous oil and gas waste, the generator or transporter must take appropriate immediate action to protect human health and the environment. For example:

- dike the discharge area or construct drainage to direct the discharge to containment; and
- notify local authorities (where appropriate).

Permitting Exemption: The prohibition of on-site treatment, storage, disposal, recycling, or reclamation activities of Rule 98, subsection (m), (also see "Disposition of Hazardous Oil and Gas Waste") does not apply when you are engaged in treatment or containment activities during immediate response to a discharge of hazardous oil and gas waste.

Also, the prohibition does not apply when you are responding to an imminent and substantial threat of a discharge of hazardous oil and gas waste or a discharge of a substance which, when discharged, would become a hazardous oil and gas waste.

This exception from the prohibition applies only if any hazardous oil and gas waste associated with such discharge is managed in accordance with applicable Rule 98 provisions regarding preparedness and prevention, personnel training, standards for use of containers, and standards for use of tanks (see Chapter 5). Also, the exemption only applies if you have reported the discharge as described above.

Continued Measures

Once the immediate response is completed, the Rule 98 prohibition of on-site treatment, storage, disposal, recycling, or reclamation activities becomes effective. Any activities that continue or are initiated after the immediate response is over are subject to the prohibition and all applicable requirements of Rule 98.

Discharge Clean Up: Clean up of the discharge must be initiated as soon as possible after discovery of the spill. Immediate clean up must result in the recovery of as much as of the spilled material as can be recovered by ordinary physical means.

Cleanup should be conducted such that the site is returned to a condition where pre-existing background levels are reached as soon as reasonably possible.

In some instances, it may not be feasible to reach pre-existing background levels. Therefore, as an alternative, the cleanup may be conducted as required or approved by the RRC so that the hazardous oil and gas waste discharge no longer presents a hazard to human health or the environment. In reviewing clean up proposals, the RRC will take into consideration the geology and hydrology of the discharge site, the nature and quantity of the hazardous oil and gas waste discharged, and the present and anticipated future use of the discharge site.

Note that a hazardous waste determination must be made for any nonexempt waste generated during any cleanup. For example, if nonexempt crude oil-contaminated soil is excavated for disposal and exhibits the toxicity characteristic (e.g., for benzene), it is considered to contain hazardous waste and is subject to Rule 98 management standards. See "Derived From and Contained-In Rules" in Chapter 2 on page 2-16.

Transportation of Hazardous Oil and Gas Waste from a Discharge Site Under Exceptional Circumstances

If a RRC official (or any other state, local government or federal agency official) acting within the scope of his official responsibilities determines that immediate removal of the hazardous oil and gas waste associated with a discharge is necessary to protect human health or the environment, that official may authorize the removal of the hazardous oil and gas waste by transporters who do not have EPA ID numbers and without the preparation of a manifest.

EMERGENCY PERMITS FOR THE TREATMENT, STORAGE, OR DISPOSAL OF HAZARDOUS OIL AND GAS WASTE

In instances where the RRC finds that a discharge either of hazardous oil and gas waste or of a substance that creates a hazardous oil and gas waste poses a danger to life or property, the RRC may authorize by emergency permit the treatment, storage, or disposal of hazardous oil and gas waste. Appendix K provides application instructions and requirements for obtaining an emergency permit.

An emergency permit may be oral or written. When an oral emergency permit is obtained, a written permit must be issued within five days of issuance of the oral permit.

Although Rule 98 prohibits on-site treatment, storage, and disposal, an emergency permit takes precedence. An emergency permit is limited to a term of 90 days and may be terminated by the RRC without notice if the RRC determines that termination is appropriate to protect human health or the environment.

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CHAPTER 7

LQG AND SQG FEES

BASE FEE

The base fees for LQGs and SQGs are provided below. However, it is important to note that a generator's final fee determination may be impacted by his response to a discharge event or the amount of generated hazardous oil and gas waste he recycles, reuses, or reclaims. These provisions are explained in the following sections.

LQG Base Fee

Each generator who is classified as an LQG during any calendar month of a calendar year shall pay to the RRC a base annual fee for generation of hazardous oil and gas waste of \$1,000.00. (Also, see "Additional Fee for Less Than 50% Recycling.")

SQG Base Fee

Each generator who is not classified as an LQG during any calendar month of a calendar year, but is classified as an SQG during a calendar month of that calendar year, shall pay to the RRC a base annual fee for generation of hazardous oil and gas waste of \$200.00. (Also, see "Additional Fee for Less Than 50% Recycling.")

CESQG Fee Exemption

No annual fee for generation of hazardous oil and gas waste is assessed against a generator who is classified as a CESQG during all months of the entire calendar year in which he generates hazardous oil and gas waste.

BASE FEE DETERMINATION - WASTE VOLUMES FROM SPILLS OR DISCHARGES

For the purposes of determining the base fee, a generator's classification may be determined after excluding quantities of hazardous oil and gas waste generated in connection with a spill or discharge, including contaminated soil, media, and debris, **if**, within 30 days after discovery of such spill or discharge, the generator files with the Hazardous Waste Program at RRC headquarters in Austin a one-page typewritten report with the RRC that describes:

- the nature and quantity of spilled or discharged material;
- the reason for or cause of the spill or discharge; and
- the steps that have been or will be taken by the generator to minimize the likelihood of a similar spill or discharge at that site.

Important note: This provision does not affect the generator classification on the annual report or your regulatory requirements attached to the actual waste generation.

It is only used for base fee calculation purposes. For example, you may be classified a LQG for one month of the year because the volume of waste generated by a spill event caused you to exceed 1,000 kg, whereas your site is normally SQG. If you submitted the required spill report, your base fee would be for the normal SQG volume of waste, even though you file an annual report as a LQG and meet LQG management standards for the waste generated in that month.

ADDITIONAL FEE FOR LESS THAN 50% RECYCLING

The base annual fee is doubled **if less than 50%** of the hazardous oil and gas wastes generated at the site during the entire calendar year are recycled, reused or reclaimed.

Important note: A LQG's or SQG's records must support the 50% recycling claim. An operator who submits the base fee without an additional fee indicates that he has recycled, reused, or reclaimed at least 50% of the generated hazardous oil and gas waste.

Subsection (z)(2) of Rule 98, by reference to subsection (e)(3)(B)(i)-(iii), provides that the recycled or reclaimed materials listed in 40 CFR §§261.6(a)(2) and (3), and §279.10(b) may be counted as recycled, reused, or reclaimed for the purpose of calculating the additional annual fee. Subsection (z)(2) also allows certain treated hazardous oil and gas wastes to be counted as reclaimed for the purpose of calculating the additional annual fee. The following paragraphs describe these materials. (Also see "Oil and Gas Wastes Excluded From Regulation or Subject to Reduced Regulation Under Rule 98 " in Chapter 2).

Waste Subject to Reduced Regulatory Requirements - 40 CFR §261.6(a)(2): 40 CFR §261.6(a)(2) excludes certain reclaimed wastes from comprehensive hazardous waste regulation, but instead requires that they be managed according to the requirements of 40 CFR Part 266 ("Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities"). Recyclable materials excluded by §261.6(a)(2) include:

- spent lead-acid batteries being reclaimed;
- hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under 40 CFR Parts 264 or 265; and
- materials from which precious metals are reclaimed.

Recycled Materials Excluded from Hazardous Waste Regulation - 40 CFR §261.6(a)(3): 40 CFR §261.6(a)(3) provides that the following recyclable materials are not subject to hazardous waste regulation:

- industrial ethyl alcohol that is reclaimed;
- scrap metal;

- fuels produced from the refining of oil-bearing hazardous waste along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices (this exemption does not apply to fuels produced from oil recovered from oil-bearing hazardous waste, where such recovered oil is already excluded under 40 CFR §261.4(a)(12));
- hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under 40 CFR §279.11 and so long as no other hazardous wastes are used to produce the hazardous waste fuel;
- hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil specification under 40 CFR §279.11; and
- oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil specification under 40 CFR §279.11.

Used Lubricating Oil - 40 CFR §279.10(b): 40 CFR §279.10(b) (and §261.6(a)(4)) excludes from hazardous waste regulation used lubricating oil that is recycled and is hazardous solely because it exhibits a hazardous characteristic. Instead, recycled used lubricating oil is subject to the requirements of 40 CFR Part 279 ("Standards for the Management of Used Lubricating Oil"). Note that Part 279 specifies that used lubricating oil that contains more than 1,000 ppm total halogens is presumed to be hazardous waste subject to all hazardous waste regulations (40 CFR §279.10(b)). However, this presumption may be rebutted if the generator can show that the used lubricating oil does not contain any of the hazardous constituents listed in 40 CFR Part 261, Appendix VIII.

Also, 40 CFR §279.10(b) addresses mixtures of used lubricating oil and hazardous waste. Most mixtures of used lubricating and hazardous waste are subject to full hazardous waste regulation. Two important exceptions that are subject to the Part 279 requirements are: a mixture of used lubricating oil and characteristically ignitable hazardous waste, **if** the mixture does not exhibit the ignitability characteristic; and a mixture of used lubricating oil and CESQG hazardous waste subject to the reduced requirements of 40 CFR §261.5.

Hazardous Oil and Gas Waste Treated in Elementary Neutralization Units, Totally Enclosed Treatment Units, and Wastewater Treatment Units: Subsection (z)(2) of Rule 98 also provides that hazardous waste treated in accordance with subsection (m)(2)(B) may be counted as reclaimed hazardous oil and gas waste. Subsection (m)(2)(B) specifies treatment of hazardous oil and gas wastes in elementary

neutralization units, totally enclosed treatment units, and wastewater treatment units. Such treatment is an exception to the general prohibition of on-site treatment or storage of hazardous oil and gas waste (see "On-Site Treatment Permitted by Rule 98" in Chapter 5 for additional description).

FEE PAYMENT

The base fee and any additional fee assessed must be paid to the RRC on or before the first day of March of the year following the calendar year in which the waste was generated . Fees assessed under this subsection must be tendered to the RRC with the annual report (see "Annual Reports" in Chapter 5).

CHAPTER 8

STANDARDS APPLICABLE TO TRANSPORTERS OF HAZARDOUS OIL AND GAS WASTE

APPLICABILITY

The transporter standards of Rule 98, subsection (w), apply to persons transporting hazardous oil and gas waste from a LQG site or SQG site to any designated facility. The transporter requirements do not apply in the case of hazardous oil and gas waste generated by CESQGs. Nor do the transporter standards apply to on-site movements of hazardous oil and gas waste.

The Rule 8 requirement that oil and gas waste be transported by a permitted oil and gas waste hauler does not apply when hazardous oil and gas waste is transported by a registered hazardous waste transporter (i.e., a transporter having an EPA identification number).

In addition to these transporter standards, a transporter must comply with standards applicable to generators of hazardous oil and gas waste if he mixes hazardous oil and gas wastes of different DOT shipping descriptions by placing them into a single container.

It is important to note that if a transporter mixes a hazardous oil and gas waste with a hazardous waste regulated by the TCEQ (i.e., a hazardous waste not regulated under Rule 98), the mixture becomes a TCEQ-regulated hazardous waste. The transporter **must comply with the TCEQ's standards for generators of hazardous waste** (found in Title 30, Texas Administrative Code, Chapter 335, Subchapter C) for such mixtures.

The following guidance addresses the most common hazardous oil and gas waste transport situations--a generator using an over-the-road transporter to deliver waste to a facility within Texas or a facility in a neighboring state.

Less frequently, transportation of hazardous oil and gas waste will be by rail or water (bulk shipments), or to a facility outside the United States. The standards applicable to transportation of waste transported by rail or by water, or outside the U.S., vary from the guidance provided below. Therefore, you should refer to the appropriate portions of subsection (w) of Rule 98, in the event such a shipment is necessary.

PERMITS AND EPA ID NUMBERS

No transporter may transport hazardous oil and gas waste unless he has an EPA ID number (see Chapter 4). The transporter may obtain an EPA ID number by filing EPA Form 8700-12 with the appropriate regulatory entity (either EPA, TCEQ, the RRC, or another state).

TRANSFER FACILITY REQUIREMENTS

No transporter may store manifested hazardous oil and gas waste at a transfer facility for any period of time unless:

- the hazardous oil and gas waste is packaged in containers that meet the packaging requirements of Rule 98, subsection(p), (also see page 5-34); and
- the hazardous oil and gas waste is stored at the transfer facility for no longer than 10 days.

MANIFEST REQUIREMENTS

A transporter may not accept hazardous oil and gas waste for shipment from a generator unless it is accompanied by a manifest signed in accordance with the manifest provisions of Rule 98, subsection (o), (also see “Manifests” in Chapter 5).

Before transporting hazardous oil and gas waste, the transporter must sign and date the manifest acknowledging acceptance of the hazardous oil and gas waste from the generator. The transporter must return a signed copy of the manifest to the generator before leaving the generation site.

The transporter must ensure that the manifest accompanies the shipment of hazardous oil and gas waste.

A transporter who delivers a hazardous oil and gas waste to another transporter or to the designated facility must:

- obtain the date of delivery and the handwritten signature of the other transporter or of the owner or operator of the designated facility on the manifest;
- retain one copy of the manifest in accordance with the manifest recordkeeping provisions (see “Manifests” in Chapter 5); and
- give the remaining copies of the manifest to the accepting transporter or owner or operator of the designated facility.

Additionally, a transporter may not accept hazardous oil and gas waste for export from a primary exporter or other person if:

- the transporter knows that the shipment does not conform to the EPA Acknowledgment of Consent; or
- except in the case of shipments by rail, an EPA Acknowledgment of Consent is not attached to the manifest (or shipping paper in the case of exports by water (bulk shipment)).

An EPA Acknowledgment of Consent means the cable sent to EPA from the U.S. Embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment. To obtain an EPA Acknowledgment of Consent, a primary exporter of hazardous waste must notify EPA of an intended export before such waste is scheduled to leave the United States. The requirements for notification of intent to export are provided in 40 CFR §262.53. Once consent is obtained, EPA will issue to the primary exporter the EPA Acknowledgment of Consent.

A sample of an EPA Acknowledgment of Consent, which is cited by EPA in the RCRA Inspection Manual, is provided below.

May 19, 1992

This document will serve as the EPA Acknowledgment of Consent for SCHUYLKILL METALS CORPORATION, BATON ROUGE, LOUISIANA to export 250 TONS OF NICKEL/CADMIUM BATTERIES (EPA HAZARDOUS WASTE NUMBER D006) to S.N.A.M., CEDEX, FRANCE. This consent is VALID for the period of APRIL 28, 1992 TO APRIL 27, 1993. Please be advised that a copy of this Consent must accompany each shipment of hazardous waste and that a copy of the manifest must be left with the U.S. Customs Service, when the material leaves the jurisdiction of the United States.

SQG EXCEPTION FROM MANIFEST REQUIREMENTS

A transporter accepting hazardous oil and gas waste for shipment from an SQG need not comply with the manifest or recordkeeping requirements of Rule 98 provided that the hazardous oil and gas waste is being transported pursuant to a hazardous oil and gas waste reclamation agreement that meets the following federal requirements:

- the transporter records, on a log or shipping paper, the following information for each shipment:
 - the name, address, and EPA ID number of the generator of the hazardous oil and gas waste,
 - the quantity of hazardous oil and gas waste accepted,
 - all DOT required shipping information, and
 - the date the hazardous oil and gas waste is accepted; and
- the transporter carries this record when transporting the hazardous oil and gas waste to the reclamation facility; and

- the transporter retains these records for a period of at least three years after termination or expiration of the agreement.

The requirements of Rule 98, subsection (o)(1)(E), also apply to hazardous oil and gas waste reclamation agreements and are discussed on page 5-32 under “When is a Manifest Not Required.”

DELIVERY OF WASTE

The transporter must deliver the entire quantity of hazardous oil and gas waste accepted from a generator or a transporter to:

- the primary designated facility;
- the alternate designated facility, if the hazardous oil and gas waste cannot be delivered to the primary designated facility because an emergency prevents delivery;
- the next designated transporter; or
- for exports, the location designated in the EPA Acknowledgment of Consent.

Inability to Deliver Waste

If the hazardous oil and gas waste cannot be delivered as provided above, the transporter must contact the generator for further directions and must revise the manifest according to the generator's instructions.

RECORDKEEPING

A transporter of hazardous oil and gas waste must keep a copy of the manifest signed by the generator, himself, and the next transporter or the owner or operator of the designated facility for a period of three years from the date the hazardous oil and gas waste was accepted by the initial transporter (Rule 98, subsection (w)(7)).

The period of transporter record retention is extended automatically during the course of any unresolved enforcement action regarding the regulated activity or upon request by the RRC.

ADDITIONAL REQUIREMENTS APPLICABLE TO INTERNATIONAL SHIPMENTS

Exports

Any person who exports hazardous oil and gas waste to a foreign country must comply with the requirements of 40 CFR Part 262, Subpart E. Primary exporters of hazardous oil and gas waste generated within the State of Texas must submit to the

RRC a copy of the annual report submitted to the administrator in compliance with 40 CFR §262.56.

Imports

Any person who imports hazardous oil and gas waste generated outside the United States into the State of Texas will be considered the generator of such hazardous oil and gas waste for the purposes of Rule 98. Such a person must comply with the applicable provisions of Rule 98, except that:

- the name and address of the foreign generator and the importer's name, address, and EPA ID number shall be substituted on the manifest in place of the generator's name, address, and EPA ID number;
- the importer or the importer's agent must sign and date the certification and obtain the signature of the initial transporter in place of the generator's certification statement on the manifest; and
- the importer shall use the manifest form prescribed by the TCEQ, or its successor.

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APPENDIX A

STATEWIDE RULE 98

“STANDARDS FOR MANAGEMENT OF HAZARDOUS OIL AND GAS WASTE”

(T.A.C. TITLE 16, PART I, CHAPTER 3, SECTION 3.98)

Source Note: The provisions of this §3.98 adopted to be effective April 1, 1996, 20 TexReg 9423; amended to be effective May 4, 1999, 24 TexReg 3313; amended to be effective September 10, 2001, 26 TexReg 6870; amended to be effective November 24, 2004, 29 TexReg 10728

TITLE 16. ECONOMIC REGULATION, PART I. RAILROAD COMMISSION OF TEXAS, CHAPTER 3. OIL AND GAS DIVISION, CONSERVATION RULES AND REGULATIONS

3.98 STANDARDS FOR MANAGEMENT OF HAZARDOUS OIL AND GAS WASTE

(a) Purpose. The purpose of this section is to establish standards for management of hazardous oil and gas waste.

(b) Definitions. The following words and terms, when used in this section, shall have the following meanings, unless the context clearly indicates otherwise.

(1) Activities associated with the exploration, development, and production of oil or gas or geothermal resources--Activities associated with:

(A) the drilling of exploratory wells, oil wells, gas wells, or geothermal resource wells;

(B) the production of oil, gas, or geothermal resources, including:

(i) activities associated with the drilling of injection water source wells that penetrate the base of usable quality water;

(ii) activities associated with the drilling of cathodic protection holes associated with the cathodic protection of wells and pipelines subject to the jurisdiction of the commission to regulate the production of oil, gas, or geothermal resources;

(iii) activities associated with natural gas or natural gas liquids processing plants or reservoir pressure maintenance or repressurizing plants;

(iv) activities associated with any underground natural gas storage facility, provided the terms "natural gas" and "storage facility" shall have the meanings set out in Texas Natural Resources Code, § 91.173;

(v) activities associated with any underground hydrocarbon storage facility, provided the terms "hydrocarbons" and "underground hydrocarbon storage facility" shall have the meanings set out in Texas Natural Resources Code, § 91.201; and

(vi) activities associated with the storage, handling, reclamation, gathering, transportation, or distribution of oil or gas prior to the refining of such oil or prior to the use of such gas in any manufacturing process or as a residential or industrial fuel;

(C) the operation, abandonment, and proper plugging of wells subject to the jurisdiction of the commission to regulate the exploration, development, and production of oil or gas or geothermal resources; and

(D) the discharge, storage, handling, transportation, reclamation, or disposal of waste or any other substance or material associated with any activity listed in subparagraphs (A)-(C) of this paragraph.

(2) Administrator--The administrator of the United States Environmental Protection Agency, or the administrator's designee.

(3) Authorized facility--Either:

(A) an authorized recycling or reclamation facility; or

(B) an authorized treatment, storage, or disposal facility.

(4) Authorized recycling or reclamation facility--A facility permitted in accordance with the requirements of 40 CFR Parts 270 and 124 or Part 271, if required, at which hazardous waste that is to be recycled or reclaimed is managed and whose owner or operator is subject to regulation under:

(A) 40 CFR, § 261.6(c) or an equivalent state program (concerning facilities that recycle recyclable materials); or

(B) 40 CFR, Part 266, Subparts C (concerning recyclable materials used in a manner constituting disposal), F (concerning recyclable materials used for precious metal recovery), or G (concerning spent lead-acid batteries being reclaimed), or an equivalent state program.

(5) Authorized representative--The person responsible for the overall operation of all or any part of a facility or generation site.

(6) Authorized treatment, storage, or disposal facility--A facility at which hazardous waste is treated, stored, or disposed of that:

(A) has received either:

(i) a permit (or interim status) in accordance with the requirements of 40 CFR, Parts 270 and 124 (EPA permit); or

(ii) a permit (or interim status) from a state authorized in accordance with 40 CFR, Part 271; and

(B) is authorized under applicable state or federal law to treat, store, or dispose of that type of hazardous waste. If a hazardous oil and gas waste is destined to a facility in an authorized state that has not yet obtained authorization from the EPA to regulate that particular hazardous waste, then the designated facility must be a facility allowed by the receiving state to accept such waste and the facility must have a permit issued by the EPA to manage that waste.

(7) Centralized Waste Collection Facility or CWCF--A facility that meets the requirements of subsection (m)(3) of this section.

(8) Certification--A statement of professional opinion based upon knowledge and belief.

(9) CFR--Code of Federal Regulations.

(10) CESQG--A conditionally exempt small quantity generator, as described in subsection (f)(1) of this section (relating to generator classification and accumulation time).

(11) Commission--The Railroad Commission of Texas or its designee.

(12) Container--Any portable device in which material is stored, transported, treated, disposed of, or otherwise handled.

(13) Contaminated media--Soil, debris, residues, waste, surface waters, ground waters, or other materials containing hazardous oil and gas waste as a result of a discharge or clean-up of a discharge.

(14) Department of Transportation or DOT--The United States Department of Transportation.

(15) Designated facility--An authorized facility that has been designated on the manifest by the generator pursuant to the provisions of subsection (o)(1) of this section (relating to general manifest requirements).

(16) Discharge or hazardous waste discharge--The accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

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

(18) Disposal facility--A facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.

(19) Elementary neutralization unit--A device consisting of a tank, tank system, container, transport vehicle, or vessel that is used for neutralizing wastes that are hazardous wastes:

(A) only because they exhibit the characteristic of corrosivity under the test referred to in subsection (e)(1)(D)(ii) of this section (relating to characteristically hazardous wastes); or

(B) they are identified in subsection (e)(1)(D)(i) of this section (relating to listed hazardous wastes) only because they exhibit the corrosivity characteristic.

(20) Empty container--A container or an inner liner removed from a container that has held any hazardous waste and that meets the requirements of 40 CFR, § 261.7(b).

(21) Environmental Protection Agency or EPA--The United States Environmental Protection Agency.

(22) EPA Acknowledgment of Consent--The cable sent to the EPA from the United States Embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment.

(23) EPA hazardous waste number--The number assigned by the EPA to each hazardous waste listed in 40 CFR, Part 261, Subpart D, and to each characteristic identified in 40 CFR, Part 261, Subpart C.

(24) EPA identification number or EPA ID Number--The number assigned by the EPA to each hazardous waste generator, transporter, and treatment, storage, or disposal facility.

(25) EPA Form 8700-12--The EPA form that must be completed and delivered to the commission in order to obtain an EPA ID number.

(26) Executive director of the TCEQ--The executive director of the TCEQ or the executive director's designee.

(27) Facility--All contiguous land, including structures, other appurtenances, and improvements on the land, used for recycling, reclaiming, treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations thereof).

(28) Generate--To produce hazardous oil and gas waste or to engage in any activity (such as importing) that first causes a hazardous oil and gas waste to become subject to regulation under this section.

(29) Generation site--

(A) Excluding sites addressed in subparagraphs (B) (relating to pipelines) and (C) (relating to gas plants) of this paragraph, any of the following operational units that are owned or operated by one person and other sites at which hazardous oil and gas waste is generated or where actions first cause a hazardous oil and gas waste to become subject to regulation, including but not limited to:

(i) all oil and gas wells that produce to one set of storage or treatment vessels, such as a tank battery, the storage or treatment vessels, associated flowlines, and related land surface;

(ii) an injection or disposal site, that is not part of a generation site described in subparagraph (A)(i) of this paragraph, its related injection or disposal wells, associated injection lines, and related land surface;

(iii) an offshore platform; or

(iv) any other site, including all structures, appurtenances, or other improvements associated with that site that are geographically contiguous, but which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right-of-way.

(B) In the case of a pipeline system (other than a field flowline or injection line system), an equipment station (such as a pump station, breakout station, or compressor station) or any other location along a pipeline (such as a drip pot, pigging station, or rupture), together with any and all structures, other appurtenances, and improvements:

(i) that are geographically contiguous with or are physically related to an equipment station or other location described in this paragraph, but excluding any pipeline that connects two or more such stations or locations;

(ii) that are owned or operated by one person; and

(iii) at which hazardous oil and gas waste is produced or where actions first cause a hazardous oil and gas waste to become subject to regulation.

(C) A natural gas treatment or processing plant or a natural gas liquids processing plant.

(30) Generator--Any person, by generation site, whose act or process produces hazardous oil and gas waste or whose act first causes a hazardous oil and gas waste to become subject to regulation under this section, or such person's authorized representative.

(31) Geothermal energy and associated resources--Geothermal energy and associated resources as defined in Texas Natural Resources Code, § 141.003(4).

(32) Hazardous oil and gas waste--Any oil and gas waste determined to be hazardous under the provisions of subsection (e) of this section (relating to hazardous waste determination).

(33) Hazardous oil and gas waste constituent--A hazardous waste constituent of hazardous oil and gas waste.

(34) Hazardous waste--A hazardous waste, as defined in 40 CFR, § 261.3, including a hazardous oil and gas waste.

(35) Hazardous waste constituent--A constituent that caused the administrator to list a hazardous waste in 40 CFR, Part 261, Subpart D, or a constituent listed in table 1 of 40 CFR, § 261.24.

(36) International shipment--The transportation of hazardous oil and gas waste into or out of the jurisdiction of the United States.

(37) Land disposal--The placement in or on the land, except as otherwise provided in 40 CFR Part 268, including placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, or underground mine or cave, or placement in a concrete vault or bunker intended for disposal purposes.

(38) LQG--A large quantity generator, as described in subsection (f)(3) of this section (relating to generator classification and accumulation time).

(39) Management--The systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

(40) Manifest--The shipping document required pursuant to the provisions of subsection (o) of this section (relating to manifests).

(41) Manifest document number--The 12-digit identification number assigned to a generator by the EPA, plus a unique five-digit document number assigned to the manifest by the generator, or preprinted on the manifest, for recording and reporting purposes.

(42) Oil and gas waste--Waste generated in connection with activities associated with the exploration, development, and production of oil or gas or geothermal resources, or the solution mining of brine. Until delegation of authority under RCRA to the commission by EPA, the term "oil and gas waste" shall exclude hazardous waste arising out of or incidental to activities associated with natural gas treatment or natural gas liquids processing plants and reservoir pressure maintenance or repressurizing plants.

(43) On-site--At the generation site.

(44) Operator--The person responsible for the overall operation of a facility.

(45) Owner--The person who owns a facility or part of a facility.

(46) P-5 operator number--The number assigned by the commission to each person who conducts any of the activities specified in § 3.1 of this title (relating to Organization Report; Retention of Records; Notice Requirements) within the State of Texas.

(47) Person--An individual, firm, joint stock company, corporation, organization, government, governmental subdivision or agency, business trust, estate, trust, partnership, association, or any other legal entity.

(48) Pressure maintenance plant or repressurizing plant--A plant for processing natural gas for reinjection (for reservoir pressure maintenance or repressurizing) in a natural gas recycling project. These terms do not include a compressor station along a natural gas pipeline system or a pump station along a crude oil pipeline system.

(49) Primary exporter--Any person who is required to originate the manifest for a shipment of hazardous waste in accordance with 40 CFR, Part 262, Subpart B, or equivalent state provision, that identifies a treatment, storage, or disposal facility in a receiving country as the facility to which the hazardous waste will be sent and any intermediary arranging for the export.

(50) Receiving country--A foreign country to which a hazardous waste is sent for the purpose of treatment, storage, or disposal (except short-term storage incidental to transportation).

(51) Reclaim--To process to recover a usable product or to regenerate.

(52) Recycle--To beneficially use, reuse, or reclaim hazardous waste.

(53) Reportable quantity--The quantity of a hazardous substance released in a 24-hour period that must be reported under the provisions of 40 CFR, Part 117 (for spills to water) or Part 302 (any spill).

(54) Resource Conservation and Recovery Act or RCRA--The federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 USC § 6901, et seq.

(55) Reuse--To employ hazardous waste as an ingredient in an industrial process to make a product (other than recovery of distinct components of hazardous waste as separate end products) or effective substitution of hazardous waste for a commercial product used in a particular function or application.

(56) Sludge--Any solid, semi-solid, or liquid waste generated from a wastewater treatment plant or water supply treatment plant, or air pollution control facility, exclusive of the treated effluent from a wastewater treatment plant.

(57) Solid waste--Any waste identified in 40 CFR, § 261.2.

(58) Solution mined brine--Brine extracted from a subsurface salt formation through dissolution of salt in the formation.

(59) SQG--A small quantity generator, as described in subsection (f)(2) of this section (relating to generator classification and accumulation time).

(60) State--Any of the 50 states that compose the United States, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands.

(61) Storage--The holding of hazardous waste for a temporary period (excluding storage at the site of generation during the applicable accumulation time period specified in subsection (f) of this section), at the end of which the hazardous waste is recycled, reclaimed, treated, disposed of, or stored elsewhere.

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

(63) Tank system--A tank and its associated ancillary equipment and containment system.

(64) TCEQ--The Texas Commission on Environmental Quality or its successor agencies.

(65) Totally enclosed treatment facility--A facility for the treatment of hazardous waste that is directly connected to an industrial production process and that is constructed and operated in a manner that prevents the release of any hazardous waste or hazardous waste constituent into the environment during treatment (e.g., a pipe in which waste acid is neutralized).

(66) 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.

(67) Transport vehicle--A motor vehicle or rail car used for the transportation of cargo. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

(68) Transportation--The movement of hazardous waste by air, rail, highway, or water.

(69) Transporter--A person engaged in the off-site transportation of hazardous waste.

(70) Treatment--Any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, to recover energy or material resources from the waste, or to render such waste non-hazardous or less hazardous, safer to transport, store, or dispose of, amenable for recovery or storage, or reduced in volume. The term does not include any activity that might otherwise be considered treatment that is exempt from regulation under this section (such as neutralization of caustic or acidic fluids in an elementary neutralization unit).

(71) TCEQ-Form 0311--The TCEQ Uniform Hazardous Waste Manifest form. This form can be obtained from the commission.

(72) United States--The 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

(73) Used Oil--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.

(74) Vessel--Every description of watercraft used or capable of being used as a means of transportation on the water. The term does not include a structure that is or is designed to be, permanently affixed to one location, or a drilling or workover vessel that is stationary or fixed for the performance of its primary function.

(75) Waste--Any solid waste, as that term is defined in 40 CFR, § 261.2.

(76) Wastewater treatment unit--A device (such as a hydrostatic test water treatment unit) that:

(A) is a tank or tank system comprising part of a wastewater treatment facility that is subject to regulation under either §§ 402 or 307(b) of the Clean Water Act, 33 USC §§ 1342 or 1317(b); and

(B) receives and treats or stores an influent wastewater that is a hazardous waste, that generates and accumulates a wastewater treatment sludge that is a hazardous waste, or treats or stores a wastewater treatment sludge that is a hazardous waste.

(77) Water (bulk shipment)--The bulk transportation of hazardous waste that is loaded or carried on board a vessel without containers or labels.

(c) Applicability.

(1) General.

(A) This section applies to any person who generates hazardous oil and gas waste and to any person who transports hazardous oil and gas waste.

(B) An owner or operator of a treatment, storage, or disposal facility regulated by the TCEQ's industrial and hazardous waste program, shall be subject to the standards for generators of hazardous waste found in Title 30, Texas Administrative Code, Chapter 335, Subchapter C (TCEQ standards for generators) if the facility generates a new waste that contains hazardous oil and gas waste and waste regulated by the TCEQ's industrial and hazardous waste program.

(2) Requirements Cumulative. The provisions of this section are in addition to applicable provisions contained in any other section, order, policy, rule, or statutory

authority of the commission. In the event of a conflict between this section and any other section, order, policy, or rule of the commission, this section shall control.

(d) General Prohibitions. No person may cause, suffer, allow, or permit the collection, handling, storage, transportation, treatment, or disposal of hazardous oil and gas waste in a manner that would violate the provisions of this section.

(e) Hazardous Waste Determination.

(1) Determination. A person who generates a waste shall determine if such waste is hazardous oil and gas waste as provided in this subsection. A hazardous oil and gas waste is a waste that::

(A) is defined in subsection (b) of this section (relating to definitions) as an oil and gas waste;

(B) is not described in 40 CFR, § 261.4(a) (which describes wastes that are not considered solid wastes);

(C) is not described in 40 CFR, § 261.4(b) (which describes solid wastes that are exempt from regulation under RCRA Subtitle C); and

(D) is identified as a hazardous waste either:

(i) in 40 CFR, Part 261, Subpart D (regarding listed hazardous wastes);
or

(ii) in 40 CFR, Part 261, Subpart C (regarding characteristically hazardous wastes), as determined either:

(I) by testing the waste:

(-a-) in accordance with methods described in 40 CFR, Part 261, Subpart C; or

(-b-) in accordance with an equivalent method approved by the administrator under 40 CFR, § 260.21; or

(II) by applying knowledge of the hazard characteristics of the waste in light of the materials or processes used.

(2) Land Ban. Each LQG and SQG shall determine whether the hazardous oil and gas waste it generates is prohibited from land disposal under the provisions of 40 CFR, Part 268. If the waste is prohibited from land disposal, the LQG or SQG must comply with all applicable provisions of 40 CFR, Part 268 (concerning management of land ban wastes) prior to disposing of such waste.

(3) Exclusions and Exemptions.

(A) Notwithstanding the provisions of subsection (e)(1) of this section, in the event the administrator determines, in accordance with the provisions of 40 CFR, § 260.22, that a particular oil and gas waste that is considered a hazardous oil and gas waste because it meets criteria set out in subsection (e)(1)(D)(i) of this section (relating to listed hazardous wastes) should not be considered a hazardous waste, such waste shall be exempt from regulation under this section.

(B) Notwithstanding the provisions of subsection (e)(1) of this section the following are exempt from regulation under this section:

(i) any oil and gas waste described in 40 CFR, § 261.6(a)(2) (concerning recyclable materials) that is managed as provided in applicable provisions of 40 CFR, Part 266, Subparts C-H, and 40 CFR, Parts 270 and 124;

(ii) any oil and gas waste described and recycled, reclaimed, or reused as provided in 40 CFR, § 261.6(a)(3) (concerning recyclable materials);

(iii) used oil that is not considered a hazardous waste under the provisions of 40 CFR, § 279.10(b) and that is managed as provided in 40 CFR, Part 279;

(iv) dielectric fluid containing polychlorinated biphenyls (PCBs) and electric equipment containing such fluid that are regulated under 40 CFR, Part 761 and that are hazardous only because they exhibit the characteristic of toxicity for D018-D043 under the test required under subsection (e)(1)(D)(ii) of this section (relating to characteristically hazardous wastes);

(v) debris, as that term is defined in 40 CFR, § 268.2, that is an oil and gas waste:

(I) that contains or contained a hazardous oil and gas waste listed in 40 CFR, Part 261, Subpart D or that exhibits or exhibited a hazardous waste characteristic identified in 40 CFR, Part 261, Subpart C; and

(II) that has been treated using one of the required destruction technologies specified in Table 1 of 40 CFR, § 268.45 or that is determined by the administrator to be no longer contaminated with hazardous oil and gas waste; and

(vi) hazardous oil and gas waste remaining in an empty container.

(f) Generator Classification and Accumulation Time.

(1) Conditionally Exempt Small Quantity Generator.

(A) To be classified as a conditionally exempt small quantity generator (CESQG) during any calendar month, a generator of hazardous oil and gas waste must:

(i) generate no more than 100 kilograms (220.46 pounds) of hazardous oil and gas waste in that calendar month; and

(ii) accumulate no more than 1,000 kilograms (2204.60 pounds) of hazardous oil and gas waste on-site at any one time.

(B) Except as provided in subsection (f)(5) of this section, a CESQG must comply with all requirements of this section applicable to CESQGs.

(C) If a CESQG generates in one calendar month, or accumulates on-site at any one time, more than a total of one kilogram (2.20 pounds) of any acute hazardous waste listed in 40 CFR, §§ 261.31, 261.32 or 261.33(e) or a total of 100 kilograms (220.46 pounds) of contaminated media resulting from the clean up of a discharge into or on any land or water of any acute hazardous waste listed in 40 CFR, §§ 261.31, 261.32, or 261.33(e), all such acute hazardous wastes must be managed as though generated by an LQG. The LQG accumulation time period for such acute hazardous wastes shall begin at such time as the maximum quantity specified in this subparagraph is exceeded.

(2) Small Quantity Generator.

(A) To be classified as a small quantity generator (SQG) in any calendar month, a generator of hazardous oil and gas waste must:

(i) generate less than 1,000 kilograms (2204.60 pounds) of hazardous oil and gas waste in that calendar month;

(ii) not allow any particular quantity of hazardous oil and gas waste to remain on-site for a period of more than:

(I) 180 days from the date that particular quantity was generated; or

(II) 270 days from the date that particular quantity was generated, but only if the waste must be transported or offered for transport to a treatment, storage, or disposal facility that is located a distance of 200 miles or more from the point of generation; and

(iii) not accumulate more than 6,000 kilograms (13,227.60 pounds) of hazardous oil and gas waste on-site at any one time.

(B) An SQG must accumulate all hazardous oil and gas waste in tanks or containers that meet the requirements of this section and, except as provided in subsection (f)(5) of this section, comply with all requirements of this section applicable to SQGs.

(C) The accumulation period specified in subsection (f)(2)(A)(ii) of this section may be extended an additional 30 days if the commission, at its sole discretion, determines that unforeseen, temporary, and uncontrollable circumstances require that hazardous oil and gas waste remain on-site for a longer time period.

(3) Large Quantity Generators.

(A) Any generator of hazardous oil and gas waste not classified as a CESQG or SQG is classified as a large quantity generator (LQG).

(B) An LQG must accumulate hazardous oil and gas waste in tanks or containers that meet the requirements of this section and, except as provided in

subsection (f)(5) of this section, comply with all other requirements of this section applicable to LQGs.

(C) An LQG shall not accumulate any particular quantity of hazardous oil and gas waste on-site for more than 90 days from the date that particular quantity was generated, unless an extension to such 90-day period has been granted in accordance with the provisions of subsection (f)(4)(D) of this section.

(D) The 90-day accumulation period specified in subsection (f)(4)(C) of this section may be extended an additional 30 days if the commission, at its sole discretion, determines that unforeseen, temporary, and uncontrollable circumstances require that hazardous oil and gas waste remain on-site for longer than 90 days.

(4) Accumulation in Containers at the Point of Generation.

(A) *(See note below)* Notwithstanding the foregoing provisions of subsection (f) of this section, an LQG or SQG may accumulate in containers up to 55 gallons of hazardous oil and gas waste or a total of one quart of acute hazardous wastes listed in 40 CFR, § 261.33(e) without having to manage such hazardous oil and gas waste in accordance with the accumulation time limits applicable to LQGs or SQGs or with the provisions of subsections (q) (relating to preparedness and prevention), (r) (relating to contingency plan and emergency procedures), (s) (relating to personnel training), (t) (relating to standards for use of containers), and (u) (standards for use of tank systems) of this section, provided that the requirements of subsection (f)(4)(B) of this section are met.

(B) All hazardous oil and gas waste subject to the exemption of subsection (f)(4)(A) of this section must be accumulated in containers that:

(i) are at a location that is:

(I) under the control of the generator; and

(II) at or near the point of generation;

Note: 3.98(f)(4)(A) references to other subsections contain typographical errors and should read as follows:

(A) *Notwithstanding the foregoing provisions of subsection (f) of this section, an LQG or SQG may accumulate in containers up to 55 gallons of hazardous oil and gas waste or a total of one quart of acute hazardous wastes listed in 40 CFR, § 261.33(e) without having to manage such hazardous oil and gas waste in accordance with the accumulation time limits applicable to LQGs or SQGs or with the provisions of subsections (h) (relating to preparedness and prevention), (i) (relating to contingency plan and emergency procedures), (j) (relating to personnel training), (k) (relating to standards for use of containers), and (l) (standards for use of tank systems) of this section, provided that the requirements of subsection (f)(4)(B) of this section are met.*

(ii) meet the applicable requirements of 40 CFR, §§ 265.171, 265.172, and 265.173(a) (concerning container condition, compatibility of waste with container, and closing containers); and

(iii) are marked with the words "Hazardous Waste" or with other words that identify the contents of the containers.

(C) If the amount of hazardous waste accumulated on-site at or near the point of generation exceeds the maximum amount specified in subsection (f)(4)(A) of this section, the generator must, with respect to such excess waste, comply with all applicable provisions of this section within three days of the date that such maximum amount is exceeded.

(5) Episodic Generation. Except as otherwise provided in this paragraph, if a generator's classification varies from one month to another, the hazardous oil and gas waste generated during any particular month shall be managed in accordance with the requirements applicable to the generator's classification for that month.

(A) If hazardous oil and gas waste generated by a generator who is classified as a CESQG during a particular month is mixed with waste generated in a month during which the generator is considered an LQG, the mixture shall be managed in accordance with the standards applicable to LQGs.

(B) If hazardous oil and gas waste generated by a generator who is classified as a CESQG during a particular month is mixed with waste generated in a month during which the generator is considered an SQG, the mixture shall be managed in accordance with the standards applicable to SQGs.

(C) If hazardous oil and gas waste generated by a generator who is classified as an SQG during a particular month is mixed with waste generated in a month during which the generator is considered an LQG, the mixture shall be managed in accordance with the standards applicable to LQGs.

(g) Notification. A person who is considered an LQG or SQG under the provisions of this section must notify the commission of the activities of such person that are subject to the provisions of this section and obtain an EPA ID number by filing the prescribed form (currently EPA Form 8700-12) with the commission. Such notification must be made upon the later of 90 days after the effective date of this section or within ten days of the date that the LQG or SQG becomes subject to the provisions of this section.

(h) Preparedness and Prevention.

(1) General. In addition to all other applicable requirements of this section, all generators of hazardous oil and gas waste shall employ reasonable and appropriate measures (considering the nature and location of the facility and the types and quantities of hazardous oil and gas waste maintained at the site) in the operation and maintenance of his or her generation site to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous oil and gas

wastes or hazardous oil and gas waste constituents to air, soil, or surface water that could threaten human health or the environment.

(2) LQGs and SQGs. LQGs and SQGs who accumulate hazardous oil and gas waste at the generation site must comply with the provisions applicable to owners or operators of 40 CFR, Part 265, Subpart C (concerning preparedness and prevention).

(i) Contingency Plan and Emergency Procedures.

(1) LQGs. LQGs who accumulate hazardous oil and gas waste at the generation site must comply with the provisions applicable to owners or operators of 40 CFR, Part 265, Subpart D (concerning contingency plan and emergency procedures).

(2) SQGs. SQGs who accumulate hazardous oil and gas waste at the generation site must comply with the provisions of 40 CFR, § 262.34(d)(5) (concerning emergency response).

(j) Personnel Training. LQGs who accumulate hazardous oil and gas waste at the generation site must comply with the provisions applicable to owners or operators of 40 CFR, § 265.16 (concerning personnel training).

(k) Standards for Use of Containers.

(1) LQGs. LQGs accumulating hazardous oil and gas waste in containers must:

(A) comply with the provisions applicable to owners or operators of 40 CFR, Part 265, Subpart I (concerning use and management of containers);

(B) clearly mark each container being used to accumulate hazardous oil and gas waste on-site, in a manner and location visible for inspection, with the date accumulation of such hazardous oil and gas waste begins; and

(C) clearly label or mark each container being used to accumulate hazardous oil and gas waste on-site with the words "Hazardous Waste."

(2) SQGs. SQGs accumulating hazardous oil and gas waste in containers must:

(A) comply with the provisions applicable to owners or operators of 40 CFR, Part 265, Subpart I, except § 265.176 (concerning distance from property lines);

(B) clearly mark each container being used to accumulate hazardous oil and gas waste on-site, in a manner and location visible for inspection, with the date accumulation of such hazardous oil and gas waste begins; and

(C) clearly label or mark each container being used to accumulate hazardous oil and gas waste on-site with the words "Hazardous Waste."

(3) CESQGs. The provisions of this paragraph apply to CESQGs only.

(A) Hazardous oil and gas waste generated by a CESQG may be mixed with non-hazardous waste even though the resultant mixture exceeds the quantity limitations of subsection (f)(1) of this section, unless the mixture exhibits any of the hazardous waste characteristics of the hazardous oil and gas waste in the mixture, as determined under subsection (e)(1)(D)(ii) of this section.

(B) If a CESQG's wastes are mixed with used oil, the mixture is subject to the requirements of 40 CFR, Part 279 if the mixture is destined to be burned for energy recovery. Any material produced from such a mixture by processing, blending, or other treatment is also so regulated if it is destined to be burned for energy recovery.

(l) Standards for Use of Tank Systems.

(1) LQGs. LQGs accumulating hazardous oil and gas waste in tanks must:

(A) comply with the provisions applicable to owners or operators of 40 CFR, Part 265, Subpart J, except § 265.197(c) and § 265.200;

(B) comply with the provisions applicable to owners or operators of 40 CFR, § 265.111 and § 265.114 (concerning closure performance standards and disposal of contaminated equipment and media); and

(C) clearly label or mark each tank being used to accumulate hazardous oil and gas waste with the words "Hazardous Waste."

(2) SQGs. SQGs accumulating hazardous oil and gas waste in tanks must:

(A) comply with the provisions of 40 CFR, § 265.201 (concerning accumulation of waste in tanks by small quantity generators); and

(B) clearly label or mark each tank being used to accumulate hazardous oil and gas waste with the words "Hazardous Waste."

(m) Disposition of Hazardous Oil and Gas Waste.

(1) On-site Treatment, Storage, Disposal, Recycling, and Reclamation. Except as otherwise specifically provided in this section, no person may treat, store, dispose of, recycle, or reclaim any hazardous oil and gas waste on-site.

(2) Transport to Authorized Facility.

(A) Except as otherwise specifically provided in this section and subject to all other applicable requirements of state or federal law, a generator of hazardous oil and gas waste must send his or her waste to one of the following categories of facilities for treatment, storage, disposal, recycling, or reclamation:

(i) an authorized recycling or reclamation facility;

(ii) an authorized treatment, storage, or disposal facility;

(iii) a facility located outside the United States, provided that the requirements of subsection (v)(1) of this section (relating to exports of hazardous waste) are met;

(iv) a transfer facility, provided that the requirements of subsection (w)(3) of this section are met;

(v) if the waste is generated by a CESQG, a facility permitted, licensed, or registered by a state to manage municipal or industrial solid waste; or

(vi) if the waste is generated by a CESQG, a centralized waste collection facility (CWCF) that meets the requirements of subsection (m)(3) of this section.

(B) Notwithstanding any contrary provision of this subsection, hazardous oil and gas wastes may be treated or stored on-site in an elementary neutralization unit or a totally enclosed treatment facility. If a hazardous oil and gas waste that is ignitable under 40 CFR, § 261.21 (other than DOO1 High TOC Subcategory wastes defined in 40 CFR, § 268.42, Table 2) or that is corrosive under 40 CFR, § 261.22 is being treated in an elementary neutralization unit or a wastewater treatment unit to remove the characteristic before land disposal, the owner or operator must comply with the requirements of 40 CFR, § 264.17(b).

(C) While waste is being accumulated on-site in accordance with the provisions of subsection (f) of this section, a generator may treat hazardous oil and gas waste on-site in tanks or containers that comply with the applicable provisions of subsections (k) and (l) of this section.

(D) For purposes of § 3.8(f)(1)(C)(vi) of this title (relating to Water Protection), the manifest for shipment of hazardous oil and gas waste to a designated facility (a facility designated on the manifest by the generator pursuant to the provisions of subsection (o)(1) of this section) shall be deemed commission authorization for disposal at a facility permitted by another agency or another state.

(3) Centralized Collection of Hazardous Oil and Gas Waste.

(A) Centralized Waste Collection Facility. Provided that the requirements of this paragraph are met, a person may maintain at a CWCF hazardous oil and gas waste that is generated:

(i) by that person; and

(ii) at sites where that person is considered a CESQG under the provisions of this section.

(B) Prior to receipt of oil and gas hazardous waste generated off-site, a person who operates a CWCF must register with the commission by filing with the commission a notice that includes the following information:

(i) a map showing the location of the CWCF and each individual hazardous oil and gas waste generation site that may contribute waste to the collection facility. In lieu a map, the person who operates the CWCF may provide to the commission the name and lease number, field name and number, or other identifying information acceptable to the commission, of the CWCF and each generation site that may contribute waste to the collection facility;

(ii) the person's P-5 operator number; and

(iii) the EPA ID number for the CWCF, if any.

(C) All hazardous oil and gas waste received at the CWCF must be kept in closed containers that are marked with the words "Hazardous Waste."

(D) A person operating a CWCF shall not maintain at the CWCF at any one time more than 5,000 kilograms of hazardous oil and gas waste or more than five quarts of any hazardous oil and gas waste that is listed in 40 CFR, § 261.33(e) (acute hazardous waste).

(n) EPA ID Numbers.

(1) Generators. No LQG or SQG may transport or offer for transportation any hazardous oil and gas waste until such generator has obtained an EPA ID number by filing the prescribed form (currently EPA Form 8700-12) with the commission.

(2) Transporters. No LQG or SQG may allow his or her hazardous oil and gas waste to be transported by a transporter that does not have an EPA ID number.

(3) Treatment, Storage, or Disposal Facilities. Except in the case of facilities specified in subsection (m)(2)(A)(iii), (vi), and (v) of this section, no LQG or SQG may send his or her hazardous oil and gas waste to a treatment, storage, or disposal facility unless that facility:

(A) is a designated facility as defined in this section; and

(B) has an EPA ID number.

(o) Manifests.

(1) General Requirements.

(A) Except as provided in subsection (o)(1)(E) of this section, each time an LQG or SQG transports hazardous oil and gas waste or offers hazardous oil and gas waste for transportation to an authorized facility, such generator must prepare a manifest form. If the waste was generated in the State of Texas and is being

transferred to an authorized facility located within the State of Texas, the generator shall use the form prescribed by the TCEQ. If the authorized facility is located outside the State of Texas, the generator must refer to subsection (o)(2) of this section to determine which manifest form to use.

(B) The generator must specify on the manifest one authorized facility to handle the hazardous oil and gas waste described on the manifest (the "primary designated facility").

(C) The generator may also specify on the manifest one alternate authorized facility to handle the hazardous oil and gas waste (the "alternate designated facility") in the event an emergency prevents delivery of the hazardous oil and gas waste to the primary designated facility.

(D) If the transporter is unable to deliver the hazardous oil and gas waste to the primary designated facility or the alternate designated facility, the generator must either specify another authorized facility to which the hazardous oil and gas waste can be delivered or instruct the transporter to return the hazardous oil and gas waste to the generator. If the generator specifies another authorized facility to which the hazardous oil and gas waste can be delivered, the generator shall instruct the transporter to revise the manifest to show this facility as the designated facility (see subsection (w)(6) of this section relating to transporter's inability to deliver waste).

(E) An SQG is not required to comply with the provisions of this subsection (relating to manifests) if:

(i) the SQG's hazardous oil and gas waste is reclaimed under a contractual agreement (the "hazardous waste reclamation agreement") pursuant to which:

(I) the type of hazardous oil and gas waste and frequency of shipments are specified in the agreement; and

(II) the vehicle used to transport the hazardous oil and gas waste to the hazardous waste reclamation facility and to deliver regenerated material back to the generator is owned and operated by the hazardous waste reclamation facility;

(ii) the SQG maintains a copy of the hazardous waste reclamation agreement in his or her files for a period of at least three years after termination or expiration of the reclamation agreement; and

(iii) the SQG complies with the provisions of 40 CFR, § 268.7(a)(10) (concerning land ban wastes subject to tolling agreements) if the waste is determined to be prohibited from land disposal under subsection (e)(2) of this section (relating to land ban wastes).

(2) Manifests Required for Out-of-State Domestic Shipments.

(A) If the hazardous oil and gas waste was generated within the United States, but outside the State of Texas, and is being transported to an authorized facility located within the State of Texas, the generator must use the form prescribed by the TCEQ.

(B) If the hazardous oil and gas waste was generated within the State of Texas and is being transported to an authorized facility located within the United States but outside the State of Texas (the "consignment state"), the manifest specified by the consignment state shall be used. If the consignment state does not specify a particular manifest form for use, then the generator shall use the form prescribed by the TCEQ.

(3) Number of Copies. The manifest must consist of at least the number of copies that will provide the generator, each transporter, and the owner or operator of the designated facility with one copy each for their records and one additional copy to be returned to the generator by the owner or operator of the designated facility to which the waste was delivered (in accordance with the provisions of 40 CFR, § 264.71 and § 265.71, or state equivalent).

(4) Use of the Manifest.

(A) The generator must:

(i) sign the manifest certification by hand;

(ii) obtain the handwritten signature of the initial transporter and date of acceptance of the shipment by the initial transporter on the manifest;

(iii) retain one copy of the manifest signed by the initial transporter until the copy signed by the operator of the designated facility (in accordance with 40 Code of Federal Regulations § 264.71, § 265.71, or state equivalent) is received;

(iv) give the transporter the remaining copies of the manifest; and

(v) obtain one copy of the manifest, signed by the owner or operator of the designated facility that received the hazardous oil and gas waste, and retain that copy for three years from the date the hazardous oil and gas waste was accepted for shipment by the initial transporter.

(B) For shipments of hazardous oil and gas waste within the United States solely by water (bulk shipments only), the generator must send three copies of the manifest, dated and signed in accordance with the provisions of paragraph (4)(A) of this subsection (relating to use of the manifest), to either:

(i) the owner or operator of the designated facility; or

(ii) if exported by water, the last water transporter expected to handle the hazardous oil and gas waste in the United States. Copies of the manifest are not required for each transporter.

(C) For rail shipments of hazardous oil and gas waste within the United States that originate at the generation site, the generator must send at least three copies of the manifest, dated and signed in accordance with the provisions of paragraph (4)(A) of this subsection (relating to use of the manifest), to:

(i) the next non-rail transporter, if any;

(ii) the designated facility, if transported solely by rail; or

(iii) if exported by rail, the last rail transporter expected to handle the hazardous oil and gas waste in the United States.

(D) For shipments of hazardous oil and gas waste to a designated facility located outside the State of Texas and in an authorized state that has not yet obtained authorization from the EPA to regulate that particular waste as hazardous, the generator must determine that the owner or operator of the designated facility agrees to sign and return the manifest to the generator (in accordance with the applicable provisions of 40 CFR, § 264.71 or § 265.71), and that any out-of-state transporter agrees to comply with the applicable requirements of subsection (w)(4) of this section (relating to manifest requirements for transporters).

(p) Packaging. Before transporting hazardous oil and gas waste or offering hazardous oil and gas waste for transportation off-site, an LQG or SQG must package the hazardous oil and gas waste in accordance with the applicable DOT packaging regulations set out in 49 CFR, Parts 173, 178, and 179.

(q) Labeling. Before transporting hazardous oil and gas waste or offering hazardous oil and gas waste for transportation off-site, LQGs and SQGs must label each package that contains hazardous oil and gas waste in accordance with the applicable DOT regulations set out in 49 CFR, Part 172.

(r) Marking.

(1) General. Before transporting hazardous oil and gas waste or offering hazardous oil and gas waste for transportation off-site, LQGs and SQGs must mark each package that contains hazardous oil and gas waste in accordance with the applicable DOT regulations set out in 49 CFR, Part 172.

(2) Non-Bulk Packaging. Before transporting hazardous oil and gas waste or offering hazardous oil and gas waste for transportation off-site, LQGs and SQGs must mark each package that contains hazardous oil and gas waste and is of a size specified in 40 CFR, § 262.32(b) (110 gallons or less), with the following words and information. Such words and information must be displayed in accordance with the applicable requirements of 49 CFR, § 172.304. The generator must include his or her name and address and the manifest document number in the appropriate space: HAZARDOUS WASTE--Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency. Generator's

Name _____ and Address: _____ Manifest _____ Document
Number: _____

(s) Placarding. Before transporting hazardous oil and gas waste or offering hazardous oil and gas waste for transportation off-site, LQGs and SQGs must placard the vehicle or vehicles used to transport such hazardous oil and gas waste, or offer to the initial transporter the appropriate placards. Appropriate placards shall be determined according to DOT regulations set out in 49 CFR, Part 172, Subpart F.

(t) Recordkeeping.

(1) Waste Determination. Each LQG and SQG shall keep records of any and all test results, waste analyses, or other determinations made in accordance with subsection (e) of this section (relating to hazardous waste determination), for at least three years from the date that the waste was last sent to an authorized facility.

(2) Annual Reports. A copy of all reports required in subsection (u)(1) of this section (relating to annual reports), shall be retained by the generator for a period of at least three years from the due date of the report.

(3) Exception Reports. A copy of all reports required under subsection (u)(2) of this section (relating to exception reports), shall be retained by the generator for a period of at least three years from the due date of the report.

(4) Inspection Reports. A copy of each inspection report required under this section shall be retained by the generator for a period of at least three years from the due date of the report.

(5) Extension. The periods of record retention specified in subsection (t)(1)-(4) of this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or upon request by the commission.

(u) Reporting.

(1) Annual Reports. Any generator who is classified as an LQG or SQG during any calendar month of a calendar year shall prepare and submit a single copy of an annual report to the commission on the annual reporting form prescribed by the commission, Form H-21. The report shall be filed on or before the first day of March of the following calendar year and shall be accompanied by the fee assessed under the provisions of subsection (z) of this section. The annual report shall contain a certification signed by the generator. The annual report shall cover activities occurring at the generation site during the month(s) of the reporting year that the site was classified as a small or large quantity generation site, and must include the following information:

(A) the name of the generator followed by the generator's P-5 operator number in parentheses, the EPA ID number for the generation site, and the address of

the generation site or other site-identifying information (such as the lease number, unit number, or T-4 number (in the case of pipelines));

(B) the calendar year covered by the report;

(C) the name, EPA ID number, if any, and address for each authorized facility within the United States to which hazardous oil and gas waste was shipped during the year;

(D) the name and EPA ID number of each transporter used during the year for shipments to an authorized facility within the United States;

(E) a description, EPA hazardous waste number (from 40 CFR, Part 261, Subpart C or D), United States DOT hazard class, and quantity of each hazardous oil and gas waste shipped to an authorized facility within the United States. This information must be listed by the EPA ID number of each facility to which hazardous oil and gas waste was shipped. If the waste was shipped to an authorized facility that does not have an EPA ID number, the type of facility (reclamation or recycling) must be designated on the report;

(F) a description of the efforts undertaken during the year to reduce the volume and toxicity of hazardous oil and gas waste generated; and

(G) a description of the changes in volume and toxicity of hazardous oil and gas waste actually achieved during the year in comparison to previous years, to the extent such information is available.

(2) Exception Reports.

(A) An LQG who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 35 days from the date the hazardous oil and gas waste was accepted by the initial transporter for shipment must contact the transporter and, if necessary, the owner or operator of the designated facility to determine the status of the hazardous oil and gas waste shipment.

(B) An LQG must submit an exception report to the commission if he or she has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 45 days from the date the hazardous oil and gas waste was accepted by the initial transporter for shipment. The exception report must include:

(i) a legible copy of the manifest for that shipment of hazardous oil and gas waste for which the generator does not have confirmation of delivery; and

(ii) a letter signed by the generator explaining the efforts taken to locate the hazardous oil and gas waste and the results of those efforts.

(C) An SQG who does not receive confirmation of delivery of hazardous oil and gas waste by receipt of a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 60 days from the date the hazardous oil and gas waste was accepted by the initial transporter for shipment, must submit to the commission an exception report. The exception report must include:

(i) a legible copy of the manifest for which the generator does not have confirmation of delivery; and

(ii) a notation, either typed or handwritten, indicating that the generator has not received confirmation of delivery of the shipment to the designated facility.

(D) In the case of interstate shipments of hazardous oil and gas waste for which a manifest has not been returned within 45 days of acceptance of the hazardous oil and gas waste for shipment by the initial transporter, an LQG or SQG shall notify the appropriate regulatory agency of the state in which the designated facility is located, and the appropriate regulatory agency of each state in which the shipment may have been delivered, that the manifest has not been received. If a state required to be notified under this section has not received interim or final authorization pursuant to the RCRA, the LQG or SQG shall notify the administrator that the manifest has not been returned.

(3) Additional Reporting. The commission may require any generator of hazardous oil and gas waste to furnish additional reports concerning the quantities and disposition of hazardous oil and gas waste generated.

(v) Additional Requirements Applicable to International Shipments.

(1) Exports.

(A) Any person who exports hazardous oil and gas waste to a foreign country must comply with the requirements of 40 CFR, Part 262, Subpart E.

(B) Primary exporters of hazardous oil and gas waste generated within the State of Texas must submit to the commission a copy of the annual report submitted to the administrator in compliance with 40 CFR, § 262.56.

(2) Imports. Any person who imports hazardous oil and gas waste generated outside the United States into the State of Texas shall be considered the generator of such hazardous oil and gas waste for the purposes of this section. Such person must comply with the applicable provisions of this section, except that:

(A) the name and address of the foreign generator and the importer's name, address, and EPA ID number shall be substituted on the manifest in place of the generator's name, address, and EPA ID number;

(B) the importer or the importer's agent must sign and date the certification and obtain the signature of the initial transporter in place of the generator's certification statement on the manifest; and

(C) the importer shall use the manifest form prescribed by the TCEQ.

(w) Standards Applicable to Transporters of Hazardous Oil and Gas Waste.

The following standards apply to persons who transport hazardous oil and gas waste generated by LQGs and SQGs. The requirements of this subsection do not apply in the case of hazardous oil and gas waste generated by CESQGs.

(1) Scope.

(A) This subsection establishes standards for persons transporting hazardous oil and gas waste from the generation site to any designated facility. The provisions of this section do not apply with respect to on-site movements of hazardous oil and gas waste.

(B) In addition to the provisions of this subsection, a transporter must comply with standards applicable to generators of hazardous oil and gas waste if he or she mixes hazardous oil and gas wastes of different DOT shipping descriptions by placing them into a single container. If a transporter mixes a hazardous oil and gas waste with a hazardous waste that is not considered a hazardous oil and gas waste, the transporter must comply with the standards applicable to generators of hazardous wastes found at Title 30, Texas Administrative Code, Chapter 335, Subchapter C (the TCEQ's standards for generators of hazardous waste).

(2) Permits and EPA ID Numbers. No transporter may transport hazardous oil and gas waste unless he or she has an EPA ID number. The transporter may obtain an EPA ID number by filing the prescribed form (currently EPA Form 8700-12) with the appropriate regulatory entity (either EPA, TCEQ, the commission, or another state).

(3) Transfer Facility Requirements. No transporter may store manifested hazardous oil and gas waste at a transfer facility for any period of time unless:

(A) the hazardous oil and gas waste is packaged in containers that meet the requirements of subsection (p) of this section (relating to packaging); and

(B) the hazardous oil and gas waste is stored at the transfer facility for no longer than ten days.

(4) Manifest Requirements.

(A) A transporter may not accept hazardous oil and gas waste for shipment from a generator unless it is accompanied by a manifest signed in accordance with the provisions of subsection (o)(4) of this section (relating to use of the manifest).

(B) Before transporting hazardous oil and gas waste, the transporter must sign and date the manifest acknowledging acceptance of the hazardous oil and gas waste from the generator. The transporter must return a signed copy of the manifest to the generator before leaving the generation site.

(C) The transporter must ensure that the manifest accompanies the shipment of hazardous oil and gas waste. In the case of exports, the transporter must ensure that a copy of the EPA Acknowledgment of Consent is attached to the manifest.

(D) A transporter may not accept hazardous oil and gas waste for export from a primary exporter or other person if:

(i) the transporter knows that the shipment does not conform to the EPA Acknowledgment of Consent; or

(ii) except in the case of shipments by rail, an EPA Acknowledgment of Consent is not attached to the manifest (or shipping paper in the case of exports by water (bulk shipment)).

(E) A transporter who delivers a hazardous oil and gas waste to another transporter or to the designated facility must:

(i) obtain the date of delivery and the handwritten signature of the other transporter or of the owner or operator of the designated facility on the manifest;

(ii) retain one copy of the manifest in accordance with the provisions of subsection (w)(7) of this section (relating to recordkeeping); and

(iii) give the remaining copies of the manifest to the accepting transporter or owner or operator of the designated facility.

(F) The requirements of subsection (w)(4)(C), (D), (E), and (G) of this section do not apply to water (bulk shipment) transporters if:

(i) the hazardous oil and gas waste is delivered by water (bulk shipment) to the designated facility;

(ii) a shipping paper containing all the information required on the manifest (excluding the EPA ID numbers, generator certification, and signatures) and, for exports, an EPA Acknowledgment of Consent, accompanies the hazardous oil and gas waste;

(iii) the delivering transporter obtains the date of delivery and handwritten signature of the owner or operator of the designated facility on either the manifest or the shipping paper;

(iv) the person delivering the hazardous oil and gas waste to the initial water (bulk shipment) transporter obtains the date of delivery and signature of the water (bulk shipment) transporter on the manifest and forwards it to the designated facility; and

(v) a copy of the shipping paper or manifest is retained by each water (bulk shipment) transporter in accordance with the provisions of subsection (w)(7) of this section (relating to recordkeeping).

(G) For shipments involving rail transportation, the requirements of subsection (w)(4)(C), (D), (E), and (F) of this section do not apply and the following requirements do apply:

(i) when accepting hazardous oil and gas waste from a non-rail transporter, the initial rail transporter must:

(I) sign and date the manifest acknowledging acceptance of the hazardous oil and gas waste;

(II) return a signed copy of the manifest to the non-rail transporter;

(III) forward at least three copies of the manifest to:

(-a-) the next non-rail transporter, if any;

(-b-) the designated facility, if the shipment is delivered to that facility by rail; or

(-c-) the last rail transporter designated to handle the hazardous oil and gas waste in the United States; and

(IV) retain one copy of the manifest and rail shipping paper in accordance with the provisions of subsection (w)(7) of this section (relating to recordkeeping);

(ii) rail transporters must ensure that a shipping paper containing all the information required on the manifest (excluding the EPA ID numbers, generator certification, and signatures) and, for exports, an EPA Acknowledgment of Consent, accompanies the hazardous oil and gas waste at all times;

(iii) when delivering hazardous oil and gas waste to the designated facility, a rail transporter must:

(I) obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility); and

(II) retain a copy of the manifest or signed shipping paper in accordance with the provisions of subsection (w)(7) of this section (relating to recordkeeping);

(iv) when delivering hazardous oil and gas waste to a non-rail transporter, a rail transporter must:

(I) obtain the date of delivery and the handwritten signature of the next non-rail transporter on the manifest; and

(II) retain a copy of the manifest in accordance with the provisions of subsection (w)(7) of this section (relating to recordkeeping);

(v) before accepting hazardous oil and gas waste from a rail transporter, a non-rail transporter must sign and date the manifest and provide a copy to the rail transporter.

(H) Transporters who transport hazardous oil and gas waste out of the United States must:

(i) indicate on the manifest the date the hazardous oil and gas waste left the United States;

(ii) sign the manifest and retain one copy in accordance with the provisions of subsection (v)(1) of this section;

(iii) return a signed copy of the manifest to the generator; and

(iv) give a copy of the manifest to a United States customs official at the point of departure from the United States.

(I) A transporter accepting hazardous oil and gas waste for shipment from an SQG need not comply with the requirements of subsection (w)(4) and (7) of this section provided that:

(i) the hazardous oil and gas waste is being transported pursuant to a reclamation agreement that meets the requirements of subsection (o)(1)(E) of this section;

(ii) the transporter records, on a log or shipping paper, the following information for each shipment:

(I) the name, address, and EPA ID number of the generator of the hazardous oil and gas waste;

(II) the quantity of hazardous oil and gas waste accepted;

(III) all DOT required shipping information;

(IV) the date the hazardous oil and gas waste is accepted;

(iii) the transporter carries this record when transporting the hazardous oil and gas waste to the reclamation facility; and

(iv) the transporter retains these records for a period of at least three years after termination or expiration of the agreement.

(5) Delivery of Waste. The transporter must deliver the entire quantity of hazardous oil and gas waste accepted from a generator or a transporter to:

(A) the primary designated facility;

(B) the alternate designated facility, if the hazardous oil and gas waste cannot be delivered to the primary designated facility because an emergency prevents delivery;

(C) the next designated transporter; or

(D) for exports, the location designated in the EPA Acknowledgment of Consent.

(6) Inability to Deliver Waste. If the hazardous oil and gas waste cannot be delivered as provided in subsection (w)(5) of this section the transporter must contact the generator for further directions and must revise the manifest according to the generator's instructions.

(7) Recordkeeping.

(A) A transporter of hazardous oil and gas waste must keep a copy of the manifest signed by the generator, himself or herself, and the next transporter or the owner or operator of the designated facility for a period of three years from the date the hazardous oil and gas waste was accepted by the initial transporter.

(B) For shipments delivered to the designated facility by water (bulk shipment), each water (bulk shipment) transporter must retain a copy of the shipping paper containing all the information required in 40 CFR, § 263.20(e)(2) for a period of three years from the date the hazardous oil and gas waste was accepted by the initial transporter.

(C) For shipments of hazardous oil and gas waste by rail within the United States:

(i) the initial rail transporter must keep a copy of the manifest and shipping paper with all the information required in 40 CFR, § 263.20(f)(2) for a period of three years from the date the hazardous oil and gas waste was accepted by the initial transporter; and

(ii) the final rail transporter must keep a copy of the signed manifest (or the shipping paper if signed by the designated facility in lieu of the manifest) for a period of three years from the date the hazardous oil and gas waste was accepted by the initial transporter.

(D) A transporter who transports hazardous oil and gas waste out of the United States must keep, for a period of three years from the date the hazardous oil and gas waste was accepted by the initial transporter, a copy of the manifest indicating that the hazardous oil and gas waste left the United States.

(E) The periods of retention referred to in subsection (w)(7) of this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or upon request by the commission.

(x) Discharges.

(1) Reporting Requirements.

(A) Commission. A person subject to regulation under this section shall immediately notify the commission upon discovery of any discharge in which a reportable quantity of a hazardous oil and gas waste is discharged. Such notification shall be made by contacting the appropriate commission district office.

(B) Federal. Persons subject to regulation under this section shall comply with applicable reporting requirements of 40 CFR, Parts 117, 263, and 302.

(2) Initial Response.

(A) Immediate Action. Upon discovery of a discharge of hazardous oil and gas waste, the generator or transporter must take appropriate immediate action to protect human health and the environment (e.g., notify local authorities, where appropriate, and dike the discharge area).

(B) Permitting Exemption. The prohibition of on-site treatment, storage, disposal, recycling, or reclamation activities in subsection (m)(1) of this section does not apply to activities performed by a person engaged in treatment or containment activities during immediate response to a discharge of hazardous oil and gas waste; an imminent and substantial threat of a discharge of hazardous oil and gas waste; or a discharge of a substance which, when discharged, would become a hazardous oil and gas waste, provided that:

(i) any hazardous oil and gas waste associated with such discharge is managed in accordance with applicable provisions of subsections (h) (relating to preparedness and prevention), (i) (relating to personnel training), (k) (relating to standards for use of containers), and (l) (standards for use of tank systems) of this section; and

(ii) the applicable discharge reporting requirements of subsection (x) of this section are complied with.

(C) Continued Measures. The provisions of subparagraph (B) of this paragraph do not apply to activities that continue or are initiated after the immediate response is over. Such activities are subject to all applicable requirements of this section.

(3) Discharge Clean Up.

(A) The generator or transporter shall recover as much as of the spilled material as can be recovered by ordinary physical means as soon as possible after discovery of the spill.

(B) The generator or transporter shall clean up the site at which the discharge occurred to background levels as soon as reasonably possible. As an alternative to clean-up to background levels, the generator or transporter must take such action as may be required or approved by the commission so that the hazardous oil and gas waste discharge no longer presents a hazard to human health or the environment, taking into consideration the geology and hydrology of the discharge site, the nature and quantity of the hazardous oil and gas waste discharged, and the present and anticipated future use of the discharge site.

(C) If an official (state or local government or a federal agency) acting within the scope of his or her official responsibilities determines that immediate removal of the hazardous oil and gas waste associated with a discharge is necessary to protect human health or the environment, that official may authorize the removal of the hazardous oil and gas waste by transporters who do not have EPA ID numbers and without the preparation of a manifest.

(y) Emergency Permits.

(1) General. Notwithstanding any other provision of this section, the commission may authorize by emergency permit the treatment, storage, or disposal of hazardous oil and gas waste where the commission finds that a discharge of hazardous oil and gas waste poses a danger to life or property.

(2) Requirements. An emergency permit:

(A) may be oral or written. If oral, a written permit must be issued within five days of issuance of the oral permit;

(B) shall have a term of not more than 90 days;

(C) shall clearly specify the manner and location of authorized treatment, storage, and disposal activities;

(D) may be terminated by the commission without notice if the commission determines that termination is appropriate to protect human health and the environment;

(E) shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of 40 CFR, Parts 264, 266, and 270; and

(F) shall be accompanied by a public notice published in a daily or local newspaper of general circulation in the area affected by the activity and broadcast over local radio stations. The notice shall include:

(i) the name and address of the office granting the emergency authorization;

(ii) the name and location at which the permitted activities will take place;

(iii) a brief description of the hazardous oil and gas wastes involved;

(iv) a brief description of the actions authorized and reasons for authorization of such actions; and

(v) the duration of the emergency permit.

(z) Fees.

(1) Base fee.

(A) Except as provided in subparagraph (B) of this paragraph:

(i) each generator who is classified as an LQG during any calendar month of a calendar year shall pay to the commission a base annual fee for generation of hazardous oil and gas waste of \$1,000;

(ii) each generator who is not classified as an LQG during any calendar month of a calendar year, but is classified as an SQG during a calendar month of that calendar year, shall pay to the commission a base annual fee for generation of hazardous oil and gas waste of \$200; and

(iii) no annual fee for generation of hazardous oil and gas waste shall be assessed against a generator who is classified as a CESQG during all months of the entire calendar year in which he or she generates hazardous oil and gas waste.

(B) For purposes of determining the base fee as provided in subparagraph (A) of this paragraph, generator classification shall be determined after excluding quantities of hazardous oil and gas waste generated in connection with a spill or discharge, including contaminated soil, media, and debris, if, within 30 days after discovery of such spill or discharge, the generator files a one-page typewritten report with the commission that describes:

(i) the nature and quantity of spilled or discharged material;

(ii) the reason for or cause of the spill or discharge; and

(iii) the steps that have been or will be taken by the generator to minimize the likelihood of a similar spill or discharge at that site.

(2) Additional fee. The base annual fee determined according to the provisions of paragraph (1) of this subsection shall be doubled if less than 50% of the hazardous oil and gas wastes generated at the site during the entire calendar year are recycled, reused or reclaimed. For purposes of calculating the percentage of hazardous oil and gas wastes that are recycled, reused, or reclaimed, hazardous oil and gas wastes excluded from regulation under this section by the provisions of

subsection (e)(3)(B)(i)-(iii) of this section (relating to exclusions and exemptions from hazardous oil and gas waste classification) and subsection (m)(2)(B) of this section (relating to elementary neutralization units, totally enclosed treatment facilities, and wastewater treatment units) shall be included in the quantity of hazardous oil and gas waste recycled, reused, or reclaimed. The wastes excluded from regulation under this section under the provisions of subsections (e)(3)(B)(i)-(iii) and (m)(2)(B) of this section shall not be included when calculating the quantity of waste generated for purposes of determining generator classification.

(3) Fee payment. The base fee and any additional fee assessed under this subsection shall be paid to the commission on or before the first day of March of the year following the calendar year in which the waste was generated. Fees assessed under this subsection shall be tendered to the commission with the annual report (see subsection (u)(1) of this section).

(aa) Penalties. A person subject to regulation under this section is subject to the penalties prescribed in the Texas Natural Resources Code if such person does not comply with the requirements of this section.

(bb) Federal Regulations. All references to the Code of Federal Regulations (CFR) in this section are references to the 1994 edition of the Code, as amended through November 7, 1995. The following federal regulations are adopted by reference and copies can be obtained at the William B. Travis Building, 1701 North Congress, Austin, Texas 78711: 40 CFR, Parts 116, 117, 124, 264, 266, 268, 270, 271, 279, and 302; 40 CFR, Part 261, Subparts A, C, and D; 40 CFR, Part 262, Subparts B and E; 40 CFR, Part 265, Subparts C, D, I, and J (except § 265.197(c) and § 265.200); 40 CFR, §§ 260.21, 260.22, 262.34(d)(5), 265.16, 265.111, 265.114, and 265.201; 49 CFR, Parts 172, 173, 178, and 179; and 49 CFR, § 171.15 and § 171.16. Words and terms used in the federal regulations adopted by reference shall have the meanings given in the federal regulations adopted by reference or in 40 CFR § 260.10, unless otherwise specified. Where the term "State Director" is applicable in the federal regulations adopted by reference, it should be interpreted to mean "commission."

Source Note: The provisions of this §3.98 adopted to be effective April 1, 1996, 20 TexReg 9423; amended to be effective May 4, 1999, 24 TexReg 3313; amended to be effective September 10, 2001, 26 TexReg 6870; amended to be effective November 24, 2004, 29 TexReg 10728

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APPENDIX B

**"REGULATORY DETERMINATION FOR OIL AND GAS AND GEOTHERMAL EXPLORATION,
DEVELOPMENT AND PRODUCTION WASTES"
53 *FEDERAL REGISTER* 25446-25459 (JULY 6, 1988)**

and

**"CLARIFICATION OF THE REGULATORY DETERMINATION FOR WASTES
FROM THE EXPLORATION, DEVELOPMENT AND PRODUCTION OF CRUDE OIL,
NATURAL GAS AND GEOTHERMAL ENERGY"
58 *FEDERAL REGISTER* 15284-15287 (MAR. 22, 1993)**

Federal Register / VOL. 53, No. 129 / Wednesday, July 6, 1988 / Rules and Regulations
(Pages 25446 – 25459)

40 CFR Part 261

[FRL-3403-9]

Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes

AGENCY: Environmental Protection Agency (EPA).

ACTION: Regulatory determination.

SUMMARY: Section 3001(b)(2)(B) of the Resource Conservation and Recovery Act (RCRA) requires the Administrator to determine whether to promulgate regulations under RCRA Subtitle C for wastes from the exploration, development, and production of crude oil, natural gas, and geothermal energy. The Administrator must make this determination no later than six months after completing a Report to Congress on these wastes and after providing an opportunity for public comment. The Agency has completed these activities and has decided that regulation under RCRA Subtitle C is not warranted. Rather, EPA will implement a three-pronged strategy to address the diverse environmental and programmatic issues posed by these wastes by: (1) Improving Federal programs under existing authorities in Subtitle D of RCRA, the Clean Water Act, and Safe Drinking Water Act; (2) working with States to encourage changes in their regulations and enforcement to improve some programs; and (3) working with Congress to develop any additional statutory authorities that may be required.

FOR FURTHER INFORMATION CONTACT: For further information on the regulatory determination, contact the RCRA/Superfund hotline at (800) 424-9346 (toll free) or (202) 382-3000.

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I. Summary

This action presents the Agency's regulatory determination required by section 3001(b)(2)(B) of the Resource Conservation and Recovery Act (RCRA) for drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy. RCRA requires the Administrator to determine either to promulgate regulations under Subtitle C for wastes from oil, gas, and geothermal exploration, development, and production, or that such regulations are unwarranted. In making this determination, the Administrator is required to utilize information developed and accumulated by the Agency pursuant to a study required under RCRA section 8002(m). The Agency completed this study and published its results in December, 1987 in a Report to Congress entitled "Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy."

In completing the Report to Congress and this determination, EPA gathered and evaluated information on all of the issues raised in section 8002(m), including three key factors pertaining to wastes from the exploration, development, and production of oil, gas, and geothermal energy: (1) The characteristics, management practices, and resulting impacts of these wastes on human health and the environment; (2) the adequacy of existing State and Federal regulatory programs; and (3) the economic impacts of any additional regulatory controls on industry.

In considering the first factor, EPA found that a wide variety of management practices are utilized for these wastes, and that many alternatives to these current practices are not feasible or applicable at individual sites. EPA found that oil, gas, and geothermal wastes originate in very diverse ecologic settings and contain a wide variety of hazardous constituents. EPA documented 62 damage cases resulting from the management of these wastes, but found that many of these were in violation of existing State and Federal requirements.

As to the second factor, EPA found that existing State and Federal regulations are generally adequate to control the management of oil and gas wastes. Certain regulatory gaps do exist, however, and enforcement of existing regulations in some States is inadequate. For example, some States have insufficient controls on the use of landfarming, roadspreading, pit construction and surface water discharge practices. Some States lack sufficient controls for central disposal and treatment facilities and for associated wastes.¹ The existing Federal standards under Subtitle D of RCRA provide general environmental performance standards for disposal of solid wastes, including oil, gas, and geothermal wastes, but these standards do not fully address the specific concerns posed by oil and gas wastes. Nevertheless, EPA has authority under Subtitle D to promulgate more tailored criteria. In addition, the authorities available under the Clean Water Act (CWA) or Safe Drinking Water Act (SDWA) can be more broadly utilized, and efforts are already underway to fill gaps under these programs.

EPA's review of the third factor found that imposition of Subtitle C regulations for all oil and gas wastes could subject billions of barrels of waste to regulation under Subtitle C as hazardous wastes and would cause a severe economic impact on the industry and on oil and gas production in the U.S. Additionally, because a large part of these wastes is managed in off-site commercial facilities, removal of the exemption could cause severe short-term strains on the capacity of Subtitle C Treatment, Storage, and Disposal Facilities (TSDFs), and a significant increase in the Subtitle C permitting burden for State and Federal hazardous waste programs.

As explained in more detail in Section IV of this notice, EPA found that regulation under Subtitle C presents several serious problems. First, Subtitle C contains an unusually large number of highly detailed statutory requirements. It offers little flexibility to take into account the varying geological, climatological, geographic, and other differences characteristic of oil and gas drilling and production sites across the country. At the same time, it does not provide the Agency with the flexibility to consider costs when applying these requirements to oil and gas wastes. Consequently, EPA would not be able to craft a regulatory program to reduce or eliminate the serious economic impacts that it has predicted. Furthermore, since existing State and Federal programs already control oil and gas wastes in many waste management scenarios, EPA needs to impose only a limited number of additional controls targeted to fill the gaps in the existing programs. Subtitle C, with its comprehensive "cradle to grave" management requirement, is not well suited to this type of gap-filling regulation. EPA concluded that it would be more efficient and appropriate to fill the gaps by strengthening under the Clean Water Act and UIC programs and promulgating the remaining rules needed under RCRA under the less prescriptive statutory authorities set out in Subtitle D. This narrower approach would also reduce disruption of existing State and Federal control programs.

Thus, the Agency has decided not to promulgate regulations under Subtitle C for wastes generated by the exploration, development, and production of crude oil, natural gas, and geothermal energy for the following reasons:

(1) Subtitle C does not provide sufficient flexibility to consider costs and avoid the serious economic impacts that regulation would create for the industry's exploration and production operations;

¹ Associated wastes are those wastes other than produced water, drilling muds and cutting, and rigwash that are intrinsic to exploration, development and production of crude oil and natural gas. See Section II D below.

(2) Existing State and Federal regulatory programs are generally adequate for controlling oil, gas, and geothermal wastes. Regulatory gaps in the Clean Water Act and UIC program are already being addressed, and the remaining gaps in State and Federal regulatory programs can be effectively addressed by formulating requirements under Subtitle D of RCRA and by working with the States;

(3) Permitting delays would hinder new facilities, disrupting the search for new oil and gas deposits;

(4) Subtitle C regulation of these wastes could severely strain existing Subtitle C facility capacity;

(5) It is impractical and inefficient to implement Subtitle C for all or some of these wastes because of the disruption and, in some cases, duplication of State authorities that administer programs through organizational structures tailored to the oil and gas industry; and

(6) It is impractical and inefficient to implement Subtitle C for all or some of these wastes because of the permitting burden that the regulatory agencies would incur if even a small percentage of these sites were considered Treatment, Storage and Disposal Facilities (TSDFs).

The Agency plans a three-pronged approach toward filling the gaps in existing State and Federal regulatory programs by:

(1) Improving Federal programs under existing authorities in Subtitle D of RCRA, the Clean Water Act, and Safe Drinking Water Act;

(2) Working with States to encourage changes in their regulations and enforcement to improve some programs; and

(3) Working with the Congress to develop any additional statutory authority that may be required.

EPA plans to revise its existing standards under Subtitle D of RCRA, tailoring these standards to address the special problems posed by oil, gas, and geothermal wastes and filling the regulatory gaps. Also, the Agency is moving ahead with improvements in its NPDES and UIC programs under the Clean Water Act and the Safe Drinking Water Act. EPA also plans to work with Congress to obtain any additional authorities that may be required. For example, Subtitle D of RCRA currently does not provide EPA with the authority to address treatment or transportation of wastes. Throughout the process of improving the Federal regulatory program, EPA will work closely with States to encourage improvements in their regulatory programs.

II. Background

Section 3001(b)(2)(A) of the Solid Waste Disposal Act of 1980 (Pub. L. 96-480), which amended the Resource Conservation and Recovery Act of 1976 (RCRA), prohibits EPA from regulating under RCRA Subtitle C "drilling fluids, produced waters, and other wastes associated with exploration, development, or production of crude oil or natural gas or geothermal energy" until at least 6 months after the Agency completes and submits to Congress a comprehensive study required by section 8002(m) (also added by the 1980 amendments). Section 8002(m) directs EPA to conduct

[A] detailed and comprehensive study and submit a report on the adverse effects, if any, of drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas or geothermal

energy on human health and the environment, including, but not limited to, the effects of such wastes on humans, water, air, health, welfare, and natural resources and on the adequacy of means and measures currently employed by the oil and gas and geothermal energy drilling and production industry, Government agencies, and others to dispose of and utilize such wastes to prevent or substantially mitigate such adverse effects.

The study was to include an analysis of:

1. The sources and volumes of discarded material generated per year from such wastes;
2. Present disposal practices;
3. Potential danger to human health and the environment from surface runoff or leachate;
4. Documented cases that prove or have caused danger to human health and the environment from surface runoff or leachate;
5. Alternatives to current disposal methods;
6. The cost of such alternatives; and
7. The impact of those alternatives on the exploration for, and development and production of, crude oil and natural gas or geothermal energy.

The 1980 amendments also added section 3001(b)(2)(B), which requires the Administrator to make a "regulatory determination" regarding the waste excluded from RCRA Subtitle C regulation. Specifically, within 6 months after submitting the Report to Congress, and after the opportunity for public hearings and public comment on the report, the Administrator must "determine to promulgate regulations" under RCRA Subtitle C for oil, gas, and geothermal energy waste, "or that such regulations are unwarranted." Section 3001(b)(2)(C) also specifies that any new regulations under RCRA Subtitle C for the crude oil, natural gas, or geothermal energy industry would not take effect until authorized by an Act of Congress.

EPA was required to complete the study and submit it to Congress by October 1982. In August 1985, the Alaska Center for the Environment sued the Agency for its failure to complete the study by the statutory deadline. EPA entered into a consent order obligating it to submit the final Report to Congress on or before August 31, 1987, and to make its regulatory determination by February 29, 1988. In April 1987, the court-ordered schedule was modified, extending the deadline or submittal of the final Report to Congress to December 31, 1987, and requiring the regulatory determination to be made by June 30, 1988. In accordance with this schedule, EPA completed the technical report on methodology in October 1986, the technical report on the waste sampling and analysis in January 1987, the interim report in April 1987, the draft report in August 1987, and the final report in December 1987.

EPA's Report to Congress, "Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy," was transmitted to Congress on December 28, 1987. A notice announcing the availability of the report, as well as the dates and locations of public hearings, was published on January 4, 1988 (53 FR 82). EPA held public hearings on the report in Washington, DC on February 23, 1988; Denver, Colorado, on February 25, 1988; San Francisco, California, on March 1, 1988; Anchorage, Alaska, on March 3, 1988; and Dallas, Texas, on March 8, 1988. The comment period on the report closed on March 15, 1988.

EPA's Report to Congress provides information on all of the study areas mandated by RCRA section 8002(m). The Agency received approximately 150 written comments on the report and heard testimony at the hearings from 105 individuals. All individual comments and transcripts from the public hearings are available for public inspection in the docket. The docket also contains a summary of all the comments presented at the hearings or submitted in writing, along with EPA's response to these comments.

A. Technical Summary of Report to Congress

1. Definition of Exempt Wastes

Section 3001(b)(2)(A) exempts produced water, drilling fluids, and "other wastes associated" with the exploration, development, and production activities. These are general terms that do not identify all of the specific waste streams to be exempted and studied. For study purposes, EPA broadly defined the scope of the exemption for oil, gas, and geothermal energy wastes to include not only produced waters and drilling fluids, but also related wastes (referred to herein as "associated wastes"), generated during the exploration, development, and production of crude oil, natural gas, and geothermal energy resources. The Agency excluded from its study those wastes not uniquely associated with exploration, development, and production of crude oil and natural gas which are not exempt from Subtitle C regulation (e.g., used batteries and waste solvents).

For geothermal energy, the definition of drilling-related wastes was identical to that of crude oil and natural gas wastes. Exempt wastes unique to geothermal energy production operations included: Waste streams produced from materials passing through the turbine in dry-steam power generation; waste streams resulting from a geothermal energy fluid or gas that passed through the turbine in flashed-stream and binary power plants; waste streams resulting from the geothermal energy products passing through only the heat exchanger in binary operations or through the flash separator in the flash process; and most direct use waste streams. A more detailed description of the scope of the exemption and study appears in section IV.D. below.

2. Waste Quantities and Characterization

In the Report to Congress, EPA estimated that 361 million barrels of drilling waste were generated in 1985 from about 70,000 crude oil and natural gas wells, and that over 800,000 active production sites generated 20.9 billion barrels (including produced water injected for enhanced oil recovery (EOR)) of produced water during that year. Associated waste, such as workover fluids and tank bottoms, are produced at the rate of 11 million barrels per year. For geothermal energy wastes, EPA estimated that approximately 111,000 barrels of geothermal energy-related drilling wastes were generated in 1985, along with 56 billion gallons of liquid wastes (geothermal fluid and condensed steam) from both binary and flash process plants, and 8 billion gallons of liquid waste from direct use of geothermal energy.

For crude oil and natural gas wastes, EPA sampled liquids and sludges from several locations. Drilling fluids were sampled at drilling operations while produced water and tank bottoms were sampled at production operations. Samples from central treatment and disposal facilities and central pits contained mixtures of all wastes including associated wastes. The Agency found that organic pollutants at levels of potential concern (levels that exceed 100 times EPA's health-based standards) included the hydrocarbons benzene and phenanthrene. Inorganic constituents at levels of potential concern included lead, arsenic, barium, antimony, fluoride, and uranium.

Tank bottoms, an associated waste sampled and analyzed by the Agency, contained significant levels of contaminants of concern, with some levels exceeding the reference doses (RfDs) for noncarcinogens or the risk-specific doses (RSDs) for carcinogens (health-based standards) for these contaminants.²

Analysis of the constituents of several geothermal energy waste streams indicated that some of the production wastes exhibited the corrosivity characteristic and extraction procedure (EP) toxicity for certain metals. Factors such as management practices, dilution and attenuation of the contaminant, and hydrogeological characteristics, affect the risk to human health and the environment presented by these chemicals.

3. Current and Alternative Management Practices

A wide range of management practices are employed for crude oil and natural gas wastes. The technological diversity is the result of widely varying geological, climatological, ecological, topographic, economic, geographic, and age differences among drilling and production sites across the country and partially account for varying State regulatory requirements. There are, however, variations from State to State in the stringency of management practices which are not wholly attributable to the varying physical settings of the operations.

Current practices include the use of reserve pits for drilling wastes; landspreading of reserve pit contents; disposal of produced waters through Class II underground injection wells; disposal of produced water in unlined pits; discharge of produced water to surface waters; roadspreading; use of commercial facilities for treatment and disposal of drilling wastes and produced water; and some practices unique to the Alaska North Slope, such as the use of semipermanent production-related reserve pits, and discharges to the tundra. Less frequently used current practices discussed in the report are closed-cycle drilling mud systems, annular disposal of produced water and drilling fluid, and trenching of reserve pits to dispose of reserve pit fluids.

² It is the Agency's policy to consider Maximum Contaminant levels (MCLs) (established by the Office of Drinking Water) when available. Where an MCL has not been developed, RfDs for noncarcinogens and RSDs for carcinogens will be used to set health-based limits. These terms are defined as follows:

- Maximum Contaminant Level (MCL) is the enforceable drinking water standard, based on health and technical feasibility, attained at the tap. This measure is used when ground water is the main exposure pathway.
- Reference Dose (RfD) is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime." [Integrated Risk Information System (IRIS) Vol. 1, Supplementary Documentation Appendix A, EPA/600/8-86/032A.]
- Risk-Specific Dose (RSD) is the daily dose of a carcinogen received over a lifetime that will result in an incidence of cancer equal to the specific risk level. The risk level of A and B carcinogens is 10E -6 (1 in 1 million) and for C carcinogens it is 10E -5 (1 in 100,000). [51 FR 21667, June 13, 1986.] The classes of carcinogens are: Class A = human carcinogen, Class B = probable human carcinogen, Class C = possible human carcinogen. [Both RfDs and RSDs are converted into medium specific concentrations using intake assumptions for selected routes of exposure. They are expressed in mg/kg/day. Surface and ground water (ingestion): 2 liters/day for a 70-kg adult for a 70-year exposure. Air (inhalation): 20 cubic meters air/day for a 70-kg adult for a 70-year exposure.]

These practices vary substantially in the protection they provide to the environment. While changes in State regulatory requirements over the years have led generally to the use of more environmentally protective technologies and management practices, there is a need for increased movement to more protective approaches for discharge to ephemeral streams, surface water discharges in estuaries in the Gulf Coast region, road applications of reserve pit contents and discharge to tundra in the Arctic, and annular disposal of produced waters.

For the major waste streams, EPA was unable to identify any new technologies in the research and development stage that offer promise for wide application in the near term. More widespread use of the best existing technologies, however, would provide substantial additional protection for the environment in many areas.

Waste management practices unique to geothermal power generation wastes include closed-cycle ponding, reinjection into the producing zone or a nonproducing zone, and consumptive secondary use. In California, production wastes are tested for hazardousness, using the California tests for hazardousness, before disposal to determine the appropriate disposal method. After direct use of geothermal energy fluid for heating purposes, these fluids can be discharged to surface waters, injected into the producing zone or a nonproducing zone, and consumed by secondary uses.

4. Evidence of Damages

To determine the types and severity of damages caused by crude oil and natural gas wastes, EPA assembled information on a substantial number of damage cases, 62 of which were fully documented and passed EPA's "tests of proof." These cases were based on recent information gathered from the States of Alaska, Arkansas, California, Kansas, Kentucky, Louisiana, Michigan, New Mexico, Ohio, Oklahoma, Pennsylvania, Texas, West Virginia, and Wyoming. These damage cases were extensively reviewed by the States, industry, and third parties. On the basis of all available information, the study found that wastes from crude oil and natural gas operations have endangered human health and caused environmental damage when managed in violation of State and Federal requirements. In some instances damage occurred where wastes are managed in accordance with currently applicable State and Federal requirements.

The major categories of wastes responsible for damages include reserve pit wastes, fracturing and acidizing fluids, stimulation chemicals, waste crude oil, produced water, and other miscellaneous wastes generated by the exploration, development, and production of crude oil and natural gas. The various categories of damages to, or endangerment of, human health and the environment contained in the Report to Congress include:

- Damage to agricultural land, crops, ephemeral streams, livestock, and threats to endangered species, fish, and other aquatic life in estuaries and bays from produced water and drilling fluids;
- Degradation of soil and ground water from runoff and leachate from central treatment and disposal facilities, reserve pits, and unlined disposal pits;
- Potential contamination of aquatic and bird life in estuaries and bays by metals and polycyclic aromatic hydrocarbons resulting from the discharge of drilling fluids and produced waters;

- Potential for endangerment of human health from consumption of contaminated fish and shellfish and from ground water contaminated by seepage from storage and disposal pits;
- Potential damage to tundra on the Alaska North Slope from roadspreading and seepage and discharges from reserve pits;
- Damage to ground water, agricultural land, and domestic and irrigation water caused by seepage of native brines from improperly plugged and unplugged abandoned wells; and
- Ground-water degradation from improper functioning of injection wells.

5. Risk Modeling

EPA used quantitative modeling and a review of the scientific literature to evaluate the health and environmental risks associated with management of oil, gas, and geothermal energy wastes in order to evaluate risks to human health and the environment under a variety of conditions. The Agency characterized selected major risk-influencing factors associated with current operations: Estimated the management of drilling waste in reserve pits, the underground injection of produced water, and the surface water discharge of produced water from stripper wells. The risk analysis did not consider annular disposal, storage of produced water in surface impoundments, migration of produced water contaminants through fractures, unplugged or improperly plugged and abandoned wells, landspreading, roadspreading, or disposal of associated wastes.

For the selected practices, EPA estimated distributions of these risk-influencing factors across the population of crude oil and natural gas facilities; evaluated these factors in terms of their relative effect on risks; and developed initial quantitative estimates of the possible range of baseline health and environmental risks for the variety of conditions found. Risks were analyzed under assumptions that were broadly consistent with baseline requirements of existing Federal and State programs.

For the specific subset of current practices, EPA modeled the potential effects of arsenic, benzene, boron, sodium, chloride, cadmium, chromium, and total mobile ions at concentrations observed in sampled produced water and drilling waste. The study focused heavily on ground water and indicated that, for the vast majority of the scenarios modeled, risks from the disposal of drilling waste in onsite reserve pits and the disposal of produced water by underground injection were small. Only a few chemicals from either source appear to be of major concern relative to health or environmental risk. The actual human health and environmental threats posed by any of these releases is largely dependent upon site-specific factors, including geophysical conditions and a site's proximity to human populations or sensitive ecosystems. Estimated impacts on human health varied widely, and there were typically a few combinations of environmental settings and high sample toxic constituent concentrations where moderate risks were projected. Quantitative risk modeling indicates the potential in some situations for carcinogenic risks in excess of 1 in 10,000 and sodium levels in drinking water in excess of recommended levels for public drinking water supplies. Modeling of resource damages to ground and surface water generally did not show significant risks at low release rates typical of individual stripper wells although multiple strippers discharging into common water courses were not modeled.

6. Costs and Economic Impacts

EPA developed three estimates of the compliance costs and economic impacts of implementing alternative waste management practices for the large-volume drilling wastes and produced waters in the crude oil and natural gas industries: (1) a "baseline" scenario reflecting current waste management practices; (2) an "intermediate" scenario, in which somewhat stricter controls on waste disposal practices are assumed; and (3) a "Subtitle C" scenario, in which virtually full RCRA hazardous waste requirements would be met. EPA estimated total annual costs for each scenario and then evaluated the projected economic impacts of these costs on the oil industry as a whole.

Assuming produced waters reinjected for enhanced production would not be regulated, total annual costs for additional management requirements ranged from approximately \$50 million to over \$6.7 billion, depending on the scenario and on assumptions regarding the fraction of wastes (10 to 70 percent) that would be handled as RCRA-hazardous under each scenario. Estimated costs for the Subtitle C scenario ranged between \$1 billion and \$6.5 billion without including land-ban and corrective action costs.

Production declines related to these increased waste management costs could range up to 12 percent in the year 2000. Other impacts also varied greatly under different scenario assumptions. Net impacts on oil prices per barrel could range up to \$0.76 per barrel, with projected maximum costs to consumers of \$4.5 billion per year, and increases in the U.S. balance of payments deficit of up to \$11 billion.

A significant part of any overall economic impact of new requirements would be their effects on stripper wells. Stripper operations (generally, wells producing 10 or fewer barrels of oil per day during the declining phase of their production cycle) cumulatively contribute about 14 percent of total domestic oil production. Generation of production wastes by strippers is more significant than would be expected, however, because many strippers produce very high ratios of water to oil. Many stripper operations are economically marginal and are thus highly sensitive to small fluctuations in market prices and cannot easily absorb additional costs for waste management. Stripper operations, therefore, constitute a special subcategory of the crude oil and natural gas industry and should be given special consideration when developing recommendations for improvements in the management of crude oil and natural gas wastes. At the same time, any additional regulations must recognize the great diversity that exists within the stripper industry. The nature of stripper operations is dependent on the volume of crude oil, natural gas and wastes generated, the age of the well, the technology in use, geological, environmental, and economic considerations, and types of ownership. For example, a family-owned stripper well in a century-old field in Appalachia bears little resemblance to a field of stripper wells owned by a single large petrochemical company in California. Regulations governing wastes generated by stripper wells must be tailored to meet this great diversity.

B. Legal Authority

Section 3001(b)(2)(B) of RCRA requires EPA to determine either to promulgate regulations under Subtitle C for oil, gas, and geothermal energy wastes, or that such regulations are "unwarranted." This section thus gives EPA broad discretion both to identify what factors to consider and to determine what balance of factors permit the conclusion that Subtitle C regulations are unwarranted.

EPA has concluded that its decision whether to regulate oil, gas and geothermal energy waste under Subtitle C should be based not just on whether that waste is hazardous (as currently defined by EPA regulations) but also on a consideration of the other factors section 8002(m)

required EPA to study. The basis of this conclusion is the language of section 3001(b)(2)(B), which states that in making the regulatory determination " the Administrator shall utilize the information developed or accumulated pursuant to the study required under section 8002(m)." Clearly, Congress envisioned that the determination would be based on all the considerations stated in section 8002(m).

In reviewing sections 3001(b) and 8002(m), together with the legislative history of these provisions, EPA has concluded that Congress believed certain considerations to be particularly important to the regulatory determination. First, Congress instructed EPA to study the potential dangers to human health and the environment from oil, gas and geothermal energy waste, indicating that any decision to regulate under Subtitle C must be based on a finding of such danger. Second, section 8002(m) required EPA to study "the adequacy of means and measures currently employed by * * * Government agencies * * * to dispose of and utilize such wastes and to prevent or substantially mitigate such adverse effects." The section also permits EPA to review the actions of other Federal agencies, "with a view toward avoiding duplication of effort," and requires the Agency to include in its report of the study "recommendations for Federal and non-Federal actions concerning" the effects of oil, gas and geothermal energy wastes on health and environment. Thus, Congress was concerned that regulations under Subtitle C should not be promulgated "until further information is developed to determine whether a sufficient degree of hazard exists to warrant additional regulations and whether existing State or Federal programs adequately control such hazards." S. Rep. No. 172, 96th Cong., 1st Sess. (1979), at 6. Congress apparently believed that EPA should not impose Subtitle C regulation unless other programs could not adequately control any hazards identified.

In addition, Congress instructed EPA to analyze fully the disposal practices of the industry, including present practices, alternatives, the cost of alternatives, and the impact of alternatives on the exploration for, and development and production of, crude oil and natural gas and geothermal energy. Thus, EPA was required to consider the impact of Subtitle C regulations on existing hazardous waste facilities, and both the cost and impact of such regulations on the oil, gas and geothermal industries. Clearly, Congress believed that Subtitle C regulation would be unwarranted if it had severe impacts on the nation's future energy production capabilities.

C. Conclusions of the Report to Congress and Response to Comments

Based on the study done by EPA, the Report to Congress developed a number of initial general conclusions. Extensive comments were received on these conclusions. A summary of the comments and EPA's response follows each conclusion (underlined statements) below.

1. *Available waste management practices vary in their environmental performance.* Some individuals argued that since crude oil and natural gas operations very significantly across the country, Federal regulations could not be effectively enforced or applied, and would therefore not be beneficial. Other commenters focused on local issues and regional environmental problems, calling for increased Federal regulations to solve them. Still others observed that the crude oil and natural gas industry does not manage its "hazardous" wastes in the same manner as other industries manage similar hazardous wastes.

The Agency acknowledges that there are valid reasons for differences in practices among areas. This points to a need for individual, tailored regulations at the State and local level for the management of these wastes, rather than a RCRA Subtitle C program. The Agency also agrees, however, that there may be a need for minimum Federal standards covering basic waste management practices. The Agency agrees that because of the large volumes of these wastes, along with the other factors discussed in the report, some crude oil and natural gas wastes

require different disposal methods than may be used for management of wastes generated by other industries.

2. Any program to improve management of oil and gas wastes in the near term will be based largely on technologies and practices in current use. Commenters agreeing with this conclusion asserted that existing technologies are adequate and that new technologies would be economically infeasible and would serve no valid purpose. Others, especially those concerned with issues in Alaska, believe that many new technologies are available but seldom used and called for their increased use. A few State regulatory agencies called for increased technical assistance and guidance from EPA.

The Agency continues to believe that there are very few techniques that are not in use under some conditions. There is, however, a need to disseminate knowledge and encourage or perhaps require adoption of improved methods nationwide. States and the industry should continue to develop, refine, and encourage the implementation of new and improved waste management techniques.

3. Increased segregation of waste may help improve management of oil and gas wastes. Many commenters strongly opposed the proposal for segregation of wastes and believed that the scope of the exemption in RCRA section 3001 should be construed to include, and should be maintained for, all associated wastes in addition to the currently exempt large-volume wastes. Many commenters asserted that mixing various wastes with produced water prior to injection is environmentally safe and economically beneficial. Other commenters argued that each waste stream generated by the crude oil and natural gas industry should be tested separately to determine its RCRA characteristics and that wastes determined to be hazardous according to RCRA definitions should remain segregated and be disposed of according to RCRA regulations. Some individuals claimed that many hazardous wastes generated by the crude oil and natural gas industry are commingled with nonhazardous wastes prior to landspreading or injection, causing significant environmental damage.

The Agency believes that under certain circumstances waste segregation is technically and economically feasible and environmentally desirable.

4. Stripper operations constitute a special subcategory of the oil and gas industry. Many commenters strongly agreed with this conclusion, stating that new or additional Federal regulations would be financially harmful to already economically ailing stripper well operators. Other commenters were of the opinion that some stripper wells can cause significant environmental damage, which must ultimately be paid for through general taxes. Some commenters urged that stripper operations should be treated in the same manner as the rest of the crude oil and natural gas industry.

As previously described, the agency recognizes that many, though not all, stripper operations are economically vulnerable to any new regulatory burdens. Stripper wells in many parts of the country are also associated with smaller, independent oil and gas companies that do not have flexibility in pricing and may suffer disproportionate economic impacts from any additional regulation. The Agency is required under the Regulatory Flexibility Act to evaluate impacts of any new regulations on small business enterprises.

5. Documented damage cases and quantitative modeling results indicate that, when managed in accordance with State and Federal requirements, exempt oil and gas wastes rarely pose significant threats to human health and the environment. Opinion on this conclusion was sharply divided. Some commenters strongly agreed, saying that State regulations are fully adequate to control crude oil and natural gas operations and challenged the validity of a few selected

damage cases. Others strongly opposed this conclusion, saying that State and Federal regulations are inadequate and seldom enforced. A number of commenters stated that many documented damage cases were omitted from the final Report to Congress. Some commenters provided studies and analytical data alleging environmental damage from crude oil and natural gas wastes; others claimed that the risk modeling conducted for the Report underestimated damage to the environment and did not adequately characterize the significance of human health risks from crude oil and natural gas wastes.

A number of comments were received on the quantitative risk modeling on which this conclusion is partly based. Criticisms included:

- The quantitative risk modeling should not have been performed at all because of the severe lack of suitable data.
- The risk analysis is fatally flawed because it used nonconservative assumptions.
- Values for input parameters used in the liner location model (LLM) have been developed on the basis of limited data, worst-case assumptions, or modeling limitations.
- The study underestimates toxicity because too much of the sampling was performed on diluted and weathered crude oil and natural gas wastes.
- Very few of the contaminants at the waste sites were analyzed.
- EPA made no effort to correlate its quantitative risk model with the actual damage cases.
- The health-based standards incorporated in the model are insufficiently documented.
- TCLP extractions used in risk modeling for reserve pits misrepresent conditions at pits.
- Risk is overestimated in the risk analysis.

The Agency believes the damage cases in the Report to Congress demonstrate that violations of existing State and Federal requirements lead to most observed damages, although some damages have been shown to result from practices currently allowable in some States. The risk assessment also showed little risk at most locations from the management practices that were analyzed. The Agency believes from the available evidence that State regulations are generally but not entirely adequate for management of crude oil and natural gas wastes. Additionally, enforcement of and compliance with State regulations vary widely from State to State.

With respect to the specific criticisms of the risk modeling, the Agency disagrees that the modeling should not have been performed because of a severe lack of suitable data. Extensive data were gathered from a variety of sources, including EPA field investigation and waste sampling study, numerous Federal and State agencies, an industry survey conducted by API, comments submitted on interim reports and given during peer review meetings, over 300 topographic maps, automated data bases, and a general literature review. The Agency believes these data are the best available and that they adequately support a risk assessment.

As with any detailed modeling study, a number of assumptions in the risk assessment had to be made, sometimes with respect to values used for model inputs. The Agency rejects the notion, however, that the assumptions made were generally worst-case, significantly

nonconservative, or driven only by modeling limitations. For most variables, several realistic representative values were selected to evaluate a variety of circumstances. Whenever assumptions were made, best available data and professional judgment were used and proposed approaches were subjected to peer review, and often outside public review. As noted in the above comments, some of the assumptions tended to result in either overestimates or underestimates of risk. While over- and underestimates are inevitable in any predictive modeling, the Agency believes their impacts on this study have been minimized by (1) analyzing risks under a wide range of conditions across the industry as a whole, in an attempt to even out over- and underestimates of risk for any single scenario; and (2) fully documenting each assumption and its likely effect on risk estimates.

The Agency disagrees that the waste characterization used in the risk assessment was inappropriate. Many of EPA's samples of drilling waste were taken from open reserve pits where the waste could have been "weathered", but these samples were not purposefully diluted and are believed to be representative of drilling waste as it exists in a reserve pit. Contrary to the above comment, all of the contaminants detected in drilling pit waste and produced water were reviewed and considered as candidates for the risk assessment. The eight constituents selected for quantitative modeling were the constituents judged most likely to contribute most significantly to risk to health or the environment. The selection of contaminants for quantitative modeling was based on their frequency of detection, concentration, inherent toxicity, and mobility and persistence in the environment. Finally, the Agency used TCLP extraction results only to model leachate from closed reserve pits (not from operating pits). While uncertainties concerning the applicability of TCLP tests to leachability of reserve pit wastes are acknowledged, the Agency believes the TCLP results were the best data available for modeling this leachate.

The Agency did not attempt to correlate the risk modeling with the damage cases because the risk assessment was intended to complement the damage cases by focusing on different issues. Specifically, the risk assessment analyzed potential current and future effects assuming compliance with a limited subset of typical existing regulations, whereas the damage cases covered past and current effects, many of which were for incidents involving regulatory violations. The risk assessment also focused on more subtle or very long-term impacts, some of which possibly would not be evidenced in the contemporary damage case file. In addition, several of the damage cases represented situations (e.g., releases through abandoned boreholes) that could not be modeled adequately given existing data and modeling techniques. Other scenarios not modeled include annular deposits, storage of produced water in surface impoundments, migration of produced water contaminants through fractures, and landspreading. (Use of impoundments for produced waters and landspreading are both still frequently practiced.)

The Agency believes that the health-based standards incorporated in the risk model incorporated the best available scientific knowledge at the time of the study. These standards and the studies that support them were summarized only briefly in the Report to Congress; readers are referred to the two-volume technical background report on risk assessment for more detail.³

³ U.S. EPA, December 1987. Office of Solid Waste. Onshore Oil and Gas Exploration, Development and Production: Human Health and Environmental Risk Assessment.

6. Damages may occur in some instances even where wastes are managed in accordance with currently applicable State and Federal requirements. No comments specifically addressed this conclusion, but comments on the previous conclusion relate in part to the substance of this one.

The quantitative risk modeling showed that for the specific management practices and scenarios modeled, a few crude oil and natural gas sites (less than five percent) could pose significant risks even if drilling waste and produced water were managed in accordance with existing regulations. In addition, the damage case results indicate that some waste management practices permitted in some States can have undesirable environmental impacts. These practices include landspreading of high chloride drilling mud, annular disposal of produced water, discharge of produced water and drilling fluids to tidally affected wetlands, discharge of produced water to live streams, and discharge of reserve pit contents to tundra.

7. *Unplugged and improperly plugged abandoned wells can pose significant environmental problems.* Opinion on this conclusion was divided. Many of the commenters asserted that there is no evidence to support this conclusion, and that State regulations adequately address the potential problems associated with unplugged and improperly plugged and abandoned wells. Others felt that it is economically infeasible to plug or re-plug abandoned wells properly. Conversely, commenters agreeing with this conclusion mentioned specific instances in which unplugged wells have caused significant contamination of ground-water supplies. Some State regulatory agencies commented that inadequate funds are available to properly plug all abandoned wells.

The Agency believes there is adequate evidence to indicate a potential threat to ground water from unplugged and improperly plugged abandoned wells based on the large number of unplugged or improperly plugged abandoned wells, the difficulty in observing plugging of abandoned wells, and the difficulty in enforcing State regulations on plugging of abandoned wells. The damage cases collected and the information presented to the Agency support this conclusion. The Agency recognizes that the full extent of the problem is not well defined. The Agency also recognizes that high costs could be incurred if all unplugged or improperly plugged abandoned wells were required to be plugged, and that such a requirement may not be necessary, as not all unplugged or improperly plugged abandoned wells pose a problem.

8. *Discharges of drilling muds and produced waters to surface waters have caused locally significant environmental damage where discharges are not in compliance with State and Federal statutes and regulations or where NPDES permits have not been issued.* Comments were divided on this issue even among those who were critical of similar conclusions; some agreed, while others stated that there is no evidence that drilling muds or produced water cause environmental damage. Some stated that both drilling muds and produced water are relatively nonhazardous and nontoxic. Several comments specific to Alaska stated that the Clean Water Act adequately regulates the management of large-volume wastes in Alaska.

Those agreeing with this conclusion often argued that current State and Federal regulations are not adequate or are not enforced properly. They also asserted that drilling muds and produced waters contain RCRA hazardous constituents and have caused significant environmental damage.

Documented damage cases indicate that disposal of drilling muds and produced waters in violation of State regulations and where NPDES permits have not been issued, has clearly caused damages to the environment and endangered human health, particularly in Alaska, the Gulf Coast and the Appalachian States. Also, discharges of produced water from stripper well to

surface waters were estimated to cause cancer risks greater than one in one hundred thousand in roughly 17 percent of the conservative cases studied in the quantitative risk modeling for 90th percentile produced water constituent concentrations.

9. *For the nation as a whole, regulation of all oil and gas field wastes under unmodified Subtitle C of RCRA would have a substantial impact on the U.S. economy.* Those agreeing with this conclusion did so strongly, stating that RCRA regulations applied to the crude oil and natural gas industry would cause the loss of a significant number of jobs. Some said that RCRA regulation would increase oil imports and pose a threat to national security. Others claimed that the potential costs to industry have been underestimated.

Those in favor of regulating wastes determined to be RCRA-hazardous generally recognized the potential economic impacts of regulation, but nevertheless believed that such wastes should be disposed of consistent with RCRA Subtitle C requirements.

In specific comments on the methodologies used to analyze these issues, some commenters believed that the lower 48 State model masks or understates costs and impacts in some regions, and that data limitations and exclusions of some costs lead to understated economic impacts in all scenarios. Some commenters stated that the number of economically marginal wells that would be forced to shut down if RCRA Subtitle C regulations were imposed has been underestimated, and that certain assumptions in the model are unrealistic. Some commented that the analysis ignores impacts on undiscovered energy reserves and gas production.

Taking the opposite point of view, other commenters argued that the cost analysis ignores public health costs associated with continued improper disposal of crude oil and natural gas wastes, and that the report does not take into account the financial consequences of contamination of ground water and other natural resources. Some claimed that long-term financial burdens to taxpayers to mitigate environmental damage, to provide health care, and to sustain financial burden from lost productivity, will be greater than the cost to the crude oil and natural gas industry to prevent that damage.

The Agency believes that its estimates of impacts to the industry of full regulation under RCRA Subtitle C are reasonable and that such impacts would be substantial. The Agency acknowledges that costs related to public health effects and contamination of ground water and other natural resources because of improper disposal of crude oil and natural gas wastes have not been determined.

10. *Regulation of all exempt wastes under full, unmodified RCRA Subtitle C appears unnecessary and impractical at this time.* Opinion was divided on this conclusion. Those agreeing did so strongly, while those opposed generally stated that if a waste is RCRA hazardous, it should be treated under RCRA regulations regardless of its origin. Many of those in disagreement with this conclusion argued that the crude oil and natural gas industry can afford the financial burden of RCRA regulation.

For reasons described in Section IV of this regulatory determination, the Agency continues to believe that regulation of all crude oil and natural gas wastes under RCRA Subtitle C is unnecessary and impractical. The Agency believes that these wastes can be managed in a manner so as to protect human health and the environment without regulating them under RCRA Subtitle C.

11. *States have adopted variable approaches to waste management.* Most commenters agreed with this conclusion, but there was considerable disagreement over whether current State regulations are adequately designed and enforced.

Variable approaches to waste management are partly the result of varying environmental conditions, geology, and economics among the producing States. EPA believes, however, that there are many cases where more stringent requirements are both feasible and desirable, and that many States have recognized this in changes made to their regulations in the last few years. Some States have taken significant leadership roles in the development of more environmentally protective requirements.

12. Implementation of existing State and Federal requirements is a central issue in formulating recommendations in response to section 8002(m). Opinion was divided on this conclusion. Some commenters urged that existing State and Federal regulations are adequate and that additional State or Federal regulations are unnecessary and impractical. Others argued that existing State and Federal regulations have not been adequately enforced and that additional Federal regulations are necessary.

The Agency believes that the design, enforcement, and implementation of existing State and Federal regulations can clearly be improved.

Public comments on the Geothermal Energy Portion of Report to Congress: Only two comments specifically addressed geothermal energy wastes.

One commenter presented additional information relating to damages resulting from the offsite disposal of geothermal energy production wastes (such as hydrogen sulfide abatement wastes which test nonhazardous by California standards) in commercial facilities. The information alleged potential damages and/or risk by contamination of surface and ground water from the disposal of hydrogen sulfide abatement wastes in centralized or commercial disposal facilities in California. These facilities are designated strictly for the disposal of geothermal energy production wastes determined to be nonhazardous by California standards.

The other commenter specifically addressing geothermal energy, fully supported the conclusions of the report and stated that the California statutes regarding the management of geothermal energy wastes are comprehensive and effective.

The Agency continues to believe that geothermal energy wastes are generally well regulated under existing State and Federal programs. However, the Agency acknowledges that at least one significant undesirable disposal practice is occurring and has taken this into consideration in making this final regulatory determination.

D. Determination of the Scope of the Temporary RCRA Exemption

Based on the language of RCRA section 3001(b)(2)(A) of the 1980 amendments to RCRA, review of the statute, and supporting legislative history, the Agency believes that the following wastes were included in the temporary exemption set forth in the statute.

- Produced water;
- Drilling fluids;
- Drill cuttings;
- Rigwash;
- Drilling fluids and cuttings from offshore operations disposed of onshore;

- Geothermal production fluids; and
- Hydrogen sulfide abatement wastes from geothermal energy production.
- Well completion, treatment, and stimulation fluids;
- Basic sediment and water and other tank bottoms from storage facilities that hold product and exempt waste;
- Accumulated materials such as hydrocarbons, solids, sand, and emulsion from production separators, fluid treating vessels, and production impoundments;
- Pit sludges and contaminated bottoms from storage or disposal of exempt wastes;
- Workover wastes;
- Gas plant dehydration wastes, including glycol-based compounds, glycol filters, filter media, backwash, and molecular sieves;
- Gas plant sweetening wastes for sulfur removal, including amines, amine filters, amine filter media, backwash, precipitated amine sludge, iron sponge, and hydrogen sulfide scrubber liquid and sludge;
- Cooling tower blowdown;
- Spent filters, filter media, and backwash (assuming the filter itself is not hazardous and the residue in it is from an exempt waste stream);
- Packing fluids;
- Produced sand;
- Pipe scale, hydrocarbon solids, hydrates, and other deposits removed from piping and equipment prior to transportation;
- Hydrocarbon-bearing soil;
- Pigging wastes from gathering lines;
- Wastes from subsurface gas storage and retrieval, except for the nonexempt wastes listed below;
- Constituents removed from produced water before it is injected or otherwise disposed of;
- Liquid hydrocarbons removed from the production stream but not from oil refining;
- Gases from the production stream, such as hydrogen sulfide and carbon dioxide, and volatilized hydrocarbons;
- Materials ejected from a producing well during the process known as blowdown;
- Waste crude oil from primary field operations and production; and

- Light organics volatilized from exempt wastes in reserve pits or impoundments or production equipment.

The Agency believes that the following wastes were not included in the original exemption:

- Unused fracturing fluids or acids;
- Gas plant cooling tower cleaning wastes;
- Painting wastes;
- Oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids;
- Vacuum truck and drum rinsate from trucks and drums transporting or containing non-exempt waste;
- Refinery wastes;
- Liquid and solid wastes generated by crude oil and tank bottom reclaimers;
- Used equipment lubrication oils;
- Waste compressor oil, filters, and blowdown;
- Used hydraulic fluids;
- Waste solvents;
- Waste in transportation pipeline-related pits;
- Caustic or acid cleaners;
- Boiler cleaning wastes;
- Boiler refractory bricks;
- Boiler scrubber fluids, sludges, and ash;
- Incinerator ash;
- Laboratory wastes;
- Sanitary wastes;
- Pesticide wastes;
- Radioactive tracer wastes;
- Drums, insulation, and miscellaneous solids.

In order to determine the scope of the exemption, the Agency reviewed the statute and legislative history. The Agency interprets the term "other wastes associated" to include rigwash, drill cuttings, and wastes created by agents used in facilitating the extraction, development and production of the resource, and wastes produced by removing contaminants prior to the transportation or refining of the resource. Drill cuttings and rigwash are generally co-mingled with drilling muds, and the Agency therefore has grouped them with large-volume wastes for purposes of discussion in this determination. The remaining wastes on the above list of exempt wastes are considered "associated wastes" for purposes of this determination.

The Agency has determined that produced water injected for enhanced recovery is not a waste for purposes of RCRA regulation and therefore is not subject to control under RCRA Subtitle C or RCRA Subtitle D. Produced water used in enhanced recovery is beneficially recycled and is an integral part of some crude oil and natural gas production processes. Produced water injected in this manner is already regulated by the Underground Injection Control program under the Safe Drinking Water Act. The Agency notes, however, that if the produced water is stored in surface impoundments prior to injection, it may be subject to RCRA Subtitle D regulations.

III. Factors Considered in Regulatory Determination

Section 3001(b)(2)(B) of RCRA states that in making the regulatory determination, the Agency must "utilize the information developed or accumulated pursuant to the study required under section 8002(m)." Clearly, Congress envisioned that the determination would be based on all factors specifically enumerated in section 8002(m), as well as general issues raised by the text of section 8002(m) as a whole. Therefore, in making today's determination, EPA considered not just the impact of these wastes on human health and the environment, but also the other factors that RCRA section 8002(m) required EPA to study.

Specifically, EPA considered three major factors in developing this determination: (1) The characteristics, management practices, and impacts of oil, gas, and geothermal wastes on human health and the environment; (2) the adequacy of existing State and Federal regulatory programs for controlling these wastes; and (3) the economic impacts of any additional regulations on the exploration for, and development and production of, crude oil, natural gas, and geothermal energy. Section 8002(m) required EPA to study each of these factors.

IV. Regulatory Determination for Crude Oil and Natural Gas Wastes

The following discussion summarizes information on the three major factors (discussed above) used in making this regulatory determination and then presents EPA's conclusions and rationale for the regulatory determination for crude oil and natural gas wastes. The information summarized here incorporates information received during the public comment period and additional refinement of the data presented in EPA's December 1987 Report to Congress.

A. Hazard Assessment

For the Report to Congress, EPA conducted a limited analysis which modeled the potential effects of disposal of drilling waste in reserve pits and the disposal of produced water by underground injection and found that the potential risks to human health and the environment were small. Only a few constituents appeared to be of major concern when these wastes are managed in accordance with existing State and Federal regulations. The actual threats posed were largely dependent upon site-specific factors such as populations or sensitive ecosystems.

Other management practices such as storage of produced water in unlined pits were not modeled and may pose higher risks.

Analysis of field data collected by EPA and presented in the January 1987 technical report shows that a portion of oil and gas wastes contain constituents of concern above EPA health- or environmental-based standards. For example, wastes at 7 percent of the sites generating drilling fluids and 23 percent of the statistically weighted sample sites generating produced water contain one or more of the toxic constituents of concern at levels greater than 100 times the health-based standards. The constituents typically exceeding the standards in drilling fluids are fluoride, lead, cadmium, and chromium. The constituents exceeding the standards in produced water are benzene, arsenic, barium, and boron. In addition, wastes at 78 percent of the sample sites generating drilling fluids, and 75 percent of the sample sites generating produced water, contain chlorides at levels greater than 1,000 times the EPA secondary maximum contaminant level for chloride. Like large-volume wastes, associated wastes contain a wide variety of hazardous constituents. Many associated wastes contain constituents that are similar in chemical composition and/or toxicity to other wastes currently regulated under RCRA Subtitle C.

The presence of constituents in concentrations exceeding health- or environmental-based standards does not necessarily mean that these wastes pose significant risks to human health and the environment. In evaluating the risks to human health and the environment, several factors beyond the toxicity of the waste should be considered. These factors include the rate of release of contaminants from different management practices, the fate and transport of these contaminants in the environment, and the potential for human health or ecological exposure to the contaminants.

On the basis of available data, EPA can only roughly estimate how much currently exempt oil and gas waste would be considered hazardous under current or proposed RCRA Subtitle C standards. It is clear that some portions of both the large-volume and associated waste would have to be treated as hazardous if the Subtitle C exemption were lifted. EPA estimates that approximately 10 to 70 percent of large-volume wastes and 40 to 60 percent of associated wastes could potentially exhibit RCRA hazardous waste characteristics under EPA's regulatory tests.

EPA has documented 62 damage cases caused by crude oil and natural gas wastes. Because large-volume wastes and associated wastes are often managed and disposed of together, it is often difficult to isolate the specific waste stream that contributed greatest to the damage. However, available data does not indicate that significant damage can occur from mismanagement of both large-volume wastes and associated wastes. EPA believes that most of these damages could have been prevented if the wastes had been managed in accordance with existing State and Federal requirements. However, because of certain regulatory gaps, damages have occurred even where wastes are managed in compliance with existing requirements.

B. Economic Impact Analysis

Application of RCRA Subtitle C to exploration, development, and production wastes could be extremely costly if large portions of these wastes were hazardous. The Agency estimates that implementation of RCRA Subtitle C on 10 to 70 percent of the large-volume drilling waste and non-EOR produced water would cost the industry and consumers \$1 billion to \$6.7 billion per year in compliance costs (not including costs for land ban or corrective action regulations mandated by Congress). This would reduce domestic production by as much as 12 percent.

In response to questions raised subsequent to the Report of Congress, the Agency also conducted a preliminary evaluation of the likely range of potential compliance costs and industry impacts that could result from removal of the RCRA Subtitle C exemption for associated wastes. The Agency's preliminary estimate is that the cost to the crude oil and natural gas industry of RCRA Subtitle C management for associated wastes would range between \$200 million and \$550 million per year. These cost estimates are based on American Petroleum Institute survey estimates on the quantities of associated wastes produced and their current management practices, together with the Agency assumption that 40 to 60 percent of these wastes might require management under RCRA Subtitle C, and Agency estimates of the probable range of unit costs for managing these various waste types.

However, it is important to note that these estimates do not include the cost of corrective action. The application of corrective action requirements to facilities that manage associated wastes on-site would impose substantial costs on the units managing the associated wastes as well as any other solid waste management units that exist within the facility boundaries to the extent that the wastes continue to be managed on-site. Since nearly half of the associated wastes are currently managed on-site, this could result in significant costs to the industry. The cost estimates also assume that "land-ban" treatment of hazardous solids and sludges consists of recycling and resource recovery. It is likely that some fraction of these wastes would need to be incinerated in compliance with the treatment standards established by the "land-ban," implying higher costs of regulating the associated wastes under Subtitle C.

C. Adequacy of State and Federal Regulatory Programs

EPA evaluated State regulations pertaining to large-volume wastes and associated wastes. Often, some of these wastes are co-mingled and disposed of together. Consequently, they are usually managed together under one regulatory program at the State level.

With regard to large-volume wastes, EPA found most existing State regulations are generally adequate for protecting human health and the environment. Most States have requirements specifically controlling the management of drilling muds and produced waters. However, certain gaps do exist in State regulations for large-volume wastes. For example, some States do not have adequate requirements controlling roadspreading or landspreading of large-volume wastes, design or maintenance rules for reserve pits, or have insufficient management specifications for centralized and commercial disposal facilities. As noted previously, EPA also found damages which occurred due to surface discharges not prohibited by State regulation.

Another regulatory gap for some States are controls for associated wastes. Most State regulations do not include specific controls for the management of these wastes. General standards are often difficult to enforce unless a specific pollution incident is discovered and can be attributed to a particular waste disposal event. However, a few States such as Texas do specifically address associated wastes and other States have general standards that provide partial control of these wastes.

The Agency has examined changes in State regulatory programs over the past two years. Some States have improved their regulations, while other States have relaxed specific waste management requirements. For example, while reserve pit management has been strengthened in some States, other States have relaxed controls pertaining to land application of large-volume wastes. Problems also remain regarding adequate State implementation and enforcement of existing regulations.

The Agency also evaluated the Federal Underground Injection Control (UIC) program under the Safe Drinking Water Act and regulatory programs under the Clean Water Act. The UIC program

effectively controls underground injection from the point of the wellhead, while the NPDES program addresses point source discharges to surface water bodies. These programs are particularly important in controlling management of large-volume wastes. However, EPA has identified certain gaps in these programs. For example, UIC regulations currently allow the practice of annular disposal and lack uniform mechanical integrity testing standards. The Clean Water Act regulatory program gaps include the lack of national effluent limitations at the Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) levels. These national limitations are needed to more effectively deal with discharges from facilities in the onshore and coastal subcategories of the industry. EPA also found that improvements are needed regarding implementation and enforcement of existing regulations. The Agency has already undertaken steps to address these deficiencies; these are discussed in Section V of today's notice.

Finally, EPA evaluated the existing Federal criteria under Subtitle D of RCRA. These criteria (40 CFR Part 257) include general environmental performance standards applicable to the disposal of any solid waste, including oil, gas, and geothermal wastes. These criteria include among other things, standards related to surface water discharges, ground-water contamination, and endangered species. Because the programs' criteria are aimed principally at municipal solid waste, EPA believes they do not now fully address oil and gas waste concerns. In addition, many of these criteria, such as control of disease vectors and aviation hazards, are not appropriate for oil and gas waste. Nevertheless, EPA has authority under Subtitle D to tailor requirements appropriate for the disposal of oil and gas wastes.

D. Conclusions

The Agency has decided not to promulgate regulations under Subtitle C for large-volume and associated wastes generated by the exploration, development and production of crude oil and natural gas. The Agency decision is based on the following reasons:

(1) Subtitle C contains an unusually large number of highly detailed statutory requirements, some of which are not only extremely costly, but also are unnecessary for the safe management of oil and gas wastes. Subtitle C does not, however, allow the Agency to consider costs where applying these requirements to oil and gas wastes. Consequently, EPA would not be able to craft a regulatory program to reduce or eliminate the serious economic impacts that it has predicted. Thus, in light of Congress' concern for the protection of the nation's future energy supply, Subtitle C regulations must be considered unwarranted. A tailored Subtitle D program, by contrast, will enable the Agency to apply all necessary requirements to the management of these wastes, while ensuring that economic impacts are minimized.

(2) As discussed in Section II. B., Congress has indicated that Subtitle C regulations are unwarranted where existing programs can be employed to protect human health and the environment from the problems created by oil and gas wastes. EPA has concluded that, in fact, existing State and Federal programs are generally adequate, and that remaining gaps can be filled by modifying these programs. Subtitle C regulation is, therefore, unwarranted. Moreover, Subtitle C, with its comprehensive "cradle to grave" management requirement, simply is not well suited to this type of gap-filling regulation. It is thus both more efficient and appropriate to fill the gaps by strengthening regulations under the Clean Water Act and UIC program and promulgating the remaining rules needed under RCRA under the less prescriptive statutory authorities set out in Subtitle D.

(3) Since the States and EPA have consistently required long periods of time to process Subtitle C permits, regulation under Subtitle C could delay the start of operations at new facilities.

These delays would be particularly disruptive to the exploration phase of oil and gas development.

(4) Subtitle C regulation of these wastes would subject them to all of the land disposal restriction requirements, including BDAT, and thus could severely strain existing Subtitle C facility capacity.

(5) The Agency believes that it is impractical and inefficient to implement Subtitle C for all or some of these wastes because of the disruption and, in some cases, duplication of State authorities that administer programs through organizational structures tailored to the oil and gas industry.

(6) It is impractical and inefficient to implement Subtitle C for all or some of these wastes because of the permitting burden that the regulatory agencies would incur if even a small percentage of these sites were considered Treatment, Storage and Disposal Facilities (TSDFs).

V. Efforts to Improve State and Federal Programs

The Agency plans a three-pronged approach toward filling the gaps in existing State and Federal programs that regulate the management of wastes from the crude oil, and natural gas, industries. This effort will include:

1. Improving Federal programs using existing authorities under Subtitle D of RCRA and the Clean Water and Safe Drinking Water Acts;
2. Working with the States to encourage changes in their regulations and enforcement programs to achieve more uniformity in the administration of their programs; and
3. Working with Congress to develop any additional statutory authority that may be required.

A. Federal Program Improvements Within Existing Authorities

1. Clean Water and Safe Drinking Water Act Programs

The Agency believes certain improvements in the Safe Drinking Water and Clean Water Acts are desirable with respect to their application to crude oil and natural gas wastes. In the case of the UIC program, the Agency had previously determined that a critical examination of the overall program was in order. The program has now been in effect for approximately 5 years or more, depending on when a State program was approved or a Federal program was promulgated in a State. This examination, currently underway, includes a review of the adequacy of the regulations and policies governing the program and of the way in which States and EPA Regions are implementing and enforcing the program. The review of the adequacy of State implementation is complex because approval of State programs was, by statute, governed by a determination of their effectiveness in protecting underground sources of drinking water, rather than by their conformity with minimum Federal regulations.

Implementation of the UIC program by the EPA Regions is undergoing a peer review process, which will be completed by the fall of 1988. Implementation of the State programs is reviewed routinely by the EPA Regions. In addition, the EPA's Office of Drinking Water has undertaken a cycle of in-depth reviews of the UIC program. The California, Texas, and Kansas programs were reviewed in 1987. A review of Wyoming and at least one other State, not yet selected, will be conducted in 1988. The States have also undertaken a peer review project directed by the Underground Injection Practices Council.

The Agency has formed a workgroup, which will include participation by the States and other Federal agencies, to review issues pertinent to the UIC regulations. The strategy for this review is available in the RCRA docket. A final report and the recommendations of the workgroup are expected to be available in the winter of 1988-89.

In conjunction with the Clean Water Act, the Agency is currently developing national discharge regulations for the offshore crude oil and natural gas industry and is planning for the development of national discharge regulations for the coastal oil and gas industry. The coastal segment generally includes exploration, development and production facilities that are located in or adjacent to tidal wetlands. These regulations will cover the discharges of produced water, drilling fluids, drill cuttings and various low-income waste streams to surface waters of the U.S. The regulations will address the best available technology (BAT), best conventional technology (BCT) and new source performance standards (NSPS) levels of control. These regulations may result in a prohibition on the discharge of a significant portion of high volume drilling wastes (drilling fluids and cuttings) into U.S. offshore waters. As such, these wastes will be transported to shore by the offshore operators for land disposal. These wastes would then be subject to regulation under RCRA Subtitle D.

The Agency is also planning to begin development of national effluent regulations for onshore stripper oil and gas production. The onshore stripper well regulations will cover the discharges of produced water and well treatment wastes to surface waters of the U.S. These regulations will be established at increasing levels of stringency compared to the best practicable technology (BPT) level of control. Non-stripper wells located onshore are already subject to a "zero-discharge" requirement under NPDES.

22. RCRA Subtitle D Approach

(a) General Approach. EPA believes it can design and implement a program specific to crude oil and natural gas wastes under Subtitle D of RCRA that effectively addresses the risks associated with these wastes. EPA is already in the process of developing revised Subtitle D criteria for facilities that may receive hazardous household waste or small quantity generator hazardous wastes as well as for mining waste disposal facilities. The Agency intends to augment the Subtitle D program by developing appropriate standards and taking other actions as appropriate for crude oil and natural gas wastes.

In developing these tailored Subtitle D standards for crude oil and natural gas wastes, EPA will focus on gaps in existing State and Federal regulations and develop appropriate standards that are protective of human health and the environment. Gaps in existing programs include adequate controls specific to associated wastes and certain management practices and facilities for large-volume wastes, including roadspreading, landspreading, and impoundments. EPA is particularly concerned about centralized and commercial facilities that treat, store, or dispose of oil field wastes in concentrated form. Pits or impoundments at these facilities often contain hazardous constituents in high concentrations. In addition, centralized facilities are responsible for some of the most significant damages the Agency documented.

To ensure proper control over oil and gas disposal facilities and practices, EPA will consider requirements under Subtitle D such as: (1) Engineering and operating practices, including run-off controls, to minimize releases to surface water and groundwater; (2) proper procedures for closing facilities; (3) monitoring that accommodates site-specific variability; and (4) clean-up provisions. EPA will tailor these standards to the special problems posed by oil and gas waste disposal facilities, as well as incorporate appropriate flexibility to address site-specific variability.

In developing a tailored Subtitle D program for oil and gas wastes, EPA will use its RCRA section 3007 authority to collect any additional information needed on the characteristics and management practices of oil and gas wastes. EPA believes this authority does not limit information collection to "hazardous" waste identified under Subtitle C, but also authorizes the collection of information on any solid waste that the Agency reasonably believes may pose a hazard when improperly managed. (EPA may also use this authority in preparing enforcement actions.)

In specifying the appropriate standards, EPA also will further analyze existing Federal and State authorities and programs and determine future plans for administering their oil and gas waste programs. Additionally, EPA will perform analyses of costs, impacts, and benefits and will comply fully with Executive Orders 12291 and 12498, the Regulatory Flexibility Act, and the Paperwork Reduction Act.

The Agency will specifically consider the impact of future regulations on small business operations in the process of regulatory development under the Agency guidelines with respect to the Regulatory Flexibility Act. The Agency believes that the tailored RCRA Subtitle D regulations can provide the flexibility necessary to reflect the marginal economic nature of certain segments of the industry, while at the same time affording improved environmental protection. For example, the Agency recognizes that many stripper operations are, by their nature, more vulnerable to regulatory burdens imposed by any new controls over crude oil and natural gas wastes, and that many stripper wells are associated with small, non-integrated producers. This is particularly significant in certain producing regions such as Appalachia.

(b) Alaska's North Slope. Tailored standards under Subtitle D will specifically address controls necessary to protect fragile or sensitive environments; one such sensitive environment is the Arctic North Slope. EPA is particularly concerned about the management of crude oil and natural gas wastes in this area, where oil extraction is performed on a very large scale, accounting for roughly 20 percent of total U.S. production. There also exists the likelihood for future development of potentially significant crude oil and natural gas reserves on the North Slope in areas surrounding Prudhoe Bay and areas in the Arctic National Wildlife Refuge.

The Arctic North Slope is particularly sensitive and fragile, with unique geographic and climatic conditions that make its environment fundamentally different from the lower 48 States. The area is primarily an arctic desert, frozen for about 9 months out of the year and underlain by up to 2,000 feet of permafrost. During the summer months, surface water exists in the form of interconnected tundra ponds, which exhibit little or no flow during the summer season. This, in addition to the severity of the climate and the shortness of the growing season, makes the area particularly vulnerable to ecological impacts, or impacts from less than rigorous waste management practices.

There is a lack of long-term historical data on impacts of crude oil and natural gas industry activities on the North Slope. Based on preliminary studies, current waste management practices used on the North Slope pose the potential for environmental degradation. As stated in the Report to Congress, a 1983 U.S. Fish and Wildlife Service study found chromium, arsenic, cadmium, nickel, and barium to be present in tundra ponds adjacent to reserve pits at levels significantly greater than in control ponds. Levels of chromium in adjacent ponds were also found to exceed EPA chronic toxicity criteria, and affected distant ponds were found to contain chromium levels significantly higher than background levels. The authors of this study caution, however, that these findings cannot be extrapolated to present-day oil field practices on the North Slope because some industry practices have changed and the State's regulations have become increasingly more stringent since 1983.

Historically, enforcement of environmental controls on the North Slope has been inadequate. EPA believes this inadequacy has contributed to the use of undesirable waste management practices in some cases. For example, as discussed in the Report to Congress, an incident developed involving an oil field service company that was disposing of drums and waste chemicals in an inappropriate manner. The Agency believes that a greater enforcement presence in addition to improved regulations could prevent such incidents from recurring.

Recently, the State of Alaska has improved waste management regulations pertaining to the North Slope. In addition, some operators plan to implement more desirable waste management practices, including the possibility of phasing out reserve pits through the use of closed drilling systems and injection for waste drilling muds and cuttings. If implemented, these changes would be major improvements in waste management practices on the North Slope.

B. Additional Federal Authorities

EPA is concerned over the lack of Federal authority under Subtitle D of RCRA to address treatment and transportation of oil and gas wastes. The Administrator therefore will work with Congress to develop any additional legislative authorities that may be needed to address these issues. In the interim, EPA will use section 7003 of RCRA and sections 104 and 106 of CERCLA to seek relief in those cases where wastes from oil and gas sites pose substantial threats or imminent hazards to human health and the environment. Oil and gas waste problems can also be addressed under RCRA section 7002 which authorizes citizen lawsuits for violations of Subtitle D requirements in 40 CFR Part 257.

C. Improvement in State Programs

While in the process of completing improvements in the Federal programs, EPA plans to work with the States to improve the content, implementation, and enforcement of existing State regulations. This will be a cooperative effort with voluntary State participation. For example, the Interstate Oil Compact Commission has already begun work in this area and has expressed an interest in cooperating with EPA in this regard. Specifically, the Agency plans to encourage States to take steps to fill the following gaps (where present) in their existing regulatory programs:

- (1) Controls for roadspreading and landspreading;
- (2) Surface impoundment (i.e., pit) location, design, and maintenance;
- (3) Controls for associated wastes; and
- (4) Plugging abandoned oil and gas wells.

According to State officials, many States have tens of thousands of unplugged or improperly plugged abandoned wells. EPA's December 1987 Report to Congress documented ground-water contamination with chlorides from unplugged or improperly plugged abandoned crude oil and natural gas wells and indicated that State requirements for plugging and abandoning crude oil and natural gas wells vary, with inadequacies apparent in some State programs. For example, many States do not require a plugging bond from operators who drill crude oil and natural gas wells. Where bonding is required, the amount is often not adequate to provide for proper plugging once a well is abandoned.

EPA encourages States to develop programs to address abandoned wells. However, the Agency recognizes that locating and identifying these wells is difficult, and sometimes impossible,

because of poor record keeping or the absence of records. Because many unplugged wells are several decades old, the owner or operator often cannot be identified. Some States have plugging funds to use in such circumstances, some do not.

The Agency will also work with States to improve implementation and enforcement of existing State regulations. EPA believes that improvements in enforcement of existing regulations will significantly increase protection of human health and the environment.

EPA will also work closely with the State of Alaska on addressing problems associated with management of crude oil and natural gas wastes on the Arctic North Slope. Because of the remoteness and severe climatic conditions, enforcement is particularly difficult in this area. The Agency will explore with the State of Alaska and the Department of the Interior ways to improve enforcement in this area. The Agency believes operators should continue research into impacts on the environment of their waste management practices. The Agency will develop a list of recommended areas for research in the research, demonstration, and development plan required by RCRA section 8002(m)(2).

VI. Regulatory Determination for Geothermal Energy Wastes

A. Hazard Assessment

There is only a limited record of damages or danger to human health or the environment resulting from the exploration, development, and production of geothermal energy. Based on the limited information available, the Agency has determined that the risk to human health and the environment resulting from the exploration, development, and production of geothermal energy is relatively low. The geothermal energy industry is comparatively small, with a total of 395 wildcat, production, and injection wells drilled between 1981 and 1985. Most geothermal energy production is in California (321 out of 395 wells) and Nevada. It is unlikely that there will be further large-scale development of geothermal energy resources outside of the State of California because the occurrence of accessible geothermal energy is extremely limited.

B. Adequacy of State and Federal Regulations

As indicated in the Report to Congress, the Agency believes that existing State and Federal regulations are generally adequate for controlling wastes from geothermal energy production. However, one public comment on the Report to Congress suggests a possible gap in California's regulatory program addressing these wastes. The commenter documented potential endangerment of human health and damage to the environment because of the disposal of geothermal energy hydrogen sulfide abatement wastes in commercial facilities in California.

C. Conclusions

EPA has decided not to regulate wastes generated by the exploration and development of geothermal energy resources under RCRA Subtitle C. EPA believes that Subtitle C control for these wastes is unwarranted because of the relatively low risk of these wastes and the presence of generally effective State and Federal regulatory programs. Because these wastes are largely confined to California and Nevada, EPA will work closely with these States to address any gaps in their regulatory programs for the management of hydrogen sulfide abatement wastes.

VII. Research, Development, and Demonstration Plan

The Agency will develop a research, development, and demonstration plan based on the findings of the Report to Congress and subsequent public comments on the report. This plan will outline various topics that the Federal and State governments and/or industry could pursue. This plan will include the following topics:

- Alternative waste management technologies;
- Waste minimization techniques;
- Materials substitution;
- Recycling and reuse;
- Reserve pit construction (percolation, leaching, and erosion control issues);
- Plugging and abandonment of crude oil and natural gas wells;
- Better characterization of produced waters and associated wastes generated by stripper crude oil and natural gas wells; and
- Field monitoring to evaluate the adequacy of waste containment practices.

VIII. EPA RCRA Docket

The EPA RCRA docket is located at:

United States Environmental Protection Agency, EPA RCRA Docket (Sub-basement), 401 M Street, SW., Washington, DC 20460.

The docket is open from 9:30 a.m. to 3:30 p.m., Monday through Friday, except for Federal holidays. The public must make an appointment to review docket materials. Call the docket clerk at (202) 475-9327 for appointments.

The following documents related to this regulatory determination are available for inspection in the docket:

- Report to Congress on Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy;
- All supporting documentation for the regulatory determination, including public comments on the Report to Congress and EPA response to comments; and
- Transcripts from the public hearings on the Report to Congress.

Dated: June 29, 1988.

A. James Barnes,
Acting Administrator.

[FR Doc. 88-15097 Filed 7-5-88; 8:45 am]
BILLING CODE

RRC Note: This Federal Register notice is taken from the U.S. EPA web site. It is accessible from the following URL: <http://www.epa.gov/epaoswer/other/oil/index.htm>. The file may be opened as an ASCII text file, or a WordPerfect file.

The notice in this appendix has been reformatted to aid in readability. You should refer to the original Federal Register notice to assure accuracy.

Federal Register / VOL. 58, No. 53 / Monday March 22, 1993 / Rules and Regulations
(Pages 15284 – 15287)

40 CFR Part 261

[FRL-4606-6]

Clarification of the Regulatory Determination for Wastes From the Exploration, Development and Production of Crude Oil, Natural Gas and Geothermal Energy

AGENCY: Environmental Protection Agency (EPA).

ACTION: Clarification.

SUMMARY: This document provides additional clarification of the Resource Conservation and Recovery Act (RCRA) Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes dated June 29, 1988 (53 FR 25446; July 6, 1988). This document clarifies the regulatory status of wastes generated by the crude oil reclamation industry, service companies, gas plants and feeder pipelines, and crude oil pipelines. Since this document only further clarifies the status of these wastes under the RCRA Subtitle C hazardous waste exemption discussed in EPA's 1988 Regulatory Determination, and does not alter the scope of the current exemption in any way, comments are not being solicited by the Agency on this notice.

FOR FURTHER INFORMATION CONTACT: For general information on the scope of the RCRA Subtitle C exemption for wastes from the exploration, development and production of crude oil, natural gas and geothermal energy, contact the RCRA/Superfund hotline at (800) 424-9346 (toll free) or (703) 412-9810. For technical information, contact Mike Fitzpatrick, U.S. Environmental Protection Agency OS-323W, 401 M Street, SW., Washington, DC 20460; phone (703) 308-8411.

SUPPLEMENTARY INFORMATION:

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I. Introduction

In the Solid Waste Disposal Act Amendments of 1980 (Pub. L. 94-580), Congress amended the Resource Conservation and Recovery Act (RCRA) to add sections 3001 (b)(2)(A), and 8002(m). Section 3001(b)(2)(A) exempted drilling fluids, produced waters, and other wastes associated with exploration, development, and production of crude oil, natural gas and geothermal energy from regulation as hazardous wastes. Section 8002(m) required the Administrator to complete a Report to Congress on these wastes and provide an opportunity for public comment. The Administrator was also required by section 3001 (b)(2)(A) to make a determination no later than six months after completing the Report to Congress as to whether hazardous waste regulations under RCRA Subtitle C were warranted for these wastes.

EPA's Report to Congress was transmitted to Congress on December 28, 1987. In the process of preparing the Report to Congress, the Agency found it necessary to define the scope of the exemption for the purpose of determining which wastes were considered "wastes from the exploration, development or production of crude oil, natural gas or geothermal energy." Based upon statutory language and legislative history, the Report to Congress identified several criteria used in making such a determination. In particular, for a waste to be exempt from regulation as hazardous waste under RCRA Subtitle C, it must be associated with operations to locate or remove oil or gas from the ground or to remove impurities from such substances and it must be intrinsic to and uniquely associated with oil and gas exploration, development or production operations (commonly referred to simply as exploration and production or E&P); the waste must not be generated by transportation or manufacturing operations.

Transportation of oil and gas can be for short or long distances. For crude oil, "transportation" is defined in the Report to Congress and the subsequent Regulatory Determination as beginning after transfer of legal custody of the oil from the producer to a carrier (i.e., pipeline or trucking concern) for transport to a refinery or, in the absence of custody transfer, after the initial separation of the oil and water at the primary field site. For natural gas, "transportation" is defined as beginning after dehydration and purification at a gas plant, but prior to transport to market. To accurately determine the scope of the exemption, the reader is referred to the December 28, 1987, Report to Congress, Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy (NTIS # PB88-146212) for the specific application of the criteria.

The Agency's Regulatory Determination was published in the Federal Register on July 6, 1988 (53 FR 25446). The Regulatory Determination included a list of example wastes that generally are exempt and a list of example wastes that generally are not exempt. Neither of these lists was intended to be a complete itemization of all possible exempt or non-exempt wastes. Also, because definitions of the terms used in these lists vary, the criteria identified in the Report to Congress remain the authoritative source for determining the scope of the exemption. The reader is referred to the July 6, 1988, notice for detailed background on all aspects of the Regulatory Determination.

Since 1987, the terms uniquely associated and intrinsic have been used as interchangeable synonyms in various documents in reference to oil and gas wastes qualifying for the exemption from Subtitle C regulation. (For simplicity's sake, when referring to exempt wastes, this notice combines the use of these two terms into the single term uniquely associated.) A simple rule of thumb for determining the scope of the exemption is whether the waste in question has come from down-hole (i.e., brought to the surface during oil and gas E&P operations) or has otherwise been generated by contact with the oil and gas production stream during the removal of produced water or other contaminants from the product (e.g., waste demulsifiers, spent iron sponge). If the answer to either question is yes, the waste is most likely considered exempt.

Since the Agency's Regulatory Determination, numerous requests have been received for determination, on a site-specific basis, of the regulatory status of wastes not itemized in the Regulatory Determination's list of examples. Many of these requests have dealt with broad categories of similar wastes (e.g., crude oil reclaimer wastes, service company wastes, pipeline wastes). Today's notice responds to the many requests for clarification of the scope of the exemption.

II. Clarification of the Scope of the Oil and Gas Exemption

A. Crude Oil Reclamation Industry

The crude oil reclamation industry recovers marketable crude oil and other hydrocarbons from produced water, crude oil tank bottoms and other oily wastes that are generated by the production of crude oil and natural gas. In general, the marketable crude oil is recovered from the waste materials by simple thermal and/or physical processes (e.g., heat and gravity separation). Occasionally, demulsifiers may be added to produced waters from which crude oil cannot be separated with heat and settling time alone. The typical residual materials left after removal of the crude oil by the reclaimers are also produced water and tank bottom solids. These residuals will often exhibit the same characteristics as the parent waste, although the concentrations of some constituents may vary from those in the parent.

In September 1990, the crude oil reclamation industry requested that the Agency provide an interpretation of the language in the 1988 Regulatory Determination pertaining to RCRA Subtitle C coverage of wastes from crude oil and tank bottom reclaimers. (The list of "non-exempt" wastes in the Regulatory Determination included "liquid and solid wastes generated by crude oil and tank bottom reclaimers.") In particular, they requested that EPA clarify whether any wastes generated by crude oil reclaimers are included within the oil and gas exemption, particularly those originating from the crude oil itself, such as produced water and the other extraneous materials in crude oil, otherwise known as basic sediment and water (BS&W).

In April 1991, the Agency responded to the request with a letter that included broad guidance on the status of wastes from the crude oil reclamation industry. (A copy of the letter is included in the docket to this notice.) EPA explained that the inclusion of "liquid and solid wastes" from crude oil reclamation on the list of non-exempt wastes contained in the Regulatory Determination was intended to refer only to those non-E&P wastes generated by reclaimers (e.g., waste solvents from cleaning reclaimers' equipment) and was not intended to refer to wastes remaining from the treatment of exempt wastes originally generated by the exploration, development or production of crude oil or natural gas.

EPA's basis for this position is several-fold. First, the Agency has consistently taken the position that wastes derived from the treatment of an exempt waste, including any recovery of product from an exempt waste, generally remain exempt from the requirements of RCRA Subtitle C. Treatment of, or product recovery from, E&P exempt wastes prior to disposal does not negate the exemption. [The same principle applies to exempt mining and mineral processing wastes. See, 54 FR at 36621 (Sept. 1, 1989).] For example, waste residuals (e.g., BS&W) from the on-site or off-site process of recovering crude oil from tank bottoms obtained from crude oil storage facilities at primary field operations (i.e., operations at or near the wellhead) are exempt from RCRA Subtitle C because the crude oil storage tank bottoms at primary field operations are exempt. In effect, reclaimers are conducting a specialized form of waste treatment in which valuable product is recovered and removed from waste uniquely associated with E&P operations. In addition, in many cases, product recovery or treatment

reduces the volume and overall toxicity of the waste and thereby contributes to the Agency's policy and goals for waste minimization and treatment of waste prior to disposal.

EPA further notes that the off-site transport of exempt waste from a primary field site for treatment, reclamation, or disposal does not negate the exemption. The change of custody criterion (which is discussed in the Report to Congress) for the purpose of defining transportation refers to the transport of product (crude oil, natural gas) and does not apply to exempt wastes moving off-site for treatment or disposal since these wastes were generated by the exploration, development or production operations and not by the transportation process. Thus, the off-site transport and/or sale of exempt oil-field wastes to crude oil reclaimers for treatment does not terminate the exempt status either of the wastes or the residuals from a reclamation process applied to these wastes.

However, there are solid and liquid wastes from reclamation operations that are not exempt from RCRA Subtitle C. These are wastes which the Agency intended to refer to in its example within the 1988 Regulatory Determination. Generally, these reclaimer wastes are derived from non-exempt oilfield wastes or otherwise contain materials that are not uniquely associated with exploration, development or production operations. An example would be waste solvents generated from the solvent cleaning of tank trucks that are used to transport oilfield tank bottoms. Such wastes would not be exempt from Subtitle C because the use of cleaning solvents is not uniquely associated with the production of crude oil.

Generally, crude oil reclaimer wastes that are derived from exempt oilfield wastes (e.g., produced water, BS&W) are not subject to the Subtitle C waste management requirements of RCRA. Such wastes, however, remain subject to any applicable state solid waste management requirements. Moreover, this exemption from RCRA Subtitle C requirements may not apply if the crude oil reclaimer wastes are combined with other wastes that are subject to RCRA Subtitle C requirements.

B. Service Companies

Oil and gas service companies are those companies hired by the principal operating company to, among other things, supply materials for use at a drilling or production site or provide a service to be performed. Some of the activities of service companies take place on-site while others may take place off-site. Examples of the types of activities that may take place off-site are product formulation, transport of materials, laboratory analysis, and waste handling and disposal.

The 1988 Regulatory Determination stated that "oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids" are not covered by the oil and gas E&P exemption. The Agency intended this statement to identify those wastes, including unused and discarded product materials, generated by service companies that are not uniquely associated with primary field operations. (Primary field operations occur at or near the wellhead or gas plant and include only those operations necessary to locate and recover oil and gas from the ground and to remove impurities.) Similar to the reference to crude oil reclamation wastes, the Agency did not intend to imply that under no circumstances will a service company ever generate a RCRA Subtitle C-exempt waste. For example, if a service company generates spent acid returns from a well work-over, the waste is exempt since the waste acid in this case came from down-hole and was part of primary field operations.

EPA is aware that some confusion exists in various segments of the industry with regard to the scope of the exemption from RCRA Subtitle C for solid wastes not uniquely associated with oil

and gas exploration and production. One common belief is that any wastes generated by, in support of, or intended for use by the oil and gas E&P industry (including most service company wastes) are exempt. This is not the case; in fact, only wastes generated by activities uniquely associated with the exploration, development or production of crude oil or natural gas at primary field operations (i.e., wastes from down-hole or wastes that have otherwise been generated by contact with the production stream during the removal of produced water or other contaminants from the product) are exempt from regulation under RCRA Subtitle C regardless of whether they are generated on-site by a service company or by the principal operator. In other words, wastes generated by a service company (e.g., unused frac or stimulation fluids and waste products) that do not meet the basic criteria listed in the Report to Congress (i.e., are not uniquely associated with oil and gas E&P operations) are not exempt from Subtitle C under the oil and gas exemption, just as wastes generated by a principal operator that do not meet these criteria are not exempt from coverage by RCRA Subtitle C.

The 1988 Regulatory Determination also stated that "vacuum truck and drum rinsate from trucks and drums transporting or containing non-exempt waste" is not included within the exemption (emphasis added). The unstated corollary to this is that vacuum truck and drum rinsate from trucks and drums transporting or containing exempt wastes is exempt, provided that the trucks or drums only contain E&P-related exempt wastes and that the water or fluid used in the rinsing is not subject to RCRA Subtitle C (i.e., is itself non-hazardous). This is consistent with the general policy principle that certain wastes derived exclusively from RCRA Subtitle C-exempt wastes remain exempt from RCRA Subtitle C.

C. Crude Oil Pipelines

Crude oil is produced from the ground through a system of one or more wells in an oilfield. The oil and any related produced water typically is directed to a series of tanks known as a tank battery where the water and oil separate naturally due to gravity; sometimes, separation is enhanced by the use of heat. Most water is separated from the oil at the tank battery. The volume of oil produced is then metered prior to a change in custody or ownership of the oil and/or its transportation off-site.

In the case of crude oil, all production-related activities occur as part of primary field operations at or near the wellhead. Wastes generated as part of the process of transporting products away from primary field operations are not exempt. Generally, for crude oil production, a custody transfer of the oil (i.e., the product) or, in the absence of custody transfer, the end point of initial product separation of the oil and water, will define the end point of primary field operations and the beginning of transportation. Only wastes generated before the end point of primary field operations are exempt. In this context, the term end point of initial product separation means the point at which crude oil leaves the last vessel, including the stock tank, in the tank battery associated with the well or wells. The purpose of the tank battery is to separate the crude oil from the produced water and/or gas. The movement of crude oil by pipeline or other means after the point of custody transfer or initial product separation is not part of primary field operations.

Therefore, any waste generated by the transportation or handling of the crude oil (product) after custody transfer or, in the absence of custody transfer, after the end point of initial product separation of the oil and water, is not within the scope of the exemption. Examples of non-exempt wastes resulting from transportation include transportation pipeline pigging wastes, contaminated water and snow resulting from spills from transportation pipelines or other forms of transport of the product, and soils contaminated from such spills. It should be noted that the hydrocarbon-bearing soils identified in the 1987 Report to Congress and listed in the 1988 Regulatory Determination as being exempt are limited to those hydrocarbon-bearing

soils that occur at oil or gas E&P sites or result from spills of exempt waste. As discussed above, the exempt status of wastes generated by primary field operations and transported off-site for treatment or disposal is not affected by custody transfer.

D. Gas Plants and Feeder Pipelines

Natural gas is produced from the ground through a system of one or more wells in a gas field. Some water may be separated from the gas at the wellhead, but due to economy of scale, the gas from several wells is generally commingled and sent to a central gas plant where additional water and other impurities are removed. The ownership, or custody, of the natural gas commonly changes hands between the wellhead and the gas plant, yet the removal of impurities from the gas at a gas plant is still a necessary part of the production process for natural gas.

For natural gas, primary field operations (as defined in the 1987 Report to Congress) include those production-related activities at or near the wellhead and at the gas plant (regardless of whether or not the gas plant is at or near the wellhead) but prior to transport of the natural gas from the gas plant to market. Because the movement of the natural gas between the wellhead and the gas plant is considered a necessary part of the production operation, uniquely associated wastes derived from the production stream along the gas plant feeder pipelines (e.g., produced water, gas condensate) are considered exempt wastes, even if a change of custody of the natural gas has occurred between the wellhead and the gas plant. Some wastes generated at this production stage may not be uniquely associated with the natural gas production stream and are, therefore, not exempt (e.g., pump lube oil, waste mercury from meters and gauges). Similarly, soils contaminated by spills of wastes that are not uniquely associated with production operations, such as soils contaminated by mercury from gauges, are not exempt wastes.

Wastes generated at compressor stations and facilities located along the transportation and distribution network downstream from the gas plant or at the market end of the transportation system are not covered by the E&P exemption. These wastes are not uniquely associated with oil or gas exploration and production and are not exempt.

In addition, wastes generated by non-production related activities (i.e., manufacturing) that may occur at a gas plant are not exempt. These non-exempt manufacturing activities include operations that go beyond the removal of impurities from the raw gas and the physical separation of the gas into its component fractions. Manufacturing activities would be those that are similar to petrochemical plant operations, such as the cracking and reforming of the molecular structures of the various gas fractions and the addition of odorants or other substances. The end point of the scope of the exemption for natural gas is in the gas plant once manufacturing begins or, if no manufacturing occurs, at the point at which the natural gas leaves the gas plant for transportation to market.

It should be noted that the production of elemental sulfur from hydrogen sulfide gas at a gas plant is considered treatment of an exempt waste (i.e., the hydrogen sulfide gas is a uniquely associated waste). This waste treatment process reduces the volume and/or toxicity of the exempt waste and produces a saleable product. As such, this process is similar to crude oil reclamation and any residual waste derived from the hydrogen sulfide remains exempt.

Finally, wastes uniquely associated with operations to recover natural gas from underground gas storage fields are covered by the exemption just as if the gas were being produced for the first time. This is because operations to store and retrieve natural gas from natural underground formations, as well as the types of wastes generated, are virtually identical to

those involved with the production of natural gas for the first time, although the volume of wastes generated by natural gas storage and retrieval is typically smaller than the volume generated by the initial production. In effect, in the context of the E&P exemption, the storage of natural gas in natural underground formations returns the gas to the beginning point of the production process.

III. Administrative Procedure Act Requirements

Today's notice is issued without request for public comment since it does not revise, amend, repeal, change, or otherwise alter any EPA regulation, nor constitute a change to EPA's 1988 Regulatory Determination regarding oil and gas exploration and production wastes. This notice merely provides further clarification of EPA's statements regarding the scope of the exemption for oil and gas wastes. Thus, EPA does not believe that today's notice constitutes an action for which notice and comment is required under the Administrative Procedure Act (APA).

To the extent today's notice is covered by APA requirements, EPA believes that it is merely interpreting the scope of the existing RCRA statutory exclusion for oil and gas wastes, for which notice and comment is not ordinarily required. Alternatively, EPA believes it has good cause under Section 553(b) of the APA to publish this notice without opportunity for comment. EPA has already received substantial comment regarding the scope of the oil and gas exemption in response to its 1987 Report to Congress, and further comment on the issue is unnecessary, particularly since EPA is not altering its position from that which the Agency announced in the 1988 Regulatory Determination.

IV. EPA RCRA Docket

The EPA RCRA docket is located at: United States Environmental Protection Agency, RCRA Information Center, room M2427, 401 M Street, SW., Washington, DC 20460.

The RCRA Information Center is open from 9:00 to 4:00 Monday through Friday, except for federal holidays. The public must make an appointment to review docket materials. Call the docket at (202) 260-9327 for appointments. Copies cost \$.15 per page.

The following documents related to the July 6, 1988 regulatory determination are available for inspection in docket number F-88-OGRA-FFFFF.

- Report to Congress on Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy;
- All supporting documentation for the regulatory determination, including public comments on the Report to Congress and EPA response to comments, and
- Transcripts from the public hearings on the Report to Congress.

All supporting documentation for this Federal Register Notice are available for inspection in docket number F-93-OGRC-FFFFF.

Dated: March 11, 1993.

Richard J. Guimond,
Assistant Surgeon General, USPHS. Acting Assistant Administrator.

[FR Doc. 93-6153 Filed 3-19-93; 8:45 am]

BILLING CODE 6560-50-P

RRC Note: This Federal Register notice is taken from the U.S. EPA web site. It is accessible from the following URL: <http://www.epa.gov/epaoswer/other/oil/index.htm>. The file may be opened as an ASCII text file, or a WordPerfect file.

The notice in this appendix has been reformatted to aid in readability. You should refer to the original Federal Register notice to assure accuracy.

APPENDIX C

**LISTED AND CHARACTERISTIC HAZARDOUS WASTES
(40 CFR PART 261, SUBPARTS C AND D)**

40 CFR Subparts C and D consist of sections 261.20 through 261.33:

Subpart C – Characteristics of Hazardous Waste

- 261.20 General
- 261.21 Characteristic of ignitability.
- 261.22 Characteristic of corrosivity.
- 261.23 Characteristic of reactivity.
- 261.24 Toxicity characteristic.

Subpart D – Lists of Hazardous Wastes

- 261.30 General.
- 261.31 Hazardous wastes from non-specific sources.
- 261.32 Hazardous wastes from specific sources.
- 261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof.

These sections are available (html or pdf) on the U.S. Government Printing Office's web site at:

http://www.access.gpo.gov/nara/cfr/waisidx_03/40cfr261_03.html

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APPENDIX D

REQUEST FOR 30-DAY EXTENSION TO STORE HAZARDOUS OIL AND GAS WASTE

**REQUEST FOR 30-DAY EXTENSION TO STORE
HAZARDOUS OIL AND GAS WASTE**

Requests for 30-day extensions should be mailed to:

Railroad Commission of Texas
Oil and Gas Division
Hazardous Waste Program
P.O. Box 12967
Austin, Texas 78711-2967

To obtain a 30-day extension request, provide the following information to the RRC's Hazardous Waste Program in Austin:

- facility name;
- number or other RRC-identifying number;
- facility contact person (name, phone, and fax number);
- EPA hazardous waste number(s);
- waste description (amount and type);
- location of storage facility for the waste;
- description of storage conditions for the waste;
- detailed reason for the 30-day extension request;
- RRC district personnel contacted (if any);
- arrangement for waste shipment (status and transporter's name);
- intended waste shipment date;
- preventative measures for storage beyond 90-days; and
- expiration date of storage.

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APPENDIX E

ONE-TIME SHIPMENT REQUEST

ONE-TIME SHIPMENT REQUEST

The following information is required to obtain an EPA ID Number for a one-time shipment of hazardous oil and gas waste:

- **Generator Contact Person, Company Name, Generator Mailing Address, and Contact Person's Phone Number.**
- **Generating Site Location.** Provide the street address of the subject site. If there is no street address, provide a precise description of the location, including the county. For example:

5 mi. W of Garden City; 2.5 mi. NNE of Int Hwy. 158 and Hwy. 137, Glasscock Co. 79739
- **Waste Description.** Describe each hazardous oil and gas waste. Do not use U.S. Department of Transportation descriptions or trade names. Include the quantity of each waste in pounds.
- **EPA Hazardous Waste Number (EPA Waste Codes).** Each hazardous waste has a specific EPA Waste Code. EPA Waste Codes are provided in the Federal Code of Regulations (40 CFR Part 261). You may also contact the Hazardous Waste Program for applicable EPA Waste Codes.
- **Source of the Waste.** From the list below, select the source that best indicates the process or type of activity that generated this waste stream.
 - Generated on-site from a product process or service activity;
 - Spill clean-up, equipment decommissioning, or emergency removal by company; or
 - Corrective action or closure.
- **Designated Treatment, Storage, and/or Disposal Facility Name, Address, and EPA ID Number.** Provide this information for the facility to which you plan to ship the waste.

Mail or fax your request to:

**Railroad Commission of Texas
Oil and Gas Division
Hazardous Waste Program
P.O. Box 12967
Austin, Texas 78711-2967**

Fax #: (512) 463-3840

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APPENDIX F

EPA FORM 8700-12 AND RRC FORM H-20
With Instructions for Completing

**EPA Form 8700-12: "Notification of Regulated Waste Activity" and
RRC Form H-20: "HAZARDOUS OIL AND GAS WASTE GENERATOR
(AND TRANSPORTER) NOTIFICATION"**

Rule 98, subsection (g), requires Large Quantity Generators and Small Quantity Generators of hazardous oil and gas waste to notify the Railroad Commission (RRC) that they are subject to the requirements of Rule 98. Conditionally Exempt Small Quantity Generators are not required to file notification with the RRC or EPA. Notification must be provided by completing Environmental Protection Agency (EPA) Form 8700-12 and RRC Form H-20 and sending the completed forms to:

Railroad Commission of Texas
Oil and Gas Division
Hazardous Waste Program
P.O. Box 12967
Austin, Texas 78711-2967

Do not send Form 8700-12 to the U.S. EPA or to TCEQ.

EPA Form 8700-12 and RRC Form H-20 are available in the Forms Library on the RRC's web site at <http://www.rrc.state.tx.us/divisions/og/form-library/index.html>. The forms are also available at all RRC district offices and at RRC Austin headquarters (refer to the list of RRC addresses and phone numbers at the beginning of this guidance document). You may contact the Hazardous Waste Program at RRC headquarters in Austin, Texas, at: (512) 463-3840 to obtain the forms.

Upon receipt and review of the completed forms, the RRC will forward the EPA Form 8700-12 to EPA Region 6 for registration and issuance of an EPA Identification (ID) Number for the subject generation site. EPA will provide the assigned EPA ID Number directly to the operator of the generation site, as well as to the RRC.

RRC Form H-20: RRC Form H-20 is designed to provide additional generation site information which will allow association of EPA ID Numbers with identifying numbers for RRC-regulated sites and facilities. Instructions for completing RRC Form H-20 are provided on the back of the form. An example of RRC Form H-20 and the instructions are provided on pages F-17 and F-18 of this appendix.

EPA Form 8700-12: The instructions for completing EPA Form 8700-12 are provided on the following pages. An example of EPA Form 8700-12 is provided on pages F-13, F-14, and F-15 following the instructions. The following instructions for completing Form 8700-12 are taken from the U.S. EPA's "Notification of Regulated Waste Activity Instructions and Form Booklet [EPA Form 8700-12]" (January 2004). EPA's instruction booklet is available on the EPA web site at: <http://www.epa.gov/epaoswer/hazwaste/data/form8700/forms.htm#parta>.

The following Form 8700-12 instructions have been revised to clarify the applicability of Rule 98. For example, Rule 98 does not provide for registration and permitting of hazardous waste treatment, storage, and disposal facilities.

Therefore, the instructions have been revised to inform hazardous oil and gas waste generators of that inapplicability.

The RRC has provided comments in the shaded boxes to help clarify the instructions for completing EPA Form 8700-12.

For additional assistance, contact the RRC's Hazardous Waste Program by calling (512) 463-3840.

**Instructions for Filling Out the RCRA Subtitle C Site Identification Form
(EPA Form 8700-12; Revised 5/2002)**

Revised for Use by Generators of Hazardous Oil and Gas Waste

These instructions explain how to complete the Site ID Form for the Notification of Regulated Waste Activity. You **must review** all the items on the Site ID Form. Be sure to enter information for all the required items.

PURPOSE OF THIS FORM

For purposes of the Notification of Regulated Waste Activity, the Site ID Form provides site specific information about a facility for obtaining an EPA Identification Number and submitting initial notification of regulated waste activity. For purposes of a subsequent Notification of Regulated Waste Activity, the Site ID Form provides updated site-specific information for those items that have changed at your facility and verifies the information for those items that remain unchanged.

The Site ID Form is divided into 13 items. You must complete Items 1 through 10 and Item 13; you must complete Item 11 if you handle hazardous waste. You may use Item 12 for comments on Items 1 through 11.

HOW TO FILL OUT THIS FORM

Please fill out all of the following Site ID Form items.

- Item 1 your reason for submitting the form (in this case, as an Initial or Subsequent Notification of Regulated Waste Activity);
- Item 2 your site's EPA ID number;
- Item 3 the name of your site;
- Item 4 the physical location of your site;
- Item 5 the land type of your site;
- Item 6 the North American Industry Classification System (NAICS) code(s) for your site;
- Item 7 the mailing address for your site;
- Item 8 name and phone number of a contact person at your site;
- Item 9 names of the legal owner and the operator of your site;
- Item 10 your site's regulated waste activities (enter all that apply);
- Item 11 the description of hazardous waste if you handle any;
- Item 12 additional comments on Items 1 through 11; and
- Item 13 certification that the information you provided throughout the form is truthful, accurate and complete.

Type or print in black ink all items except the Signature box in Item 13. For subsequent notification, enter your site's EPA ID number in the top right-hand corner on the second and third pages of the form. Use the space for Comments in Item 12 to clarify or provide additional information for any entry. When entering information in the Comments section, cross-reference the item number and box letter to which the comment refers. If you must use additional sheets, enter your site's EPA ID number in the top right-hand corner of each sheet and indicate clearly the number of the item on the Site ID Form for the additional information on the separate sheets.

ITEM-BY-ITEM INSTRUCTIONS

Item 1 -- Reason for Submittal:

Reason for Submittal: Place an "X" in the appropriate box to indicate whether this form is your Initial Notification (to obtain an EPA Identification Number); a Subsequent Notification (to update your site identification information); a component of a First or a Revised Hazardous Waste Part A Permit Application; or a component of the Hazardous Waste Report.

- **For Initial Notification of Regulated Waste Activity to provide site identification information and obtain an EPA Identification Number for hazardous waste, universal waste, or used oil activities.** If your waste activity is regulated under Subtitle C of the Resource Conservation and Recovery Act (RCRA) and the rules promulgated pursuant to the Act (specifically 40 CFR Parts 260–299), you must submit this form to notify the RRC and EPA Region 6 of your regulated waste activities and obtain an EPA Identification Number.
- **For Subsequent Notification of Regulated Waste Activity to update site identification information.** You must use this form to submit a subsequent notification if your site already has an EPA Identification Number and you wish to change information (e.g., generator status, new owner, new mailing address, etc.).

Hazardous oil and gas waste generators subject to Rule 98 will not select “As a component of a First Hazardous Waste Part A Permit Application,” or “As a component of a Revised Hazardous Waste Part A Permit Application.” Rule 98 does not provide for issuance of permits to treat, store, or dispose of hazardous oil and gas waste. See the discussion in Chapter 1 on page 1-4.

Also, Hazardous oil and gas waste generators subject to Rule 98 will not select “As a component of the Hazardous Waste Report.” Information in the RRC registration database and the information provided on the Annual reports (RRC Form H-21) obtain this information. See the discussion in Chapter 5 on page 5-36.

Item 2 -- Site EPA ID Number:

Provide your EPA Identification Number in Item 2 **for this site**. Also, be sure to include your EPA Identification Number at the top of pages 2 and 3 of the form (as well as on any attachments to the Site ID Form).

NOTE: If this is your initial notification for this site, leave the EPA Identification Number blank and proceed to Item 3.

Items 3 and 4 -- Site Name and Location:

Provide the legal name of your site and a complete location address. Please note that the address you give for Item 4, Site Location, must be a physical address, **not a post office box or route number**.

NOTE: A new EPA Identification Number is required if you change the location of your site.

Item 5 -- Site Land Type:

Place an "X" in the box that **best describes** the land type of your site. Select only one type: Private, County, District, Federal, Indian, Municipal, State, or Other. If your site's Land Type could be described as Municipal **and** as County, as District, or as Indian, do not mark Municipal. Instead choose the other appropriate code; you may explain this in Item 12 - Comments.

Item 6 -- North American Industry Classification System (NAICS) Code(s):

Box A must be completed. Completing Boxes B-D is recommended, if applicable.

Box A Provide the North American Industry Classification System (NAICS) code that **best** describes your site's primary business production process for your products or services. Use the six (6) digit code (most specific description) if available for your business; if not, use the five (5) digit code; do not enter any four (4) or less digit code.

Boxes B-D List other NAICS codes that describe the primary business production processes for your site. Use the most specific 6 or 5 digit codes that apply to your site.

You can access NAICS codes and additional NAICS information from the NAICS web site at <http://www.census.gov/epcd/naics02/>. A list of NAICS codes is also available at <http://www.epa.gov/epaoswer/hazwaste/data/br03/naics2.txt>.

The following NAICS Codes apply to common RRC-regulated activities:

NAICS	Description
211111	Crude petroleum and natural gas extraction
211112	Natural gas liquid extraction (pt)
213111	Drilling oil and gas wells
54136	Geophysical surveying and mapping services (pt)
213112	Support activities for oil and gas operations (pt)
213112	Support activities for oil and gas operations (pt)
48611	Pipeline transportation of crude oil
48621	Pipeline transportation of natural gas (pt)
22121	Natural gas distribution (pt)
48621	Pipeline transportation of natural gas (pt)
22121	Natural gas distribution (pt)
42271	Petroleum bulk stations and terminals
212391	Salines (except common salt) mining and/or beneficiating
49319	Other warehousing and storage (bulk petroleum storage)

Item 7 -- Site Mailing Address:

Please enter the Site Mailing Address. If the mailing address and the Location of Site (Item 4) are the same, you can print "Same" in the box for Item 7.

Item 8 -- Site Contact Person:

Enter the name, business telephone number (and extension), and e-mail address of the person who should be contacted regarding the information submitted in the Site ID Form. A subsequent notification is recommended when the Site Contact Person changes.

NOTE: It is assumed that the Site Contact Person will receive mail at the Site Mailing Address provided in Item 7. If this is not the case, please provide the mailing address for the Site Contact Person in Item 12 - Comments.

Item 9 -- Legal Owner and Operator of the Site:

This section should be used to indicate all the owners and operators of this site. For the meaning of owner and operator, see Section 6. Definitions. The Comments section in Item 12 and additional sheets can be used if necessary.

A. Name of Site's Legal Owner: Provide the name of your site's legal owner. If an additional owner or owners have been added or a previous owner is no longer an owner since the site's last submission of this form, please provide information on the new and previous owner(s).

Date Became an Owner: Indicate the date on which the above person or entity became the owner of your site.

Owner Type: Place an "X" in the box that **best describes** the owner type of your site. Select only one type: Private, County, District, Federal, Indian, Municipal, State, or Other. If your site's Owner Type could be described as Municipal **and** as County, as District, or as Indian, do not mark Municipal. Instead choose the other appropriate code; you may explain this in Item 12 - Comments. Use the Comments section in Item 12 to list any additional owners, their names, the dates they became owners, owner type, mailing address, and which owner(s), if any, are no longer owners since your last submission of this form. If necessary, attach a separate sheet of paper.

B. Name of Site's Operator: Provide the name of your site's operator.

Date Became an Operator: Indicate the date on which the above person became the operator of your site.

Operator Type: Place an "X" in the box that **best describes** the operator type of your site. Select only one type: Private, County, District, Federal, Indian, Municipal, State, or Other. If your site's Operator Type could be described as Municipal **and** as County, as District, or as Indian, do not mark Municipal. Instead choose the other appropriate code; you may explain this in Item 12 - Comments. Use the Comments section in Item 12 to list any additional operators, their names, the dates they became operators, operator type, and mailing address. If necessary, attach a separate sheet of paper.

NOTE: A subsequent notification is recommended when the owner or operator of a site changes. Because an EPA Identification Number is site-specific, the new owner will keep the existing EPA Identification Number for that location. If the business moves to another location, the owner or operator must notify the EPA of this change. In this instance, a new EPA Identification Number will be assigned, since the business has changed locations.

These definitions are useful in completing Item 9:

Operator - The person responsible for the overall operation of a RCRA site. Note: This is the legal entity which controls the RCRA site operation rather than the plant or site manager. This is usually a company or business name, not an individual. See **Person**.

Owner - The person who owns a RCRA site or part of a RCRA site. Note: This includes the property owner. This may be an individual, company, or business name. See **Person**.

Person - An individual, trust, firm, joint stock company, Federal Agency, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body.

Item 10 -- Type of Regulated Waste Activity (Place an 'X' in the appropriate boxes for the activities that apply to your site.)

Hazardous oil and gas waste generators will usually select a hazardous waste generator activity (e.g., LQG or SQG). Another possibility under Rule 98 is "Used Oil Transporter." Many selections, such as "Importer of Hazardous Waste" or "Exempt Boiler and/or Industrial Furnace" are not applicable under Rule 98.

A. Hazardous Waste Activities: Place an "X" in the appropriate box(es) to indicate which hazardous waste activities are being conducted at this site.

NOTE: Listed below are the Federal generator definitions. These generator definitions are repeated in Rule 98.

1. Generator of Hazardous Waste: If you generate a hazardous waste that is listed in 40 CFR 261.31 through 261.33 or identified by one or more hazardous waste characteristic(s) contained in 40 CFR 261.21 through 261.24, place an "X" in the appropriate box for the quantity of non-acutely hazardous waste that is generated per calendar month. The regulations for hazardous oil and gas waste generators are found in 40 CFR Part 262 and Rule 98. Consult these regulations and the RRC for details about how the regulations apply to your situation. Below is a brief description of the three types of hazardous waste generators.

a. LQG: Large Quantity Generator

This site is a Large Quantity Generator if, in 2001, the site meets **any** of the following criteria:

- i) Generated, in any calendar month, 1,000 kg (2,200 lbs.) or more of RCRA hazardous waste; **or**
- ii) Generated, in any calendar month, or accumulated at any time, more than 1 kg (2.2 lbs.) of RCRA acute hazardous waste; or
- iii) Generated, in any calendar month, or accumulated at any time, more than 100 kg (220 lbs.) of spill cleanup material contaminated with RCRA acute hazardous waste.

NOTE: If, in addition to being an LQG, you recycle hazardous wastes at your site (without storing the wastes before you recycle them), mark both this box and Box A.4 below.

b. SQG: Small Quantity Generator

This site is a Small Quantity Generator if, in 2001, the site meets **all** of the following criteria:

- i) Generated, in any calendar month, more than 100 kg (220 lbs.) but less than 1,000 kg (2,200 lbs.) of RCRA hazardous waste; **and**

- ii) Generated, in any calendar month, or accumulated at any time, no more than 1 kg (2.2 lbs.) of acute hazardous waste and no more than 100 kg (220 lbs.) of material from the cleanup of a spill of acute hazardous waste.

OR, the site is a Small Quantity Generator if the site:

- i) Met all other criteria for a Conditionally Exempt Small Quantity Generator (see below), but
- ii) Accumulated, at any time, more than 1,000 kg (2,200 lbs.) of RCRA hazardous waste.

c. CESQG: Conditionally Exempt Small Quantity Generator

This site is a CESQG if, **in every month** during 2001, the site did **all** of the following:

- i) Generated no more than 100 kg (220 lbs.) of RCRA hazardous waste in any calendar month; and
- ii) Accumulated, at any time, no more than 1,000 kg (2,200 lbs.) of RCRA hazardous waste; and
- iii) Generated, in any calendar month, or accumulated at any time, no more than 1 kg (2.2 lbs.) of acute hazardous waste, and no more than 100 kg (220 lbs.) of material from the cleanup of a spill of acute hazardous waste.

NOTE: If you generate acutely hazardous wastes listed in 40 CFR 261.31, 261.32 or 261.33(e), please refer to 40 CFR 261.5(e) to determine the circumstances under which you must notify the EPA. In addition to the above, place an "X" in the following appropriate box(es) to indicate other generator activities occurring **at this site**. (Mark all boxes that apply.)

d. United States Importer of Hazardous Waste

Place an "X" in the box if you import hazardous waste from a foreign country into the United States. Refer to 40 CFR 262.60 for additional information.

e. Mixed Waste Generator

Place an "X" in the box if you are a generator of mixed waste (waste that is both hazardous and radioactive). RCRA defines "mixed waste" as waste that contains both hazardous waste and source, special nuclear, or by-product material subject to the Atomic Energy Act (AEA), RCRA section 1004(41), 42 U.S.C. 6903 (63 FR 17414; April 9, 1998).

2. Transporter of Hazardous Waste: Place an "X" in the box if you transport hazardous waste within the United States. The Federal regulations for hazardous waste transporters are found in 40 CFR Part 263.

3. Treater, Storer, or Disposer of Hazardous Waste: If you treat, store, or dispose of regulated hazardous waste, place an "X" in this box. (Burning hazardous wastes in boilers and industrial furnaces and storing hazardous wastes before recycling them fall into this category as well.) A hazardous waste permit is required for this activity. You are reminded to contact the appropriate agency for your State to request Part A of the RCRA Permit Application. The Federal regulations for owners or operators of hazardous waste sites are found in 40 CFR Parts 264, 265, 266, and 270.

NOTE: If your site is a destination facility for universal wastes in addition to being a treatment, storage, or disposal facility for other RCRA hazardous wastes, mark both this box **and** Box B.2 below.

4. Recycler of Hazardous Waste: If you recycle regulated hazardous wastes (recyclable materials), place an "X" in this box. The Federal regulations for owners or operators of sites that recycle hazardous waste are found in 40 CFR 261.6. A hazardous waste permit may be required for this activity. You also may be subject to other Federal and State regulations.

NOTE: If your site, in addition to being a recycling site for hazardous waste, is a treater, storer, or disposer of hazardous waste, mark both this box **and** Box A.3 above. If your site is a destination facility for universal wastes in addition to being a recycling site for other RCRA hazardous wastes, mark both this box **and** Box B.2 below.

5. Exempt Boiler and/or Industrial Furnace:

a. If you burn small quantities of hazardous waste in an on-site boiler or industrial furnace in accordance with the conditions in 40 CFR 266.108, place an "X" in the box to indicate that you qualify for the Small Quantity On-Site Burner Exemption.

b. If you process hazardous wastes in a smelting, melting, or refining furnace solely for metals recovery, as described in 40 CFR 266.100(d), or to recover economically significant amounts of precious metals, as described in 40 CFR 266.100(g), or if you process hazardous wastes in a lead recovery furnace to recover lead, as described in 40 CFR 266.100(h), place an "X" in the box to indicate that you qualify for the Smelting, Melting, and Refining Furnace Exemption.

6. Underground Injection Control: If you generate, treat, store, or dispose of hazardous waste and there is an underground injection well located at your site, place an "X" in the box. The Federal regulations for owners or operators of underground injection wells are found in 40 CFR Part 148.

B. Universal Waste Activities: Refer to your State-specific requirements and definitions for universal waste. Refer to 40 CFR 261.9 and 40 CFR Part 273 for the Federal regulations covering universal waste.

1. Large Quantity Handler of Universal Waste (LQHUW): You are an LQHUW if you accumulate a total of 5,000 kg or more of any universal wastes (calculated collectively) at any time. Place an "X" in the appropriate box(es) to indicate the type(s) of universal wastes you generate and/or accumulate at your site. If your State has additional universal wastes, indicate what they are and place an "X" in the corresponding box(es).

2. Destination Facility: Place an "X" in the box if you treat, dispose of, or recycle universal wastes on site. A hazardous waste permit is required if you treat or dispose of universal wastes; a permit may be required if you recycle universal wastes.

NOTE: If your site, in addition to being a destination facility for universal wastes, is also a treatment, storage, or disposal facility for RCRA hazardous wastes, mark both this box **and** Box A.3 above. In addition, if your site recycles RCRA hazardous wastes, mark both this box **and** Box A.4 above.

C. Used Oil Activities: Mark the appropriate box(es) to indicate which used oil management activities are taking place at this site. The Federal regulations for used oil management are found in 40 CFR Part 279.

1. Used Oil Transporter: If you transport used oil and/or own or operate a used oil transfer facility, place an "X" in the appropriate box(es) to indicate this used oil management activity.

2. Used Oil Processor/Re-Refiner: If you process and/or re-refine used oil, place an "X" in the appropriate box(es) to indicate this used oil management activity.

3. Off-Specification Used Oil Burner: If you burn off-specification used oil fuel, place an "X" in the box to indicate this used oil management activity.

4. Used Oil Fuel Marketer: If you market off-specification used oil directly to a burner, place an "X" in Box 4.a. If you are the first to claim the used oil meets the used oil specification established in 40 CFR 279.11, place an "X" in Box 4.b. If either of these boxes is marked, you also must notify (or have previously notified) as a used oil transporter, used oil processor/re-refiner, or off-specification used oil fuel burner, unless you are a used oil generator. (Used oil generators are not required to notify.)

Item 11 -- Description of Hazardous Wastes:

You will need to refer to 40 CFR Part 261 to complete this item. Part 261 identifies those solid wastes which the EPA defines as hazardous and regulates under RCRA. If you need help completing this section, please contact the appropriate State personnel.

A. Federally Regulated Hazardous Wastes: If you handle hazardous wastes that are described in 40 CFR Part 261, enter the appropriate 4-digit code(s) in the box(es) provided.

NOTE: If you handle more hazardous wastes than will fit under Item 11.A., please continue listing the hazardous waste codes on an extra sheet. Attach any additional sheets to the Site Identification Form.

B. State-Regulated Hazardous Wastes: If you manage State-regulated hazardous wastes that have a waste code, enter the appropriate code(s) in the box(es) provided.

Note: Rule 98 adopts the waste codes in the CFR. No additional state waste codes are used.

Item 12 -- Comments:

Use this section as needed to provide additional information for Items 1 through 11. You may attach additional sheets if necessary.

Item 13 -- Certification:

This certification must be signed by owner(s), operator(s), or authorized representative(s) of the site. An “authorized representative” is a person responsible for the overall operation of the site (i.e., a plant manager or superintendent, or a person of equal responsibility).

NOTE: All Site ID Form submissions must include this certification to be complete.

SEND COMPLETED FORM TO: The Appropriate State or EPA Regional Office.	United States Environmental Protection Agency RCRA SUBTITLE C SITE IDENTIFICATION FORM		
1. Reason for Submittal (See instructions on page 13.) MARK ALL BOX(ES) THAT APPLY	Reason for Submittal: ☐ To provide Initial Notification of Regulated Waste Activity (to obtain an EPA ID Number for hazardous waste, universal waste, or used oil activities) ☐ To provide Subsequent Notification of Regulated Waste Activity (to update site identification information) ☐ As a component of a First RCRA Hazardous Waste Part A Permit Application ☐ As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment #_____) ☐ As a component of the Hazardous Waste Report		
2. Site EPA ID Number (page 14)	EPA ID Number 		
3. Site Name (page 14)	Name: 		
4. Site Location Information (page 14)	Street Address: 		
	City, Town, or Village: 	State: 	
	County Name: 	Zip Code: 	
5. Site Land Type (page 14)	Site Land Type: ☐ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other		
6. North American Industry Classification System (NAICS) Code(s) for the Site (page 14)	A. 	B. 	
	C. 	D. 	
7. Site Mailing Address (page 15)	Street or P. O. Box: 		
	City, Town, or Village: 		
	State: 		
	Country: 	Zip Code: 	
8. Site Contact Person (page 15)	First Name: 	MI: 	Last Name:
	Phone Number: 	Extension: 	Email address:
9. Operator and Legal Owner of the Site (pages 15 and 16)	A. Name of Site's Operator: 		Date Became Operator (mm/dd/yyyy):
	Operator Type: ☐ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other		
	B. Name of Site's Legal Owner: 		Date Became Owner (mm/dd/yyyy):
	Owner Type: ☐ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other		

9. Legal Owner (Continued) Address	Street or P. O. Box:	
	City, Town, or Village:	
	State:	
	Country:	Zip Code:

10. Type of Regulated Waste Activity

Mark "Yes" or "No" for all activities; complete any additional boxes as instructed. (See instructions on pages 16 to 20.)

A. Hazardous Waste Activities

Complete all parts for 1 through 6.

Y ☐ N ☐ 1. Generator of Hazardous Waste

If "Yes", choose only one of the following - a, b, or c.

☐ a. LQG: Greater than 1,000 kg/mo (2,200 lbs./mo.)
of non-acute hazardous waste; or☐ b. SQG: 100 to 1,000 kg/mo (220 - 2,200 lbs./mo.)
of non-acute hazardous waste; or☐ c. CESQG: Less than 100 kg/mo (220 lbs./mo.)
of non-acute hazardous waste

In addition, indicate other generator activities.

Y ☐ N ☐ d. United States Importer of Hazardous WasteY ☐ N ☐ e. Mixed Waste (hazardous and radioactive) GeneratorY ☐ N ☐ 2. Transporter of Hazardous WasteY ☐ N ☐ 3. Treater, Storer, or Disposer of
Hazardous Waste (at your site) Note:
A hazardous waste permit is required for
this activity.Y ☐ N ☐ 4. Recycler of Hazardous Waste (at your
site)Y ☐ N ☐ 5. Exempt Boiler and/or Industrial
Furnace

If "Yes", mark each that applies.

☐ a. Small Quantity On-site Burner
Exemption☐ b. Smelting, Melting, and Refining
Furnace ExemptionY ☐ N ☐ 6. Underground Injection Control

B. Universal Waste Activities

Y ☐ N ☐ 1. Large Quantity Handler of Universal Waste (accumulate
5,000 kg or more) [refer to your State regulations to
determine what is regulated]. Indicate types of universal
waste generated and/or accumulated at your site. If "Yes",
mark all boxes that apply:

	<u>Generate</u>	<u>Accumulate</u>
--	-----------------	-------------------

a. Batteries ☐ ☐b. Pesticides ☐ ☐c. Thermostats ☐ ☐d. Lamps ☐ ☐e. Other (specify) _____ ☐ ☐f. Other (specify) _____ ☐ ☐g. Other (specify) _____ ☐ ☐Y ☐ N ☐ 2. Destination Facility for Universal Waste

Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities

Mark all boxes that apply.

Y ☐ N ☐ 1. Used Oil Transporter
If "Yes", mark each that applies.
☐ a. Transporter
☐ b. Transfer FacilityY ☐ N ☐ 2. Used Oil Processor and/or Re-refiner
If "Yes", mark each that applies.
☐ a. Processor
☐ b. Re-refinerY ☐ N ☐ 3. Off-Specification Used Oil BurnerY ☐ N ☐ 4. Used Oil Fuel Marketer
If "Yes", mark each that applies.
☐ a. Marketer Who Directs Shipment of
Off-Specification Used Oil to
Off-Specification Used Oil Burner
☐ b. Marketer Who First Claims the
Used Oil Meets the Specifications

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

[illegible]

Signature of operator, owner, or an authorized representative

Date Signed
(mm/dd/yyyy)

INSTRUCTIONS

Form H-20: Hazardous Oil and Gas Waste
Generator (and Transporter) Notification

Reference: Statewide Rule 98

WHO FILES THE FORM H-20

Certain classes of generators of hazardous oil and gas waste are required to notify the Railroad Commission. A notification consists of the generator filing **both** the Railroad Commission Form H-20 and the EPA Form 8700-12. After review, the Commission forwards the Form 8700-12 to the EPA for assignment of an EPA ID number. A separate notification and EPA Identification Number is required for each generation site.

Generators of hazardous oil and gas wastes are classified according to the quantity of wastes generated **at a site** in one month or accumulated at the site at one time. *Large Quantity Generators and Small Quantity Generators*, as defined by Statewide Rule 98 (f), are required to file Form H-20 and Form 8700-12 notifications. *Conditionally Exempt Small Quantity Generators* are not required to file.

For information on what is considered hazardous oil and gas waste and description of the classes of generators, request the "Identifying Hazardous Oil and Gas Waste" document from the Commission's Oil and Gas Division-Environmental Services Section (512) 463-3840.

NOTE: Transporters of hazardous oil and gas waste are required to give notice to the EPA and obtain an EPA Identification Number. The transporter may give notice through the Railroad Commission, the Texas Natural Resource Conservation Commission (TNRCC, Industrial and Hazardous Waste Division, P. O. Box 13087, Austin, Texas 78711-3087), or directly to EPA, Region 6 (USEPA, Hazardous Waste Management Division, First Interstate Bank Tower, 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202-2733).

WHEN TO FILE THE H-20

Initial Notification to RRC. File the initial Form H-20 and Form EPA 8700-12 notification within 10 days of becoming subject to Statewide Rule 98, whichever is later. If there are any changes in the information filed on the initial notification, a subsequent Form H-20 and Form 8700-12 must be filed.

RRC Notification of Existing EPA Identification Numbers. If the site generating hazardous oil and gas waste has already received an EPA ID No. through another agency (TNRCC) or directly from EPA, an initial filing must also be made with the Railroad Commission. However, instead of filing an original EPA Form 8700-12 with the original Form H-20, attach a copy of all Form 8700-12 filings already submitted to either of those agencies.

SPECIFIC ITEMS ON FRONT OF H-20

Items 1 and 2. All generators of hazardous oil and gas waste must have a current P-5 Organization Report and financial assurance on file with the Railroad Commission. Transporters who are also oil and gas waste haulers are required to have both the current P-5 and financial assurance as well as a waste hauler permit.

Item 3. The Railroad Commission district where the generation site or transporter's headquarters is located.

Item 10. The lease or facility name (e.g., gas plant name or compressor station name).

Item 11. The RRC-assigned identification number of the oil lease, the gas well, the facility registration R-3 serial number, or the pipeline T-4.

Item 12. Enter the appropriate North American Industry Classification System (NAICS) code(s) from those shown below:

Oil and Gas Extraction

211111 crude petroleum & natural gas
211112 natural gas liquids (pt)
213111 drilling oil and gas wells
54136 oil & gas exploration services
(geophysical surveying &
mapping) (pt)
213112 **a:** oil & gas exploration services
(support activities for oil & gas
operations) (pt)
b: oil & gas field services not
elsewhere classified (support
activities for oil & gas
operations) (pt)

Pipelines, Except Natural Gas

48611 pipeline transportation of crude
petroleum
48699 all other pipeline transportation

Electric, Gas, and Sanitary Services

48621 **a:** pipeline transportation of
natural gas (pt)
b: natural gas transmission
& distribution (pipeline
transportation of natural gas)
(pt)
22121 **a:** natural gas distribution
(pt)
b: natural gas transmission
& distribution (natural gas
transmission) (pt)
c: mixed, manufactured, or
liquefied petroleum gas
production and/or distribution

**Hazardous Oil and Gas Waste
Generator (and Transporter)
Notification**

I. Identification Information

READ INSTRUCTIONS ON REVERSE SIDE

1. Operator name as shown on P-5 Organization Report		2. P-5 Organization No.	3. RRC District No.
4. Operator Address (including city, state, and zip code)		5. Notification by ☐ Generator ☐ Transporter	6. Type of Notification ☐ Initial ☐ Subsequent
7. Name and Title of Contact Person	8. Phone No.		9. EPA ID No. for this site, if known _____
10. Name of generating site		11. RRC site ID No.	12. NAICS Code

II. Generation Information

Complete this section for generation sites only.

13. Type of Generation Facility/Site (Indicate one or more as appropriate.)		
<u>A. Production and saltwater disposal</u>	<u>B. Natural gas treatment</u>	<u>C. Pipeline system</u>
☐ tank battery (including treatment vessels) and associated oil or natural gas wells	☐ natural gas treatment or processing plant	☐ pump station ☐ breakout station ☐ compressor station
☐ injection or disposal facility	☐ natural gas liquids processing plant	☐ nat'l gas treatment station ☐ drip pot
☐ offshore platform	☐ other natural gas treatment facility (specify)	☐ pigging station ☐ rupture
☐ other production/disposal facility (specify)		☐ other pipeline equipment station (specify)

III. Transporter Information

Complete this section if you are a RRC permitted waste hauler.

14. List all RRC districts (by number) where you will pick up, transport, transfer, or deliver hazardous oil and gas wastes.
--

IV. Certification

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this notification, that this notification was prepared by me or under my supervision and direction, and that data and facts stated herein are true, correct, and complete, to the best of my knowledge.			
Signature: _____		Name (type or print): _____	
Title: _____	Phone: _____	Date: _____	

RRC USE ONLY

H-20 data entry date:	H-20 date received:
EPA 8700-12 date received:	
EPA ID No.	

APPENDIX G

LISTING OF THE FEDERAL REGULATIONS RULE 98 ADOPTS BY REFERENCE

LISTING OF THE FEDERAL REGULATIONS RULE 98 ADOPTS BY REFERENCE

All references to the Code of Federal Regulations (CFR) in SWR 98 are references to the 1994 edition of the Code, as amended through November 7, 1995. The federal regulations have been amended since the 1995 edition; therefore, it is important that you be aware of changes published in the *Federal Register*. The following federal regulations are adopted by reference (Rule 98, subsection (bb)):

- 40 CFR Parts 116, 117, 124, 264, 266, 268, 270, 271, 279, and 302;
- 40 CFR Part 261, Subparts A, C, and D;
- 40 CFR Part 262, Subparts B and E;
- 40 CFR Part 265, Subparts C, D, I, and J (except §§265.197(c) and 265.200);
- 40 CFR §§260.21, 260.22, 262.34(d)(5), 265.16, 265.111, 265.114, and 265.201; and
- 49 CFR Parts 172, 173, 178, and 179; and 49 CFR §§171.15 and 171.16.

Words and terms used in the federal regulations adopted by reference in Rule 98 have the meanings given in the federal regulations adopted by reference or in 40 CFR §260.10, unless otherwise specified. Where the term "State Director" is applicable in the federal regulations adopted by reference, it should be interpreted to mean "commission" (i.e., RRC).

Copies of the referenced CFRs are available at the William B. Travis Building, 1701 North Congress, Austin, Texas 78711, or at any of the RRC Oil and Gas Division District Offices.

The Code of Federal Regulations is available (html or pdf) on the Government Printing Office's web site at:

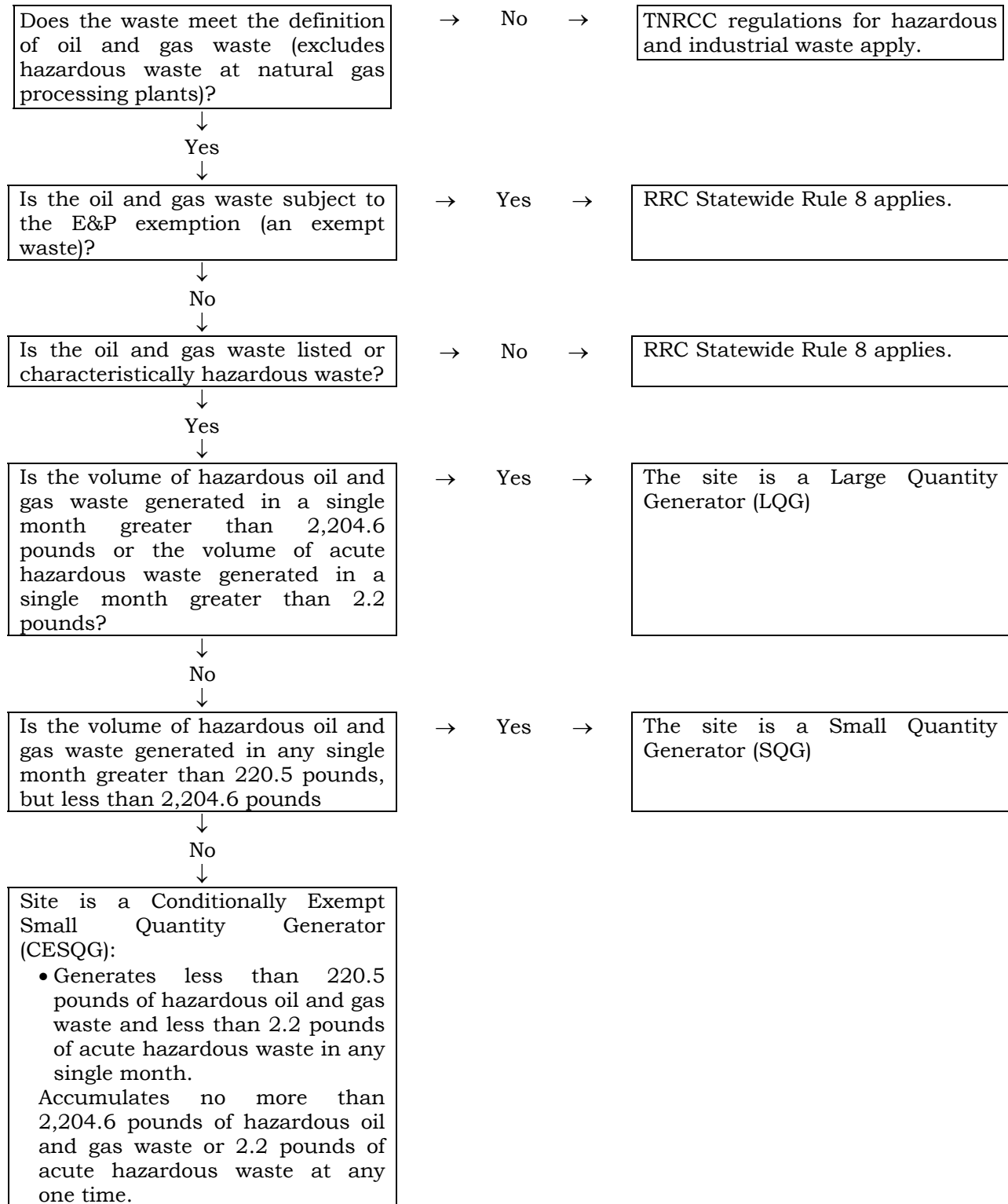
<http://www.access.gpo.gov/nara/cfr/cfr-table-search.html>

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APPENDIX H

RULE 98 REQUIREMENTS CHART

Hazardous Oil and Gas Waste Generator Classification Decision Tree



	REQUIREMENTS UNDER RCRA		
ACTIVITY	CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)	SMALL QUANTITY GENERATOR (SQG)	LARGE QUANTITY GENERATOR (LQG)
Registration	Not Required	Obtain EPA ID number, Notify RRC	Obtain EPA ID number, Notify RRC
Reporting	None	Annual	Annual
Record Retention	3 years	3 years	3 years
Accumulation Time	Indefinite	180 days (or 270 days if > 200 miles from TSD facility) 30-day Commission-granted extension	90 days 30-day Commission-granted extension
Container Standards for On- Site Accumulation	No leaks Compatible with waste Keep closed Mark "Hazardous Wastes"	No leaks Compatible with waste Keep closed and handle so as to not rupture Separate storage of incompatible wastes Mark "Hazardous Wastes" Mark date accumulation begins	No leaks Compatible with waste Keep closed and handle so as to not rupture Inspect weekly Store ignitable and reactive wastes 50' from property line Separate storage of incompatible wastes Mark "Hazardous Wastes" Mark date accumulation begins
Tank Standards for On-Site Accumulation	None (NOTE: If treating waste on-site as permitted by Rule 98, a CESQG must comply with applicable tank standards.)	Compatible with waste 2' freeboard in open tanks Automatic shut-off of continuous feed Inspect tank monitoring data, fluid level and piping daily Inspect tank construction weekly No storage of ignitable or reactive wastes w/o pretreatment No mixing of incompatible wastes Mark "Hazardous Waste" At closure, decontaminate tanks and associated equipment	Adequate design standards No leaks Secondary containment Spill/overflow protection Inspect operating systems daily Inspect cathodic protection systems annually Remove tanks unfit for use No storage of ignitable or reactive wastes w/o pretreatment No mixing of incompatible wastes Mark "Hazardous Waste" At closure, remove or decontaminate tanks and associated equipment and minimize hazards Properly dispose of contaminated media

ACTIVITY	REQUIREMENTS UNDER RCRA		
	CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)	SMALL QUANTITY GENERATOR (SQG)	LARGE QUANTITY GENERATOR (LQG)
Safety	Minimize risk of fire, explosion or discharge Proper notification of authorities as required by law, including notification of RRC when federal law requires that notice be given to the National Response Center.	Same as CESQG plus, <u>Preparedness and Prevention</u> • internal communication system • phone or radio • portable fire extinguisher • alarms • adequate aisle space • arrangements with local fire and emergency response authorities <u>Contingency Plan and Emergency Procedures</u> • emergency coordinator • post emergency information • ensure employee familiarity with emergency equipment and procedures	Same as SQG plus, <u>Personnel Training</u> Meet requirements of 40 CFR '265.16
Discharge	All generators must: Remove free product; clean-up to background levels or as required by the RRC; obtain an emergency TSD permit from the RRC, if necessary; Notify appropriate authorities of the discharge (e.g. notify National Response Center and RRC, if required, give notification under Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or "Superfund") if necessary).		
Ultimate Disposal of Waste	No on-site treatment (unless treatment is exempt from requirements of rule), storage, disposal, recycling, reclamation or burning of waste is permitted. LQGs and SQGs must transport waste to permitted TSD facility, to a recycling or reclamation facility that is regulated by the TNRCC, EPA or another state, to a burner or marketer of hazardous waste fuel (and comply with special provisions in the rule) or export out of the country (and comply with special requirements for international shipments).		
Transport Preparation	None	DOT packaging DOT labeling DOT marking DOT placarding Prepare manifest File manifest exception report, if necessary	DOT packaging DOT labeling DOT marking DOT placarding Prepare manifest File manifest exception report, if necessary

ACTIVITY	REQUIREMENTS UNDER RCRA		
	CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)	SMALL QUANTITY GENERATOR (SQG)	LARGE QUANTITY GENERATOR (LQG)
Transporter Requirements	All transporters must obtain EPA ID numbers. A transporter who is registered with either the TNRCC or the RRC and has an EPA ID number satisfies the oil and gas waste hauler provisions of SWR 8. Transporters must comply with specific manifest requirements and may deliver waste only to the facility designated on the manifest. Transporters are subject to the same discharge requirements as generators. (Note: Most transporters must also be certificated motor carriers.)		

APPENDIX I

TCEQ HAZARDOUS WASTE MANIFEST INSTRUCTIONS FOR COMPLETING THE TCEQ HAZARDOUS WASTE MANIFEST FORM

TCEQ HAZARDOUS WASTE MANIFEST

INSTRUCTIONS FOR COMPLETING THE TCEQ HAZARDOUS WASTE MANIFEST FORM

The TCEQ Hazardous Waste Manifest form requires information regarding the generation site and the owner/operator of the site. An example of the manifest is presented on page I-3 of this appendix. (Note: The manifest form includes explicit instructions for completing the manifest.)

Some items on the manifest form require guidance regarding proper entry by generators of hazardous oil and gas waste. The following paragraphs provide this guidance.

State Generator's ID

Item B requires a "State Generator's ID" (or State Registration Number). In the instances where a TCEQ-permitted facility insists that the completed manifest include the five-digit state registration number, the RRC and TCEQ have agreed upon a generic state registration number to be used by all hazardous oil and gas waste generators. The generic state registration number is:

R R G E N

Waste Codes

Item I requires a "Waste Number" (or waste code). The RRC and TCEQ have agreed upon a waste code that may be used for hazardous oil and gas waste. The waste code is an alpha-numeric, eight-digit number that indicates the waste to be subject to RRC jurisdiction, the source of the waste, and whether the waste is hazardous or nonhazardous. The waste code consists of eight characters. The first four characters are the generic sequence number "RRCT", which indicates the waste is an oil and gas waste under RRC jurisdiction." The next three characters are the form code that describes the waste. The last character is either "H" to indicate hazardous oil and gas waste or "R" to indicate nonhazardous oil and gas waste. Therefore, a completed waste code for oil and gas waste would be either:

R R C T _ _ _ H or R R C T _ _ _ R

A list of form codes is provided on pages I-4 and I-5 of this appendix.

CESQG Use of the Manifest

If a CESQG finds it is necessary to use a TCEQ hazardous waste manifest, he may use the generic EPA ID number **T X R R C C E S Q G** to complete the manifest:

Use of the Manifest to Transport Exempt Waste to a Permitted TSD Facility

Some exempt oil and gas wastes may otherwise exhibit hazardous characteristics or, possibly, be listed as hazardous waste. In those instances, a generator may prefer to

transport such an exempt waste to a facility permitted to treat, store, or dispose of hazardous waste. If the manifest is used to transport an exempt waste to a permitted TSD facility, the waste should be identified as a **nonhazardous oil and gas waste**. As described above the waste code would end with an "R" to indicate the waste is nonhazardous. Use item J, "Additional Descriptions for Materials Listed Above," to explain that the waste is exempt from hazardous waste regulation as provided by Rule 98, subsection (e) and 40 CFR § 261(b)(4).

Note: The management of an exempt waste is not subject to the requirements for hazardous oil and gas waste. In other words, an exempt waste may be treated to remove any hazardous characteristic or mixed with other exempt waste or non-exempt nonhazardous waste (exempt and nonhazardous oil and gas waste are subject to the requirements of Rule 8).

TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087



Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form approved. OMB No. 2050-0039.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address				A. State Manifest Document Number 3055878		
				B. State Generator's ID		
4. Generator's Phone ()				C. State Transporter's ID		
5. Transporter 1 Company Name		6. US EPA ID Number		D. Transporter's Phone		
7. Transporter 2 Company Name		8. US EPA ID Number		E. State Transporter's ID		
9. Designated Facility Name and Site Address		10. US EPA ID Number		F. Transporter's Phone		
				G. State Facility's ID		
				H. Facility's Phone		
11A. HM	11. US DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group)		12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
	a.					
	b.					
	c.					
	d.					
J. Additional Descriptions for Materials Listed Above				K. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked, and labelled/placarded, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations. 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.						
Printed/Typed Name			Signature		Month Day Year	
17. Transporter 1 Acknowledgement of Receipt of Materials						Date
Printed/Typed Name			Signature		Month Day Year	
18. Transporter 2 Acknowledgement of Receipt of Materials						Date
Printed/Typed Name			Signature		Month Day Year	
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						Date
Printed/Typed Name			Signature		Month Day Year	

TCEQ-0311 (Rev. 09/01/02)

White - original Pink-TSD Facility Yellow-Transporter Green-Generator's first copy

FORM CODES

Form codes describe the general physical and chemical characteristics of a hazardous waste.

Code	Form Code Group
	Mixed Media/Debris/Devices - Waste that is a mixture of organic and inorganic wastes, liquid and solid wastes, or devices that are not easily categorizable
001	Lab packs with no acute hazardous waste
002	Contaminated debris: paper, clothing, rags, wood, empty fiber or plastic containers, glass, piping, other solids
004	Lab packs containing acute hazardous waste
301	Contaminated soil
309	Batteries, battery parts, cores, casings
310	Filters, solid adsorbents, ion exchange resins and spent carbon
320	Electrical devices (lamps, thermostats, CRTs, etc.)
512	Sediment or lagoon dragout, drilling or other muds
801	Compressed gases
	Inorganic Liquids - Waste that is primarily inorganic and highly fluid (e.g., aqueous), with low suspended inorganic solids and low organic content
101	Very dilute aqueous waste containing more than 99% water
103	Spent concentrated acid
105	Acidic aqueous wastes less than 5% acid
107	Aqueous waste containing cyanides
110	Caustic aqueous waste without cyanides
113	Other aqueous waste or wastewaters
117	Waste liquid mercury
119	Other inorganic liquid (specify in comments)
	Organic Liquids - Waste that is primarily organic and is highly fluid, with low inorganic solids content and low-to-moderate water content
200	Still bottoms in liquid form
202	Concentrated halogenated (e.g., chlorinated) solvent
203	Concentrated non-halogenated (e.g., non-chlorinated) solvent
204	Concentrated halogenated/ non-halogenated solvent mixture
205	Oil-water emulsion or mixture
206	Waste oil
209	Paint, ink, lacquer, or varnish
210	Reactive or polymerizable organic liquids and adhesives
211	Paint thinner or petroleum distillates
219	Other organic liquid (specify in comments)

Code	Form Code Group
	Inorganic Solids - Waste that is primarily inorganic and solid, with low organic content and low-to-moderate water content; not pumpable
303	Ash
304	Slags, drosses, and other solid thermal residues
307	Metal scale, filings and scrap (including metal drums)
312	Cyanide or metal cyanide bearing solids, salts or chemicals
316	Metal salts or chemicals not containing cyanides
319	Other inorganic solids (specify in comments)
	Organic Solids - Waste that is primarily organic and solid, with low-to-moderate inorganic content and water content; not pumpable
401	Pesticide solids
403	Solid resins, plastics or polymerized organics
405	Explosives or reactive organic solids
409	Other organic solids (specify in comments)
	Inorganic Sludges - Waste that is primarily inorganic, with moderate-to-high water content and low organic content; mostly pumpable
501	Lime and/or metal hydroxide sludges and solids with no cyanides
503	Gypsum sludges from wastewater treatment or air pollution control
504	Other sludges from wastewater treatment or air pollution control
505	Metal bearing sludges (including plating sludge) not containing cyanides
506	Cyanide-bearing sludges
519	Other inorganic sludges (specify in comments)
	Organic Sludges - Waste that is primarily organic with low-to-moderate inorganic solids content and water content; pumpable
603	Oily sludge
604	Paint or ink sludges, still bottoms in sludge form
606	Resins, tars, polymer or tarry sludge
609	Other organic sludge (specify in comments)

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APPENDIX J

**40 CFR PART 265, APPENDIX V
EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE**

Appendix V to 40 CFR Part 265

Examples of Potentially Incompatible Waste

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dust, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

Group 1-A	Group 1-B
Acetylene sludge	Acid sludge
Alkaline caustic liquids	Acid and water
Alkaline cleaner	Battery acid
Alkaline corrosive liquids	Chemical cleaners
Alkaline corrosive battery fluid	Electrolyte, acid
Caustic wastewater	Etching acid liquid or solvent
Lime sludge and other corrosive alkalines	Pickling liquor and other corrosive acids
Lime wastewater	Spent acid
Lime and water	Spent mixed acid
Spent caustic	Spent sulfuric acid

Potential consequences: Heat generation; violent reaction

Group 2-A	Group 2-B
Aluminum Beryllium Calcium Lithium Magnesium Potassium Sodium Zinc powder Other reactive metals and metal hydrides	Any waste in Group 1-A or 1-B

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

Group 3-A	Group 3-B
Alcohols Water	Any concentrated waste in Groups 1-A or 1-B Calcium Lithium Metal hydrides Potassium SO ₂ Cl ₂ , SOCl ₂ , PCl ₃ , CH ₃ SiCl ₃ Other water-reactive waste

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

Group 4-A	Group 4-B
Alcohols Aldehydes Halogenated hydrocarbons Nitrated hydrocarbons Unsaturated hydrocarbons Other reactive organic compounds and solvents	Concentrated Group 1-A or 1-B wastes Group 2-A wastes

Potential consequences: Fire, explosion, or violent reaction.

Group 5-A	Group 5-B
Spent cyanide and sulfide solutions	Group 1-B wastes

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

Group 6-A	Group 6-B
Chlorates	Acetic acid and other organic acids
Chlorine	Concentrated mineral acids
Chlorites	Group 2-A wastes
Chromic acid	Group 4-A wastes
Hypochlorites	Other flammable and combustible wastes
Nitrates	
Nitric acid, fuming	
Perchlorates	
Permanganates	
Peroxides	
Other strong oxidizers	

Potential consequences: Fire, explosion, or violent reaction.

Source: "Law, Regulations, and Guidelines for Handling of Hazardous Waste."
California Department of Health, February 1975.

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APPENDIX K

**APPLICATION PROCEDURE FOR AN
EMERGENCY PERMIT
FOR THE TREATMENT, STORAGE, OR DISPOSAL
OF HAZARDOUS OIL AND GAS WASTE**

**APPLICATION PROCEDURE FOR AN EMERGENCY PERMIT
FOR THE TREATMENT, STORAGE, OR DISPOSAL
OF HAZARDOUS OIL AND GAS WASTE**

Rule 98, subsection (m), prohibits the on-site treatment, storage, and disposal of hazardous oil and gas waste. However, in instances where a discharge, either of hazardous oil and gas waste or of a substance that creates a hazardous oil and gas waste, poses a danger to life or property, an emergency permit may be issued by the RRC. An emergency permit that takes precedence over the general prohibition when an emergency permit is granted under the conditions discussed below.

Emergency Permit Requirements

An emergency permit may be oral or written. When an oral emergency permit is obtained, a written permit must be issued within five days of issuance of the oral permit. An emergency permit:

- is limited to a term of 90 days;
- must clearly specify the manner and location of authorized treatment, storage, and disposal activities;
- may be terminated by the RRC without notice if the RRC determines that termination is appropriate to protect human health and the environment;
- shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of 40 Code of Federal Regulations Parts 264, 266, and 270; and

In addition an emergency permit must be accompanied by a public notice published in a daily or local newspaper of general circulation in the area affected by the activity and broadcast over local radio stations. The public notice shall include:

- the name and address of the office granting the emergency authorization;
- the name and location at which the permitted activities will take place;
- a brief description of the hazardous oil and gas wastes involved;
- a brief description of the actions authorized and reasons for authorization of such actions; and
- the duration of the emergency permit.

To obtain an oral emergency permit call either the appropriate RRC district office or the RRC Hazardous Waste Program in Austin. Written applications for emergency permits should be mailed to:

Railroad Commission of Texas
Oil and Gas Division
Hazardous Waste Program
P.O. Box 12967
Austin, Texas 78711-2967
Fax: (512) 463-3840

APPENDIX L

DEFINITIONS

DEFINITIONS

The following definitions are taken from 40 CFR §260.10. These are terms used in the federal hazardous waste regulations.

Above ground tank means a device meeting the definition of "tank" in 40 CFR §260.10 and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

Act or RCRA means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. section 6901 et seq.

Active life of a facility means the period from the initial receipt of hazardous waste at the facility until the Regional Administrator and/or the RRC receives certification of final closure.

Active portion means that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after the effective date of 40 CFR Part 261 and which is not a closed portion. (See also "closed portion" and "inactive portion".)

Administrator means the Administrator of the Environmental Protection Agency, or his designee.

Ancillary equipment means any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment tanks to point of disposal off-site.

Aquifer means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

Authorized representative means the person responsible for the overall operating of a facility or an operational unit (i.e. part of a facility), e.g., the plant manager, superintendent or person of equivalent responsibility.

Boiler means an enclosed device using controlled flame combustion and having the following characteristics:

(1) (i) The unit must have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

(ii) The unit's combustion chamber and primary energy recovery sections(s) must be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section(s) (such as waterwalls and superheaters) must be physically formed into one manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section(s) are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the

primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters (units that transfer energy directly to a process stream), and fluidized bed combustion units; and

(iii) While in operation, the unit must maintain a thermal energy recovery efficiency of at least 60 percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(iv) The unit must export and utilize at least 75 percent of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps); or

(2) The unit is one which the Regional Administrator and/or the RRC has determined, on a case-by-case basis, to be a boiler, after considering the standards in 40 CFR §260.32.

Carbon regeneration unit means any enclosed thermal treatment device used to regenerate spent activated carbon.

Certification means a statement of professional opinion based upon knowledge and belief.

Closed portion means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements. (See also "active portion" and "inactive portion".)

Component means either the tank or ancillary equipment of a tank system.

Confined aquifer means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined ground water.

Container means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

Containment building means a hazardous waste management unit that is used to store or treat hazardous waste under the provisions of subpart DD of 40 CFR Parts 264 or 265.

Contingency plan means a document setting out an organized, planned and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Corrective action management unit or CAMU means an area within a facility that is designated by the Regional Administrator and the RRC under 40 CFR Part 264, subpart S, for the purpose of implementing corrective action requirements at the facility.

Corrosion expert means a person who, by reason of his knowledge of the physical sciences and the principles of engineering and mathematics, acquired by a professional education and related practical experience, is qualified to engage in the practice of

corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be certified as being qualified by the National Association of corrosion Engineers (NACE) or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control on buried or submerged metal piping systems and metal tanks.

Designated facility means a hazardous waste treatment, storage, or disposal facility which (1) has received a permit (or interim status) in accordance with the requirements of parts 270 and 124 of this chapter, (2) has received a permit (or interim status) in accordance with part 271 or this chapter, or (3) is regulated under 40 CFR §261.6 (c)(2) or 40 CFR Part 266, subpart F, and (4) that has been designated on the manifest by the generator pursuant to 40 CFR §260.20. If a waste is destined to a facility in an authorized State which has not yet obtained authorized to regulate that particular waste as hazardous, then the designated facility must be a facility allowed by the receiving State to accept such waste.

Dike means an embankment or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other materials.

Discharge or hazardous waste discharge means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

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

Disposal facility means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.

Drip pad is an engineered structure consisting of a curbed, free-draining base, constructed of non-earthen materials and designed to convey preservative kick-back or drippage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants.

Elementary neutralization unit means a device which:

(1) Is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in 40 CFR §261.22, or they are listed in 40 CFR Part 261, subpart D, only for this reason; and

(2) Meets the definition of tank, tank system, container, transport vehicle, or vessel in 40 CFR §260.10.

EPA hazardous waste number means the number assigned by EPA to each hazardous waste listed in 40 CFR Part 261, subpart D, and to each characteristic identified in 40 CFR Part 261, subpart C.

EPA identification number means the number assigned by EPA to each generator, transporter, and treatment, storage, or disposal facility.

EPA region means the states and territories found in any one of the ten regions.

Equivalent method means any testing or analytical method approved by the Administrator under 40 CFR §§260.20 and 260.21.

Existing hazardous waste management (HWM) facility or existing facility means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if:

(1) The owner or operator has obtained the Federal, State and local approvals or permits necessary to begin physical construction; and either

(2) (i) A continuous on-site, physical construction program has begun; or

(ii) The owner or operator has entered into contractual obligations -- which cannot be canceled or modified without substantial loss -- for physical construction of the facility to be completed within a reasonable time.

Existing portion means that land surface area of an existing waste management unit, included in the original part A permit application, on which wastes have been placed prior to the issuance of a permit.

Existing tank system or existing component means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation has commenced on or prior to July 14, 1986. Installation will be considered to have commenced if the owner or operator has obtained all Federal, State, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either (1) a continuous on-site physical construction or installation program has begun, or (2) the owner or operator has entered into contractual obligations -- which cannot be canceled or modified without substantial loss -- for physical construction of the site or installation of the tank system to be completed within a reasonable time.

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

Federal agency means any department, agency, or other instrumentality of the Federal Government, any independent agency or establishment of the Federal Government including any Government corporation, and the Government Printing Office.

Federal, State and local approvals or permits necessary to begin physical construction means permits and approvals required under Federal, State or local hazardous waste control statutes, regulations or ordinances.

Final closure means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under 40 CFR Parts 264 and 265 are no longer conducted at the facility unless subject to the provisions in 40 CFR §262.34.

Food-chain crops means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

Free liquids means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

Freeboard means the vertical distance between the top of a tank or surface impoundment dike, and the surface of the waste contained therein.

Generator means any person, by site, whose act or process produces hazardous waste identified or listed in 40 CFR Part 261 or whose act first causes a hazardous waste to become subject to regulation.

Ground water means water below the land surface in a zone of saturation.

Hazardous waste means a hazardous waste as defined in 40 CFR §261.3.

Hazardous waste constituent means a constituent that caused the Administrator to list the hazardous waste in 40 CFR Part 261, subpart D, or a constituent listed in table 1 of 40 CFR §261.24.

Hazardous waste management unit is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

In operation refers to a facility which is treating, storing, or disposing of hazardous waste.

Inactive portion means that portion of a facility which is not operated after the effective date of 40 CFR Part 261. (See also "active portion" and "closed portion".)

Incinerator means any enclosed device that:

(1) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or

(2) Meets the definition of infrared incinerator or plasma arc incinerator.

Incompatible waste means a hazardous waste which is unsuitable for:

(1) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls); or

(2) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

(See Appendix J, which presents 40 CFR Part 265, Appendix V, for examples.)

Individual generation site means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

Industrial furnace means any of the following enclosed devices that are integral components of manufacturing processes and that use thermal treatment to accomplish recovery of materials or energy:

- (1) Cement kilns
- (2) Lime kilns
- (3) Aggregate kilns
- (4) Phosphate kilns
- (5) Coke ovens
- (6) Blast furnaces
- (7) Smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machine, roasters, and foundry furnaces)
- (8) Titanium dioxide chloride process oxidation reactors
- (9) Methane reforming furnaces
- (10) Pulping liquor recovery furnaces
- (11) Combustion devices used in the recovery of sulfur values from spent sulfuric acid

(12) Halogen acid furnaces (HAFs) for the production of acid from halogenated hazardous waste generated by chemical production facilities where the furnace is located on the site of a chemical production facility, the acid product has a halogen acid content of at least 3%, the acid product is used in a manufacturing process, and, except for hazardous waste burned as fuel, hazardous waste fed to the furnace has a minimum halogen content of 20% as-generated.

(13) Such other devices as the Administrator may, after notice and comment, add to this list on the basis of one or more of the following factors:

- (i) The design and use of the device primarily to accomplish recovery of material products;
- (ii) The use of the device to burn or reduce raw materials to make a material product;
- (iii) The use of the device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials as principal feedstocks;
- (iv) The use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product;
- (v) The use of the device in common industrial practice to produce a material product; and
- (vi) Other factors, as appropriate.

Infrared incinerator means any enclosed device that uses electric powered resistance heaters as a source of radiant heat and which is not listed as an industrial furnace.

Inground tank means a device meeting the definition of "tank" in 40 CFR §260.10 whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

Injection well means a well into which fluids are injected. (See also "underground injection.")

Inner liner means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

Installation inspector means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of tank systems.

International shipment means the transportation of hazardous waste into or out of the jurisdiction of the United States.

Landfill means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, or a cave.

Landfill cell means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

Land treatment facility means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.

Leachate means any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

Leak-detection system means a system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls (e.g., daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

Liner means a continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate.

Management or hazardous waste management means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

Manifest means the shipping document EPA form 8700-22 and, if necessary, EPA form 8700-22A, originated and signed by the generator in accordance with the instructions included in the Appendix to 40 CFR Part 262.

Manifest document number means the U.S. EPA twelve digit identification number assigned to the generator plus a unique five digit document number assigned to the Manifest by the generator for recording and reporting purposes.

Mining overburden returned to the mine site means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

Miscellaneous unit means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 CFR Part 146, or unit eligible for a research, development, and demonstration permit under §270.65.

Movement means that hazardous waste transported to a facility in an individual vehicle.

New hazardous waste management facility or new facility means a facility which began operation, or for which construction commenced after October 21, 1976. (See also "Existing hazardous waste management facility.")

New tank system or new tank component means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation has commenced after July 14, 1986; except, however, for purposes of 40 CFR §§264.193(g)(2) and 265.193(g)(2), a new tank system is one for which construction commences after July 14, 1986. (See also "existing tank system.")

On ground tank means a device meeting the definition of "tank" in 40 CFR §260.10 and that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

On-site means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, is also considered on-site property.

Open burning means the combustion of any material without the following characteristics:

(1) Control of combustion air to maintain adequate temperature for efficient combustion,

(2) Containment of the combustion-reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(3) Control of emission of the gaseous combustion products.

(See also "incineration" and "thermal treatment".)

Operator means the person responsible for the overall operation of a facility.

Owner means the person who owns a facility or part of a facility.

Partial closure means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of 40 CFR Parts 264 and 265 at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

Person means an individual, trust, firm, joint stock company, Federal Agency, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body.

Personnel or facility personnel means all persons who work, at, or oversee the operations of, a hazardous waste facility, and whose actions or failure to act may result in noncompliance with the requirements of 40 CFR Parts 264 or 265 of this chapter.

Pile means any non-containerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage.

Plasma arc incinerator means any enclosed device using a high intensity electrical discharge or arc as a source of heat and which is not listed as an industrial furnace.

Point source means any discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

Publicly owned treatment works or POTW means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality" (as defined by section 502(4) of the CWA). This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

Regional Administrator means the Regional Administrator for the EPA Region in which the facility is located, or his designee.

Representative sample means a sample of a universe or whole (e.g., waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole.

Run-off means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

Run-on means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

Saturated zone or zone of saturation means that part of the earth's crust in which all voids are filled with water.

Sludge means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

Sludge dryer means any enclosed thermal treatment device that is used to dehydrate sludge and that has a maximum total thermal input, excluding the heating value of the sludge itself, of 2,500 Btu/lb. of sludge treated on a wet-weight basis.

Small Quantity Generator means a generator who generates less than 1,000 kg of hazardous waste in a calendar month.

Solid waste means a solid waste as defined in 40 CFR §261.2.

State means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

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

Sump means any pit or reservoir that meets the definition of tank and those troughs/trenches connected to it that serves to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities.

Surface impoundment or impoundment means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

Tank means 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 structural support.

Tank system means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

Thermal treatment means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge. (See also "incinerator" and "open burning".)

Totally enclosed treatment facility means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is

constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

Transfer facility means 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.

Transport vehicle means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

Transportation means the movement of hazardous waste by air, rail, highway, or water.

Transporter means a person engaged in the offsite transportation of hazardous waste by air, rail, highway, or water.

Treatability Study means a study in which a hazardous waste is subjected to a treatment process to determine: (1) Whether the waste is amenable to the treatment process, (2) what pretreatment (if any) is required, (3) the optimal process conditions needed to achieve the desired treatment, (4) the efficiency of a treatment process for a specific waste or wastes, or (5) the characteristics and volumes of residuals from a particular treatment process. Also included in this definition for the purpose of the 40 CFR §261.4 (e) and (f) exemptions are liner compatibility, corrosion, and other material compatibility studies and toxicological and health effects studies. A "treatability study" is not a means to commercially treat or dispose of hazardous waste.

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

Treatment zone means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

Underground injection means the subsurface emplacement of fluids through a bored, drilled or driven well; or through a dug well, where the depth of the dug well is greater than the largest surface dimension. (See also "injection well".)

Underground tank means a device meeting the definition of "tank" in 40 CFR §260.10 whose entire surface area is totally below the surface of and covered by the ground.

Unfit-for-use tank system means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

Unsaturated zone or zone of aeration means the zone between the land surface and the water table.

United States means the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

Uppermost aquifer means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

Vessel includes every description of watercraft, used or capable of being used as a means of transportation on the water.

Wastewater treatment unit means a device which:

(1) Is part of a wastewater treatment facility that is subject to regulation under either section 402 or 307(b) of the Clean Water Act; and

(2) Receives and treats or stores an influent wastewater that is a hazardous waste as defined in 40 CFR §261.3, or that generates and accumulates a wastewater treatment sludge that is a hazardous waste as defined in 40 CFR §261.3, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in 40 CFR §261.; and

(3) Meets the definition of tank or tank system in 40 CFR §260.10.

Water (bulk shipment) means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

Well means any shaft or pit dug or bored into the earth, generally of a cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

Well injection (See "underground injection".)

Zone of engineering control means an area under the control of the owner/operator that, upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to ground water or surface water.