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RCRA, Superfund & EPCRA Hotline Training Module

Introduction to:

**CERCLA and EPCRA
Release Reporting
Requirements
(CERCLA §103 and EPCRA §304)**

Updated February 1998

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Local number (within DC area) (703) 412-9810

National toll-free from the hearing impaired (TDD) (800) 553-7672

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CERCLA AND EPCRA RELEASE REPORTING REQUIREMENTS

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1. INTRODUCTION

The release reporting requirements set out in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Emergency Planning and Community Right-to-Know Act (EPCRA) enable federal, state, and local authorities to effectively prepare for and respond to chemical accidents. CERCLA requires the person in charge of a vessel or facility to immediately notify the National Response Center when there is a release of a hazardous substance in an amount equal to or greater than the reportable quantity (RQ) for that substance (CERCLA §103(a)). In order to ensure proper and immediate responses to potential chemical hazards, EPCRA also requires facilities to notify State Emergency Response Commissions and Local Emergency Planning Committees of releases of hazardous substances and extremely hazardous substances when the release equals or exceeds the RQ (EPCRA §304(a)). This module reviews the regulations found at 40 CFR Part 302 promulgated pursuant to CERCLA §103, and the regulations found at 40 CFR §355.40 promulgated pursuant to EPCRA §304. These systems for reporting releases help ensure accountability for cleanup, provide data for regulatory and public policy purposes, and promote emergency planning.

The goal of this module is to explain the notification requirements triggered by releases of CERCLA hazardous substances and EPCRA-designated extremely hazardous substances (EHSs). Specifically, when you finish this training session you should be able to:

- Provide the statutory basis and purpose for reporting CERCLA hazardous substance and EHS releases
- Cite the definitions of "release," "hazardous substance," "extremely hazardous substance," and "facility," and list the exclusions appropriate to each definition
- Determine whether an RQ has been exceeded for multiple releases, mixtures, and RCRA hazardous wastes
- Provide the Federal Register citation and explain the methodology for adjusting RQs
- Cite the reduced reporting requirements for continuous releases and explain the differences between continuous release reporting under CERCLA and EPCRA.

Use this list of objectives to check your knowledge of this topic after you complete the training session.

2. REGULATORY SUMMARY

The primary purpose of both CERCLA and EPCRA release reporting requirements is to notify various levels of government of potential hazards so that the necessary response actions can be taken in a timely fashion to ensure maximum protection of human health and the environment. EPA does not necessarily take enforcement action against releasers, but may take action against those who fail to provide the required notification. These notifications assist EPA in identifying releases that may eventually require a Superfund removal action or a long-term remedial cleanup.

This module addresses the regulations promulgated pursuant to CERCLA §103(a) and EPCRA §304 that require the reporting of hazardous substance and EHS releases. For each hazardous substance and EHS identified, a reportable quantity (RQ) of 1, 10, 100, 1000, or 5,000 pounds has been designated. In the event that there is a release equal to or greater than the designated RQ within a 24-hour period, a notification must be made to the National Response Center (NRC), State Emergency Response Commission (SERC), and Local Emergency Planning Committee (LEPC), as appropriate.

The agencies notified in the event of a reportable release operate as an emergency response network to deploy appropriate emergency assistance in the event of a chemical release. The NRC, located at the United States Coast Guard (USCG) Headquarters, is the national communications center continuously manned for handling activities related to response actions. The NRC acts as the single federal point of contact for all pollution incident reporting. SERCs and LEPCs, established under EPCRA, are dedicated to emergency response on the state and local levels. Membership in these entities includes firefighters, law enforcement personnel, elected state and local officials, environmental specialists, and other emergency response personnel.

Since the goals of CERCLA and EPCRA are not the same, the release reporting requirements differ slightly between the two laws. CERCLA is a federal program designed to clean up abandoned hazardous waste sites. The release notifications provided under CERCLA §103 help EPA identify sites that potentially warrant a response action. In contrast, EPCRA provides state and local governments with the necessary information to develop emergency response plans and to inform citizens of potential risks. Due to these underlying differences in purpose, CERCLA release notifications are provided to the NRC, whereas EPCRA notifications are provided to SERCs and LEPCs. In order to fully understand release reporting, however, CERCLA §103 and EPCRA §304 requirements must be learned concurrently. The important distinctions between the two programs will be discussed throughout this module.

2.1 DEFINITIONS

Familiarity with the following terms is key to understanding this module.

FACILITY

CERCLA defines facility as any building, structure, installation, equipment, pipe or pipeline, well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, aircraft, or any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located. Facility does not include any consumer product in consumer use or any vessel (CERCLA §101(9)).

The definition of facility under EPCRA is not identical to that under CERCLA. EPCRA defines facility as all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person. The definition of facility also includes motor vehicles, rolling stock, and aircraft (EPCRA §329(4)). The implication of the differences between these two definitions is explored in this training module.

RELEASE

A CERCLA release is defined as any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, including abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance, pollutant, or contaminant (40 CFR §302.3 and CERCLA §101(22)).

Under EPCRA, a release is defined similarly to CERCLA's release definition, except that the EPCRA definition also includes releases of hazardous chemicals and EHSs (40 CFR §355.20 and EPCRA §329(8)).

REPORTABLE QUANTITY (RQ)

In order for a release of a hazardous substance or EHS to be reportable, a certain amount must be released into the environment within a 24-hour period. This amount, called the "reportable quantity," triggers emergency release notification requirements.

2.2 HOW REPORTING IS TRIGGERED

There are certain criteria that must always be met to trigger notification to the NRC, SERC, and LEPC. The criteria under CERCLA are slightly different than those under EPCRA because the goals of the two programs are different. There are conditions

applicable to each law that must be met in order to trigger reporting. Each condition is discussed in detail.

There are five specific conditions that must be met to trigger the CERCLA requirement for notifying the NRC. There must be a:

- Release
- Of a hazardous substance
- That equals or exceeds a reportable quantity
- From a vessel or facility
- Within a 24-hour period.

The conditions that trigger notification to the SERC and LEPC under EPCRA are very similar to the above CERCLA conditions. There are, however, some important differences. To trigger EPCRA §304 notification there must be a:

- Release with the potential to affect off-site persons
- Of a hazardous substance or extremely hazardous substance
- That equals or exceeds a reportable quantity
- From a facility at which a hazardous substance or extremely hazardous substance is produced, used, or stored
- Within a 24-hour period.

2.3 RELEASE

The first step in determining if release reporting requirements are triggered is assessing whether or not a release has occurred. Both statutes define the term "release" very broadly (as discussed earlier in this module). EPCRA §304, however, carries the additional requirement that a facility must produce, use, or store a hazardous chemical in order to have a "reportable release."

RELEASES THAT ARE NOT REPORTABLE

There are several types of releases that are excluded from the requirements of both CERCLA and EPCRA release reporting. These releases were excluded originally under CERCLA §101(22) because they are covered by other regulatory programs. The regulations found at 40 CFR §355.40(a)(2)(v) extend these statutory exclusions under CERCLA to the release reporting requirements under EPCRA.

Exclusions From the Definition of Release

The definition of release in CERCLA §101(22) specifically excludes:

- Emissions from engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engines
- Releases of source, byproduct, or special nuclear material from a nuclear incident covered by financial protection under the Nuclear Regulatory Commission
- The normal application of fertilizers in accordance with product instructions.

Since these specific scenarios are excluded from the definition of release, they need not be reported to the NRC, SERC, or LEPC, even if an RQ has been equaled or exceeded. CERCLA §101(22) also excludes releases in the workplace, but only with respect to a claim asserted against the employer by a facility worker. Any claims covered by worker compensation through the Occupational Safety and Health Administration regulations cannot be filed under CERCLA. The need for notification, however, must be determined by whether or not a release from a CERCLA facility or vessel enters into the environment. If a release does not remain wholly contained within a building or structure, then it is a release into the environment for CERCLA's purposes, whether or not it occurs within a workplace (50 FR 13462; April 4, 1985).

Federally Permitted Releases

Federally permitted releases are exempt from reporting requirements (CERCLA §§103(a) and (b) and EPCRA §304(a)(2)(A)). These exemptions from notification address a range of situations where releases are regulated under another program or are outside the scope of EPCRA's and CERCLA's purpose and include the following:

- National Pollutant Discharge Elimination System (NPDES) permits
- Dredge and fill permits (CWA §404)
- RCRA permitted and interim status units
- Underground Injection Control (UIC) permits
- Clean dumping and incineration permits
- Air releases under Clean Air Act (CAA) permits
- Injection of fluids to develop crude oil or natural gas supplies
- Discharges to POTWs in accordance with pretreatment standards
- Releases of nuclear materials under the Atomic Energy Act (AEA).

EPA has proposed regulations that would more specifically define federally permitted releases, but no final EPA policy has been published on this exemption. These proposed regulations should not be used as guidance by the Hotline or regulated community in answering questions about federally permitted releases.

There have been several court cases involving this exemption, but such litigation is outside the purview of the Hotline. Until the federally permitted release regulations are promulgated, the scope of the exclusion is defined by the statutory language found in both CERCLA and EPCRA.

Registered Pesticides

CERCLA §103(e) provides an exemption from release reporting for the application of pesticide products registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). This exemption includes the handling and storage of a pesticide product by an agricultural producer. EPA does not, however, consider the spill of a pesticide to be either an "application" of the pesticide or in accordance with the pesticide's purpose. Consequently, such spills must be reported if all additional criteria are met.

2.4 HAZARDOUS SUBSTANCES

Since CERCLA and EPCRA were written to serve different purposes, there are two separate, but overlapping universes of chemicals reportable under the two laws. Only releases of hazardous substances are reportable under CERCLA, whereas releases of both hazardous substances and EHSs are reportable under EPCRA. Because EPA was directed by Congress to compile these chemical lists using different criteria, some chemicals are on both lists and some chemicals appear on one list, but not the other.

The term "hazardous substance" is defined in CERCLA §101(14) to include a compilation of substances listed in accordance with certain sections of the CAA, CWA, RCRA, and TSCA. When a determination is made to regulate a substance under the CAA, CWA, RCRA, or TSCA, it automatically becomes a CERCLA hazardous substance and will be added to 40 CFR Table 302.4. When a substance is delisted from the CAA, CWA, RCRA, or TSCA lists, the substance remains on the hazardous substance list unless EPA determines that there is no independent basis for retaining the hazardous substance listing. CERCLA grants the Administrator of EPA the authority to automatically add new substances to the list of hazardous substances codified in 40 CFR Table 302.4. For example, if a substance was identified as potentially dangerous and was not defined as a hazardous substance pursuant to §101(14), the Administrator has the authority to designate that substance as hazardous and place it in the table in 40 CFR §302.4 (CERCLA §102).

CLEAN AIR ACT

All hazardous air pollutants (HAPs) listed under §112(b) of the CAA are hazardous substances under CERCLA. When the CAA was amended on November 15, 1990, 189 hazardous air pollutants were added to the HAP list. Several of these substances were already designated as CERCLA hazardous substances because of their

regulation under other acts. For those that were new to the list of hazardous substances, a statutory reportable quantity of one pound applied until EPA made final RQ adjustments on June 12, 1995 (60 FR 30926).

RADIONUCLIDES

Radionuclides are considered hazardous substances under CERCLA because EPA designated them generically as hazardous air pollutants pursuant to CAA §112(b). RQs for radionuclides are expressed in curies, not pounds. A curie is a unit that measures the rate of radioactive decay. Establishing RQs for radionuclides in mass units such as pounds would be inappropriate because most radiation measurements and standards are activity-based or dose-based.

CLEAN WATER ACT

The CWA contains two sets of chemicals that are reportable under CERCLA and EPCRA. Section 307(a) of CWA designates toxic pollutants that are subject to pretreatment standards. Section 311(b)(2)(A) of CWA designates elements and compounds that present an imminent danger to the public health when discharged into the navigable waters of the United States. All substances designated pursuant to these two sections are CERCLA hazardous substances.

TOXIC SUBSTANCES CONTROL ACT

Section 7 of TSCA authorizes EPA to commence a civil action for seizure of an imminently hazardous chemical substance or mixture, or any article containing such substance or mixture. Any hazardous chemical that EPA has taken action against pursuant to TSCA §7 would automatically become a CERCLA hazardous substance. To date, EPA has not designated any hazardous substances pursuant to TSCA.

RESOURCE CONSERVATION AND RECOVERY ACT

Under RCRA, EPA established four separate lists of hazardous wastes in 40 CFR Part 261, Subpart D:

- Hazardous wastes from nonspecific sources (F list), such as generic wastes produced by manufacturing and industrial processes
- Hazardous wastes from specific sources (K list), such as wastes from specifically identified industries (e.g., wood preserving, petroleum refining, and chemical manufacturing)

- Commercial chemical products (P and U lists) that are chemical substances manufactured for commercial or manufacturing use and that consist of the commercially pure grade of the chemical.

RCRA hazardous wastes that are not specifically listed are identified by the characteristics of ignitability (I), corrosivity (C), reactivity (R), and toxicity (TC) (40 CFR Part 261, Subpart C). The release of a material that exhibits one or more characteristics of hazardous waste, but is not specifically listed on the 40 CFR §302.4 table, is reportable provided the material becomes a waste upon release and the amount released meets the RQ (40 CFR §302.5(b) and 50 FR 13460; April 4, 1985).

As with all other hazardous substances, RCRA listed hazardous wastes (i.e., F, K, P, and U) and characteristic wastes are reportable if the release equals or exceeds the designated RQ.

THE PETROLEUM EXCLUSION

Under CERCLA, petroleum products have a statutory exclusion from the definition of hazardous substance. Not all the exclusions found in CERCLA can be extended to EPCRA. This particular exclusion applies only to CERCLA hazardous substances, as explained below.

CERCLA §101(14) excludes certain substances from the definition of hazardous substance, thus exempting them from CERCLA regulation. These substances include petroleum, meaning crude oil or any fraction thereof which is not specifically listed as a hazardous substance. Natural and synthetic gases, or mixtures of natural and synthetic gases are also excluded. If a release of one of these substances occurs, CERCLA notification is not required.

EPA interprets petroleum as including those amounts of hazardous substances, such as benzene, that are indigenous to crude oil or its fractions or that are normally added during the refining process. Such amounts are part of the petroleum and are excluded from regulation under CERCLA. Hazardous substances added to the petroleum or increased in concentration solely as a result of contamination during use are not part of the petroleum and are not excluded from regulation under CERCLA. Such amounts of hazardous substances are subject to CERCLA response authority, liability, and release reporting requirements (50 FR 13460; April 4, 1985, and OSWER Directive 9838.1, July 31 1987).

Although the petroleum exclusion exempts release of petroleum from CERCLA §103(a) reporting requirements, it does not exempt a facility from EPCRA §304 reporting requirements. A release of a petroleum product containing an EHS is potentially reportable under EPCRA §304 if more than an RQ of an EHS is released. Unlike those hazardous substances in petroleum that are present in naturally occurring amounts, or are normally added during refining, EHSs in petroleum products are reportable under EPCRA §304 even if they are indigenous to the

petroleum product (52 FR 13385; April 22, 1987). Therefore, a release of a petroleum product containing an RQ of an EHS is reportable to the SERC and LEPC.

HAZARDOUS SUBSTANCES THAT ARE NOT REPORTABLE

There are certain types or forms of hazardous substances that are not reportable under CERCLA or EPCRA, even though they otherwise meet the hazardous substance listing criteria, as a result of EPA policy determinations. These types of hazardous substances are not reportable because EPA has determined that a release of these substances either does not present a substantial endangerment to human health or the environment or would impose an unnecessary burden on the NRC, SERCs, LEPCs, and regulated community. The types or forms of hazardous substances that are not reportable to the NRC, SERCs, or LEPCs are listed below.

Metals

Massive forms of metals, meaning those with a particle diameter of at least 100 micrometers, are not reportable when spilled. A particle size larger than 100 micrometers in diameter cannot pass through an American Society for Testing and Materials (ASTM) standard 140-mesh sieve (50 FR 13461; April 4, 1985). These substances are not reportable under CERCLA or EPCRA because EPA has determined that releases of massive forms of metal would normally not require a response due to the unlikely inhalation of such large particles. A release of a metal classified as a radionuclide does not qualify for this exemption, even if the particles meet the size parameters (54 FR 22526, 22538; May 24, 1989).

Generic Classes of Compounds

Broad generic classes of organic and metallic compounds are listed in Table 302.4 without corresponding RQs. Only a release of those member compounds that are also specifically listed elsewhere in §302.4 with a corresponding RQ are reportable. For example, there is no RQ for the broad category of arsenic and compounds, but there is an RQ of one pound for arsenic disulfide, which is a member of the generic class. The release of compounds that are not specifically listed, but fall into one of the broad generic categories, are not reportable because EPA has determined that assigning an RQ to these particular broad categories may be inappropriate for many chemicals that fall into that class (50 FR 13461; April 4, 1985). Likewise, none of the broad generic categories added by the 1990 CAA amendments have an assigned RQ (60 FR 30926; June 12, 1995). Keep in mind that while the releaser of a broad category substance does not need to report the release, "a releaser is liable for the cleanup of releases of hazardous substances which fall under any of the broad, generic classes..." (50 FR 13461; April 4, 1985).

Radionuclides

EPA has issued administrative reporting exemptions that apply to certain radionuclide releases. The following categories of radionuclide releases are exempt from reporting requirements:

- Releases of naturally occurring radionuclides (e.g., radon) from land holdings such as parks, golf courses, and other large tracts of land
- Releases of naturally occurring radionuclides from the disturbance of land for purposes other than mining, such as agricultural and construction activities
- Releases of radionuclides from the dumping of coal and coal ash at utility and industrial facilities with coal-fired boilers
- Radionuclide releases to all media from coal and coal ash piles at utility and industrial facilities with coal-fired boilers.

EPA originally granted these administrative reporting exemptions in a final rule on May 24, 1989 (54 FR 22524), because EPA believed that reporting radionuclide releases from these four source categories would serve no useful purpose.

Subsequent to the promulgation of that final rule, the U.S. Court of Appeals for the District of Columbia held that the administrative reporting exemptions were not properly promulgated because they were issued without sufficient notice and opportunity for public comment. The court, however, allowed the exemptions to remain in place while EPA provided the public with notice of, and the opportunity to comment on, the four aforementioned exemptions. On November 30, 1992 (57 FR 56726), EPA published a proposed rulemaking that provides notice of and requests comment on the reporting exemptions. EPA published a supplemental proposed rule in response to issues raised in comments on August 4, 1995 (60 FR 40042). The comment period on this proposed rule ended December 4, 1995 (60 FR 51765; October 3, 1995).

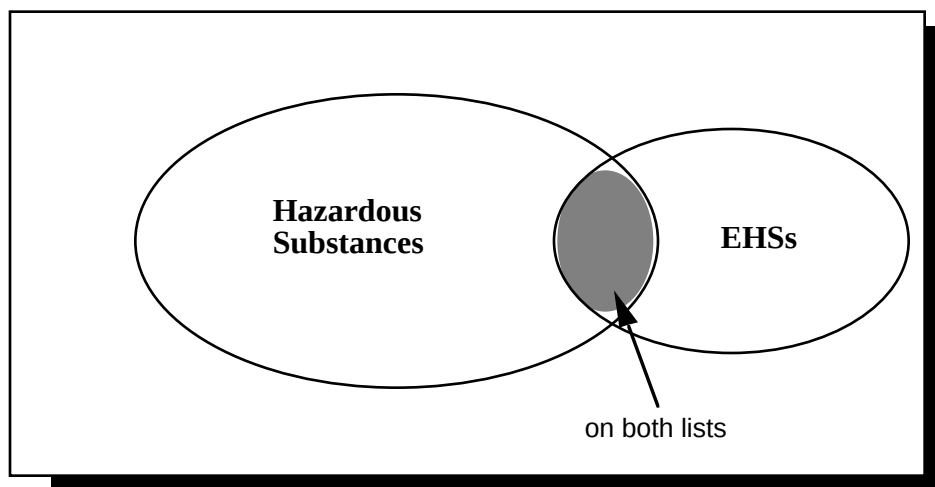
2.5 EXTREMELY HAZARDOUS SUBSTANCES

The EHS list was first developed under the CEPP Interim Guidance as the "acutely toxic chemical" list and is now found in the regulations at 40 CFR Part 355, Appendices A and B. This list identifies chemicals that are most likely to induce serious acute reactions following short-term airborne exposure.

EPA proposed to standardize reporting requirements for substances under both regulations by designating the EHSs that are not listed under CERCLA (40 CFR §302.4) as CERCLA hazardous substances. This proposed rulemaking was published in the Federal Register on January 23, 1989 (54 FR 3388), but has since been withdrawn from consideration. If the proposed rule had been finalized, releases of

all EHSs would require notification to the NRC, and the liability provisions of CERCLA §107 would apply. Figure 1 demonstrates how the EHS and hazardous substances lists are related.

Figure 1
CHEMICAL SUBSTANCE INTERFACE



2.6 INTO THE ENVIRONMENT

A key factor in determining whether a release has occurred is the interpretation of the phrase "into the environment" found in the definition of release under both CERCLA and EPCRA. As stated in §101(8) of CERCLA, "the environment" includes all environmental media (i.e., air, water, land surface and subsurface strata). Releases to the environment do not include releases that are wholly contained inside a closed containment structure, such as a building or an enclosed vehicle. Hazardous substances discharged in buildings or vehicles with active vents or openings, however, may become releases into the environment. For example, a spill of a hazardous substance onto a concrete floor of a totally enclosed manufacturing facility could be released into the environment if part of that substance seeps into the ground through cracks in the concrete or volatilizes into the atmosphere via process vents. When a release exceeds or equals the reportable quantity, the facility is subject to the notification requirements of CERCLA §103 and EPCRA §304. The meaning of the phrase "into the environment" is a controversial issue. The CERCLA definition of "into the environment" has not been definitively interpreted by EPA. Whether a release is considered "into the environment" or not is decided on a case-by-case basis. There is limited guidance that may help in answering situation-specific questions.

INTO THE ENVIRONMENT UNDER CERCLA

A rule issued on May 24, 1989 (54 FR 22524), clarified the definition of "release into the environment." In this rule, EPA considered the stockpiling of an RQ of a hazardous substance to be a release. "Any activity that involves the placement of a hazardous substance into any unenclosed containment structure wherein the hazardous substance is exposed to the environment is considered a release" (54 FR 22526; May 24, 1989). For example, the placement of an RQ or more of a radionuclide into an open tank or surface impoundment would constitute a reportable release. This interpretation, however, was challenged in court (Fertilizer Institute v. EPA) and was overturned. The U.S. Court of Appeals, D.C. Circuit, ruled that EPA, by interpreting the term "release" to include placement of a substance into a structure that is exposed to the environment, violated the statutory intent. The court ruled that mere exposure of a hazardous substance to the environment constitutes only the threat of a release unless the substance volatilizes or otherwise enters the environment. Since the court's decision, there has been no further EPA interpretation of the phrase "into the environment," so determining what constitutes "into the environment" is left to be resolved on a case-by-case basis.

INTO THE ENVIRONMENT UNDER EPCRA

The ambiguity of the phrase "into the environment" is not as important under EPCRA, because the EPCRA release notification requirements, found at 40 CFR §355.40, stipulate that only releases that have the potential to affect persons beyond the facility boundaries are reportable. As a result, a release that is reportable under CERCLA may not be reportable under EPCRA. EPA, however, encourages facilities to report on-site releases under EPCRA §304 if there is any potential for the release to migrate off-site (i.e., via groundwater or air pathways).

2.7 VESSEL OR FACILITY

The next step in determining when a release triggers notification is to determine the origin of the release; that is, whether the release occurred from a facility or vessel. Under CERCLA, notification is required for releases of hazardous substances from vessels or facilities. A facility is any building, pipe, landfill, lagoon, motor vehicle, or other structure listed in CERCLA §101(9). The term "facility" excludes consumer products in consumer use, such as a spill of paint thinner from a private home (48 FR 23552; May 25, 1983). A vessel is defined as any watercraft or other artificial contrivance used, or capable of being used, as a means of transport on water (CERCLA §101(28)).

Under EPCRA, a facility is defined as all buildings, equipment, structures, and other stationary items located on a single site, or on contiguous or adjacent sites, and are owned and operated by the same person (EPCRA §329(4)). Vessels are not included in the definition of facility found in EPCRA §329(4), and thus releases of hazardous substances from vessels are only reportable to the NRC, not the SERC or LEPC. Furthermore, EPCRA specifies that a facility must also produce, use, or store a hazardous chemical to trigger notification.

2.8 REPORTABLE QUANTITIES

EPA has statutory authority to determine an amount for each CERCLA hazardous substance that, when released into the environment from a facility, requires notification. Until adjusted by EPA, RQs for CERCLA hazardous substances are fixed by statute at one pound, unless an RQ has been designated pursuant to a parent statute (i.e., CWA). The RQs for EHSs that are not also CERCLA hazardous substances are also fixed at one pound until adjusted by a rulemaking (EPCRA §304(a)(2)). All reportable quantities are listed in pounds, except those for radionuclides, which are in curies. RQs for hazardous substances and EHSs are listed in a table at 40 CFR §302.4 and 40 CFR Part 355, Appendices A and B, respectively. The RQ level does not reflect whether or not a given release is hazardous, but rather acts as a trigger for possible governmental response action.

All concurrent releases of the same substance from a particular facility into the environment must be aggregated to determine if an RQ has been exceeded. Releases from separate facilities need not be aggregated (50 FR 13459; April 4, 1985).

STATUTORY RQs

Congress established RQs for hazardous substances that are enforceable until EPA sets a final RQ for the substance. The statutory RQ is one pound (CERCLA §102(b)) for all hazardous substances unless a higher RQ had already been established under the CWA. The statutory RQ for non-CERCLA EHSs is also one pound (EPCRA §304(a)(2)). CERCLA §102(a) and EPCRA §304(a)(2) give EPA the authority to adjust the RQs for hazardous substances and for non-CERCLA EHSs, respectively.

BASIS FOR RQs AND ADJUSTMENTS

Hazardous Substances

Under CERCLA, each hazardous substance is evaluated for six primary criteria: aquatic toxicity, mammalian toxicity, ignitability, reactivity, chronic toxicity, and potential carcinogenicity. A primary RQ is set for each criterion. EPA sets hazardous substance RQs at either 1, 10, 100, 1,000, or 5,000 pounds. The lowest primary RQ is then evaluated against three secondary criteria — biodegradability, hydrolysis, and photolysis — which are natural degradation processes. The RQ is

raised to the next level if the secondary criteria indicate that the substance will break down or degrade to a less hazardous substance when released into the environment. If the degradation product is more hazardous, the RQ value will be lowered to the RQ of the more hazardous substance. That number then becomes the final RQ. The methodology for setting RQs is discussed in the May 25, 1983, Federal Register (48 FR 23552). Anytime an RQ is adjusted under CERCLA, it is also adjusted in the CWA regulations (40 CFR §117.3), if applicable.

Extremely Hazardous Substances

As stated previously, many EHSs are also CERCLA hazardous substances. Releases of EHSs that are also CERCLA hazardous substances are reportable at the same RQ level applicable under CERCLA (EPCRA §304(a)(1)). Until recently, those EHSs that are not CERCLA hazardous substances (non-CERCLA EHSs) were reported at a one-pound statutory RQ level. However, a May 7, 1996, Federal Register (61 FR 20473) adjusted the RQs for non-CERCLA EHSs, making the RQs the same as the threshold planning quantities (TPQs) assigned to those substances. Although the RQs and TPQs trigger two distinct notification requirements, both quantities are based on the possibility of harm from the release of a specific substance. Therefore, EPA believes it is appropriate to use the EPCRA §302 TPQs assigned for emergency planning purposes to set RQs for EPCRA §304 release notification purposes.

CWA MIXTURE RULE

Most hazardous substances and EHSs produced, used, or stored by facilities do not exist in pure forms, but are found in mixtures or solutions. There are special rules that facilities must follow when determining the RQ for releases of mixtures or solutions.

If a mixture of hazardous substances or EHSs is released and the concentration of all hazardous substances and EHSs in the mixture are known, the CWA mixture rule may be used to calculate whether an RQ of any hazardous substance or EHS has been released. RQs of different substances are not additive. This means that spilling a mixture containing half an RQ of one hazardous substance or EHS, and half an RQ of another hazardous substance or EHS does not add up to trigger reporting requirements.

To use the CWA mixture rule, the releaser must calculate the amount of each hazardous substance or EHS that has been released. For instance, a release of 100 pounds of a mixture that is 40 percent acrylonitrile would be equivalent to a release of 40 pounds of acrylonitrile. This release would not be reportable, since the RQ for acrylonitrile is 100 pounds. If there is more than one hazardous substance or EHS in a mixture, the releaser must check the RQ for each substance. The release must be reported if the RQ for any hazardous substance or EHS has been met or exceeded. If the concentrations of the hazardous substances or EHSs are unknown, reporting is required when the total amount of the mixture released equals or exceeds the RQ for

the component with the lowest RQ (40 CFR §302.6 and 54 FR 33418; August 14, 1989). The April 4, 1985, Federal Register (50 FR 13463) discusses the CWA mixture rule in detail.

The CWA mixture rule can be particularly confusing when applied to RCRA hazardous wastes. The following sections explain the application of the mixture rule to listed and characteristic hazardous wastes.

DETERMINING RQs FOR RCRA WASTES

RCRA has identified listed and unlisted wastestreams that are regulated as hazardous wastes and thus regulated as CERCLA hazardous substances. The RQ for each RCRA hazardous wastestream is listed in 40 CFR §302.4.

RCRA wastes may be treated as mixtures only if all hazardous components and their concentrations in the mixture are known. Otherwise, the RQ for the wastestream must be used. The CWA mixture rule also applies to unlisted characteristic wastes if the concentrations of all the constituents in the waste are known.

F- and K-Listed Hazardous Wastes

As with all releases of CERCLA hazardous substances and EHSs, F- and K-listed RCRA hazardous wastes are reportable if the spill of the waste equals or exceeds the designated RQ. Persons in charge of vessels or facilities can apply the CWA mixture rule to RCRA F- and K-listed wastestreams if the concentrations of the hazardous constituents within the waste are known. If the concentrations of the substances within a listed hazardous waste are unknown, the RQ of the specific listed hazardous waste applies. For example, if a release of F001 occurred and the concentrations of the constituents in the waste were unknown, the RQ for the wastestream (10 pounds) would apply. By contrast, if the person in charge can determine that the F001 hazardous waste contains 50 percent 1,1,1-trichloroethane and 50 percent water, the CWA mixture rule can be applied. Since 1,1,1-trichloroethane has a 1,000-pound RQ, in this example the spill is not reportable until 2,000 pounds are released.

P- and U-Listed Hazardous Waste

The definition of hazardous substance in CERCLA §101(14)(C) incorporates all RCRA hazardous wastes, including commercial chemical products listed in 40 CFR §261.33(e) and (f). Under RCRA, in order for a material to be defined as a commercial chemical product and to receive a P or U hazardous waste code, the material has to be an unused product in which the chemical is the sole active ingredient. These hazardous wastes, in addition to all other RCRA hazardous wastes, are listed as hazardous substances under CERCLA. Releases of these P and U hazardous wastes, listed in Table 302.4, are reportable when the designated RQ is equaled or exceeded. It is important to remember that the RCRA regulatory

parameters for commercial chemical products do not apply to individually listed CERCLA hazardous substances. For example, a release of amitrole (U011) need not meet the unused, sole active ingredient restrictions that are applied to RCRA commercial chemical products in order to be reportable, since amitrole is specifically listed as a hazardous substance. Releases of amitrole are reportable when the release equals or exceeds 10 pounds.

RCRA Characteristic Wastes

Unlisted wastes exhibiting the characteristics of ignitability, corrosivity, and/or reactivity (ICR) have a RQ of 100 pounds. If a waste known to be hazardous solely because of the characteristic of ignitability was released into the environment, the RQ would be 100 pounds. If an unlisted ICR waste is analyzed and the concentrations of all of its hazardous components are identified, the waste is no longer an unlisted waste, but one characterized by its components. Therefore, the RQ of the specific listed components of the hazardous substance can be used to determine when reporting is required. For example, if a waste is known to be corrosive solely because of its sulfuric acid content, and no other ICR characteristics are present, the RQ of the waste is reached when 1,000 pounds of the sulfuric acid are released. If the corrosive waste is a 25 percent solution of sulfuric acid in water, in this example the RQ of the waste is not reached until 4,000 pounds of the waste are released (50 FR 13456; April 4, 1985).

Toxicity characteristic hazardous wastes (D004-D043) are hazardous substances under CERCLA and are listed with their applicable RQs in Table 302.4 under "Unlisted Hazardous Wastes: Characteristic of Toxicity." Unlike other unlisted hazardous wastes (ICR), toxicity characteristic hazardous wastes have reportable quantities specific to the contaminant on which the characteristic of toxicity is based (e.g., lead or selenium). If the composition of a wastestream can be determined, then the waste is no longer an unlisted waste, and the CWA mixture rule would apply. The test used to determine the toxicity characteristic, the Toxicity Characteristic Leaching Procedure (TCLP), measures the concentrations within a leachable extract of a waste sample, not total concentrations of all the substances in a wastestream. Accordingly, data gathered when conducting a TCLP will not automatically provide an owner/operator of a facility with the total composition of a waste. Should the owner/operator have measures of the total concentrations of the hazardous constituents in the waste from another test or through application of knowledge, the CWA mixture rule would apply.

2.9 WITHIN A 24-HOUR PERIOD

The last element of the trigger indicating when a release is reportable is whether an amount of the hazardous substance or EHS equaling or exceeding the RQ is released over a 24-hour period. Under EPCRA §304(a), releases of EHSs are only reportable if they occur in a manner that requires, or would require, notification under CERCLA

§103(a). EPA has interpreted this provision to mean the 24-hour period policy under CERCLA is also applicable under EPCRA. This time frame refers to the time period over which a release is to be measured; it does not mean that one has 24 hours in which to report the release (50 FR 13463; April 4, 1985). Reporting to the NRC, SERC, and LEPC must occur immediately upon the discovery that an RQ has been exceeded.

2.10 REPORTING PROCEDURES

The NRC, SERC, and LEPC must be notified when there is a release of an RQ of a hazardous substance or EHS into the environment according to CERCLA §103(a) and EPCRA §304. The purpose of the notification is to alert government officials that an emergency response may be needed to protect human health and the environment. The decision to respond to a reported release is made on a case-by-case basis. Reporting a release does not free the responsible party from liability for cleanup costs (50 FR 13459; April 4, 1985).

MECHANICS OF NOTIFICATION

To fulfill the requirements under CERCLA §103(a), the person in charge of the vessel or facility must report the release of a hazardous substance to the NRC at (800) 424-8802, as soon as it is determined that an RQ has been released into the environment within a 24-hour period (40 CFR §302.6). Upon receipt of the report, the NRC will notify the on-scene coordinator (OSC) at the appropriate EPA Regional office or U.S. Coast Guard district office. The OSC informs state and local officials and decides on the federal government's response.

In order to meet the requirements under EPCRA §304, the owner or operator of a facility must report releases of hazardous substances and EHSs to the SERC and LEPC immediately. The notice to the SERC and LEPC must include (40 CFR §355.40(b)(2)):

- The chemical name or identity of any substance involved in the release
- An indication of whether the substance is an EHS
- An estimate of the quantity released into the environment
- The time and duration of the release
- The medium or media into which the release occurred
- Any known or anticipated acute or chronic health risks associated with the emergency and, where appropriate, advice regarding medical attention necessary for exposed individuals
- Proper precautions to take as a result of the release, including evacuation (unless such information is readily available to the community emergency coordinator pursuant to the emergency plan)
- The names and telephone numbers of the person or persons to be contacted for further information.

EPA strongly recommends that facilities indicate the location of the incident in the initial notice, but this is not a regulatory requirement.

As soon as practicable after a release that requires notice under EPCRA §304, the owner or operator of the facility is required to submit a written follow-up notice (or notices, if necessary) to the affected LEPCs and SERCs (40 CFR §355.40(b)(3)). This report must contain all information required in the initial notice, plus any updated and additional information with respect to actions taken to respond to and contain the release, known or anticipated acute or chronic health risks associated with the release, and where appropriate, advice regarding medical attention necessary for exposed individuals (52 FR 13396; April 22, 1987). EPA strongly recommends that the cause of the release be reported in the follow-up notice. Figure 2 depicts the notification requirements under both CERCLA and EPCRA.

NEWSPAPER NOTICE

The owner or operator of any vessel or facility from which a hazardous substance has been released must "provide reasonable notice to potential injured parties by publication in local newspapers serving the affected area" in addition to the NRC notification (CERCLA §111(g)). This is a statutory provision that has not yet been clarified in specific regulations.

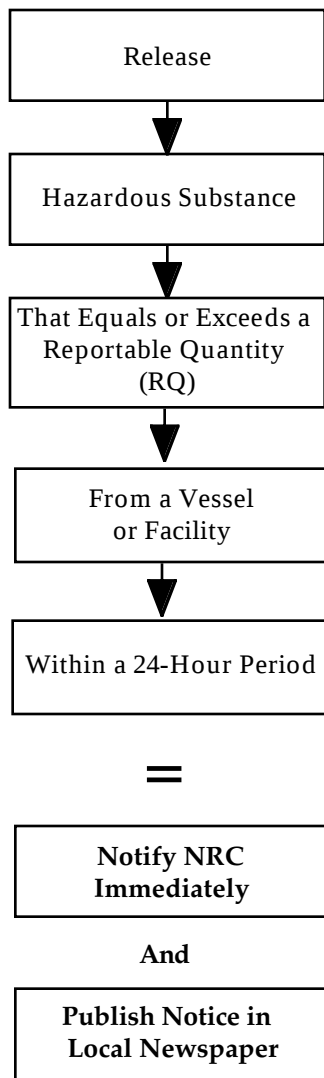
EMERGENCY RESPONSE NOTIFICATION SYSTEM

When a person calls to report a release, the NRC asks a series of questions. The information is loaded into the Emergency Response Notification System (ERNS). ERNS is a database and retrieval system used to track information relating to notifications of oil and hazardous substances. The database provides a direct source of data that can be used to analyze notifications and spills, support emergency planning efforts, and assist decision-makers in developing spill prevention programs.

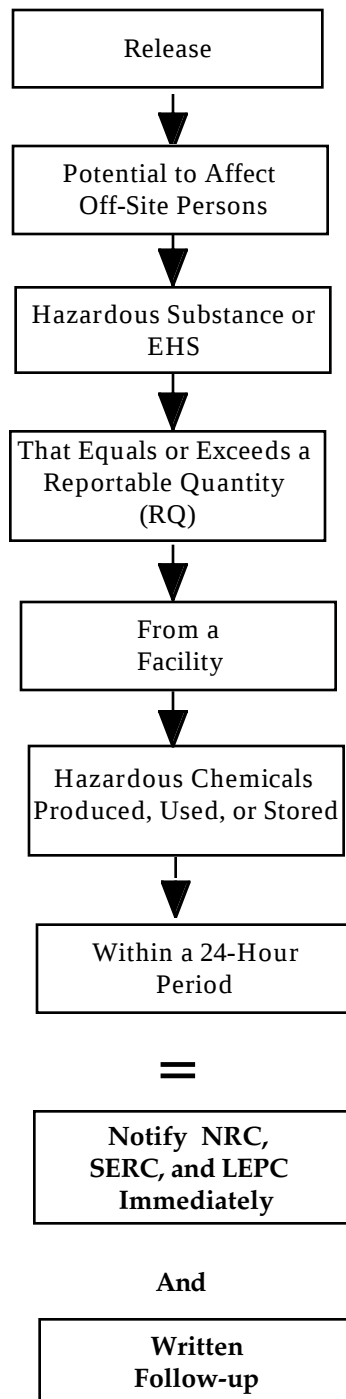
EPA's Emergency Response Division Information Line ((202) 260-2342) provides information on ERNS. ERNS data are accessible electronically through the Right-to-Know Network (RTK NET) (telnet, rtknet.org; World Wide Web, <http://rtk.net>; modem access (202) 234-8570) and through EPA's World Wide Web page at: <http://www.epa.gov/ERNS/>

Figure 2
FACILITY REPORTING UNDER EPCRA §304 AND CERCLA §103(a)

**RELEASE REPORTING UNDER
CERCLA
40 CFR §302.6**



**RELEASE REPORTING
UNDER EPCRA
40 CFR §355.40**



3. SPECIAL ISSUES

There are several issues relating to CERCLA and EPCRA release reporting that need special attention. These topics augment previously discussed material. Knowledge of these special issues is essential to fully understanding the two programs.

3.1 CONTINUOUS RELEASES

When a release of a hazardous substance or an EHS occurs regularly and in relatively stable amounts, state and local officials do not have to be notified each time such a release occurs. These reduced reporting requirements relieve the burden on the SERC, LEPC, NRC, and regulated community. This type of release, known as a continuous release, is defined as a release which occurs without interruption or abatement, and is stable in quantity and rate, or that is routine, anticipated, intermittent, and incidental to normal operations or treatment processes (40 CFR §302.8).

To qualify a release for reporting as a continuous release, the facility must establish a basis for asserting that the release is continuous as defined by the statute. A release may be reported for a period of time necessary to establish that the pattern of the release is continuous and stable. If sufficient basis is established for the continuity, quantity, and regularity of a release, multiple reports are not necessary. Past release data, engineering estimates, knowledge of a facility's operations, and/or best professional judgment may be used to establish the pattern of a release. A single telephone call to the NRC, SERC, and LEPC will alert authorities of a facility's intent to report a release as a continuous release.

Once a facility has determined that a release qualifies as “continuous,” and chooses that reporting option, there are five kinds of notification required:

- Initial telephone notification to the NRC, SERC, and LEPC
- Initial written notification to the appropriate EPA Regional office, SERC, and LEPC within 30 days of initial telephone notification
- Written follow-up report to the EPA Regional office one year after initial written notification
- Immediate reports of any statistically significant increase (SSI) in the release to the NRC, SERC, and LEPC
- Notification of changes in the source or composition of the release.

An SSI of a release is defined as an increase in the quantity of the hazardous substance released above the upper bound of the previously reported normal range of the releases. The normal range is the range of releases occurring over any 24-hour period under normal operating conditions during the previous year (55 FR 30168; July 24, 1990). The person in charge of a facility must report all SSIs to the

NRC, SERC, and LEPC immediately, and should identify the notice as an SSI. An SSI is an episodic release, and will be treated as such by the NRC. When releases continually exceed the upper bound, facilities may modify the range by providing at least one SSI notification indicating the new range to the NRC, SERC, and LEPC, and providing a written notification to the EPA Regional offices within 30 days (see Reporting Requirements for Continuous Releases of Hazardous Substances: A Guide for Facilities and Vessels on Compliance, OSWER Directive 9360.7-01).

If there is a change in the composition or source(s) of the release, the release must be treated as a new release for notification purposes. Such changes require the submission of an initial telephone notification and initial written notification in order to qualify as a continuous release (40 CFR 302.8(g)(1)).

Continuous release reporting applies to both CERCLA hazardous substances and EPCRA EHSs; however, the notification requirements differ somewhat. Continuous release notifications for CERCLA hazardous substances are made to the NRC, the EPA Regional office, the SERC, and the LEPC as shown in Figure 3. As shown in Figure 4, continuous release notifications for non-CERCLA EHSs, including an initial telephone call, the initial written report, and the SSI report, are made to the SERC and the LEPC.

Figure 3
CONTINUOUS RELEASE REPORTING REQUIREMENTS
FOR CERCLA HAZARDOUS SUBSTANCES

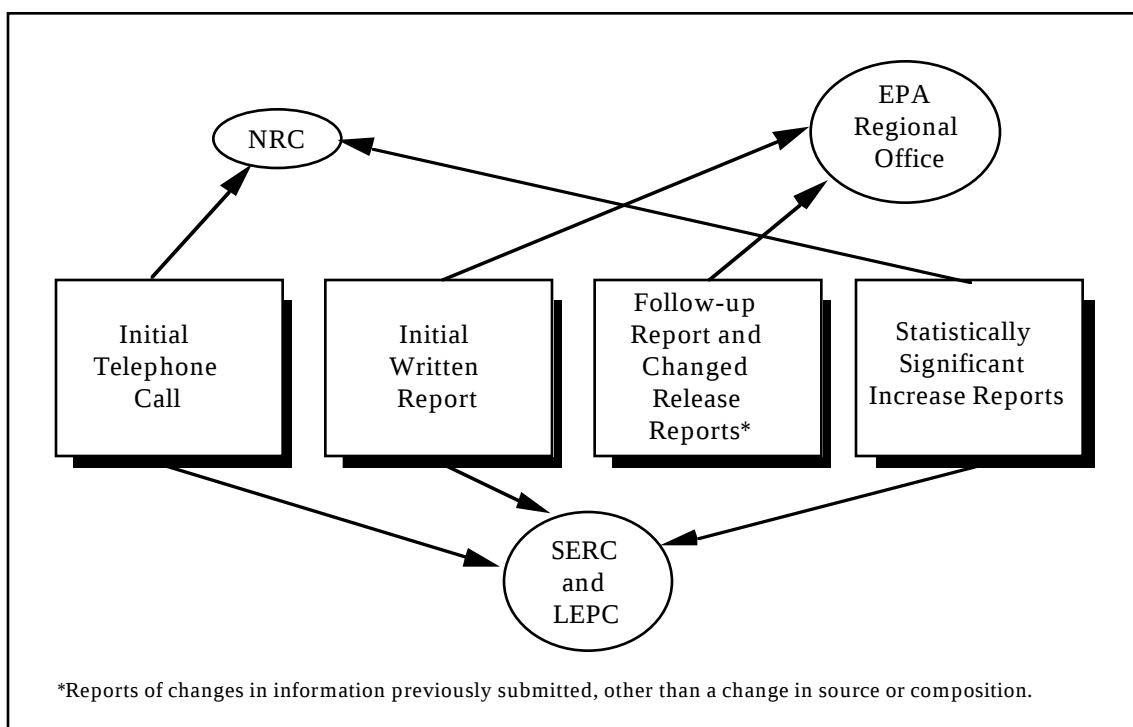
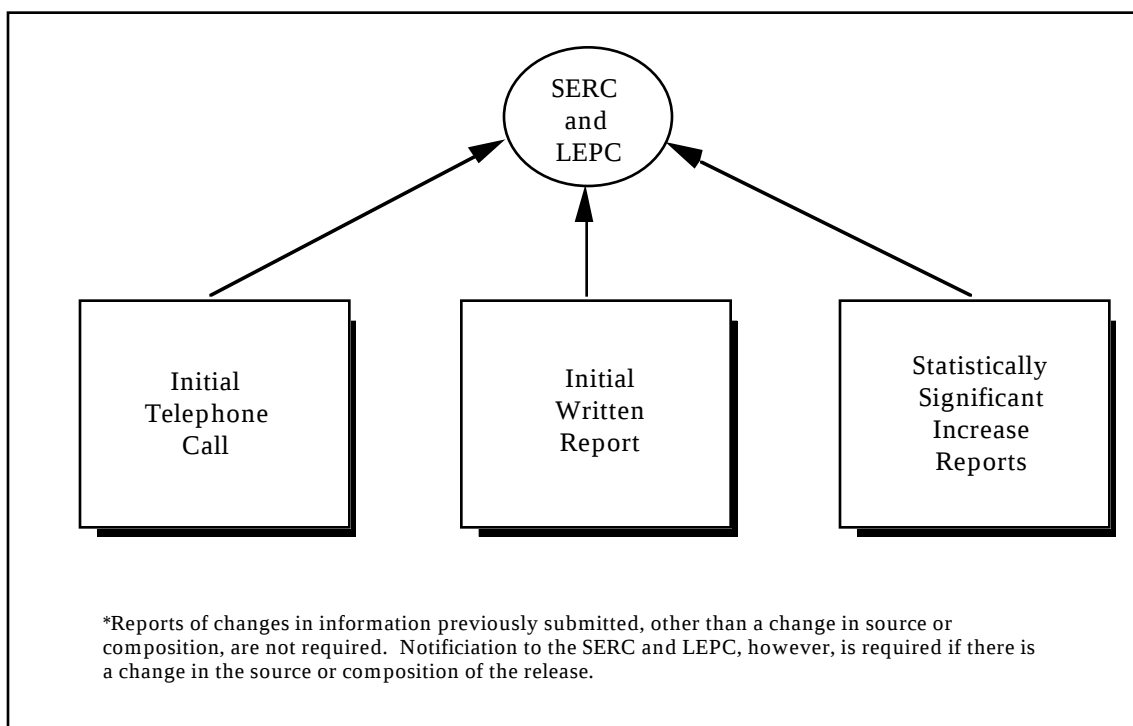


Figure 4
WHERE TO SUBMIT CONTINUOUS RELEASE REPORTS FOR RELEASES
OF NON-CERCLA EHSs



3.2 DISPOSAL AT RCRA FACILITIES

There are two types of RCRA land disposal facilities: Subtitle C hazardous waste facilities and Subtitle D nonhazardous waste facilities (e.g., municipal solid waste landfills). The standards to which owners and operators of Subtitle C facilities are subject are much more stringent than those covering Subtitle D facilities.

EPA has established an administrative exemption from CERCLA release notification requirements for the disposal of hazardous substances at RCRA Subtitle C hazardous waste facilities. Because the disposal of wastes into permitted or interim status facilities is properly documented through the RCRA manifest system, EPA believes that notification under CERCLA does not provide a significant additional benefit (50 FR 13461; April 4, 1985). Under EPCRA, releases of hazardous substances or EHSs are only reportable if they require, or occur in a manner which would require, notification under CERCLA §103(a). Therefore, disposal of a hazardous substance or an EHS into a RCRA Subtitle C facility does not require notification under either CERCLA or EPCRA.

No such administrative exemption exists for releases to RCRA Subtitle D nonhazardous waste facilities. Therefore, releases of hazardous substances or EHSs

in amounts equal to or greater than an RQ into one of these facilities are potentially subject to CERCLA and EPCRA release notification requirements.

3.3 SUBSTANCES THAT CHANGE AFTER RELEASE

A release of a substance that rapidly forms a CERCLA hazardous substance upon release is a reportable event (51 FR 34534; September 29, 1986, Footnote 2). For example, a metal chloride, which is not specifically listed as a hazardous substance under CERCLA, readily changes to hydrochloric acid when it comes in contact with water. Hydrochloric acid is specifically listed as a hazardous substance under CERCLA and, therefore, must be reported if an RQ or more is released in a 24-hour period. EPA has not clarified the term "rapidly," nor listed all substances that rapidly form hazardous substances when released.

3.4 TRANSPORTATION-RELATED RELEASES

Under EPCRA, there are unique provisions for reporting that apply to transportation-related releases. A transportation-related release means "a release during transportation, or storage incident to transportation if the stored substance is moving under active shipping papers and has not reached the ultimate consignee" (40 CFR §355.40(b)(4)(ii)). The owner or operator of a facility for which there is a transportation-related release of more than the substance's RQ may meet the notification requirements of EPCRA §304 by providing the required information to the local 911 emergency service instead of the SERC or LEPC. If there is no 911 service, the information may be given to the telephone operator (40 CFR §355.40(b)(4)(ii)). Under CERCLA §103(a), however, even transportation-related releases must be reported immediately to the NRC.

4. MODULE SUMMARY

CERCLA and EPCRA both contain release reporting regulations with similar provisions. However, because the two laws have different goals, the requirements are not exactly the same. The CERCLA program is designed to promote federal cleanup of hazardous substances, whereas EPCRA primarily serves to notify state and local governments and citizens of potential hazards. The triggers for CERCLA §103 notification to the NRC and EPCRA §304 notification to the SERC and LEPC are closely linked. Enacted in 1986, EPCRA broadened the notification provisions of CERCLA, but did not replace notification to the NRC. Notifying the NRC, SERC, or LEPC does not relieve a responsible party from any possible liability, nor does it automatically trigger a response action. Failure to report, however, can result in severe civil and possible criminal penalties. These enforcement provisions will be discussed in future modules.

CERCLA and EPCRA are not the only statutes that address spills and releases. Other laws may also trigger reporting requirements at the time of a release of a hazardous substance or material. These include:

- The Hazardous Materials Transportation Act (HMTA), administered by the Department of Transportation (DOT), requires reporting of hazardous materials releases or accidents
- The Toxic Substances Control Act (TSCA), administered by EPA, requires reporting of releases of polychlorinated biphenyls (PCBs) (54 FR 33437; August 14, 1989)
- The Clean Water Act (CWA), administered by EPA, requires reporting of hazardous substance and oil releases into navigable waters. The Spill Prevention Control and Countermeasures (SPCC) program was promulgated under CWA authority.