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United States Coast Guard

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COMDTINST M16465.29
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COMMANDANT INSTRUCTION M16465.29

Subj: CERCLA Response Authority and Associated Coast Guard Policies

1. PURPOSE. This instruction describes the pollution response authority created by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Coast Guard policies which influence the exercise of that authority. It also addresses delegation to field ocs of certain authorities provided by CERCLA. It does not discuss funding support for removal activities or the enforcement of the statute's spill notification requirements.

2. DISCUSSION.

   a. The topics addressed by this instruction- Federal response jurisdiction, associated policies, and new definitions - are relatively complex and do not lend themselves to short discussions. In an effort to improve the clarity of this directive, chapter 2 provides an outline of response authority and of policies which influence the exercise of that authority. Chapter 3 follows with descriptions of new definitions which are not self-explanatory. Chapters 4, 5, and 6 discuss specific response provisions of CERCLA and Coast Guard policy.

   b. The terminology used by this directive requires some explanation.

      (1) CERCLA is frequently called by the colloquial term "superfund" and by its public law number, 96-510. This directive refers to the statute as either CERCLA or the Act.

2.b.(2) CERCLA provides a specific meaning for the term response, defining it as including removal actions and remedial actions. The definition of "removal" includes all of the response actions permitted under section 311 of the FWPCA plus certain additional actions. (See section F of Chapter 3.) Remedial actions are those operations that are "consistent with permanent remedy" and that may require considerable planning or a protracted commitment of resources (see section 101(24) of CERCLA). Obviously, removal and remedial action are not discrete concepts; there is considerable overlap both with regards to intent and to the kinds of response measures authorized. The term remedial action, however, does serve a purpose. It refers to response operations that are relatively costly or lengthy, but not of an urgent nature. As a consequence, remedial actions will most often be associated with the long-term cleanup of waste sites. Since the Coast Guard does not ordinarily participate in this category of pollution response, COTP personnel will infrequently have the need to conduct a remedial operation. Recognizing this, and to emphasize when an operation is remedial, this directive uses "removal" as the general term for a cleanup operation conducted by the Coast Guard and specifies remedial where necessary. When speaking to an actual, physical removal or treatment function, the directive uses the term "cleanup technique".

c. To benefit best from the first review of this directive, two additional documents will be required: copies of the Act and of 40 CFR 261. Before proceeding with the instruction, a reading of sections 101 through 111 of the Act is essential. Particular attention should be paid to the definitions "environment", "facility", "hazardous substance", "release", "removal", and "response" and to sections 104(a), 104(b), 104(c) (1), 106(a), 106(b), 106(a), 107(b), and 107(c) (3). It is not necessary to read 40 CFR 261 before reviewing the directive. However, this publication will be needed for reference in the Chapter 3 discussion of "hazardous substance". In addition, key points throughout the text have been highlighted or underlined to indicate their importance.

d. This instruction may require modification subsequent to its promulgation. Several of the policies it expresses are complex and untested; future court decisions and actual on-scene implementation may alter some aspects of this interpretation of CERCLA authority. The Commandant actively encourages Marine Safety units, COTP's, and district(m) staffs to submit proposed amendments to more effectively implement Coast Guard responsibilities under CERCLA.

3. ACTION.

a. District commanders shall ensure that the on-scene coordinators within their respective commands are familiar with the provisions of this directive, in particular the delegations of authority in section D of the first chapter.

b. On-scene coordinators shall implement the guidance contained herein as policy to be followed during pollution response efforts conducted under the authority of CERCLA.

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Enclosures (following text):
(1) Executive Order 12316
(2) Instrument of Redelegation
(3) Comprehensive Listing of Hazardous Substances
(4) Subpart C - Characteristics of Hazardous Waste
(5) Sample Administrative Order

CHAPTER 1. DERIVATION OF COAST GUARD RESPONSE AUTHORITY UNDER CERCLA

A. Statute. The 1970's witnessed increasing national concern over the problems arising from the introduction of hazardous chemicals into the environment. Several well-publicized incidents, such as the Love Canal waste site and the kepone contamination of the James River, focused much of this concern on improper waste disposal practices and, to a lesser extent, on spills. These kinds of releases were all the more troublesome because of an inadequate Federal capability, and in some cases authority, to deal with them. During this time the primary Federal authority for response to hazardous chemical releases resided in two provisions of the Federal Water Pollution Control Act (): section 504 and section 311. Section 504 authorized the EPA to abate and remedy threats to the public health and welfare arising from a "pollution source". However, Congress has not appropriated funds to the emergency fund established to support those actions. Section 311 proved to be an inadequate basis for government action due to jurisdictional limitations. It recognized only discharges and substantial threats of discharges into certain surface waters. Also, after a decade of regulatory development and initiatives, the number of substances designated as hazardous for possible section 311 action was a modest 297. During the years 1978, '79, and '80, Congress considered an assortment of bills proposed as remedies to this situation; and, on 11 December 1980, it enacted the rehensive Environmental Response, (ation, and Liability Act of 1980 (CERCLA).

B. Executive Order. On 14 August 1981, President Reagan signed E.O. 12316, delegating authorities created by CERCLA. E.O. 12316 assigns the Secretary of the Department in which the Coast Guard is operating the response authorities of the Act (section 104) and the authority to issue administrative orders (section 106(a)) for releases and threatened releases involving the coastal zone, Great Lakes waters, ports, and harbors. The executive order, however, does except three CERCLA functions from this delegation: it designates DOD as OSC for releases originating from DOD facilities and vessels, assigns FEMA exclusive authority to conduct temporary and permanent evacuations, and designates the Public Health Service as the agency responsible for investigating complaints of illnesses that might be attributable to exposures to hazardous substance releases. Enclosure (1) is a copy of E.O. 12316. The Secretary of Transportation has redelegated certain of these response functions to the Commandant of the Coast Guard in 49 CFR 1.46(gg), and others to the Administrator of the Environmental Protection Agency through an Instrument of Redelegation. The DOT/EPA Redelegation Instrument and the functions delegated to the Coast Guard are discussed in section 1. C. below.

C. Redeleation Instrument. In 1980, the Coast Guard established an internal policy of limited involvement in hazardous waste site removal activities. Consistent with that policy, the Coast Guard proposed to the EPA that certain response functions assigned to it

1-C (Cont'd) by E.O. 12316 be redelegated to the EPA. EPA and DOT reached agreement and formalized a transfer of responsibilities in October, 1981. Enclosure (2) is a copy of the "Instrument of Redelegation". The provisions of that document have caused some confusion due to the use of the term "immediate removal". Immediate removal is a concept established in Part 300.65 of the National Oil and Hazardous Substances Contingency Plan. Its meaning has changed since the preparation of the redelegation instrument. The Coast Guard interprets the Instrument of Redelegation as follows: (Note that the redelegation instrument applies only to the areas of responsibility assigned to the Coast Guard by E.O. 12316 - the coastal zone, Great Lakes waters, ports, and harbors. The Coast Guard has no CERCLA authority in any other area.)

1. The Coast Guard retains all CERCLA response authorities for releases and threats of releases originating from vessels.

2. The Coast Guard retains the authority to respond to releases and threats of releases originating from facilities, other than hazardous waste management facilities, when such releases require "immediate removal" action. The EPA is responsible for conducting a response when the preliminary assessment indicates no need for immediate removal actions, or when the "immediate removal" is completed and the remaining cleanup involves planned removal or remedial action. (See 4.F.)

3. The Coast Guard retains emergency response authority for releases and threats of releases originating from hazardous waste management facilities but will only exercise that authority when two conditions are met. These conditions are (1) immediate action is required pending arrival on scene of the EPA OSC, and (2) unless otherwise agreed upon by the EPA and Coast Guard, the EPA OSC is scheduled to arrive on scene within 48 hours of notification of the release or threat of a release.

4. Sections b. and c. of the Instrument of Redelegation use the term "hazardous waste management facility". This term includes (1) any hazardous waste management facility as defined in 40 CFR 122.3; or (2) any other site or area where a hazardous substance, pollutant, or contaminant has been deposited, dumped discarded, disposed of, or otherwise come to be located in violation of the regulations by a party responsible for its proper disposal. Questions concerning the scope of this redelegation should be referred to Commandant (G-WER) on a case-by-case basis.

D. Delegations.

1. Subject to the provisions of Executive Order 12316 and the Instrument of Redelegation, the functions which have been delegated to the Commandant have been redelegated as follows:

1-D-1 a. District Commanders:

(1) Contract authority for the purposes of carrying out response actions pursuant to CERC Sections 104 (a), 104(b), 104(f), and 104(g) and consistent with any MDU's in effect between the Coast Guard and EPA regarding funding mechanisms.

(2) Authority, pursuant to CERC Section 106(a), to determine an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from a facility, and to secure such relief as may be necessary to abate such danger or threat through the U.S. Attorney of the District in which the threat occurs.

b. On-Scene Coordinators predesignated by the applicable Regional Contingency Plan:

(1) Authority, pursuant to CERCLA Sections 104(a), 104(b), and 104(c), consistent with the National Contingency Plan, to remove or arrange for the removal of releases and threatened releases of (A) hazardous substances, and (B) pollutants or contaminants which may present an imminent and substantial endangerment to the public health or welfare. This does not include actions that involve the destruction Of a vessel.

(2) Authority, pursuant to Section 106(a), to issue orders to protect the public health and welfare and the environment whenever they determine that a release or threatened release of a hazardous substance from a facility may present an imminent and substantial endangerment to the public health or welfare or the environment.

(3) Authority, pursuant to CERCLA Section 104(e), except for Section 104(e) (2) (C), to enter establishments or other places where hazardous substances are or have been generated, stored, treated, disposed of, or transported from to inspect and obtain records, reports, samples, and information in support of the response actions delegated in subparagraphs D.1.b.(1) and the issuance of orders delegated in D.1.b.(2) above.

2. Each Coast Guard official to whom authority is delegated above may redelegate and authorize successive redelegations of that authority within the command under their jurisdiction with the following exceptions:

1-D-2- a. The authorities granted in subparagraphs D.1.a.(2) and D.1.b.(1) above shall not be redelegated.

b. The authority granted in subparagraph D.1.b.(2) shall only be redelegated to commissioned officers and warrant officers.

CHAPTER 2. OUTLINE OF COAST GUARD REMOVAL AUTHORITY

A. Comparison of CERCLA with Section 311 of FWPCA. The response provisions of CERCLA in many respects parallel those of section 311 of the FWPCA. Both statutes require notification by the responsible party of a hazardous substance release, authorize a Federal response which is not dependent on the cause or quantity of a release, utilize the National Contingency Plan (NCP) as the blueprint of the Federal response organization, create a special fund to support government response costs, and establish liability for government response costs subject to certain defenses. There are, however, major differences between section 311 of the FWPCA and CERCLA; and these are associated primarily with the scope of the response jurisdiction each statute provides. The FWPCA recognizes discharges of oils and of hazardous substances designated under section 311(b) (2)(A) - presently, 297 chemicals. CERCLA provides no authority for response to releases of oils, but it adopts without exception hundreds of substances listed or characterized as hazardous under four other environmental statutes and creates a broad generic category, "pollutants or contaminants", to deal with hazardous chemicals not formally designated as hazardous. The FWPCA permits response only to discharges which threaten certain surface waters; CERCLA jurisdiction encompasses all environmental media - air, land, groundwater, and all surface waters. In addition to establishing broader response jurisdiction, CERCLA provides the OSC with a wider array of tools to deal with pollution incidents than does section 311. Primarily, it relies, as does section 311, on the spectre of potential liability to motivate removal by responsible parties; but, for certain classes of releases, it also empoers the OSC to issue administrative orders compelling corrective measures by the responsible party.

B. Elements of Jurisdiction sec. 104 (a). Section 104 of the Act authorizes a federal removal for a pollution incident when the following conditions exist. (Chapter 3 includes specific discussions of the underlined terms.)

1. The pollutant is a hazardous substance, or it is a pollutant or contaminant which may present an imminent and substantial danger to the public health or welfare.

2. The pollutant is released or there is a substantial threat of such a release into the environment.

3. The responsible party is not taking proper removal actions.

An OSC must determine that each of the elements of jurisdiction exists before initiating a removal. Where doubt exists on the identity of a substance, initiating action under the pollutant or contaminant authority should be considered. Section 4. B. discusses this.

2-C. Exercise of Removal Authority.

1. The exercise of the federal response authority provided by section 104 of the Act is discretionary. The statute reads, "the President is authorized to act...to remove". Consequently, the OSC should not view the elements of jurisdiction as some manner of formula which, if complete, requires Federal action. There are, in fact, three considerations in addition to the matter of jurisdiction which should influence a decision regarding the need for federal removal. The first of these is a determination (by the OSC) that the harm or potential harm posed by the release is significant. (See 4. A. 2.) The use of this criterion is consistent with FWPCA response guidelines. The other two considerations are peculiar to CERCLA. One is derived from the broad scope of the Act which encampasses incidents ranging from classic spills to low level chronic problems not requiring immediate attention. As a matter of policy, the Coast Guard will only conduct removal operations for those releases which demand prompt action if they are to be controlled and their associated damages mitigated. (See 4. A. 1.) When the OSC judges that a release does not require prompt removal, the matter should be referred to the EPA for consideration under two more deliberate response mechanisms known as planned removal and remedial action.1 The final consideration is the appropriate-ness of utilizing an administrative order to compel removal by the responsible party in lieu of initiating a government operation. Section 106(a) of the Act provides the government with extensive authority to issue such orders whenever the release, or threat of a release, of a hazardous substance (but not a pollutant or contminant) may pose an imminent and substantial endangerment to the public health or welfare or to the environment. Incidents which are characterized by the two considerations noted above - significant harm and the need for prompt action- typically meet this imminent and substantial endangerment constraint. (See 5. A.) Section 106(a) provisions apply only to actual or threatened releases which originate from facilities.

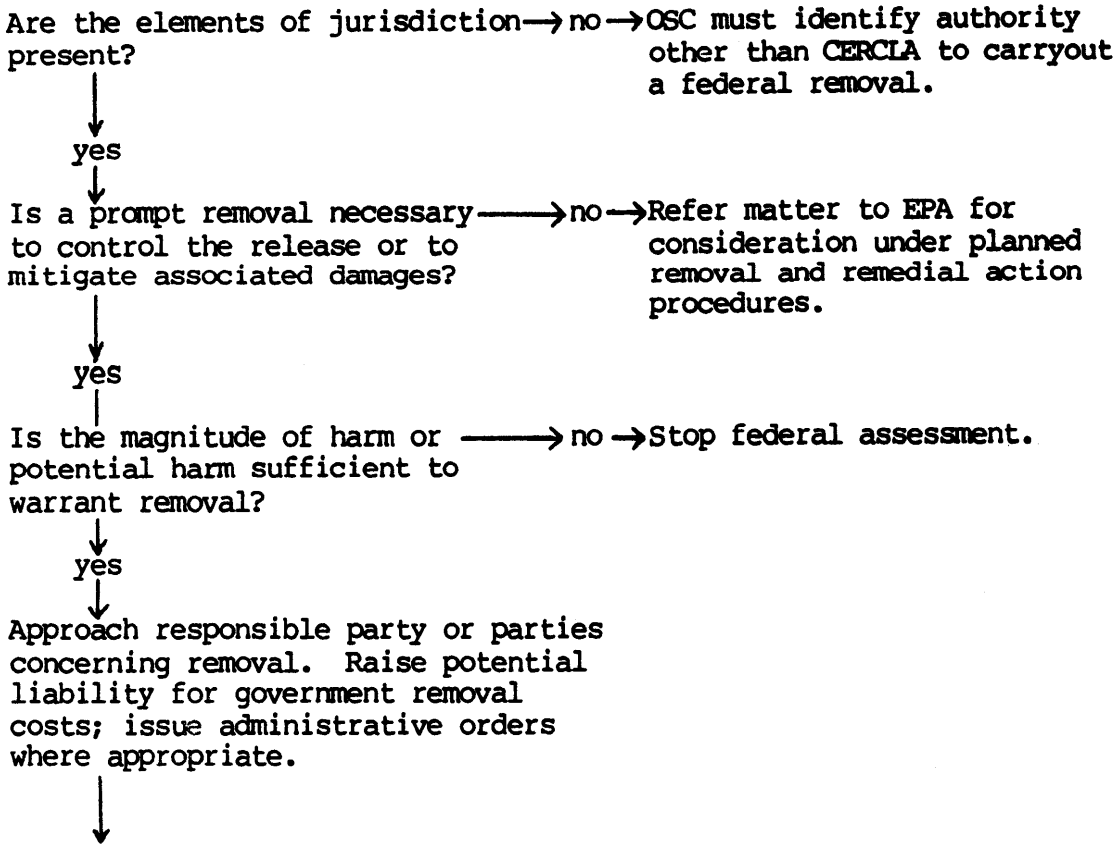
2. The OSC's determination of the appropriate extent of a Coast Guard removal is guided by considerations and requirements similar, but not identical, to those which apply to initiating a removal. As a general rule, the OSC should pursue a cleanup until all environmental and public health and welfare concerns have been addressed; that is, the magnitude of the harm posed by the release has been reduced to insignificant levels. (See 4. D. 1.) There are, however, two exceptions to this rule. One concerns those infrequent Coast Guard operations which will eventually require the employment of cleanup tecniques which demand extensive planning or the protracted commitment of

1 The response policies and authority described here, paragraph 2. C. 1., are equivalent to the response mechanism referred to as immediate removal in the revised National Contingency Plan.

2-C-2. (Cont'd) resources. With such incidents the Coast Guard will proceed with the removal until prompt action is no longer necessary and, upon reaching that point, refer the residual contamination problem to the EPA for possible planned removal or remedial action. (See 4. F.) Section 104(c)(1) of the Act is the source of the other exception. That provision prohibits continued response actions beyond six months duration or $1,000,000 expense unless (a) action is immediately required to prevent or mitigate an emergency, there is an immediate risk to the public health or welfare or to the environment, and the necessary assistance will not otherwise be provided on a timely basis; or (b) further action is a state-supported remedial operation consistent with sections 104 (c) (2) and (3). Should the constraints of section 104(c)(1) require the OSC to stop a removal and a serious contamination problem remains, the initiation of a state-supported remedial action should be pursued with EPA. (See 4. D. 3.)

3. The following is an outline of the various determinations, cited above, which an OSC must make in judging the appropriateness of a federal removal. The sequence is deliberate. For those releases not requiring prompt attention, the Coast Guard OSC is not the responsible federal official for determining whether a planned removal or remedial action should be initiated. Also, the OSC will not issue administrative orders requiring corrective measures for such releases.

Elements of Jurisdiction



Does the responsible party take proper removal actions? → yes → Monitor to insure adequate removal.

↓ no

Initiate federal removal.

↓

Will the removal require more than 6 months duration or one million dollars cost? → yes → As per section 104(c)(1) provisions (see 4.D.3.), pursue removal until prompt actions are no longer necessary to control the release or there is no longer an immediate risk to public health, or welfare or the environment or adequate assistance from some other source has been provided, whichever occurs first. If serious contamination remains after securing removal, refer matter to EPA.

↓ no

Can all environmental and public health and welfare concerns be addressed without use of cleanup techniques which require extensive planning or a protracted commitment of resources? → no → Pursue removal until prompt actions are no longer necessary to control release or the harm posed is no longer significant whichever occurs first. If serious contamination remains after securing removal, refer matter to EPA. (See 4.D.2.)

↓ yes

Pursue removal until the magnitude of the harm posed by the release is no longer significant.

CHAPTER 3. DISCUSSION OF TERMS

A. Release sec. 101(22).

1. The basic definition is a simple list of various kinds of emissions and includes a specification that the emission be into the "environment", a term defined by the Act and discussed in section 3. B. It does not require that the release originate from any particular source or that it be the result of any type of occurrence. The definition does contain four exclusions, two of which need clarification.

    a. Workplace Exposure Exclusion sec. 101 (22) (A): The intent of this section is to exclude from compensation through the Response Trust Fund and from liability under section 107 an injury which is compensated through worker's compensation law. It has no function with respect to Coast Guard response authority.2

    b. Exclusion for the Normal Application of Fertilizer sec. 101(22)(D) : This is limited to the addition of fertilizer to crops and cropland and does not include any dumping or spilling, whether accidental or intentional, in any other place or in significantly greater concentrations or amounts than are beneficial to crops.3

2. Two other matters - consumer products in consumer use and pesticides - warrant special discussion.

    a. The definition of "facility", section 101(9), excludes consumer products in consumer use, thus exempting releases originating from this source from the response authority of the Act.4

    b. Section 103(e) exempts the application of pesticide products registered under the Federal Insecticide, Fungicide, and

2 Senate Report 96-848, 11 JUL 1980, p. 94

3 Senate Report 96-848, 11 JUL 1980, p. 46

4 CERCLA does not define the term consumer product in consumer use. For the purposes of sections 104 and 106 of the Act, the Coast Guard adopts the following definition:

> The term "consumer product in consumer use" means any article serving a personal, family, or household use while being used for that purpose in a manner which diminishes or destroys its utility.

Practical examples of releases recognized by this definition are the domestic use of pesticide products, fertilizers, and detergents.

3-A-2-b. (cont'd) Rodenticicle Act from CERCLA notification requirements.5 Section 107(i) provides a oomplementary exemption for liability provisions. Neither of these exemptions extend to the response provisions of the Act. The legislative history establishes that Congress intended to preserve the Federal response authority of the ACt to address problems arising from the routine use of pesticides.6 The Commandant does not expect OSCs to routinely investigate the application of pesticides. However, in the unlikely event that OSCs become aware of a serious problem caused by routine and legal use of pesticides, they may respond to that incident under the authority of the Act and utilize the Response Trust Fund to support corrective measures. OSCs shall, of course, treat non-routine releases of pesticides, such as those resulting from tank failures, transportation accidents, deliberate dumping, and other typical spill events, as they would other releases.

3. The Act defines "federally permitted release" in section 101(10). For the purposes of this directive, this term requires no discussion except to note that CERCLA does authorize response to federally permitted releases. The Response Trust Fund supports federal removal costs for such operations, even though no liability exists under section 107 of the Act for those costs. However, since no liability exists, administrative orders of the sort referred to in 5. B. 1. b. and c. and 5. B. 2, may not be issued.

B. Environment sec. 101(8). As defined by the Act, "environment" includes the following:

1. navigable waters: The applicable definition, provided by section 502(7) of the FWPCA, is "the waters of the United States, including the territorial seas.". The Coast Guard has described the phrase "waters of the U.S." in 33 CFR 2.05-25(b); the EPA in 40 CFR 117.1(i). Consistent with past interpretations made in relation to operations, sewers, culverts, and drainage piping are "waters of the U.S." when there exists a continuous flow of water to a natural, flowing tributary and the particular pollutant responded to is not removed by any fixed treatment facility which may be in place.

2. the waters of the contiguous zone: 33 CFR 2.05-15 defines the contiguous zone as "the belt of high seas, 9 nautical miles wide, that is adjacent to and seaward of the territorial seas of the United States and that was declared to exist in Department

5 Congress intended that the notification and penalty exemptions for pesticide products be limited to "routine field application". (S. Rep. 6-848 at p. 50)

6 Senate Report No. 96-848, 11 JUL 1980, p. 44

3-B-2 (Cont'd) of State Public Notice 358 of June 1, 1972, 37 FR 11906".

3. the ocean waters of which the natural resources are under the exculsive management authority of the United States under the Fishery Conservation and Management Act (FCMA) of 1976: Section 102 of Title I to the FCMA (P.L. 94 -256) describes the natural resources.

4. any other surface waters: Essentially, these are any surface waters within the U.S. or under the jurisdiction of the U.S. which are not "waters of the U.S.". The term surface water does not refer to the upper layer of a particular body of water. Rather, it refers to waters, at any depth, of lakes, streams, rivers, and the ocean as opposed to ground waters.

5. any ground water: Section 101(12) of the Act sufficiently defines "ground water".

6. any drinking water supply: Section 101(7) of the Act defines this as "any raw or finished water source that is or may be used by a public water system (as defined in the Safe Drinking Water Act) or as drinking water by one or more individuals". This definition recongnizes virually all water sources which may be used by humans for drinking.

7. any land surfaces: This includes artificial surfaces external to buildings.

8. any subsurface strata: The Act does not define subsuface strata, and the Coast Guard places no restrictions on interpretations made by the OSC during a response.

9. any ambient air: The Act does not define ambient air, nor does it adopt a definitition by reference. The Coast Guard interprets "ambient air" to mean that portion of the atmosphere which id external to enclosed spaces (i,e., building and vessels).

1, 2, 3 above comprise the same breadth of juridiction as that provided by section 311 of the FWPCA, with the exception that releases orinating from outer continental shelf and deepwater port activites are not specifically recognized by CERCLA. See section 4. C. concerning response to releases occuring within buildings and onto artficial surfaces such as highways and parking lots.

C. Hazardous Substance. CERCLA provides for the identification of hazardous substance in two ways: it empowers the Administrator of the EPA to designate substances as hazardous (sec. 102(a)), and it includes substances listed of characterized as hazardous under four other enviromental status (sec. 101(14)). With regards to the hazardous substances included in the four statues, enclosure (3) provides a list of pertinent chemical compounds. Unfortunately, this is not all inclusive. The difficulty is that two of the statutes recognized by the Act for the idenfication of hazardous substances, section 307 (a) of the FWPCA and section 3001 of the

3-C.(Cont'd) Solid Waste Disposal Act (SWDA)7 characterize substances as hazardous in such broad ways that it is not practical to list all of the chemicals of interest. The follwing discussions outline how response personnel should deal with this circumstance.

1. Toxic Pollutants Listed Under Section 307 (a), FWPCA: The reference to section 307(a), FWPCA, incorporates 65 specific compounds and classes of compounds, known as the Consent Decree Pollutants, into the definition of hazardous substances.8 Enclosure (3) includes the section 307(a) compounds, but not all chemical compounds belonging to the various generic classes. That would have involved the addition of a prohibitive number of substances. Instead, it lists the 126 substances, derived from the Consent Decree Pollutants, for which the EPA has developed effluent standards under its permitted discharge program. (These 126 substances are commonly referred to by the EPA and by industry as the "priority pollutants".) OSCs should recognize that this does not oomprise a c0mprehensive listing of those section 307 (a) substances that can present a pollution hazard. When they encounter a release of a substance which is not specifically listed in enclosure (3), they should investigate whether the section 307(a) reference provides jurisdiction. That effort would not involve laboratory analysis, but simply a determination through the use of a chemical information source of the generic class to which the pollutant belongs. Enclosure (3) lists and notes the section 307(a) generic classes.

2. Hazardous Wastes Having the Characteristics Identified Under or Listed Pursuant to Section 3001, SWDA:

   a. 40 CFR 261, a regulation promulgated under the authority of section 3001 of the SWDA, describes the substances to which this reference extends jurisdiction. These fall into two different groups. The first oomprises those solid wastes listed as hazardous wastes in subpart D of 40 CFR 261. When reviewing 40 CFR 261, note that subpart D actually provides four discrete lists. Two of these, 40 CFR 261.31 and

7 The Resource Conservation and Recovery Act (RCRA) is the 1976 amendment to the SWDA.

8 The purpose of section 307 (a) of the FWPC is to provide the EPA with authority to promulgate effluent standards for toxic pollutants. In the mid-70's, various environmental organizations brought suit against the EPA in an effort to force the Agency to take action under section 307(a). A settlement agreement was reached on 7 June 1976; and, as part of that settlement, the EPA agreed to develop standards for 65 specific compounds and classes of compounds. It is these substances, known as the Consent Decree Pollutants, which are incorporated by the CERCLA reference to "any toxic pollutant listed under section 307 (a) of the FWPCA ". 40 CFR 401.15 lists the Consent Decree Pollutants, referring to them as "toxic pollutants".

3-C-2-a. (Cont'd) 261.32, include only process wastes. The other two, 40 CFR 261.33(e) and 261.33(f), contain chemical products and manufacturing intermediates which are considered hazardous wastes when spilled or discarded. Enclosure (3) includes the chemical products and manufacturing intermediates identified in subpart D; concerning the process wastes, response personnel should refer to the lists in 40 CFR 261.31 and 261.32. The second group of substances to which section 3001 extends jurisdiction is those hazardous wastes exhibiting one or more of the four hazard characteristics identified in Subpart C to 40 CFR 261. Subpart C does not list any hazardous wastes. It only describes the hazard characteristics by which a waste is judged hazardous under that subpart. Enclosure (3) also does not list all hazardous wastes exhibiting subpart C characteristics; the hazard criteria are so broad that the preparation of even a representative listing would be a very substantial undertaking. As a consequence, the OSC will have to determine, on a case by case basis, whether or not a pollutant is a hazardous waste according to the subpart C criteria. Enclosure (4) provides some basic guidelines which OSCs may find useful in that effort.

b. One aspect of the CERCLA reference to section 3001 of the SWDA which may cause confusion is the specification that the pollutant be a hazardous waste. CERCLA does not use "hazardous waste" in the general sense but adopts the SWDA definition for that term.10 This definition specifies that

9 There is some overlap between subpart C and subpart D hazardous wastes. The EPA uses three criteria for listing wastes in subpart D, and one of these is possession of a subpart C hazard characteristic. However, at the present time only a very small percentage of the waste materials that exhibit subpart C hazard characteristics are listed in subpart D.

10 Section 1004 of the Solid Waste Disposal Act (P.L. 94-580) defines "hazardous waste" as:

> The term "hazardous waste" means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may-
>
> (A) cause, or signficantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or
>
> (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

3-C-2-b. (Cont'd) hazardous waste must first be a "solid waste", which the SWDA also defines.11 For the purposes of this directive, two elements of the solid waste definition require discussion. First, a solid waste may be solid, semisolid, liquid, or gaseous. Second, a material becomes a solid waste when it is "discarded". Consistent with RCRA regulatory requirements, the Coast Guard considers a material to be discarded when it is released. As a consequence, a chemical product, feedstock, or manufacturing intermediate (non-waste) becomes a solid waste upon being released into the environment; and, if that released substance can be judged a hazardous waste according to 40 CFR 261, it has become a CERCLZA hazardous substance upon release.

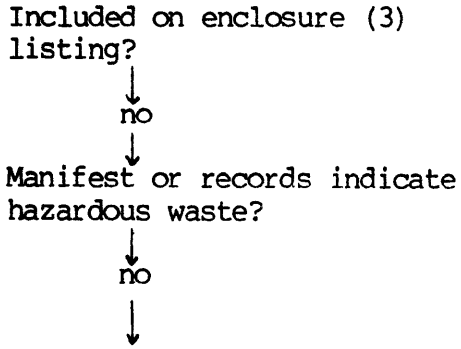
c. The matter of chemicals becoming hazardous substances only upon release indirectly raises the question of substantial threats. Consider a substantial threat of the release of a non-waste that exhibits a subpart C characteristic and that is not a hazardous substance under any other provision of CERCLA. Does the Coast Guard have response jurisdiction? (Is there a substantial threat of a release of a hazardous substance?) The answer is dependent upon the OSC's judgement of the circumstances that would result from the release of the non-waste. For instance, if the release occurred, any migration of the spilled material, including volatilization, from the original point of release would constitute the release of a hazardous substance. Thus, if there is a reasonable possibility that the above scenario would occur, then the OSC may judge that a substantial threat of a release of a hazardous substance exists. Admittedly, this is an extended line of reasoning; and a simpler approach would be to treat such an incident as a substantial threat of a release of a "pollutant or contaminant", should that authority be available. However, as is discussed in section 3. D., the "pollutant or contaminant" removal <u>authority</u> is not as extensive as that for hazardous substances; and, on occasion, the OSC may have need to pursue removal based on a determination that a

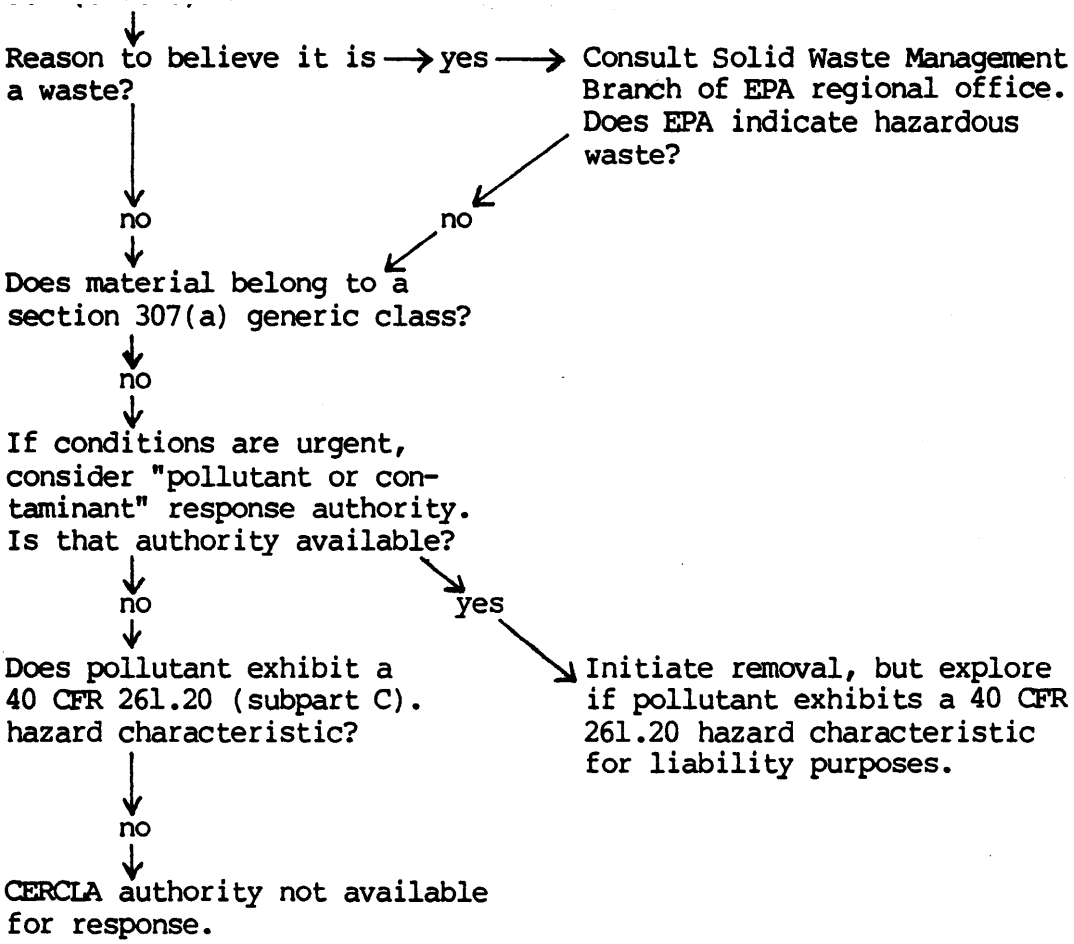
11 Section 1004 of the SWDA defines "solid waste" as:
The term "solid waste" means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

3-C-2-c. (Cont'd) substantial threat of a release of a hazardous substance exists.

d. The requirement that the released material be a hazardous waste, if it is to be considered a hazardous substance, may often be the pivotal factor in the determination of response jurisdiction for a material that exhibits a subpart C hazard characteristic. The magnitude of several of the subpart C hazard characteristics, in particular flammability and corrosivity, will change when the release results in dilution with water or mixture with soil. Consequently, when determining jurisdiction, the OSC must consider whether or not a released substance had been a waste prior to its release into the environment. If it had not, then subpart C hazard criteria must be applied to samples of the spilled material, and this may require chemical analysis. If, on the other hand, it had been a waste before its release into the environment, then the task is much simpler. For the purpose of providing jurisdiction, a waste need only exhibit a specified hazardous characteristic at the time of release. Loss of a preexisting hazardous characteristic subsequent to release may influence an OSC's decision regarding the need for a removal operation, but it does not alter authority to conduct that operation. In most cases the OSC will easily be able to determine if, before release, the material had been a waste exhibiting a subpart C characteristic. The hazardous waste management regulations, ly referred to as the RCRA regs, establish manifesting and record keeping requirements for the transport, storage, and disposal of wastes exhibiting any of the subpart C characteristics. See 40 CFR 262.20, 263.20, and 265.70; also exceptions, 40 CFR 261.5. (These same requirements apply to wastes listed in subpart D.)

3. The above discussion sequentially reviews the pertinent provisions of the various authorities referenced by the hazardous substance definition. This is the least confusing for introduction to the topic, but is is not an efficient method for determining if response jurisdiction exists for a release. Ideally, the OSC will first explore the criteria which require the least amount of time and funding and, failing there, proceed to the more involved criteria. Along that line, the following is a suggested approach.





In those instances in which the OSC cannot readily determine if the pollutant is a hazardous substance, the OS(2 may conduct response operations in accordance with the guidelines provided in sections 3. D. and 4. B.

4. When new chemicals are added to the various lists incorporated by the hazardous substance definition, they automatically become hazardous substances. OSCs therefore must keep abreast of additions as notice is given in the Federal Register. This exercise will become simpler in the future; the EPA intends to eventually publish in a common regulation a comprehensive listing of the substances adopted by the definition (101(14)) and the substances designated under section 102 of the Act. Until such time as that occurs, Commandant will annually update the enclosure (3) list of hazardous substances.

D. Pollutants or Contaminants sec. 104 (a) (2) .

1. During the 1970's the designation of recognized hazardous substances pursuant to section 311(b) (2) (A) of the FWPCA proved to be a lengthy and uncertain process. Allowing for possibility of a similar occurrence concerning CERCLA designations, Congress

3-D-1. (Cont'd) provided response authority in section 104(a) of the Act for a broad category of substances, known as pollutants or contaminants which need not be designated as hazardous substances. Section 104 (a) (2) describes a pollutant or contaminant in a detailed but open ended manner. It may not be petroleum, natural gas, etc. However, it includes, but is not limited to:

(1) any element, substance, compound, or mixture including disease-causing agents which, after release, and upon

(2) exposure, ingestion, inhalation, or assimilation into any organis, either directly or indirectly (by ingestion) through the food chain, will cause or may reasonably be anticipated to cause

(3) death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformities in that organism or its offspring.

For practical purposes this concept of "pollutant or contaminant" is limited by another provision of. Section 104(a)(1)(B) allows Federal action only for those pollutants or contaminants which may present an imminent and substantial danger to the public health or welfare. Thus, the pollutant must be one which could harm human health or the health of organisms which contribute to the public welfare, such as livestock, fishery resources, or wildlife populations associated with a recreational activity.

2. Note the way in which section 104(a)(1)(B) refers to releases of pollutants or contaminants. The phrase "which may present an imminent and substantial danger to the public health or welfare" modifies "pollutant or contaminant", not the release. This is significant. While the pollutant must be a substance which may be harmful to the public health or welfare, response jurisdiction exists independent of whether the release itself poses such a threat. For example, consider a substance which is (or may be) acutely toxic to human but is not a designated hazardous substance. Federal removal authority would exist for a release of that substance, as a pollutant or contaminant, even if the release occurred in a remote area and the only concern was for possible environmental damage.12

3. Subject to the limitation of section 104(a)(1)(B), the "pollutant or contaminant" provisions of CERCLA provide the OSC

12 This response authority framework parallels that for hazardous substances. Generally, a substance is designated as hazardous on the basis of a single, narrow criterion (e.g., aquatic toxicity for section 311, FWPCA hazardous substances). However, the OSC judges the need for removal of a released hazardous substance according to the magnitude of whatever harm may be posed to the environment or to the public health or welfare. The OSC does not narrow deliberations to only consider the specific hazard which led to the pollutant being designated as a hazardous substance.

3-D-3. (Cont'd) with the authority to respond to releases and threats of releases of substances that are not designated as hazardous but which are recognized as being harmful. To a lesser extent they also allow him to deal with releases and potential releases when the pollutant is unidentified and immediate action is required. **In exercising this authority, the Commandant does not** intend for OSCs to conduct extensive investigations of released chemicals in an effort to discover if they pose sane manner of subtle threat to the public welfare. If there is a release or potential release of an unidentified substance and that incident poses an obvious threat to the public welfare, the OSC should utilize the section 104(a)(1)(B) authority to deal with the incident. If the identity of the pollutant is known and the substance is not a "hazardous substance", then the OSC should proceed in the following manner. First, using standard information sources, the OSC should consider whether the pollutant is hazardous because of possible acute or latent toxicity to humans. Second, the NRC should be requested to check if the substance is a known or suspected human carcinogen, mutagen, teratogen, or a substance which causes neoplasms (abnormal cell growth), four health hazards poorly covered in common references. The NRC has access to several computer data base systems which contain this information. If this effort provides little information concerning the hazardous nature (or lack thereof) of the substance, then the OSC should consult with the manufacturer, the ERT, and local sources of expert information.

4. The Response Trust Fund is available to support government removal costs incurred for releases of pollutants or contaminants; however, the responsible party is not liable for those costs. Consequently, the OSC must fully explore the possibility that the pollutant may be a hazardous substance when conducting a government removal under the pollutant or contaminant response provisions. That investigation should not delay initiation of necessary removal actions, but it should be accomplished as quickly as circumstances permit.

E. Substantial Threat. The term substantial threat, as it is used with respect to releases, means that the threat is real: that there is a reasonable probability a release will occur, and that it will occur in the near future. It does not refer to the magnitude of the effect of a release. The OSC alone may make the determination that a substantial threat exists. Typically, that entails a judgement of the material condition of a storage/transport container; but, on rare occasions, the OSC may find that the likelihood of a fire or explosion which threatens to cause a release is a substantial threat. Under this concept of "substantial threat" (the same as that employed by the FWPCA), the "threat of a release" judgement is the critical element in the determination. For example, if a designated hazardous substance is contained in a storage tank, the proximity of a sensitive habitat or of local residences is not sufficient justification for concluding that a substantial threat is present. The OSC must first determine that the integrity of the tank, due to deterioration or some other factor, is such that its

3-E (Cont'd) failure resulting in a release is likely.

F. Removal sec. 101(23) . The definition of removal is essentially a synthesis of the two general categories of response actions which OSCs routinely carry out under the FWPCA: containment, recovery, and disposal of the pollutant; and mitigation measures. In addition, it includes a response action not authorized under other environmental statutes, the temporary evacuation and housing of threatened individuals. For the purposes of this directire, three types of removal actions require specific discussion.

1. Temporary Evacuation and Housing: Although included within the definition of removal, this action is not one which Coast Guard OSCs may undertake when responding under the Act; E.O. 12316 delegates the authority to temporarily evacuate and house threatened individuals exclusively to the Federal Emergency Management Agency (FEMA). When, during a response, an OSC decides that the evacuation of local residents would be prudent, the OSC shall so notify the appropriate local agency and the FEMA member of the RRT in accordance with the provisions of the Regional Contingency Plan. Under the authority of the Port & Tanker Safety Act, a COTP may carry out a broad range of activities, including evacuation of the general public from coastal waters, navigable waters, and the immediate waterfront. However, because no funds are programmed to support such actions, COTPs will, if time permits, request to undertake all evacuations in these areas necessitated by releases of hazardous substances or of pollutants or contaminants. This guidance in no way is meant to prohibit a COTP from providing whatever general assistance can be offered to local authorities in the event of an emergency in a port area or on a navigable waterway.

2. Damage Assessment & Restoration Activities: The Coast Guard does not conduct damage assessment for the purpose of preparing a claim for damages against the Response Trust Fund, and it does not carry out restoration activities for damages to natural resources caused by releases. CERCLA authorizes such activities, but not under the statute's response provisions. Within the context of the removal, however, response personnel may conduct activities of a similar nature. The OSC may carry out limited damage assessment actions to establish priorities for cleanup in the event that numerous areas are impacted by a large release. The OSC may also conduct damage assessment in support of efforts to determine the appropriate extent of a removal. With regards to restoration, the OSC may repair unavoidable damages to natural resources and to private property when those damages result from necessary removal actions. For example, if an OSC judges an area of soil contaminated by a release to be a threat to the environment or to the the public welfare, the OSC may remove it and then add clean soil and sod the area, as necessary, to prevent erosion that otherwise would result from the OSC's actions. However, if the OSC decides that an area of contaminated soil does not pose a threat warranting

3-F-2. (Cont'd) removal, the OSC may not replace the soil and sod the area even though the release has damaged vegetation and an erosion problem is likely,

3. Although the provisions of the Act do not specifically address it, the Federal government may exercise some control over non-Federal activities and property at the scene of a release. Chapter 6 discusses the nature and extent of this authority.

CHAPTER 4. RESPONSE OPERATIONS

A. Initiating a Federal Removal. E.O. 12316 defines the Coast Guard geographic area of responsibility for pollution response as the coastal zone (specified in the Regional Contingency Plan), Great Lakes waters, ports, and harbors. Assuming jurisdiction exists, a Coast Guard OSC should initiate a Federal removal within this area whenever it is determined that the following conditions exist: (1) prompt action is required to control a release or to mitigate associated damages; (2) the magnitude of the harm which may be presented by the release warrants removal; and (3) use of an administrative order to require removal by the responsible party is inappropriate, or, if appropriate, proves unsuccessful. (Regarding this last condition the OSC may also initiate action if an order is stayed pending appeal.) The following paragraphs address conditions (1) and (2). Chapter 5 discusses administrative orders.

1. Need for Prompt Action: Coast Guard policy is that OSCs shall only respond under the extensive authority of CERCLA to those releases and threatened releases which require "prompt" removal action if they are to be controlled and their associated damages mitigated. Note that under this criterion for response the trigger is not the immediacy of the effect of the release, but the time required to initiate an effective removal or to prevent harm. For example, when responding to a grounded tank vessel, the OSC should allow for the lead time necessary to obtain a lightering vessel and not delay removal efforts until a breakup is imminent. In like manner, if a hazardous substance spills upon the ground and the hydrogeology of the area is such that it will contaminate the groundwater, the OSC should initiate a removal promptly. The OSC should not delay removal efforts until groundwater contamination has occurred. When an OSC judges that removal of the release may be feasible but that "prompt" removal is not necessary, the incident should be referred to EPA for action. (See 4. F.)

2. Harm Warranting Removal: Enviromental conditions vary widely among spill incidents, and this circmstance has prevented the development of absolute measures of harm for use in cleanup operations. Paragraph 4. D. 1. discusses several standards and guidelines, prepared for other purposes, which have been employed in the past to determine the extent of removal. In theory these same "yardsticks" could be used as criteria for estimating the need for cleanup. As a practical matter, though, most of these "yardsticks" are of limited use in determining harm or potential harm unless the OSC has considerable knowledge of the extent and magnitude of the release. During the initial hours (sometimes days) of most incidents, this is often not the case. As a consequence, in the event of a release of the type described in paragraph 4. A. 1. above, the OSC is most often limited to the following course of action: (1) review the hazard characteristics of the substance released; (2) judge if a material presenting such hazards might cause harm to the enviromnent or to the public health or welfare in the location

4-A-2. (Cont'd) of the release; and (3), based upon the OSC's experience and training, and upon the counsel of Special Forces and of representatives of state and local response organizations, determine if the initiation of a removal is warranted. The following are several basic rules which apply to the OSC's evaluation of the harm presented by a release.

a. Use of CERCLA authorities to prevent harm to the environment is not restricted to easily identified oomponents such as wildlife refuges or parks, but extends to the environment in general.

b. The potential for latent harm to the environment or to the public health or welfare warrants removal as much as the potential for acute harm. For example, the release of a carcinogen or of a toxin that is persistent in the environment and bio-accumulative may be considerably more serious than the release of a flammable substance.

c. A particular quantity of a substance cannot be employed as a strict criterion for evaluating the need for cleanup. A 1000 gallon release in coastal waters may have a smaller impact than a release of a similar quantity into a small stream. In any case, the environment affected by a release must be considered along with the quantity.

B. Acting in Doubt: An OSC need not determine with certainty that a hazardous substance has been released before initiating removal measures under the authority of the Act. In drafting , Congress intended, as they did for operations, that the Federal government act promptly to control releases and, in cases where the identification of the substance is not readily apparent, respond conservatively in favor of the environment and the public health and welfare.13 They provided for this by including the pollutant or contaminant provisions as described in Chapter 3.D. When confronted with an incident where the involved material has not been identified as a hazardous substance and propt action is indicated, an OSC should consider the information available and determine that there is or is not a reasonable basis for believing that a release or substantial threat of a release of a pollutant or contaminant exists. For example, if a release of an unidentified pollutant has resulted in a fish kill, the OSC may respond if he determines that this pollutant may present an imminent and substantial danger to the public health or welfare. (See 3.D.) In making such determinations, OSC's should not be reluctant to use their own best judgement, whether based upon training, experience or common sense. Should response action be initiated, however, it should be followed up as soon as possible with the necessary analyses, tests, or surveys to determine if the material could be classified as a hazardous substance.

13 Senate Report No. 96-848, 11 JUL 1980, p. 56

C. Releases within Buildings, onto Highways, etc: The definition of environment includes land surfaces, which the Coast Guard interprets to include natural surfaces and artificial surfaces external to buildings. When an OSC encounters a release onto a highway, parking lot, etc., it should be dealt with in the same manner as releases onto ground. It has yet to be determined whether the interior spaces of buildings and vessels are included within the concept of "environment". Regardless of the ultimate interpretation, however, Coast Guard policy is that an OSC shall only respond to a release within a building or vessel when that release is the source of an actual or potential release to the exterior. For example, consider a warehouse containing chemical products which has been destroyed by fire. If the contaminated debris resulting from the fire poses a contact hazard to the general public, the OSC should respond, restricting access and initiating a cleanup operation, as necessary.

D. Appropriate Extent of Removal. As a general rule, the OSC should complete any removal operation once initiated. That is, cleanup should be pursued until such time as the presence of the released material has been reduced to a level where the harm or potential harm posed becomes insignificant. There are two exceptions to this guideline: one established by policy, the other by section 104(c) (1) of the Act. The following paragraphs discuss the degree of harm criterion for determining the extent of removal and the two exceptions concerning its use.

1. Degree of Harm: In judging the appropriate extent of a cleanup, a Coast Guard OSC will rarely have occasion to target the operation at some threshhold ooncentration at which the pollutant no longer presents a hazard. The nature of several contain kinds of incidents (e.g., the release of a soluble substance directly to surface waters) prevent that approach. Also, targeting removal at a particular contaminant level is usually not necessary for cleanups of small quantity releases because of the straightforward techniques and modest dimensions of such operations. On infrequent occasions, though, a non-waste site release results in extensive contamination of soil or of bottom sediments and poses a hazard either in place or as a source of secondary releases to surface waters, ground water, or the atmosphere. In such an instance, the OSC is not obliged to remove all presence of the pollutant; at some point in the cleanup, the magnitude of the harm posed by remaining contamination will no longer justify continued removal. No guidelines have ever been specifically developed to answer the question of "how clean is clean?". The OSC must make do with standards developed for other purposes and, where no credible standard exists, resolve the matter on a case-by-case basis according to their best judgement and the counsel of Special Forces, the affected state, and the RRT. The following are standards and guidelines that have been employed in the past to determine the appropriate extent of removal.

4-D-1- a. Air: For practical purposes the Threshold Limit Values (TLVs) promulgated by the American Conference of Governmental Industrial Hygienists and the parallel Permissible Exposure Limits (PELs) established by OSHA are the only available measures of air contamination which can be applied to spill situations. These values, however, are intended for application to the workplace, and they assume two conditions which rarely exist under spill circumstances. One assumption is that the length of exposure does not exceed 40 hours per week; the other is that the target population consists solely of adult males. Because of these assumptions, the OSC must apply safety factors to any TLV or PEL value employed as a measure of the adequacy of cleanup. Coast Guard OSCs should consult state officials, RRT members, the EPA ERT, or NIOSH concerning the magnitude of these safety factors.

b. Surface Waters: In determining the extent of cleanup, the OSC should, as a general rule, select and apply guidelines or standards according to the primary use of the resource. Where an impacted water body serves as a water source for a public or private drinking water system, use the maximum contaminant level (MCL) recognized by the agency with the primary drinking water enforcement authority (or any other guideline recommended by that agency should no MCL exist).14 If such an agency cannot assist, there are other possible sources of guidance concerning drinking water. A water quality standard, developed under section 303 of the FWPCA (see below), may exist. Also, through the ERT, support can be requested from the Health Effects Branch of the EPA Office of Drinking Water. In applying any of these values, the OSC may consider the capacity of existing water treatment facilities to remove the pollutant. Where the water body supports agriculture, recreation, industry, or wildlife conservation, the applicable state water quality

14 The Safe Drinking Water Act (P.L. 95-190) requires the EPA to develop "primary drinking water regulations" specifying maximum contaminant levels (MCLs) for certain substances in public drinking water. Primary enforcement authority has been awarded to those states that have adopted regulations no less stringent than those prepared by the EPA. (At this time the EPA retains primary enforcement authority in the District of Columbia and in the states of Pennsylvania, Iowa, and Indiana.) There are presently 17 Federal MCLs for specific chemicals; the number varies among the states. In addition to the 2Ls, enforcemnt agencies are familiar with the water health effects advisories which the EPA has prepared over the course of the program. These advisories, entitled "Suggested No Adverse Response Levels" (SNARLs), are specific as to substance, and they reconmnd a level at which no adverse health effects would be anticipated in drinking water.

4-D-1-b. (Cont'd) standard is the most credible guideline.15 When employing these standards, however, the OSC should be aware that they are goals and that some, particularly those developed for carcinogens, may be extremely low and not achievable with existing technology. If no standard or criteria exists, the OSC may find that EPA R&D facilities have developed useful data during the preparation of the RCRA regulations and of the reportable quantity values under the FWPCA and CERCLA. In general, the OSC should deal with contaminated sediment as a real or potential source of a release. The OSC should consider taking action when that circumstance results in or threatens a release directly to the water column or in contamination of the food chain.

c. Ground Water: Where there is rapid interchange between ground water and surface waters, the OSC shall deal with the occurrence of contaminated ground water as a source of a release to surface waters. Accordingly, the OSC shall pursue cleanup of the contaminated ground water to the point where surface waters are not adversely affected. (See 4. D. 1. b. above.) When an impacted aquifer supplies water for an industrial or agricultural purpose, or when it is a water source for a public or private drinking water system, the OSC shall deal with the release in the manner described above for surface water incidents. If the impacted aquifer does not fall into any of these categories, the state should supply justification, if any, for a Coast Guard removal and the guidelines for determining the endpoint of that operation. In such instances the OSC should confer with the RRT and Special Forces concerning the need for and extent of removal.

d. Soil: When a release onto land migrates (or may migrate) to contaminate surface waters, groundwaters, or the atmosphere,

15 Section 303 of the FWPCA requires that <u>water quality standards</u> be developed for all surface waters. These standards, all of which are presently prepared by the states, are used in the establishment of the pollutant effluent limitations specified in permits for routine, point-source discharges. A water quality standard consists of two parts. One part is the designated use for which the particular water body is to be protected (e.g., "agriculture" or "fish and wildlife"). The other is either a numerical concentration limit or a narrative statement for the ambient level of the pollutant which must not be exceeded if the designated use of the stream is to be preserved or achieved. Historically, this element of the standard has been derived from the <u>water quality criteria</u> published by the EPA. (Water quality standards are state regulations; water quality criteria are non-binding, technical guidance prepared by the EPA to support development of the standards.) With regards to specific chemical pollutants, water quality standards and criteria exist for the Consent Decree Pollutants and for several other substances.

4-D-1-d. (Cont'd) the OSC shall deal with it as a source of such contamination, employing the removal guidelines for the particular medium impacted. Regarding contact hazards, the proper approach is dependent upon the location of the release. If the incident occurs on property which is not owned by the owner or operator of the source facility and the OSC believes that the release may present a contact hazard, a risk assessment by the EPA ERT should be requested to determine the appropriate extent of removal. When a release which may be a contact hazard does occur on property owned by the owner or operator of the source, the OSC shall do two things: ensure measures are taken to minimize chance contact by the general public and refer the matter to the Solid Waste Management Branch of the appropriate EPA Regional Office for RCRA enforcement action.

e. Reportable Quantities: The reportable quantity values established by regulation and by statute provide the OSC with the option to respond. They do not influence response jurisdiction. Furthermore, they may not be an accurate indicator for judging if removal is necessary or, when initiated, complete.

2. Policy on Employment of Substantial Cleanup Techniques: As long as a release poses a significant degree of harm, a Coast Guard removal shall always proceed at least to the point where prompt removal actions are no longer necessary. Once that point is reached, however, further action is dependent upon the nature of the cleanup techniques that would be employed to completely eliminate any remaining threat of harm warranting removal. As a matter of policy, Coast Guard removals requiring the use of "substantial cleanup techniques" shall be secured once the OSC judges that the immediate and significant risk to human health or to the environment has been abated or until the Coast Guard can no longer dedicate the required resources. For the purpose of this discussion, "substantial cleanup techniques" are those infrequent incidents requiring extensive pre-planning or a protracted committment of resources. Examples of this would include soil sampling, analysis, and removal and extensive groundwater sampling, monitoring, and cleanup. When, as a result of this policy, an OSC intends to secure a removal operation, the Regional EPA OSC shall be contacted to arrange for assption of control over the removal operation. (See 4. F.) This policy notwithstanding, the OSC should properly dispose of all collected wastes prior to the curtailment of a removal. (But see 4. E. 2. below.) In like manner, the OSC should not secure a cleanup if conditions requiring a renewed Coast Guard operation would likely reoccur as a result of the termination.

3. Section 104(c) (1) Provisions:

a. Section 104(c)(1) of the Act prohibits the continuation of a Fund supported response operation beyond $1,000,000 expense

4-D-3-a. (Cont'd) or six months duration unless (A) it is found that (i) continued response actions are immediately required to prevent, limit, or mitigate an emergency, (ii) there is an immediate risk to public health or welfare or to the environment, and (iii) such assistance will not otherwise be provided on a timely basis; or (B) it has been determined the appropriate remedial action pursuant to CERCLA section 104(c) (2) and the State or States in which the source of the release is located have cplied with the requirements of CERCLA section 104(c)(3).16 The $1,000,000 limit applies not just to response costs incurred by the OSC, but also to response costs incurred by other Federal agencies involved in the response, such as NOAA SSC activities and temporary evacuations and relocations conducted by FEMA. Section 104(c) (1) should not have a significant impact on Coast Guard operations. The majority of the chemical releases that Coast Guard OSC's respond to do not involve removal operations exceeding six months duration or $1,000,000 cost. And even on those infrequent occasions when they do, section 104(c)(1) will not likely cause any radical redirection of the OSC's efforts since immediate risk will probably still remain a factor. These subjective judgements are not dissimilar to those which Coast Guard policy directs the OSC to make before any removal is initiated. They do require, however, that an OSC secure a removal operation when the need for prompt or immediate action has been relieved. When this occurs and there remains a serious residual contamination problem, the OSC shall refer the case to EPA for consideration under the remedial action mechanism.

b. Section 104(c)(1) requirements do not apply to investigation, information collection, surveys, testing, monitoring, and other such activities authorized by section 104(b) of the Act for the identification of the extent, source, and nature of a release and of the magnitude of the threat posed by it. Thus, these activities are not chargeable against the funding or time limitations.

c. It is the responsibility of the OSC to determine whether or not the requirements of section 104(c)(1) affect the continuation of a removal operation and to initiate an exemption request to the Administrator of the CERCLA Fund if the situation warrants continuation of the immediate removal past the 6 month/S1,000,000 limit.

16 Congress incorporated this provision in an effort to channel lengthy and costly cleanups of uncontrolled waste sites into joint Federal/State remedial actions. Note, however, that the provision applies to releases in general, not just to those which originate from waste sites.

4-E. Removal Techniques.

1. As a general rule a Coast Guard OSC's operation should ultimately remove the pollutant from the environment as opposed to isolating or containing it in place. This is to prevent, where possible, the need for a subsequent planned removal or remedial action, the cost of which would be exascerbated by failure to continue, and possible reoccurrence of conditions requiring a renewed "prompt" removal operation by the Coast Guard. When, due to policy (4. D. 2.) or statutory (4. D 3.) requirements, the OSC must secure removal and leave a serious residual contamination problem, containment is appropriate as a goal of the operation to firmly stabilize the conditions at the scene of the release.

2. For facilities, if removal occurs on property owned or leased by the responsible party and the operation generates sizable quantities of containerized wastes which cannot be readily disposed of, the OSC does not necessarily have to pursue disposal of that waste material as part of the Coast Guard removal operation. The OSC should first attempt to compel disposal by the responsible party through use of an administrative order. Should that effort fail or the use of an administrative order be inappropriate (see 5. A.), the OSC should consider if the containerized waste in itself poses a substantial threat of a release. If it does not, then the OSC should refer the matter to the Regional EPA Solid Waste Management Branch for enforcement action.

F. Referring Releases to EPA. There are four occasions on which it is proper for a Coast Guard OSC to refer a release to the EPA for action.

1. Releases Originating from Hazardous Waste Management Facilities: Consistent with the redelegation instrument (enclosure 2), a Coast Guard OSC refers hazardous waste management facility releases not demanding immediate attention to the appropriate EPA Regional Office. When immediate action is required, the 0SC may initiate removal (usually containment) pending arrival of the EPA OSC on scene subject to certain conditions. (See 1. C.) As a practical matter, should a small quantity of a hazardous substance falling within the definition of a hazardous waste management facility be contained in a limited area, such as might occur in a "midnight dump", the Coast Guard OSC is authorized to pursue the removal action to completion. In any case the OSC will docnent by message or letter POLREP, as appropriate, the referral of the release or the transfer of management of the cleanup to EPA.

2. Releases Not Requiring Initiation of an Immediate Removal Action: As discussed in paragraph 4. A. 1., the Coast Guard OSC will only initiate removal for releases that require prompt action. Where prompt action is not required and removal may be feasible, the OSC will refer releases to the EPA Regional Office

4-F-2 (Cont'd) for possible planned removal or remedial action. The OSC will document the referral by POLREP. The Coast Guard OSC should be aware that the administrative procedures for planned removal and remedial action will require that these referred releases compete for funding against the multitude of uncontrolled waste sites existing across the country. It should be noted that EPA can only take remedial actions at those sites included on the National Priorities List. As a consequence, it is unlikely that the EPA will respond to a referred release which impacts a limited area. This is significant. A Coast Guard OSC must deal with a referred release if, because of deteriorating conditions, an immediate removal action becomes necessary before a planned removal or remedial action is initiated. Coast Guard OSCs should recognize this circumstance when they refer releases to the EPA for action.

3. Removals Secured Due to Sec. 104(c)(1) Requirements: On rare occasions section 104(c)(1) provisions will require a Coast Guard OSC to secure removal before all serious contamination has been addressed. In such instances, the OSC should confer as early as possible with appropriate state and EPA Regional personnel to explore the possibility of ranking and listing the site on the National Priorities List to facilitate the immediate removal operation evolving directly into a joint federal/state remedial action. If this is feasible, the transfer of agency responsibility for the cleanup need not be delayed until the $1,000,000 or six month thresholds have been reached.

4. Removals Secured According to Coast Guard Policy: The Coast Guard policy expressed in paragraph 4. D. 2. requires that removal be secured when prompt action is no longer necessary and substantial cleanup methods must be employed to complete the removal of remaining contamination. The guidelines of paragraph 4. F. 3. above also apply in this circumstance. Early consultation with state and EPA Regional personnel is necessary to determine if the goal of the Coast Guard operation should be stabilization of the release or transition to follow-on planned removal or remedial action.

CHAPTER 5. ADMINISTRATIVE ORDERS

A. Conditions for Issuance. Section 106(a) of the Act authorizes the Federal goverrment to issue administrative orders requiring corrective measures for certain categories of releases and threats of releases. The EPA is concerned that monies appropriated to the Response Trust Fund may never be sufficient to support all necessary government responses and has requested that, wherever possible, the Coast Guard utilize section 106(a) authority in lieu of a government removal. The Coast Guard will comply with this request subject to certain qualifications. The following paragraphs discuss these and the extent of section 106 (a) authority.

1. Scope of Section 106(a) Authority: Section 106(a) authorizes issuance of administrative orders for hazardous substance releases and threats of releases which originate from a facility and which may create an imminent and substantial endangerment to the environment or to the public health and welfare. This authority does not extend to releases from vessels. The definition of facilty, section 101(9), is self-explanatory. Section 3. C. of this directive describes the hazardous substances recognized by the Act. The term "imminent and substantial endangerment" is not a novel one but is used in five major environmental statutes other than CERCLA. From the legislative histories of these statutes and several related court decisions has evolved the interpretation that "endangerment" does not mean harm, but risk of harm, and that the term "imminent and substantial" modifies risk. The OSC may consider the two prerequisites for Coast Guard action under the need for prompt action to control the release or to mitigate damages and the possibility of significant harm- as falling within the confines of the recognized meaning of "imminent and substantial endangerment".

2. Policy on Issuance of Section 106(a) Administrative Orders: Subject to the following qualifications, the OSC will routinely utilize section 106(a) authority in lieu of initiating a removal.

   a. Section 106(a) does not specify to whom the OSC may issue an administrative order. As a matter of policy, the OSC may issue any of the administrative orders described in section 5. B. below to those persons identified in section 107(a) of the Act ("responsible party"). The OSC may issue to any other person only those orders the type of which are described in subparagraph 5. B. 1. a. The OSC must be reasonably certain that the party to whom the order is issued is in fact a person who may appropriately be issued an administrative order before the OSC issues that order.

   b. The chapter 4 discussion of significant harm recognizes releases which might not be considered harmful individually but which could be a problem when the affected area is one exhibiting a high spill frequency. Issuance of

5-A-2-b. (Cont'd) administrative orders requiring removal is not appropriate for such releases. This policy derives from the limited contribution of the responsible party to the circumstances warranting removal.

3. Notice to States: Note that section 106(a) requires that the affected state be notified of the intent to issue an administrative order prior to its actual issuance. Except for this notification, which may be made to the appropriate state representative on the RRT, no particular consultation is required.

B. Scope of Administrative Orders. The statute does not limit the kinds of response measures which the OSC may require by administrative order. However, for the purposes of Coast Guard policy, the use of administrative orders has been divided into two categories: measures of an immediate nature and measures of a non-immediate nature.

1. The kinds of response measures which may be required immediately by administrative order are the following:

   a. the cessation of activities which interfere with a Federal removal operation or with a private removal that the OSC is monitoring: This includes curtailment of activities such as plant traffic or use of a railway line when those activities inhibit the progress of a removal operation or endanger cleanup personnel.

   b. corrective measures by the responsible party respecting facilities which are the source of a release or which present a substantial threat of a release: This includes the movement (or non-movement) of a mobile facility, the patching/plugging of a leaking container, the emptying of a container which the OSC judges to pose a substantial threat of a release, etc.

   c. the following removal measures by the responsible party when the release or substantial threat of a release occurs on property owned or leased by the responsible party: actions to limit access to the scene of the incident (fencing); and the use of available equipment owned by the responsible party when the OSC cannot readily obtain comparable equipment from other sources.

2. To allow the responsible party sufficient time for appeal, the OSC will delay for 48 hours the effect of those administrative orders of a non-immediate nature requiring the following response measures:

   a. the complete removal of a release, and

   b. the assumption of any removal initiated by the Coast Guard.

5-B-2 (Cont'd) When an OSC issues an administrative order for these kinds of removal actions, the responsible party should be informed that the Coast Guard will take any response measures necessary during the 48 hour period before the order takes effect and that the affected party may be liable under section 107(a) of CERCLA for the actual costs of those government actions.

C. Format. Administrative orders should include, at a minimum, the following information:

1. reference to Coast Guard authority to issue the order;

2. the person(s) to whom the order applies (the order should be issued to a company or corporation as opposed to an individual when that is possible);

3. a brief recitation of the circumstances of the release or release threat;

4. a brief statement of the basis for the finding that an imminent and substantial endangerment to the public health or welfare or to the enviroment may exist;

5. a description of the required corrective measures sufficiently detailed to permit the recipient to judge their scope and magnitude, including any safeguards (the description may be expressed in terms of objectives or cleanup techniques);

6. date and time the order becomes effective (which may be "upon receipt" for orders other than those specified in paragraph 5. B. 2.);

7. appeal procedures (see 5. D. below);

8. penalties that may be incurred for non-compliance (see 5. E. below);

9. notice of possible liability for government removal costs if the OSC has initiated a Federal removal;

10. signature of the OSC or their representative with a statement of the representative's authority to issue the order; and

11. written acknowledgment of receipt by party to whom the order has been delivered (where an order is directed to a corporation, the position of the person to whom the order is delivered should be stated in the acknowledgement), or certification by the officer delivering the order that the order has been delivered to the Party.

Administrative orders may be either oral or written. However, if the OSC or their representative issues an oral order, it must be followed up, within the same working day if at all possible, with a

5-C. (Cont'd) written notice confirming the oral order. The written confirmation should include the information required under items 1. through 11. above. When an OSC issues an administrative order early in the response, the separate issuance of a "Notice of Federal Interest in a Pollution Incident" or of a "Notice of Federal Assumption of Response Activities" may be avoided by incorporating the essential elements of those documents in the administrative order. Enclosure 5 is a sample administrative order. Only commissioned officers and warrant officers may issue administrative orders.
Cammanding officers shall provide a letter of authorization to those officers in their cammands who are authorized to issue administrative orders.

D. Administrative Appeals.

1. Opportunities for Appeal: Any person directly affected by an administrative order may request, in writing or orally, reconsideration by the OSC. Such requests should be made within 48 hours of the issuance of the administrative order. If not satisfied with the decision of the OSC, that person may appeal in writing to the appropriate District Cammander. If the delay in presenting a written appeal would have a significant adverse impact on the appellant, the party may initially present an oral appeal to the office of the District Cammander. Such an appeal, however, must be followed within five days by a written appeal which, at a minimum, summarizes the oral presentation. All appeals to the District Cammander should be made within 15 days of the issuance of the administrative order. The act of requesting reconsideration or placing an appeal does not stay an administrative order, but an OSC or District Cammander may stay an order in whole or in part at any point in the review process if circumstances warrant it. Reviewing authorities, including the OSC, should document any appeals, whether oral or written, and their action on those appeals. The taping or transcription of oral appeals is not required. The Chief of the Marine Safety Division processes appeals to the District Commander, whose decision shall be final.

2. Bases of Appeal: Reviewing authorities may rescind or alter an administrative order on the basis of any reasonable appeal. However, as a matter of policy, they shall observe certain guidelines when considering two kinds of assertions. If the appellant asserts that the release or substantial threat of a release was caused by an act of God, act of war, or act of a third party, the reviewing authority shall consider the provisions cited in section 107(b) of the Act in judging the merit of that assertion. An assertion that the magnitude of the harm posed to the environment or to the public health and welfare does not warrant the expense of a required removal action is not a ground upon which an order may be vacated, but the reviewing authority may modify or vacate an order upon a determination that the required action would not be effective or that alternative and less expensive actions would accomplish the same objectives.

5-D-3. Headquarters' Review: District Commanders shall submit to Commandant (G-WER) copies of appeals and the records documenting action on appeals. This is to provide the program manager with an opportunity to determine if further guidance is necessary to insure consistency within the program. Documentation of a request for reconsideration from the OSC need only be forwarded to Commandant when the particular request is followed by an appeal to the District Commander.

E. Processing Violations. The Act provides two sanctions for non-compliance with an administrative order: at section 106 (b) and section 107(c)(3). Under section 106(b) the Department of Justice may seek in district court a penalty of up to $5,000 per day for each day of non-compliance. Under section 107(c)(3) the Federal government may recover punitive damages in an amount up to three times the government removal costs incurred due to the failure to comply with the administrative order. Only those persons identified in section 107(a) are subject to this sanction.

1. To support section 106(b) enforcement action, the OSC shall forward necessary documentation to district(dl) for processing and referral to the appropriate U.S. Attorney. The OSC will supply district(dl) with the following:

   a. a summary of the pertinent circumstances surrounding the incident and of the actions of the Coast Guard and the affected party;

   b. information substantiating jurisdiction for issuing the administrative order (e.g., statements of witnesses, report of sample analyses, photographs, copy of shipping papers, etc.);

   c. copy of administrative order (or written confirmation);

   d. any documents provided by persons appealing the administrative order;

   e. documentation by the OSC and the District Commander of any appeals and their action on those appeals;

   f. a recommendation by the OSC on the value of seeking a penalty action under section 106(b).

   Item a. need not include a detailed description of the Federal response or the associated cost documentation.

2. To support the recovery of section 107(c)(3) punitive damages by the EPA, the OSC should submit the same information specified in paragraph 5. E. 1. together with the cost documentation report for the Federal removal. The OSC should forward this to the EPA Regional Office via the District Commander. In their endorsement, the District Commander shall note the status of any action under section 106(b).

CHAPTER 6. AUTHORITY OF OSC AT SCENE OF RELEASE

A. Entry onto Private Property. The following paragraphs provide guidelines for entry onto private property by Coast Guard personnel.

1. Response Activities-Owner Provides Authorization for Access:

   In carrying out activities pursuant to a hazardous substance release or threat of release where access to private property is authorized by the owner, personnel shall insure that measures are taken to minimize and mitigate any damage which may result from such access, and to exercise good sense while on the property.

2. Response Activities-Owner Absent:

   Due to the emergency nature of activities in response to a hazardous substance release or threat of release, a situation may arise where access to private property is necessary and the owner is not present to give their consent to access. In this case, no warrant is required and access to the property should be gained by the most expeditious means possible, taking all precautions to minimize damages caused in the process of gaining access. Generally, local law enforcement personnel should be contacted if at all possible to assist in the entry. Continuing efforts should be made to locate the owner. When the owner is located or arrives on-scene, the OSC should explain the nature of the situation, the reason for the entrance to the property, and the means used to gain access. Also, the owner should be advised that every effort will be made to ensure the safety of their property.

3. Response Activity-Owner Refuses Entry:

   If, when contacted by the OSC, the owner refuses entry to the property, the OSC shall attempt to persuade the owner to permit access through discussion regarding Coast Guard duties and obligations, public necessity, and penalty provisions of the law. If the owner still refuses, it may be necessary to contact the district legal officer for assistance in obtaining court orders from Federal or local enforcement authorities. In addition, the presence of local law enforcement officials may be beneficial for more immediately gaining entry. Using force to gain entry is permissible if the urgency of the situation warrants such action; however all reasonable alternatives should first be exhausted. Force should not be used to the extent that it would amount to a breach of peace or cause personal injury. The use of force by Coast Guard personnel is generally discouraged.

4. Initial Investigation Incidental to Hazardous Substance Release Response Activities:

   An integral part of the removal process is the preliminary assessment to determine the severity of the release, the source, and possible courses of action. Since this assessment is a part of the response activity, entry to private property is to be carried out as described above.

6-B. Coordination and Direction of Response Activities.

1. Federal Activities: Under the authority of the Act and E.O. 12316, the OSC may coordinate and direct all Federal activities associated with an actual or potential release except:

   a. the evacuation and housing of threatened individuals (E.O. 12316 assigns that function exclusively to FEMA.);

   b. responses to releases originating from DOD vessels and facilities (E.O. 12316 identifies DOD as the OSC for all such releases.);

   c. damage assessment and restoration activities associated with damages to natural resources caused by releases (When these activities are related to damage caused by a release, not by Federal response actions, they are not part of the Federal response; and the OSC has no responsibility or authority for seeing that they are carried out.); and

   d. investigations by the Coast Guard, NTSB, or other agency looking into the underlying cause of the incident.

2. Non-Federal Response Activities: Under the authority of Section 104(a) of EBCIA, the Federal government may direct state, local government, and private response actions.17 As a matter of policy, the Coast Guard will only take such action in the event of an actual or potential release that poses an imminent threat of substantial harm to the envirorent or to the public welfare. It is anticipated that this authority will be rarely used. In any case, there must be substantial justification for the assumption of control of a state or local government operation.

C. Control of Private Activities and Property. CERCLA and common law authorize the Federal government to control private property and private activities at the scene of a release. The Coast Guard shall exercise this authority according to the following guidelines.

1. For all actual or potential releases, the OSC may:

a. curtail or prohibit private activities, such as near-by plant operations or use of a railway line, when those activities threaten the safety of response personnel or interfere with progress of a response operation; and

b. control the movement, or use, of the source of a release, or potential release, and undertake any corrective measures - patching, offloading, etc.

17 This is consistent with the Coast Guard's interpretation of the authority provided by the parallel language of section 311(c) of the FWPCA.

6-C-2. If a release or threatened release poses an imminent threat of substantial harm, the OSC may:

a. requisition private property (belonging to the responsible party or otherwise) for use in response actions; and

b. destroy the facility or vessel which is the source of the release or threatened release when that action will significantly lessen real or potential harm to the public welfare or to the environment. Authorization for destruction of a vessel must be obtained from Commandant (G-C) on a case-by-case basis.

3. When it becomes necessary for an OSC to direct or require private activities or to use private property, such action must be in accordance with the following principles and constraints.

a. The OSC should seek voluntary compliance to use private property wherever and whenever possible.

b. The 0SC should use administrative orders to direct private activities where use of such orders is appropriate and it is necessary to compel compliance. Use of administrative orders is appropriate when the activity to be directed and the circumstances at the scene of the removal give rise to the authority conferred by subsection (a) of section 106 of the Act. (See Chapter 5.)

c. In those cases where there is a low probability that an administrative order will be promptly complied with, the OSC should request the district commander, in accord with subsection (a) to section 106 of the Act, to seek relief from the appropriate district court to abate a threat to the public health and welfare or to the environment. The OSC should work with the district legal office in preparing such requests.

d. The assistance of local authorities should be utilized where available to limit and otherwise control access and traffic in the vicinity of the removal operation. Such assistanoe should be employed in lieu of issuance of administrative orders where an equal or greater degree of protection is provided.

e. Under common law, the OSC may seize and press into service private property when a release poses an imminent threat of substantial harm to the public health and welfare or to the environment. Under such circumstances the OSC may also destroy private property which is the source of the release or threat of a release. In neither instance is the consent of the person or persons owning the property required. However, since the authority is contingent upon the emergency which exists, the OSC must be able to show the

6-C-3-e. (Cont'd) nature of that emergency and to demonstrate that no alternative courses of action were available. In any case, the requirements of 6.C.2.b. apply regarding destruction of property.

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Presidential Documents
Executive Order 12316 of August 14, 1961
Responses to Enviromental Damage

By the authority vested in me as President of the United States of America by Section 115 of the Comprehensive Enviromental Response Compensation and Liablity Act of 1980 (9-4 Stat. 2796 42 U.S.C 9615). it is hereby ordered as follows.

Section I. *National Contingency Plan*. (a) The .National Contingency Plan. hereinafter referred to as the NCP and which was originally published pursuant to Section 311 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1321), shall be amended to contain the implementing procedures for the coordination of response actions to releases of hazardous substances into the environment.

(b) The NCP shall contain a concept of a national response team composed of representatives of appropate Executive agencies for the coordination of response actions. The national response team shall. in addition to representation.

tives of other appropriate agencies, include representatives of the following: Department of State, Department of Defense, Department or Justice, Department of the Interior, Deparment or Agriculture, Department of Commerce, Department of Labor, Department of Health end Human Services, Department of Transportation, Department of Energy, Environmental Protection Agency, Federal Emergency Management Agency, and United States Coast Guard.

(c) The responsibility for the amendment or the NCP and all of the other fuctions vested in the President by Section 105 of the Comprehensive Enviromental Response Compensation and Liability Act of 1980, hereinafter refered to as the Act (42 U.S.C.9605), is delagated to the Administrator of the Enviromental Protection Agency.

(d) In accord with Section 111(h)(1) or the Act and Section 311(f)(5) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1321(f)(5)), the following shall be among those designated in those in the NCP as Federal trustees for natural resources:

(1) Secretary of Defense.
(2) Secretary of the Interiror.
(3) Secretary of Agriculture.
(4) Secretary of Commerce.

(e) Amendments to the NCP shall be coordinated with members of the national response team prior to publication for notice and comment. Amendments shall also be coordinated with the Federal Emergency Management Agency and the Nuclear Regulatory Commission in order to avoid inconsistent or duplicative requirements in the emergency planning responsibilities of those agencies

(f) All amendments to the NCP, whether in proposed or final form shall be subject to review and approval by the Director of the Office of Management and Budget.

Sec. 2. *Response Authorities*. (a) The functions vested in the President by The first sentence of Section 104(b) of the Act relating to "illness, disease, or

42238 Federal Register Vol. 46 No. 161/Thursday August 20, 1981/Presidential Documents complaints thereof are delegated to the Secretary of Health And Human Services who shall, in accord with Section 104() Act. perform those functions through the Public Health Service.

(b)(1) The functions vested in the President by Section 101(24) of the Act, to the extent they require a determination by the President that "permanent rolocation or residents and businesses and community facilities" Is included within the terms "remedy" or "remedial action" as defined in Section 101(24) of the Act, are deleleted to the Director of the Federal Emergency Management Agency.

(2) The functions vested in the President by Section 104(a) of the Act, to the extent they require permanent relocation of residents, businesses, and community facilities or temporary evacuation and housing of threatened individuals not otherwise provided for, are delgated to the Director of the Federal Emergency Management Agency.

(c) The functions vested in the President by Section 104(a) and (b) of the Act are delegated to the Secretary of Defense with respect to releases from Department or Defense facilities or vessels, including vessels owned or bareboat
chartered and operated.

(d) Subject to subsections (a), (b), and (c) of this Section the function vested in the President by actions 101(24) and 104 (a) and (b) of the Act are delegated to the Secretary of the Department in which the Coast Guard is operating, hereinafter referred to as the Coast Guard with respect to any release or thretened release involving the coastal zone, Great Lakes waters, ports, and harbors.

(e) Subject to subsections (a), (b), (c), and (d) of this Section. the functions vested in the President by Sections 101(24) and 104 (a) and (b) of the Act are delegated to the Administrator of the Environmental Protection Agency, here-inafter referred to as the Administator.

(f) The functions vested in the President by Section 104 (c), (d), (f), (g), and (h) of the Act are delegated to the Coast Guard, the Secretary of Health and Human Services, the Director of the Federal Emergency Management Agency, and the Administrator in order to carry out the functions delegated to them by subsections (a), (b), (d), and (e) of this Section. The exercise of authority under Section 104(h) of the Act shall be subject to the approval of the Administrator of the Office of Federal Procurement Policy.

(g) The functions vested in the President by Section 104(e)(Z)(C) of the Act are delegated to the Administrator; all other functions vested in the President by Section 104(e) of the Act are delegated to the Secretary of Defense, the Secretary of Health and Human Services, the Coast Guard, the Director of the Federal Emergency Management Agency, and the Administrator of the Enviro-ronmental Protection Agency, in order to carry out the functions delegated to them by this Section.

Sec. 3. *Abatement Action*. (a) The functions vested in the President by Section 106(a) of the Act ore dalegated to the Coast Guard with respect to any release or threatened release involving the coastal zone, Great Lakes waters, ports, and harbors.

(b) Subject to subsection (a) of this Section, the functions vested in the President by Section 106(a) or the Act are delegated to the Administrator.
Sec. 4. *Liability* (a). The function vested In the President by Section 107 (c)(1)(C) of the Act is delegated to the Secretary of Transportation.
(b) The functions vested in the President by Section 107(c)(3) of the Act are delegated to the Coast Guard with respect to any release or threatened release involving the coastal zone, Great lakes waters, ports, and habors.
(c) Subject to subsection (b) of this Section, the functions vested in the President by Section 107(c)(3) of the Act are delegated to the Adminstrator.

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(d) The functions vested in the President by Section 107(f) of the Act are delegated to each of the Federal trustees for natural resources, set forth in Section l(d) of this Order for resources under their trustesship.
Sec. 5. *Financial Responsiblity*. (a) The functions vested in the President by Section 107(k)(4)(b) of the Act are delegated to the Secretary of the Treasury, The Administrator will provide the Secretary with such technical information and assisatance as the Administrator may have avaliable.

(b) The functions vested in the President by Section 108(a) of the Act are delegated to the Federal Maritime Commission. Notwithstanding Section 1(d) of Executive Order No. 12291, the regulations issued pursuant to this authority shall be issued in accordance with that Order. The Commission shall be responsible, in accord with Section 109 of the Act, for the enforcement of civil penalties for violations of the regulations issued under Section 108(a) of the Act.

(c) The functions vested in the President by Section 108(b) of the Act are delegated to the Secretary of Transportation with respect to all transportation related facilities including any pipeline, motor vehicle, rolling stock, or air craft.

(d) Subject to subsection (c) or this Section, the functions vested in the President by Section 108(b) or the Act are delegated to the Administrator.
Sec. 6. *Employee Protection and Notice to Injured*. (a) The functions vested in the President by Section 110(e) of the Act are delegated to the Secretary of Labor.

(b) The functions vested in the President by Section 111(g) of the Act are delegated to the Secretary or Defense with respect to releases from Deparment of Defense facilities or vessels, including vessels owned or bare-boat chartered and operated.

(c) Subject to subsection (b) of this Section, the functions vested in them President by Section lll(g) of the Act are delegated to the Administrator.
Sec. 7. *Management of the Hazardous Substance Response Trust Fund and Claims* (a) The functions vested in the President by Section 111(a) of the Act are delegated to the Administrator, subject to the provisions of this Section and applicable provisions of this Order.

(b) The Administrator shall transfer, to transfer appropriation accounts for other agencies, from the Hazardous Substance Response Trust Fund, out of sums appropriated, such amounts as the Administrator may determine necessary to carry, out the purposes of the Act. These allocations shall be consistent with the President's Budget, within the amounts approved by the Congress, unless a revised allocation is approved by the Director or the Office of Management and Budget.

(c) The Administrator shall chair a budget task force composed of reprsentatives of agencies having responsibilities under this Order or the Act. The Administrator shall also, as part of the budget request for the Enviromental Protection Agency, submit a budget for the Hazardous Substance Response Trust Fund which is based on recommended allocations developed by the budget task force. The Administrator may prescribe reporting and other forms procedures and guidelines to be used by the agencies of the Task Force in preparing the budget request.

(d) The Administrator and each Agency head to whom funds are allocated pursuant to this Section, with respect to funds allocated to them, are authorized in accordance with Section 111(f) or the Act to designate Federal officaials who may obligate such funds.

(e) The functions vested in the President by Section 112 or the Act are delegated to the Administrator for all claims presented pursuant to Section 111.

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Sec. 8. *General Provisions*. (a) Notwithstanding any other provision of this Order any representation pursuant to or under this Order in any judicial or quasi-Judicial proceedings shall be by or through the Attorney General. The Conduct and control of all litigation arising under the Act shall be the responsibility of the Attorney General

(b) Notwithstanding any other provision of this order, the President's authority under the Act to require the Attorney General to commence litigation is retained by the President.

(c) The function vested in the President by Section 301 of the Act are delegated as follows:

(1) With respect to subsection (a) to the Administrator in consultation with the Secretary of the Treasury.

(2) With respect to subsection (b) to the Secretary of the Treasury.

(3) With respect to subsection (c) to the Secretary of the Interior.

(4) With respect to subsection (f) to the Administrator.

(d) The Attorney General shall manage and coordinate the study provided for in Section 301(e) of the Act.

(e) The performance of any function under this Order shall be done in consultation with interested agencies represented on the national response team as well as with any other interested agency

(f) Certain functions vested in the President by the Act which have been delegated or assigned by this Order may be redelagated to the head or any agency with his consent; those functions which may be redelegated are those set forth in Section 2. 3. 4 (b), 4 (c) and 8(c) of this Order.

(g) Executive Order No. 12286 of January 19, 1981, is revoked.

THE WHITE HOUSE
August 14, 1981

RONALD REGAN

Enclosure (2) to COMDTINST M16465.2G
25 MAY 1983

INSTRUCTION OF REDELEGATION

In accordance with Section 8(f) of Executlve Order 12316 of August 14, 1981, the Secretary of the Department in which the Coast Guard is operating hereby redelegates to the Administrator, Environmental Protection Agency, subject to the Administrator's consent, all functions specified in Sections 2(d), 2(f), 2(g), 3(a), and 4(b) of that Executive Order with the exception o the following:

a. Functions related to responses to releases or threats of releases from vessels;

b. Functions related to immediate removal action concerning releases of threats of releases at facilities other than active or inactive "hazardous waste management facilities" (as defined in 40 CFR 122.3); and

c. Functions related to immediate removal action concerning releases or threats of releases at active or inactive "hazardous waste management facilities" when the Coast Guard On-scene Coordinator deterimines that such action must be taken pending the arrival on scene of an Environmental Protection Agency On-Scene Coordinator. Unless otherwise agreed upon by EPA and Coast Guard, this authority will not be exercised unless the EPA OSC is scheduled to arrive on scene within 48 hours of notification of the release or threat.

For purposes of this instrument: the term "Immediate removal action" include. any removal action which, in the view of the Coast Guard On-Scene Coordinator, must be take immediately to prevent or mitigate immedtate and significant.

harm to human life or health, to the enviroment, or to real or personal off-site property. Situations in which such action may be taken include, but are not limited to, fire, explosions, and other sudden releases human, animal, or food chain exposure to acutely toxic substances; and the contamination of a drinking water supply.

All functions described in this instrument, whether redelegated or retained, include the authority to contract for, obligate monies for, and otherwise arrange for and coordinate the responses included within such functions.

Andrew L. Lewis, Jr Date
Secretary of Transportation

I hereby consent to the redelegation
as set forth in this instrument

Anne M. Gorsuch Date
Administrator

Material (CAS Registry No.)	STATUTORY AND REGULATORY SOURCE FWPCA §311(b)(2)(A) 40 CFR 116	FWPCA §307(a)	CAA §112 40 CFR 61	SWDA §3001 40 CFR 261	NOTES
Acenaphthene (83-32-9)		1			
Acenaphthylene (208-96-8)		1			
Acetaldehyde (75-07-0)	1000			X	
Acetaldehyde, chloro- (107-20-0)				1	
Acetaldehyde, trichloro- (75-87-6)				1	
Acetamide, N-(aminothioxomethyl) (591-08-2)				1	
Acetamide, N-(4-ethoxyphenyl)- (62-44-2)				1	
Acetamide, N-9H-fluoren-2-yl- (53-96-3)				1	
Acetamide, 2-fluoro (640-19-7)				1	
Acetic acid (64-19-7)	1000				
Acetic acid ethyl ester (141-78-6)				1	
Acetic acid, fluoro-, sodium salt (62-74-8)				1	
Acetic acid, lead salt (301-04-2)	5000			X	
Acetic acid, thallium (I) salt (563-68-8)				1	
Acetic anhydride (108-24-7)	1000				
Acetimidic acid, N-[(methylcarbamoyl)oxy]thio-, methyl ester (16752-77-5)				1	
Acetone (67-64-1)				1	
Acetone cyanohydrin (75-86-5)	10			X	
Acetonitrile (75-05-8)				1	
3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts (81-81-2)				1	
Acetophenone (98-86-2)				1	
2-Acetylaminofluorene (53-96-3)				1	
Acetyl bromide (506-96-7)	5000				
Acetyl chloride (75-36-5)	5000			X	
1-Acetyl-2-thiourea (591-08-2)				1	
Acrolein (107-02-8)	1	1		1	
Acrylamide (79-06-1)				1	
Acrylic Acid (79-10-7)				1	
Acrylonitrile (107-13-1)	100	X		X	
Adipic Acid (124-04-9)	5000				
Alanine, 3-[p-bis(2-chloroethyl) amino]phenyl-, L- (148-82-3)				1	

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Aldicarb (116-06-3)				1	
Aldrin (309-00-2)	1	1		1	
Allyl alcohol (107-18-6)	100			X	
Allyl chloride (107-05-1)	1000				
Aluminum phosphide (20859-73-8)				1	
Aluminum sulfate (10043-01-3)	5000				
5-(Aminomethyl)-3-isoxazolol (2763-96-4)				1	
4-Aminopyridine (504-24-5)				1	
Amitrole (61-82-5)				1	
Ammonia (7664-41-7)	100				
Ammonium acetate (631-61-8)	5000				
Ammonium benzoate (1863-63-4)	5000				
Ammonium bicarbonate (1066-33-7)	5000				
Ammonium bichromate (7789-09-5)	1000				
Ammonium bifluoride (1341-49-7)	5000				
Ammonium bisulfite (10192-30-0)	5000				
Ammonium carbamate (1111-78-0)	5000				
Ammonium carbonate (506-87-6)	5000				
Ammonium chloride (12125-02-9)	5000				
Ammonium chromate (7788-98-9)	1000				
Ammonium citrate, dibasic (3012-65-5)	5000				
Ammonium fluoroborate (13826-83-0)	5000				
Ammonium fluoride (12125-01-8)	5000				
Ammonium hydroxide (1336-21-6)	1000				
Ammonium oxalate (6009-70-7)	5000				
Ammonium picrate (131-74-8)				1	
Ammonium silicofluoride (16919-19-0)	1000				
Ammonium sulfamate (7773-06-0)	5000				
Ammonium sulfide (12135-76-1)	5000				
Ammonium sulfite (10196-04-0)	5000				
Ammonium tartrate (14307-43-8)	5000				
Ammonium thiocyanate (1762-95-4)	5000				
Ammonium thiosulfate (7783-18-8)	5000				
Ammonium vanadate (7803-55-6)				1	

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Amyl acetate (628-63-7)	1000				
Aniline (62-53-3)	1000			X	
Anthracene (120-12-7)		1			
Antimony (7440-36-0) and compounds		1			* *
Antimony pentachloride (7647-18-9)	1000				
Antimony potassium tartrate (28300-74-5)	1000				
Antimony tribromide (7789-61-9)	1000				
Antimony trichloride (10025-91-9)	1000				
Antimony trifluoride (7783-56-4)	1000				
Antimony trioxide (1309-64-4)	5000				
Aroclor 1016 (1267-41-12)		1			
Aroclor 1221 (1110-42-82)		1			
Aroclor 1232 (1114-11-65)		1			
Aroclor 1242 (5346-92-19)		1			
Aroclor 1248 (1267-22-96)		1			
Aroclor 1254 (1109-76-91)		1			
Aroclor 1260 (1109-68-25)		1			
Arsenic (7440-38-2) and compounds		1			* *
Arsenic acid (7778-39-4) or (1327-52-2)				1	
Arsenic disulfide (1303-32-8)	5000				
Arsenic (III) oxide (1327-53-3)	5000			X	
Arsenic (V) oxide (1303-28-2)	5000			X	
Arsenic pentoxide (1303-28-2)	5000			X	
Arsenic trichloride (7784-34-1)	5000				
Arsenic trioxide (1327-53-3)	5000			X	
Arsenic trisulfide (1303-33-9)	5000				
Arsine, diethyl- (692-42-2)				1	
Asbestos (1332-21-4)		1	1		
Auramine (492-80-8)				1	
Azaserine (115-02-6)				1	
Aziridine (151-56-4)				1	
Azirino (2', 3':3,4)pyrrolo(1,2-a) indole-4,7-dione, 6-amino-8-[((aminocarbonyl)oxy)methyl] -1,1a,2,8, 8a,8b-hexahydro-8a-methoxy- 5-methyl- (50-07-7)				1	

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Barium cyanide (542-62-1)	10			X	
Benz[j] aceanthrylene, 1,2-dihydro-3-methyl- (56-49-5)				1	
Benz[c]acridine (255-51-4)				1	
3,4-Benzacridine (225-51-4)				1	
Benzal chloride (98-87-3)				1	
Benz[a]anthracene (56-55-3)		1		1	
1,2-Benzanthracene (56-55-3)		1		1	
1,2-Benzanthracene, 7,12-dimethyl- (57-97-6)				1	
Benzenamine (62-53-3)	1000			X	
Benzenamine, 4-4'-carbonimidoylbis (N,N-dimethyl- (492-80-8)				1	
Benzenamine, 4-chloro- (106-47-8)				1	
Benzenamine, 4-chloro-2-methyl-hydrochloride (3165-93-3)				1	
Benzenamine, N,N-dimethyl- 4-phenylazo- (60-11-7)				1	
Benzenamine, 2-methyl-, hydrochloride (636-21-5)			1		
Benzenamine, 2-methyl-5-nitro (99-55-8)				1	
Benzenamine, 4,4'-methylenebis (2-chloro- (101-14-4)				1	
Benzenamine, 4-nitro- (100-01-6)				1	
Benzene (71-43-2) and compounds	1000	X	X	X	
Benzene, 1-bromo-4-phenoxy- (101-55-3)		1		1	
Benzene, chloro (108-90-7)	100	X		X	
Benzene, (chloromethyl)- (100-44-7)	100			1	
Benzene, 1,2-dichloro- (95-50-1)		1		1	
Benzene, 1,3-dichloro- (541-73-1)		1		1	
Benzene, 1,4-dichloro- (106-46-7)		1		1	
Benzene, (dichloromethyl)- (98-87-3)				1	
Benzene, 1,3 diisocyanatomethyl (584-84-9)				1	
Benzene, hexachloro- (118-74-1)		1		1	
Benzene, hexahydro- (110-82-7)	1000			X	
Benzene, hydroxy (108-95-2)	1000	X		X	
Benzene, methyl- (108-88-3)	1000	X		X	
Benzene, 1-methyl-2,4-dinitro- (121-14-2)		1		1	
Benzene, 1-methyl-2,6-dinitro- (606-20-2)		1		1	
Benzene, 1,2-methylenedioxy- 4-allyl- (94-59-7)				1	

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Benzene, 1,2-methylenedioxy- 4-propenyl- (120-58-1)				1	
Benzene, 1,2-methylenedioxy- 4-propyl (94-58-6)				1	
Benzene, (1-methylethyl)- (98-82-8)				1	
Benzene, nitro- (98-95-3)	1000	X		X	
Benzene, pentachloro- (608-93-5)				1	
Benzene, pentachloronitro- (82-68-8)				1	
Benzene, 1,2,4,5-tertrachloro- (95-94-3)				1	
Benzene, (trichloromethyl)- (98-07-7)				1	
Benzene, 1,3,5-trinitro- (99-35-4)				1	
Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl) -alpha-hydroxy-, ethyl ester (510-15-6)				1	
1,2-Benzenedicarboxylic acid anhydride (85-44-9)				1	
1,2-Benzenedicarboxylic acid, [bis(2-ethylhexyl)] ester (117-81-7)		1		1	
1,2-Benzenedicarboxylic acid, dibutyl ester (84-74-2)		1		1	
1,2-Benzenedicarboxylic acid, diethyl ester (84-66-2)		1		1	
1,2-Bezenenedicarboxylic acid, dimethyl ester (131-11-3)		1		1	
1,2-Benzenedicarboxylic acid, di-n-octyl ester (117-84-0)		1		1	
1,3-Benzenediol (108-46-3)	1000			X	
1,2-Benzenediol, 4-[1-dicarboxylic acid anhydride				1	
1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl] (51-43-4)				1	
Benzenesulfonic acid chloride (98-09-9)				1	
Benzenesulfonyl chloride (98-09-9)				1	
Benzenethiol (108-98-5)				1	
Benzidine (92-87-5)		1		1	
1,2=Benzisothiazolin-3-one, 1,1-dioxide, and salts (81-07-2)				1	
Benz[j]aceanthrylene, 1, 2-dihydro-3-methyl-		1			
Benzo[b]fluoranthene (205-99-2)		1			
Benzo[j,k]fluorene (206-44-0)		1		1	
Benzo[k]fluoranthene (207-08-9)		1		1	
Benzoic Acid (65-85-0)	5000				
Benzonitrile (100-47-0)	1000				

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Benzo[ghi]perylene (191-24-2)		1			
Benzo[a]pyrene (50-32-8)		1		1	
3,4-Benzopyrene (50-32-8)		1		1	
p-Benzoquinone (106-51-4)				1	
Benzotrichloride (98-07-7)				1	
Benzoyl chloride (98-88-4)	1000				
1,2-Benzphenanthrene (218-01-9)		1		1	
Benzyl chloride (100-44-7)	100			X	
Beryllium (7440-41-7)		1	1	1	
Beryllium (7440-41-7) and compounds		1			
Beryllium chloride (7787-47-5)	5000				
Beryllium dust (7440-41-7)		1	1	1	
Beryllium fluoride (7787-49-7)	5000				
Beryllium nitrate (13597-99-4)	5000				
alpha - BHC (319-84-6)		1			
beta - BHC (319-85-7)		1			
delta - BHC (319-86-8)		1			
gamma - BHC (58-89-9)	1	1		1	
2,2-Bioxirane (1464-53-5)				1	
(1,1'-Biphenyl)-4,4'diamine (92-87-5)		1		1	
(1,1'-Biphenyl)-4,4'diamine, 3,3'dichloro- (91-94-1)		1		1	
(1,1'-Biphenyl)-4,4'diamine, 3,3'dimethoxy- (119-90-4)		1		1	
(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethyl- (119-93-7)				1	
Bis(2-chloroethoxy)methane (111-91-1)		1		1	
Bis(2-chloroethyl)ether (111-44-4)		1		1	
Bis(2-chloroisopropyl)ether (108-60-1)		1		1	
Bis(chloromethyl) ether (542-88-1)				1	
Bis(dimethylthiocarbamoyl) disulfide (137-26-8)				1	
Bis(2-ethylhexyl) phthalate (117-81-7)		1		1	
Bromine cyanide (506-68-3)				1	
Bromoacetone (598-31-2)				1	
Bromoform (75-25-2)		1		1	
4-Bromophenyl phenyl ether (101-55-3)		1		1	
Brucine (357-57-3)				1	

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1,3-Butadiene, 1,1,2,3,4,4-hexachloro- (87-68-3)		1		1	
1-Butanamine, N-butyl-N-nitroso- (924-16-3)				1	
Butanoic acid, 4-[bis(2-chloroethyl) amino]benzene (305-03-3)				1	
1-Butanol (71-36-3)				1	
2-Butanone (78-93-3)				1	
2-Butanone peroxide (1338-23-4)				1	
2-Butenal (123-73-9) and (4170-30-3)	100			X	
2-Butene, 1,4-dichloro- (764-41-0)				1	
Butyl acetate (123-86-4)	5000				
n-Butyl alcohol (71-36-3)				1	
Butylamine (109-73-9)	1000				
Butyl benzyl phthalate (85-68-7)		1			
n-Butyl phthalate (84-74-2)	100	X		X	
Butyric acid (107-92-6)	5000				
Cacodylic acid (75-60-5)				1	
Cadmium (7440-43-9) and compounds		1			* *
Cadmium acetate (543-90-8)	100				
Cadmium bromide (7789-42-6)	100				
Cadmium chloride (10108-64-2)	100				
Calcium arsenate (7778-44-1)	1000				
Calcium arsenite (52740-16-6)	1000				
Calcium carbide (75-20-7)	5000				
Calcium chromate (13765-19-0)	1000			X	
Calcium cyanide (592-01-8)	10			X	
Calcium dodecylbenzene sulfonate (26264-06-2)	1000				
Calcium hypochlorite (7778-54-3)	100				
Camphene, octachloro- (8001-35-2)	1	1		1	
Captan (133-06-2)	10				
Carbamic acid, ethyl ester (51-79-6)				1	
Carbamic acid, methylnitroso-, ethyl ester (615-53-2)				1	
Carbamide, N-ethyl-N-nitroso- (759-73-9)				1	
Carbamide, N-methyl-N-nitroso (684-93-5)				1	
Carbamide, thio- (62-56-6)				1	

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Carbamidoselenoic acid (630-10-4)				1	
Carbamoyl Chloride, dimethyl- (79-44-7)				1	
Carbaryl (63-25-2)	100				
Carbofuran (1563-66-2)	10				
Carbon disulfide (75-15-0)	5000			X	
Carbonic acid, dithallium (I) salt (6533-73-9)				1	
Carbonochloridic acid, methyl ester (79-22-1)				1	
Carbon oxyfluoride (353-50-4)				1	
Carbon tetrachloride (56-23-5)	5000	X		X	
Carbonyl chloride (75-44-5)	5000			X	
Chloral (75-87-6)				1	
Chlorambucil (305-03-3)				1	
Chlordane (57-74-9)	1	1		1	
Chlordane, technical (57-74-9)	1	1		1	
Chlorinated benzenes (other than dichlorobenzenes)		1			* *
Chlorinated ethanes (including 1,2-dichloroethane, 1,1,1-trichloroethane and hexachloroethane)		1			* *
Chlorinated naphthalenes		1			* *
Chlorinated phenols (other than those listed elsewhere; includes trichlorophenols and chlorinated cresols)		1			* *
Chlorine (7782-50-5)	10				
Chlorine cyanide (506-77-4)	10			X	
Chlornaphazine (494-23-1)				1	
Chloroacetaldehyde (107-20-0)				1	
Chloroalkyl ethers		1			* *
p-Chloroaniline (106-47-8)				1	
Chlorobenzene (108-90-7)	100	X		X	
Chlorodibromomethane (124-48-1)		1			
p-Chloro-m-cresol (59-50-7)		1		1	
4-Chloro-m-cresol (59-50-7)		1		1	
1-Chloro-2,3-epoxypropane (106-89-8)	1000			X	
Chloroethane (75-00-3)		1			
2-Chloroethyl vinyl ether (110-75-8)		1		1	

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Chloroform (67-66-3)	5000	X		X	
Chloromethyl methyl ether (107-30-2)				1	
Chloronapthalene (all isomers) (91-58-7)		1		1	
beta-Chloronaphthalene (90-13-1)		1		1	
2-Chloronaphthalene (91-58-7)		1		1	
Chlorophenol (25167-80-0)		1		1	
2-Chlorophenol (95-57-8)		1		1	
o-Chlorophenol (95-57-8)		1		1	
4-Chlorophenyl phenyl ether (7005-72-3)		1			
1-(o-Chlorophenyl)thiourea (5344-82-1)				1	
3-Chloropropionitrile (542-76-7)				1	
Chlorosulfonic acid (7790-94-5)	1000				
4-Chloro-o-toluidine, hydrochloride (3165-93-3)				1	
Chlorpyrifos (2921-88-2)	1				
Chromic acetate (1066-30-4)	1000				
Chromic acid (7738-94-5)	1000				
Chromic acid, calcium salt (13765-19-0)	1000			X	
Chromic sulfate (10101-53-8)	1000				
Chromium (7440-47-3) and compounds		1			* *
Chromous chloride (10049-05-5)	1000				
Chrysene (218-01-9)		1		1	
Cobaltous bromide (7789-43-7)	1000				
Cobaltous formate (544-18-3)	1000				
Cobaltous sulfamate (14017-41-54)	1000				
Copper (7440-50-8) and compounds		1			* *
Copper cyanide (544-92-3)				1	
Coumaphos (56-72-4)	10				
Creosote (8001-58-9)				1	
Cresol (1319-77-3)	1000			X	
Cresylic acid (1319-77-3)	1000			X	
Crotonaldehyde (4170-30-3) and (123-73-9)	100			X	
Cumene (98-82-8)				1	
Cupric acetate (142-71-2)	100				
Cupric acetoarsenite (12002-03-8)	100				

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Cupric chloride (7447-39-4)	10				
Cupric nitrate (3251-23-8)	100				
Cupric oxalate (5893-66-3)	100				
Cupric sulfate (7758-98-7)	10				
Cupric sulfate ammoniated (10380-29-7)	100				
Cupric tartrate (815-82-7)	100				
Cyanides (soluble salts and complexes), N.O.S.		1		1	* *
Cyanogen (460-19-5)				1	
Cyanogen bromide (506-68-3)				1	
Cyanogen chloride (506-77-4)	10			X	
1,4-Cyclohexadienedione (106-51-4)				1	
Cyclohexane (110-82-7)	1000			X	
Cyclohexanone (108-94-1)				1	
1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro- (77-47-4)	1	1		1	
Cyclophosphamide (50-18-0)				1	
2,4-D Acid (94-75-7)	100			X	
2,4-D Esters (94-11-1)	100				
2,4-D salts and esters (94-75-7)				1	
Daunomycin (20830-81-3)				1	
DDD (72-54-8)	1	1		1	
DDE (72-55-9)		1			
DDT (50-29-3) and metabolites	1	1		1	* *
Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta [c,d]-pentalen-2-one (143-50-0)	1			1	
Diallate (2303-16-4)				1	
Diamine (302-01-2)				1	
2,4-Diaminotoluene (95-80-7)				1	
Diazinon (333-41-5)	1				
Dibenz[a,h]anthracene (Dibenzo[a,h]anthracene) (53-70-3)		1		1	
1,2:5,6-Dibenzanthracene (53-70-3)		1		1	
Dibenzo[a,h]anthracene (53-70-3)		1		1	
1,2:7,8-Dibenzopyrene (189-55-9)				1	
Dibenz[a,i]pyrene (189-55-9)				1	
1,2-Dibromo-3-chloropropane (96-12-8)				1	

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Dibutyl Phthalate (84-74-2)	100	X		X	
Di-n-butyl phthalate (84-74-2)	100	X		X	
Dicamba (1918-00-9)	1000				
Dichlobenil (1194-65-6)	1000				
Dichlone (117-80-6)	1				
S-(2,3-Dichloroallyl) diisopropylthiocarbamate (2303-16-4)				1	
3,5-Dichloro-N-(1,1-dimethyl-2-propynyl) benzamide (23950-58-5)				1	
1,4-Dichloro-2-butene (764-41-0)				1	
Dichloro diphenyl dichloroethane (72-54-8)	1	1		1	
Dichlorobenzene (all isomers)		1			* *
Dichlorobenzene (255321-22-6)	100				
1,2-Dichlorobenzene (95-50-1)		1		1	
1,3-Dichlorobenzene (541-73-1)		1		1	
1,4-Dichlorobenzene (106-46-7)		1		1	
m-Dichlorobenzene (541-73-1)		1		1	
o-Dichlorobenzene (95-50-1)		1		1	
p-Dichlorobenzene (106-46-7)		1		1	
Dichlorobenzidine (all isomers)		1			* *
3,3'-Dichlorobenzidine (91-94-1)		1		1	
Dichlorobromomethane (75-27-4)		1			
Dichlorodifluoromethane (75-71-8)				1	
Dichloro diphenyl trichloroethane (50-29-3)	1	1		1	
1,1-Dichloroethane (75-34-3)		1		1	
1,2-Dichloroethane (107-06-2)	5000	X		X	
Dichloroethylene (all isomers) (25323-30-2)		1			* *
1,1-Dichloroethylene (75-35-4)	5000	X		X	
1,2-Dichloroethylene (540-59-0)		1		1	
1,2-trans-Dichloroethylene (156-60-5)		1		1	
trans-1,2-Dichloroethylene (156-60-5)		1		1	
Dichloroethyl ether (111-44-4)		1		1	
2, 2'-Dichloroethyl ether (111-44-4)		1		1	
Dichloroisopropyl ether (108-60-1)		1		1	

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Dichloronaphthalene (all isomers) (N.A.)		1		1	
2,4-Dichlorophenol (120-83-2)		1		1	
2,6-Dichlorophenol (87-65-0)				1	
2,4-Dichlorophenoxyacetic acid, salts and esters (94-75-7)	100			X	
Dichlorophenylarsine (696-28-6)				1	
Dichloropropane (all isomers) (26638-19-7)	5000				
1,2-Dichloropropane (78-87-5)		1		1	
Dichloropropane-Dichloropropene milture (8003-19-8)	5000				
1,3-Dichloropropene (542-75-6)		1		1	
Dichloropropene(s) (all isomers) (26952-23-8)	5000				
2,2-Dichloropropionic acid (75-99-0)	5000				
Dichlorvos (62-73-7)	5000				
Dieldrin (60-57-1)	1	1		1	
1,2:3,4-Diepoxybutane (1464-53-5)				1	
Diethylamine (109-89-7)	1000				
Diethylarsine (N.A.) (692-42-2)				1	
1,4-Diethylene dioxide (123-91-1)				1	
N,N'-Diethylhydrazine (1615-80-1)				1	
O,O-Diethyl S-[2-(ethylthio)ethyl] phosphorodithioate (298-04-4)	1			1	
O,O-Diethyl S-Methyl Dithiophosphate (3288-58-2)				1	
Diethyl-p-nitrophenyl phosphate (311-45-5)				1	
Diethyl phthalate (84-66-2)		1		1	
O,O-Diethyl O-pyrazinyl phosphorothioate (297-97-2)				1	
Diethylstilbestrol (56-53-1)				1	
Diheptyl phthalate (3648-21-3)		1			
1,2-Dihydro-3,6-pyridazinedione (123-33-1)				1	
Dihydrosafrole (94-58-6)				1	
Diisobutyl phthalate (84-69-5)		1			
Diisodecyl phthalate (26761-40-0)		1			
Diisononyl phthalate (28553-12-0)		1			
Diisooctyl phthalate (27554-26-3)		1			
Diisopropyl fluorophosphate (55-91-4)				1	

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Dimethoate (60-51-5)				1	
3,3'-Dimethoxybenzidine (119-90-4)				1	
Dimethylamine (124-40-3)	1000			X	
Dimethylaminoazobenzene (60-11-7)				1	
7,12-Dimethylbenz[a]anthracene (57-97-6)				1	
3,3'-Dimethylbenzidine (119-93-7)				1	
alpha,alpha-Dimethylbenzyl hydroperoxide (80-15-9)				1	
3,3-Dimethyl-1-(methylthio)-2-butanone, O-[(methylamino)carbonyl] oxime (39196-18-4)				1	
Dimethylcarbamoyl chloride (79-44-7)				1	
1,1-Dimethylhydrazine (57-14-7)				1	
1,2-Dimethylhydrazine (540-73-8)				1	
0,0-Dimethyl O-p-nitrophenyl phosphorothioate (298-00-0)	100			X	
Dimethylnitrosamine (62-75-9)		1		1	
alpha,alpha-Dimethylphenethylamine (122-09-8)				1	
2,4-Dimethylphenol (105-67-9)		1		1	
Dimethyl phthalate (131-11-3)		1		1	
Dimethyl sulfate (77-78-1)				1	
Dinitrobenzene (all isomers) (25154-54-5)	1000				
4,6-Dinitro-o-cresol (534-52-1)		1		1	
4,6-Dinitro-o-cresol and salts (534-52-1)		1		1	
4,6-Dinitro-o-cyclohexylphenol (131-89-5)				1	
Dinitrophenol (all isomers)	1000				
2,4 Dinitrophenol (51-28-5)		1		1	
Dinitrotoluene (25321-14-6)	1000	X			
2,4-Dinitrotoluene (121-14-2)		1		1	
2,6-Dinitrotoluene (606-20-2)		1		1	
Dinoseb (88-85-7)				1	
Di-n-octyl phthalate (117-84-0)		1		1	
Dinonyl phthalate (84-76-4)		1			
1,4-Dioxane (123-91-1)				1	
Diphenylhydrazine (122-66-7)		1			
1,2-Diphenylhydrazine (122-66-7)		1		1	
Diphosphoramide, octamethyl- (152-16-9)				1	

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Dipropylamine (142-84-7)				1	
Di-n-propylnitrosamine (621-64-7)		1		1	
Diquat (85-00-7)	1000				
Disulfoton (298-04-4)	1			1	
2,4-Dithiobiuret (541-53-7)				1	
Dithiopyrophosphoric acid, tetraethyl ester (3689-24-5)				1	
Diundecyl phthalate (3648-20-2)		1			
Diuron (330-54-1)	100				
Dodecylbenzenesulfonic acid (27176-87-0)	1000				
EDTA (60-00-4)	5000				
Endosulfan (all isomers) (115-29-7)	1	1		1	
alpha-Endolsulfan (319-84-6)		1			
beta-Endosulfan (319-85-7)		1			
Endosulfan and metabolites		1			* *
Endosulfan sulfate (1031-07-8)		1			
Endothall (145-73-3)				1	
Endrin and metabolites		1			* *
Endrin (72-20-8)	1	1		1	
Endrin aldehyde (7421-93-4)		1			
Epichlorohydrin (106-89-8)	1000			X	
Epinephrine (51-43-4)				1	
Ethanal (75-07-0)	1000			X	
Ethanamine, 1,1-dimethyl-2-phenyl- (122-09-8)				1	
Ethanamine, N-ethyl-N-nitroso- (55-18-5)				1	
Ethanamine, N-methyl-N-nitroso- (4549-40-0)				1	
Ethane, 1,2-dibromo- (106-93-4)	1000			X	
Ethane, 1,1-dichloro- (75-34-3)		1		1	
Ethane, 1,2-dichloro- (107-06-2)	5000	X		X	
Ethane, 1,1,1,2,2,2-helachloro- (67-72-1)		1		1	
Ethane, 1,1'-[methylenebis(oxy)] bis[2-chloro- (111-91-1)		1		1	
Ethane, 1,1'-oxybis- (60-29-7)				1	
Ethane, 1,1'-oxybis-[2-chloro- (111-44-4)		1		1	
Ethane, pentachloro- (76-01-7)				1	
Ethane 1,1,1,2--tetrachloro- (630-20-6)				1	

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Ethane, 1,1,2,2-tetrachloro- (79-34-5)		1		1	
Ethane,1,1,1-trichloro (71-55-6)				1	
Ethane,1,1,2-trichloro- (79-00-5)		1		1	
Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl) (72-43-5)	1			1	
1,2-Ethanediylbiscarbamodithioic acid, salts and esters (111-54-6)				1	
Ethanenitrile (75-05-8)				1	
Ethanethioamide (62-55-5)				1	
Ethanol, 2,2'-(nitrosoimino)bis- (1116-54-7)				1	
Ethanone, 1-phenyl- (98-86-2)				1	
Ethanoyl chloride (75-36-5)	5000			X	
Ethenamine, N-methyl-N-nitroso-				1	
Ethene, chloro- (75-01-4)		1	1	1	
Ethene, 2-chloroethoxy- (110-75-8)		1		1	
Ethene, 1,1-dichloro- (75-35-4)	5000	X		X	
Ethene, 1,1,2,2-tetrachloro- (127-18-4)		1		1	
Ethene, trans-1,2-dichloro- (156-60-5)		1		1	
Ethion (563-12-2)	10				
Ethyl acetate (141-78-6)				1	
Ethyl acrylate (140-88-5)				1	
Ethyl benzene (100-41-4)	1000	X			
Ethyl carbamate (Urethan) (51-79-6)				1	
Ethyl cyanide (107-12-0)				1	
Ethyl 4,4'-dichlorobenzilate (510-15-6)				1	
Ethylene dibromide (106-93-4)	1000			1	
Ethylene dichloride (107-06-2)	5000	X		X	
Ethylene oxide (75-21-8)				1	
Ethylenebis(dithiocarbamic acid), salts and esters (111-54-6)				1	
Ethylenediamine (107-15-3)	1000				
Ethylenethiourea (96-45-7)				1	
Ethylenimine (151-56-4)				1	
Ethyl ether (60-29-7)				1	

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Ethylidene dichloride (75-34-3)		1		1	
Ethyl methacrylate (97-63-2)				1	
Ethyl methanesulfonate (62-50-0)				1	
Famphur (52-85-7)				1	
Ferric ammonium citrate (1185-57-5)	1000				
Ferric ammonium oxalate (2944-67-4)	1000				
Ferric chloride (7705-08-0)	1000				
Ferric dextran (9004-66-4)				1	
Ferric fluoride (7783-50-8)	100				
Ferric nitrate (10421-48-4)	1000				
Ferric sulfate (10028-22-5)	1000				
Ferrous ammonium sulfate (10045-89-3)	1000				
Ferrous chloride (7758-94-3)	100				
Ferrous sulfate (7720-78-7)	1000				
Fluoranthene (206-44-0)		1		1	
Fluorene (86-73-7)		1		1	
Fluorine (7782-41-4)				1	
Fluoroacetamide (640-19-7)				1	
Fluoroacetic acid, sodium salt (62-74-8)				1	
Formaldehyde (50-00-0)	1000			X	
Formic acid (64-18-6)	5000			X	
Fulminic acid,mercury (III) salt (628-86-4)				1	
Fumaric acid (110-17-8)	5000				
Furan (110-00-9)				1	
Furan, tetrahydro (109-99-9)				1	
2-Furancarboxaldehyde (98-01-1)	1000			X	
2,5-Furandione (108-31-6)	5000			X	
Furfural (98-01-1)	1000			X	
Furfuran (110-00-9)				1	
D-Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-(18883-66-4)				1	
Glycidylaldehyde (765-34-4)				1	
Guanidine, N-nitroso-N-methyl-N'-nitro- (70-25-7)				1	
Guthion (86-50-0)					

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Haloethers		1			* *
Halomethanes		1			* *
Heptachlor and metabolites		1			* *
Heptachlor (76-44-8)	1	1		1	
Heptachlor epoxide (1024-547-3)		1			
Hexachlorobenzene (118-74-1)		1		1	
Hexachlorobutadiene (87-68-3)		1		1	
Hexachlorocyclohexane (all isomers)		1			* *
Hexachlorocyclohexane (gamma isomer) (58-89-9)	1	1		1	
Hexachlorocyclopentadiene (77-47-4)	1	1		1	
1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4, 4a,5,6,7,8,8a-octahydro-endo,endo- 1,4:5,8-dimethanonaphthalene (72-20-8)	1	1		1	
1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4, 4a,5,6,7,8,8a-octahydro-endo,exo- 1,4:5,8-dimethanonaphthalene (60-57-1)	1	1		1	
Hexachloroethane (67-72-1)		1		1	
Hexachlorohexahydro-endo,endo-dimethanonaphthalene (465-73-6)				1	
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8, 8a-hexahydro-1,4:5,8-endo,endo- dimethanonaphthalene (456-73-6)				1	
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8, 8a-hexahydro-1,4:5,8-endo, exo-dimethanonaphthalene (309-00-2)	1	1		1	
Hexachlorophene (70-30-4)				1	
Hexachloropropene (1888-71-7)				1	
Hexaethyl tetraphosphate (757-58-4)				1	
Hydrazine (302-01-2)				1	
Hydrazine, 1,2-diethyl (1615-80-1)				1	
Hydrazine, 1,1-dimethyl- (57-14-7)				1	
Hydrazine, 1,2-dimethyl- (540-73-8)				1	
Hydrazine, 1,2-diphenyl- (122-66-7)		1		1	
Hydrazine, methyl- (60-34-4)				1	

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Hydrazinecarbothioamide (79-19-6)				1	
Hydrochloric Acid (7647-01-0) (Hydrogen chloride)	5000				
Hydrocyanic acid (74-90-8) (Hydrogen cyanide)	10			X	
Hydrofluoric acid (7664-39-3) (Hydrogen fluoride)	5000			X	
Hydrogen cyanide (74-90-8)	10			X	
Hydrogen fluoride (7664-39-3)	5000			X	
Hydrogen phosphide (7803-51-2)				1	
Hydrogen sulfide (7783-06-4)	100			X	
Hydroperoxide, 1-methyl-1-phenylethyl- (80-15-9)				1	
Hydrosulfuric acid (7783-06-4) (Hydrogen sulfide)	100			X	
Hydroxydimethylarsine oxide (75-60-5)				1	
2-Imidazolidinethione (96-45-7)				1	
Indeno(1,2,3-cd)pyrene (193-39-5)		1		1	
Iron dextran (9004-66-4)				1	
Isobutyl alcohol (78-83-1)				1	
Isocyanic acid, methyl ester (624-83-9)				1	
Isophorone (78-59-1)		1			
Isoprene (78-79-5)	1000				
Isopropanolamine dodecylbenzene sulfonate (42504-46-1)	1000				
Isosafrole (120-58-1)				1	
3(2H)-Isoxazolone, 5-(aminomethyl)- (2763-96-4)				1	
Kelthane (115-32-2)	5000				
Kepone (143-50-0)	1			1	
Lasiocarpine (303-34-4)				1	
Lead (7439-92-1) and compounds		1			* *
Lead acetate (301-04-2)	5000			X	
Lead arsenate (3687-31-8)	5000				
Lead chloride (7758-96-5)	5000				
Lead fluoroborate (13814-96-5)	5000				
Lead fluoride (7783-46-2)	1000				
Lead iodide (10101-63-0)	5000				
Lead nitrate (18256-98-9)	5000				
Lead phosphate (7446-27-7)				1	
Lead stearate (7428-48-0)	5000				

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Lead subacetate (1335-35-6)				1	
Lead sulfate (15739-80-7)	5000				
Lead sulfide (1314-87-0)	5000				
Lead thiocyanate (592-87-0)	5000				
Lindane (58-89-9)	1	1		1	
Lithium chromate (14307-35-8)	1000				
Malathion (121-75-5)	10				
Maleic acid (110-16-7)	5000				
Maleic anhydride (108-31-6)	5000			X	
Maleic hydrazide (123-33-1)				1	
Malononitrile (109-77-3)				1	
Melphalan (148-82-3)				1	
Meracaptodimethur (2023-65-7)	100				
Mercuric cyanide (592-04-1)	1				
Mercuric nitrate (10045-94-0)	10				
Mercuric sulfate (7783-35-9)	10				
Mercuric thiocyanate (592-85-8)	10				
Mercurous nitrate (10415-75-5)	10				
Mercury and compounds		1			* *
Mercury (7439-97-6)		1	1	1	
Mercury, (acetato-O)phenyl- (62-38-4)				1	
Mercury fulminate (628-86-4)				1	
Methacrylonitrile (126-98-7)				1	
Methanamine, N-methyl- (124-40-3)	1000			1	
Methane, bromo- (74-83-9)		1		1	
Methane, chloro (74-87-3)		1		1	
Methane, chloromethoxy- (107-30-2)				1	
Methane, dibromo- (74-95-3)				1	
Methane, dichloro- (75-09-2)		1		1	
Methane dichlorodifluoro (75-71-8)				1	
Methane, iodo- (74-88-4)				1	
Methane, oxybis(chloro- (542-88-1)				1	
Methane, tetrachloro- (56-23-5)	5000	X		X	
Methane, tetranitro- (509-14-8)				1	

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Methane, tribromo (75-25-2)		1		1	
Methane, trichloro (67-66-3)	5000	X		X	
Methane, trichlorofluoro- (75-69-4)				1	
Methanesulfenyl chloride, trichloro (594-42-3)				1	
Methanesulfonic acid, ethyl ester (62-50-0)				1	
Methanethiol (74-93-1)	100			1	
Methanethiol, trichloro (75-70-7)				1	
4,7-Methano-1H-indene,1,4,5,6,7,8, 8-heptachloro-3a,4,7,7a-tetrahydro-	1	1		1	
Methanoic acid (64-18-6)	5000			X	
4,7-Methanoidan, 1,2,4,5,6,7,8,8-octachloro- 3a,4,7,7a-tetrahydro- (57-74-9)	1	1		1	
Methanol (67-56-1)				1	
Methapyrilene (91-80-5)				1	
Methomyl (16752-77-5)				1	
Methoxychlor (72-43-5)	1			1	
Methyl alcohol (67-56-1)				1	
2-Methylaziridine (75-55-8)				1	
Methyl bromide (74-83-9)		1		1	
1-Methylbutadiene (504-60-9)				1	
Methyl chloride (74-87-3)		1		1	
Methyl chlorocarbonate (79-22-1)				1	
Methyl chloroform (71-55-6)		1		1	
3-Methylcholanthrene (56-49-5)				1	
4,4'-Methylenebis(2-chloroaniline) (101-14-4)				1	
2,2'-Methylenebis (3,4,6-trichlorophenol) (70-30-4)				1	
Methylene bromide (74-95-3)				1	
Methylene chloride (75-09-2)		1		1	
Methylene oxide 50-00-0)	1000			X	
Methyl ethyl ketone (78-93-3)				1	
Methyl ethyl ketone peroxide (1338-23-4)				1	
Methyl hydrazine (60-34-4)				1	
Methyl iodide (74-88-4)				1	
Methyl isobutyl ketone (108-10-1)				1	

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Methyl isocyanate (624-83-9)				1	
2-Methyllactonitrile (75-86-5)	10			X	
Methyl mercaptan (74-93-1)	100			X	
Methyl methacrylate (80-62-6)	5000			X	
N-Methyl-N'-nitro-N-nitrosoguanidine (70-25-7)				1	
Methyl parathion (298-00-0)	100			X	
4-Methyl-2-pentanone (108-10-1)				1	
Methylthiouracil (56-04-2)				1	
Mevinphos (7786-34-7)	1				
Mexacarbate (315-18-4)	1000				
Mitomycin C (50-07-7)				1	
Monoethylamine (75-04-7)	1000				
Monomethylamine (74-89-5)	1000				
Naled (300-76-5)	10				
5,12-Naphthacenedione, (8s-cis)-8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranoxyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy- (20830-81-3)				1	
Naphthalene (91-20-3)	5000	X		X	
Naphthalene, 2-chloro (91-58-7)		1		1	
1,4-Napthalenedione (130-15-4)				1	
2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl-(1,1'-bipheny1)-4,4'-diyl)-bis(azo)]bis(5-amino-4-hydroxy)-tetrasodium salt (72-57-1)				1	
Naphthenic acid (1338-24-5)	100				
1,4-Napthoquinone (130-15-4)				1	
1-Napthylamine (134-32-7)				1	
2-Napthylamine (91-59-8)				1	
alpha-Napthylamine (134-32-7)				1	
beta-Napthylamine (91-59-8)				1	
2-Napthylamine, N,N-bis(2-chloroethyl)- (494-03-1)				1	
alpha-Naphthylthiourea (86-88-4)				1	
Nickel (7440-02-0) and compounds		1			* *
Nickel ammonium sulfate (15699-18-0)	5000				

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Nickel carbonyl (13463-39-3)				1	
Nickel chloride (37221-05-5)	5000				
Nickel cyanide (557-19-7)				1	
Nickel(II) cyanide (557-19-7)				1	
Nickel hydroxide (12054-48-7)	1000				
Nickel nitrate (14216-75-2)	5000				
Nickel sulfate (7786-81-4)	5000				
Nickel tetracarbonyl (13463-39-3)				1	
Nicotine and salts (54-11-5)				1	
Nitric acid (7697-37-2)	1000				
Nitric oxide (10104-43-9)				1	
p-Nitroaniline (100-01-6)				1	
Nitrobenzene (98-95-3)	1000	X		X	
Nitrogen dioxide (10102-44-0)	1000			X	
Nitrogen(II) oxide (10102-43-9)				1	
Nitrogen(IV) oxide (10102-44-0)	1000			X	
Nitroglycerine (55-63-0)				1	
Nitrophenol (all isomers)		1			* *
Nitrophenol (25154-55-6)(including 2,4-dinitrophenol, dinitrocresol)	1000				
p-Nitrophenol (100-02-7)		1		1	
2-Nitrophenol (88-75-5)		1			
4-Nitrophenol (100-02-7)	1	1		1	
Nitrophenols		1			
2-Nitropropane (79-46-9)				1	
Nitrosamine		1			* *
N-Nitroso-N-ethylurea (759-73-9)				1	
N-Nitroso-N-methylurea (684-93-5)				1	
N-Nitroso-N-methylurethane (615-53-2)				1	
N-Nitrosodi-n-butylamine (924-16-3)				1	
N-Nitrosodiethanolamine (1116-54-7)				1	
N-Nitrosodiethylamine (55-18-5)				1	
N-Nitrosodimethylamine (62-75-9)		1		1	
N-Nitrosodiphenylamine (86-30-6)		1			

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N-Nitrosodi-n-propylamine (621-64-7)		1		1	
N-Nitrosomethylvinylamine (4549-40-0)				1	
N-Nitrosopiperidine (100-75-4)				1	
N-Nitrosopyrrolidine (930-55-2)				1	
Nitrotoluene (1321-12-6)	1000				
5-Nitro-o-toluidine (99-55-8)				1	
5-Norbornene-2,3-dimethanol, 1,4,5,6,7, 7-hexachloro,cyclic sulfite (115-29-7)	1	1		1	
Octamethylpyrophosphoramide (152-16-9)				1	
Osmium oxide (20816-12-0)				1	
Osmium tetroxide (20816-12-0)				1	
7-Oxabicyclo[2.2.1]heptane-2, 3-dicarboxylic acid (145-73-3)				1	
1,2-Oxathiolane, 2,2-dioxide (1120-71-4)				1	
2H-1,3,2-Oxazaphosphorine, 2-[bis (2-chloroethyl)amino) tetrahydro-2-oxide (50-18-0)				1	
Oxirane (75-21-8)				1	
Oxirane, 2-(chloromethyl)- (106-89-8)				1	
Paraformaldehyde (30525-89-4)	1000				
Paraldehyde (123-63-7)				1	
Parathion (56-38-2)	1			1	
Pentachlorobenzene (608-93-5)				1	
Pentachloroethane (76-01-7)				1	
Pentachloronitrobenzene (82-68-8)				1	
Pentachlorophenol (87-86-5)	10	X		X	
1,3-Pentadiene (504-60-9)				1	
Phenacetin (62-44-2)				1	
Phenanthrene (85-01-8)		1			
Phenol (108-95-2)	1000	X		X	
Phenol, 2-chloro- (95-57-8)		1		1	
Phenol 4-chloro-3-methyl (59-50-7)		1		1	
Phenol, 2-cyclohexyl-4,6-dinitro- (131-89-5)				1	
Phenol, 2,4-dichloro- (120-83-2)		1		1	
Phenol, 2,6-dichloro- (87-65-0)				1	

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Phenol, 2,4-dimethyl (105-67-9)		1		1	
Phenol, 2,4-dinitro- (51-28-5)		1		1	
Phenol,2,4-dinitro-6-methyl-, and salts (534-52-1)		1		1	
Phenol,2,4-dinitro-6-(1-methylpropyl)- (88-85-7)				1	
Phenol, 4-nitro- (100-02-7)		1		1	
Phenol, pentachloro- (87-86-5)	10	X		X	
Phenol, 2,3,4,6-tetrachloro- (58-90-2)				1	
Phenol, 2,4,5-trichloro (95-95-4)				1	
Phenol, 2,4,6-trichloro (88-06-2)		1		1	
Phenol, 2,4,6-trinitro-, ammonium salt (131-74-8)				1	
Phenyl dichloroarsine (696-28-6)				1	
1,10-(1,2-Phenylene)pyrene (193-39-5)		1		1	
Phenylmercuric acetate (62-38-4)				1	
N-Phenylthiourea (103-85-5)				1	
Phorate (298-02-2)				1	
Phosgene (75-44-5)	5000			X	
Phosphine (7803-51-2)				1	
Phosphoric acid (7664-38-2)	5000				
Phosphoric acid, diethyl p-nitrophenyl ester (311-45-5)				1	
Phosphoric acid lead salt (7446-27-7)				1	
Phosphorodithioic acid, 0,0-diethyl S-methyl ester (3288-58-2)				1	
Phosphorothioic acid, 0,0-diethyl S-(ethylthio)methyl ester (298-02-2)				1	
Phosphorodithioic acid, 0,0-dimethyl S-[2-methylamino-2-oxoethyl] ester (60-51-5)				1	
Phosphorofluoridic acid, bis(1-methylethyl) ester (55-91-4)				1	
Phosphorothioic acid, 0,0-diethyl 0-(p-nitrophenyl) ester (56-38-2)	1			1	
Phosphorothioic acid, 0,0-diethyl 0-pyrazinyl ester (297-97-2)				1	
Phosphorothioic acid, 0,0-dimethyl 0-[p-((dimethyl-amino)-sulfonyl) phenyl] ester (52-85-7)				1	

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Phosphorus (7723-14-0)	1				
Phosphorus oxychloride (10025-87-3)	5000				
Phosphorus pentasulfide (1314-80-3)	100			X	
Phosphorous sulfide (1317-80-3)	100			X	
Phosphorus trichloride (7719-12-2)	5000				
Phthalic acid esters, N.O.S. (Phthalate esters)		1			
Phthalic anhydride (85-44-9)				1	
2-Picoline (109-06-8)				1	
Plumbane, tetraethyl- (78-00-2)	100			X	
Polychlorinated biphenyl(s)(PCBs) (1336-36-3)	10	X			* *
Aroclor 1016		1			
Aroclor 1221 (11104-28-2)		1			
Aroclor 1232 (11141-16-5)		1			
Aroclor 1242 (53469-21-9)		1			
Aroclor 1248 (12672-29-6)		1			
Aroclor 1254 (27323-18-8)		1			
Aroclor 1260 (11096-82-5)		1			
Polynuclear aromatic hydrocarbons (including benzanthracenes, benzopyrenes, benzofluoroanthene, chrysenes, dibenzanthracenes, and indenopyrenes)		1			* *
Potassium arsenate (7784-41-0)	1000				
Potassium arsenite (10124-50-2)	1000				
Potassium bichromate (7778-50-9)	1000				
Potassium chromate (7789-00-6)	1000				
Potassium cyanide (151-50-8)	10			X	
Potassium hydroxide (1310-58-3)	1000				
Potassium permanganate (7722-64-7)	100				
Potassium silver cyanide (506-61-6)				1	
Pronamide (23950-58-5)				1	
1-Propanol, 2,3-epoxy- (765-34-4)				1	
Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime (116-06-3)				1	
1-Propanamine (107-10-8)				1	
1-Propanamine, N-propyl- (142-84-7)				1	

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Propane, 1,2-dibromo-3-chloro- (96-12-8)				1	
Propane, 2-nitro- (79-46-9)				1	
Propane, 2,2'-oxybis[2-chloro- (108-60-1)		1		1	
1,3-Propane sultone (1120-71-4)				1	
Propanedinitrile (109-77-3)				1	
Propanenitrile (107-12-0)				1	
Propanenitrile, 3-chloro- (542-76-7)				1	
Propanenitrile, 2-hydroxy-2-methyl (75-86-5)	10			X	
1,2,3-Propanetriol, trinitrate- (55-63-0)				1	
1-Propanol, 2,3-dibromo-, phosphate (3:1) (126-72-7)				1	
1-Propanol, 2-methyl- (78-83-1)				1	
2-Propanone (67-64-1)				1	
2-Propanone, 1-bromo- (598-31-2)				1	
Propargite (2312-35-8)	10				
Propargyl alcohol (107-19-7)				1	
2-Propenal (107-02-8)	1	1		1	
2-Propenamide (79-06-1)				1	
Propene, 1,3-dichloro- (542-75-6)		1		1	
1-Propene, 1,1,2,3,3,3-hexachloro- (1888-71-7)				1	
2-Propenenitrile (107-13-1)	100	X		X	
2-Propenenitrile, 2-methyl- (126-98-7)				1	
2-Propenoic acid (79-10-7)				1	
2-Propenoic acid, ethyl ester (140-88-5)				1	
2-Propenoic acid, 2-methyl-, ethyl ester (97-63-2)				1	
2-Propenoic acid, 2-methyl-, methyl ester (80-62-6)				1	
2-Propen-1-ol (107-18-6)	100			X	
Propionic acid (79-09-4)	5000				
Propionic acid, 2-(2,4,5-trichlorophenoxy) (93-72-1)	100			X	
Propionic anhydride (123-62-6)	5000				
n-Propylamine (107-10-8)				1	
Propylene dichloride (78-87-5)		1		1	
Propylene oxide (75-56-9)	5000				
1,2-Propylenimine (75-55-8)				1	
2-Propyn-1-ol (107-19-7)				1	

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Pyrene (129-00-0)		1			
Pyrethrins (121-29-9) and (121-21-1)	1000				
4-Pyridinamine (504-24-5)				1	
Pyridine (110-86-1)				1	
Pyridine, 2-[(2-(dimethylamino)ethyl)-2-thenylamino] (91-80-5)				1	
Pyridine, hexahydro-N-nitroso (100-75-4)				1	
Pyridine, 2-methyl- (109-06-8)				1	
Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts (54-11-5)				1	
4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo- (56-04-2)				1	
Pyrophophoric acid, tetraethyl ester (107-49-3)	100			X	
Pyrrole, tetrahydro-N-nitroso- (930-55-2)				1	
Quinoline (91-22-5)	1000				
Radionuclides			1		
Reserpine (50-55-5)				1	
Resorcinol (108-46-3)	1000			X	
Saccharin and salts (81-07-2)				1	
Safrole (94-59-7)				1	
Selenious acid (7783-00-8)				1	
Selenium (7782-49-2) and compounds		1			* *
Selenium dioxide (7446-08-4)	1000			X	
Selenium disulfide (7488-56-4)				1	
Selenium oxide (7446-08-4)	1000			X	
Selenourea (630-10-4)				1	
L-Serine, diazoacetate (ester) (115-02-6)				1	
Silver (7440-22-4) and compounds		1			* *
Silver cyanide (506-64-9)				1	
Silver nitrate (7761-88-8)	1				
Silvex (93-72-1)	100			X	
Sodium (7440-23-5)	1000				
Sodium arsenate (7631-89-2)	1000				
Sodium arsenite (7784-46-5)	1000				

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Sodium azide (266287-22-8)				1	
Sodium bichromate (10588-01-9)	1000				
Sodium bifluoride (1333-83-1)	5000				
Sodium bisulfite (7631-90-5)	5000				
Sodium chromate (7775-11-3)	1000				
Sodium cyanide (143-33-9)	10			X	
Sodium dodecylbenzene sulfonate (25155-30-0)	1000				
Sodium fluoride (7681-49-4)	5000				
Sodium hydrosulfide (16721-80-5)	5000				
Sodium hydroxide (1310-73-2)	1000				
Sodium hypochlorite (7681-52-9)	100				
Sodium methylate (124-41-4)	1000				
Sodium nitrite (7632-00-0)	100				
Sodium phosphate, dibasic (7558-79-4)	5000				
Sodium phosphate, tribasic (7601-54-9)	5000				
Sodium selenite (10102-18-8)	1000				
4,4'-Stilbenediol, alpha,alpha'-diethyl- (56-53-1)				1	
Strepto zotocin (18883-66-4)				1	
Strontium chromate (7789-06-2)	1000				
Strontium sulfide (1314-96-1)				1	
Strychnidin-10-one, and salts (57-24-9)	10			X	
Strychnine and salts (57-24-9)	10			X	
Styrene (100-42-5)	1000				
Sulfur hydride (7783-06-4)	100			X	
Sulfur monochloride (12771-08-3)	1000				
Sulfur phosphide (1314-80-3)	100			X	
Sulfur selenide (7488-56-4)				1	
Sulfuric acid (7664-93-9)	1000				
Sulfuric acid, dimethyl ester (77-78-1)				1	
Sulfuric acid, thallium(I) salt (7446-18-6)	1000			X	
2,4,5-T (93-76-5)	100			X	
2,4,5-T acid (93-76-5)	100			X	
2,4,5-T amines (2008-46-0)	100				
2,4,5-T esters (93-79-8)	100				

Material (CAS Registry No.)	FWPCA §311(b)(2)(A) 40 CFR 116	FWPCA §307(a)	CAA §112 40 CFR 61	SWDA §3001 40 CFR 261	NOTES
	STATUTORY AND REGULATORY SOURCE				
2,4,5-T salts (13560-99-1)	100				
TDE (72-54-8)	1	1		1	
Tetrachlorobenzene (95-94-3)				1	
1,2,4,5-Tetrachlorobenzene (95-94-3)				1	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (1746-01-6)		1		1	
1,1,1,2-Tetrachloroethane (630-20-6)				1	
1,1,2,2-Tetrachloroethane (79-34-5)		1		1	
Tetrachloroethene (Tetrachloroethylene) (127-18-4)		1		1	
Tetrachloroethylene (127-18-4)		1		1	
Tetrachloromethane (56-23-5)	5000	X		X	
Tetrachlorophenol (all isomers)				1	
2,3,4,6-Tetrachlorophenol (58-90-2)				1	
Tetraethyldithiopyrophosphate (3689-24-5)				1	
Tetraethyl lead (78-00-2)	100			X	
Tetraethyl pyrophosphate (107-49-3)	100			X	
Tetrahydrofuran (109-99-9)				1	
Tetranitromethane (509-14-8)				1	
Tetraphophoric acid, hexaethyl ester (757-58-4)				1	
Thallic oxide (1314-32-5)				1	
Thallium (7440-28-0) and compounds		1			* *
Thallium (I) acetate (563-68-8)				1	
Thallium (I) carbonate (6533-73-9)				1	
Thallium (I) chloride (7791-12-0)				1	
Thallium (I) nitrate (10102-45-1)				1	
Thallium (III) oxide (1314-32-5)				1	
Thallium (I) selenide (12039-52-0)				1	
Thallium (I) selenite (12039-52-0)				1	
Thallium (I) sulfate (7446-18-6)	1000			X	
Thioacetamide (62-55-5)				1	
Thiofanox (39196-18-4)				1	
Thiomethanol (74-93-1)	100			X	
Thiomidodicarbonic diamide (541-53-7)				1	
Thiophenol (108-98-5)				1	
Thiosemicarbazide (79-19-6)				1	

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Thiourea (62-56-6)				1	
Thiourea, (2-chlorophenyl)- (5344-82-1)				1	
Thiourea, 1-napthalenyl- (86-88-4)				1	
Thiourea, phenyl- (103-85-5)				1	
Thiram (137-26-8)				1	
Toluene (108-88-3)	1000	X		X	
Toluene-2,4-diamine (95-80-7)				1	
Toluene diisocyanate (584-84-9)				1	
o-Toulidine hydrochloride (636-21-5)				1	
Toxaphene (8001-35-2)	1	1		1	
2,4,5-TP acid (93-72-1)	100			X	
2,4,5-TP acid esters (32534-95-5)	100				
1H-1,2,4-Triazol-3-amine (61-82-5)				1	
Trichlorfon (542-68-6)	1000				
Trichlorobenzene (all isomers)		1			
1,2,4-Trichlorobenzene (120-82-1)		1			
Trichloroethane (71-55-6)				1	
1,1,1-Trichloroethane (71-55-6)		1		1	
1,1,2-Trichloroethane (79-00-5)		1		1	
Trichloroethene (79-01-6)	1000	X		X	
Trichloroethylene (79-01-6)	1000	X		X	
Trichloromethanesulfenyl chloride (594-42-3)				1	
Trichloromonofluoromethane (75-69-4)				1	
Trichlorophenol (all isomers) (25167-82-2)	10				
2,4,5-Trichlorophenol (95-95-4)				1	
2,4,6-Trichlorophenol (88-06-2)		1		1	
2,4,5-Trichlorophenoxyacetic acid (93-76-5)	100			X	
Triethanolamine dodecylbenzenesulfonate (27323-41-7)	1000				
Triethylamine (121-44-8)	5000				
Trimethylamine (75-50-3)	1000				
sym-Trinitrobenzene (99-35-4)				1	
1,3,5-Trioxane, 2,4,6-trimethyl- (123-03-7)				1	
Tris(2,3-dibromopropyl) phosphate (126-72-7)				1	
Trypan blue (72-57-1)				1	

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Unlisted Wastes N.A. (Ignitable, Corrosive, Reactive)					*
Arsenic D004					*
Barium D005					*
Cadmium D006					*
Chromium(VI) D007					*
Lead D008					*
Mercury D009					*
Selenium D010					*
Silver D011					*
Endrin D012	1	1		1	
Lindane D013	1	1		1	
Methoxychlor D014	1			1	
Toxaphene D015	1	1		1	
2,4-D D016	100			X	
2,4,5-TP D017	100			X	
Uracil, 5-[bis(2-chloroethyl)amino] (66-75-1)				1	
Uracil mustard (66-75-1)				1	
Uranyl acetate (541-09-3)	5000				
Uranyl nitrate (10102-06-4)	5000				
Vanadic acid, ammonium salt (7803-55-6)				1	
Vanadium(V) oxide (1314-62-1)	1000			X	
Vanadium pentoxide (1314-62-1)	1000			X	
Vanadyl sulfate (27774-13-6)	1000				
Vinyl acetate (108-05-4)	1000				
Vinyl chloride (75-01-4)		1	1	1	
Vinylidene chloride (75-35-4)	5000	X		X	
Warfarin (81-81-2)				1	
Xylene (1330-20-7)	1000			X	
Xylenol (1300-71-6)	1000				
Yohimban-16-carboxylic acid, 11, 17-dimethoxy-18 [(3,4,5-trimethoxybenzoyl)oxy]-,methyl ester (50-55-5)				1	
Zinc (7440-66-6) and compounds				1	* *
Zinc acetate (557-34-6)	1000				
Zinc ammonium chloride (52628-25-8)	5000				

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Zinc borate (1332-07-6)	1000				
Zinc bromide (7699-45-8)	5000				
Zinc carbonate (3486-35-9)	1000				
Zinc chloride (7646-85-7)	5000				
Zinc cyanide (557-21-1)	10			X	
Zinc fluoride (7783-49-5)	1000				
Zinc formate (557-41-5)	1000				
Zinc hydrosulfite (7779-86-4)	1000				
Zinc nitrate (7779-88-6)	5000				
Zinc phenolsulfonate (127-82-2)	5000				
Zinc phosphide (1314-84-7)	1000			X	
Zinc silicofluoride (16871-71-9)	5000				
Zinc sulfate (7733-02-0)	1000				
Zirconium nitrate (13746-89-9)	5000				
Zirconium potassium fluoride (16923-95-8)	5000				
Zirconium sulfate (14644-61-2)	5000				
Zirconium tetrachloride (10026-11-6)	5000				

NOTES:

X - Denotes classification as hazardous substances under more than one statute. FWPCA §311(b) (2) (A) reportable quantity takes precedence

* - See concentrations in 40 CFR 261.24

* * - Consent Decree Pollutant Generic Class

Subpart C - Characterisctics of Hazardous Wastes

I. Introduction

In attempting to identify whether a pollutant can be classified as a hazardous waste under RCRA, two main categories exist. EPA, in promulgating the RCRA regulations, divided the definition of hazardous waste into Subparts C and D of 40 CFR 261. Subpart D lists certain specific chemicals and process wastes identified by EPA as exhibiting hazardous characteristics. As discussed in Section C. 2. d. of Chapter 3 of this manual, identifying. the hazard characteristics of a released pollutant is a difficult task. The purpose of this enclosure is to explain the Subpart C hazard characteristics and to outline a procedure that the OSC might use to determine whether a pollutant meets one of the characteristics for classification as a hazardous waste without the need for sophisticated laboratory analysis.

Generally, there are four hazard characteristics- ignitability, corrosivity, reactivity, and EP toxicity which are used to classify a substance as a hazardous waste. The specific criteria (flashpoint, pH, etc.) are defined in 40 CFR 261.20. Previous determinations in this directive could be done on the basis of the pollutant containing any amount of a designated hazardous substance. The Subpart C criteria are not so absolute. Characteristics such as pH and flashpoint will vary with the physical environment around the substance and the test method used to measure that characteristic. Thus, in the absence of a manifest or other documentation which identifies the released cargo as a hazardous waste, laboratory analysis may be necessary to confirm the existence of the hazard characteristics. Since extensive laboratory analysis can be very expensive and because sampling incurs exposure risks, it is desirable to rule out the need for chemical analysis where possible. This enclosure provides guidance for that purpose. Consider the following example. Two liquid chemical products, A ar B, are released into the environment. Both were not hazardous substances prior to release, but, upon entry into the environment, they become wastes, and, if they exhibit a Subpart C characteristic subsequent to release, they beccme hazardous substances. The first and simplest step in determining this is to refer to standard chemical information sources. Suppose the OSC does this and determines that substance A has a closed cup (C.C) Flashpoint 56 C that substance B has the closed C.C. cup flashpoint of 70 C.1 Subpart C states that if the closed cup

1 The closed cup tests required by 40 CFR 261.20 are the Pensky-Martens or the Setaflash. These are the most common closed cup testers but any reference which reports a closed cup flashpoint is adequate for initial determinations The value (F) of the open cup flashpoint is generally 10-20% higher than the closed cup value.

I. (Cont'd) flashpoint is less than 60 C the released substance is a hazardous waste. Since substance A meets the ignitability criteria, it may be classified as a hazardous waste, even if diluted or contaminated after entering the environment. Substance B does not need to be tested for its flashpoint because dilution or contamination will generally raise the flashpoint of a substance unless it is diluted with substance A.

Environmental monitoring devices such as portable flashpoint testers and pH meters are available2 and useful for determining ignitability a corrosivity of liquids. Suppose liquids A and B above are tested for their pH using the ASTM standard method specified in 40 CFR 261.20. If the pH of either is between 2 and 12.5, no further corrosivity testing is necessary; the substance does not exhibit the RCRA hazard characteristic. Conversely, if the pH is either 11 below 2 or above 12.5, it meets the RCRA corrosivity characteristic. In any case, when doubt exists, lab testing is required. The same type of detemination can be made for flashpoint using a Setaflash Closed Cup Flashpoint Tester.

The ignitability criteria for liquids and solids differ. How to distinguish between the two is discussed below. In either case, one can detemine the extent of lab testing necessary for these two criteria (ignitability an corrosivity) via a literature search or field test. A laboratory analysis will almost always be necessary to determine jurisdiction via the other two indicators, reactivity and EP toxicity.

What follows is guidance on what an OSC can do, prior to taking a sample and sending it to a laboratory, to determine whether the released material exhibits any of the Subpart C hazard characteristics.

II. Hazard Characteristics

A. Ignitability.

1. Criterion.

a. It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, and has a closed cup flashpoint of less than 60C (140 F).

b. It is a solid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns vigorously and persistently enough to create a hazard.

2 Accurate electronic pH meters range in cost from $200 - 400 and are widely available. The only self-contained, portable, closed cup flashpoint tester known to be available is the Setaflash Closed Cup. Tester which costs about $200.

II.A.1.

c. It is an ignitable compressed gas as defined in 49 CFR 173.300.

d. It is an oxidizer as defined in 49 CFR 173.151.

2. Information sources.

a. The primary source of information will be the manifest, if it exists.

b. The NFPA Fire Protection Guide on Hazardous Materials list both closed cup (CC, TCC, PMCC or SCC) and open cup (OC, TOC or COC) values for many chemicals and trade name liquids in sections 325M, 49, and FPI. A closed cup value is specified in the ignitability criteria but, in general, the closed cup flashpoint is 10-20% lower in degrees Fahrenheit (F) than the open cup flashpoint.4

c. CHRIS contains information on flashpoint. Users should be alert to the fact that the values in CHRIS must be converted to Centegrade and that some chemicals have only open cup test data.

d. Spontaneous combustion, or the capability of causing fire through friction or the absorption of moisture5 are properties that can be determined by such things as the autoignition temperature, reactivity, explosiveness and flammability of a solid. This information is available in most chemical reference sources but the most complete sources of this information are SAX and the NFPA Guide. 49 CFR 172.101 has a table of chemicals which can be used to identify a flammable solid. However, this gives no indication of the burning rate. The Cross Handling Guide gives information on the burning rate of liquids and solids and CHRIS provides information on the behavior (Item 6.6) of a liquid or solid in fire. 49 CFR 172.101 also identifies ignitable compressed gases.

e. The manifest, literature or actual test may indicate that, before or shortly after being released, a

3 Under 40 CFR 262.11, the generator of a solid waste is responsible for determining whether his waste exhibits one or more of the hazard characteristics.

4 Many references will give open cup flashpoints but not closed cup.

5 Sometimes referred to as pyrophoric or hydroscopic compounds.

II.2.e. (Cont'd) liquid such as a mixture of gasoline and carbon tetrachloride may have a C.C. flashpoint well above 60C. However, upon release the carbon tetrachloride will evaporate more rapidly than gasoline. Therefore, over a period of time, the flashpoint will approximate that of gasoline, which is below 60 C.

3. Monitoring devices.

a. The EPA-specified closed cup flashpoint testers are the Pensky-Martens or the Setaflash. The Setaflash comes in a portable and self contained model which can be used on scene. The test method specified for the Setaflash closed cup tester is ASIM standard D-3278-78. No other method or devices, unless approved by the EPA, are acceptable for use in making this determination. Organic vapor analyzers measure flammable limit concentrations and are of no use in determining flashpoint temperatures.

b. At the present time there are no field tests for ignitability of solids.

B. Corrosivity

1. Criterion. 6

a. The material is aqueous and has a pH less than or equal to 2 or or greater than or equal to 12.5, as determined by a pH meter using the test method specified in the "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods".7 (Also described in "Methods for Analysis of Water and wastes" EPA 600/4-79-020, March 1979.)

b. It is a liquid that corrodes steel (SAE 1020) at a rate greater than 6.35nn (.25 inches) per year at test temperature of 55C (130 F) as determined by the test method specified in NACE (National Asociation of Corrosion Engineers) Standard TM-01-68 8 as stardardized in "Test Methods for the Evaluation of Solid Waste".

6 All criterion require a "representative sample". No formal guidelines have been provided by EPA as yet on sampling methods. Sampling methods will be discussed in future Commandant Instruction.

7 Available from Solid Information, U.S. Protection Agency, 26 West Clair Street, Cincinatti, OH 45268

8 NACE Standard is available the National Association of Corrosion Engineers (NACE) P.O. Box 986, Kayt Texas 77450.

II.B.

2. Information Sources.

a. Since pH is strongly affected by the environmental conditions and the shipping state of the material, reference sources are of little use in making a corrosivity determination. However, if a source is found which gives the pH(s) of a substance at certain condition(s) and concentration(s), or if the manufacturer is able to give some indication of the possible pH range, the OSC may be able to conclude that the pH of the substance is not less than 2 or greater than 12.5. He will rarely be able to decisively conclude that the substance has remained or become hazardous due to its pH after release because, in most cases, the environment, especially water, will tend to neutralize or dilute the substance. It is alwys best to use a pH meter if possible.

b. Charts and tables can be obtained from the National Association of Corrosion Engineers (NACE) that may be helpful in determining the rate at which a substance corrodes steel at 55"C. Unfortunately, the charts are difficult to interpret and exist for relatively few substances.

3. Monitoring devices.

a. Electronic ph meters vary with regard to accuracy and cost. Most, however, are adequate (better than assumptions made from literature or manifest) for field use. To be formally identified as a corrosive hazard due to a pH reading, the specific test method previously mentioned must be used. If the proper equipment and methods are used, this, like the Flashpolnt, is an absolute determination and requires no further judgement.

b. Paper pH tape is inexpensive and can also save the expense of doing this particular lab test if the pH indicated is not close to 2 or 12.5. The accuracy of these pH indicators is generally within one pH unit.

C. Reactivity.

There are eight ways a substance can be classified as hazardous due to its reactivity. They are identified in 40 CFR 261.23. Some of the criteria will probably be obvious from observation (reaction with water). All of the criteria are serious hazards for which information can be found in

II.C. (Cont'd) most chemical reference sources available. CHRIS contains valuable information on water reactivity and the NFPA Guide is best for information on explosive hazard. No field monitoring kit has been developed to determine any of these reactivity hazards.

If a substance is a forbidden explosive as defined by 49 CFR 173.51, a class A explosive as defined by 49 CFR 173.53, or a class B explosive as defined by 49 CFR 173.88, it is a reactivity hazard under this subpart.

D. EP Toxicity.

The hazard characteristic of EP Toxicity is based on determining the concentration of certain contaminats. Table 1 in 40 CFR 261.24 lists the contaminants and concentrations for making a hazardous waste determination.

While it may be possible to make a determination based on information contained in a manifest, in most instances laboratory analysis will be required to establish or confirm the classification as a hazardous waste under the EP Toxicity category.

III. Laboratory Analysis

While the use of the field tests described above are generally sufficient for making initial determinations of the hazard characteristics necessary for establishing Federal jurisdiction, additional analysis may be required to support subsequent civil and cost recovery proceedings. OSC's should ensure that the required analyses are done by a competent testing laboratory in all instances where the Subpart C hazard characteristics are used as the basis for classification as a hazardous substance. Units should maintain a listing of qualified laboratories in their Local Contingency Plan. Support should also be available from the waste Management Division of the EPA Regional Offices.

Sample Administrative Order*

Administrative Order Issued (name of person to whom order is directed)

["This is to confirm the oral order which (OSC representative of my staff issued to you on (date)."]

Pursuant to subsection (a) to section to P.L. 96-510, subsection (a) of Section 3 of Executive Order 12316, 49 CFR 1.46 (gg), and Commandant Note 16465), I am authorized, as Coast Guard On-Scene Coordinator, to issue orders as may be necessary to protect the public health and the environment. Consistent with the provisions of section 106 of P.L. 96-510, I may exercise this authority whenever I have determined that there may be an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from a facility.

I have determined that such an endangerment may exist at (location). ["Approximately (amount) of (substance) were released from (source) on or about (time if known, date)." or"There is a threat of a release of (substance) from (facility) ."] (substance) is a hazardous substance as defined by section 101(14) of P.L. 96-510. Because (substance) is (flammable, acutely toxic, etc.), its["release" or "threatened release"] may present an imminent and substantial endangerment to the public health or welfare or the environment. Among those who may be subjected to such an endangerment are (the waters of _____ , the residents of _____ ,etc.).

For these reasons, and Under the authority referred to above, you are hereby ordered to undertake the measure(s) set forth in enclosure (1) to this letter.

This administrative order ["becomes effective at (time) on (date)." or "is effective upon your receipt of this order." or "is effective as of (date oral order issued) upon which (OSC representative) of my staff orally ordered you to undertake the foregoing measures."] You may request, either orally or in writing, that I reconsider this order within 48 hours of its issuance. I may be reached for this purpose at (address, phone). If you wish to appeal my decision on reconsideration, or the order itself, you may do so in writing to [address of District Commander (m)] within 15 days of the issuance of the order. Should you believe that the delay inherent in presenting a written appeal would have a substantial adverse impact on you, you may present an oral appeal to the office of the District Commander [telephone number of District Commander(m)]. However, an oral appeal must be followed within five days by a written appeal which, at a minimum, summarizes the oral

*Brackets denote portions of the administrative order which vary with the circumstances of the incident and of the issuance of the administrative order. The OSC tailors these portions of the order to suit the situation before him.

presentation. The act of requesting reconsideration or placing an appeal does not stay this order, but reviewing offices have the authority to take such action if they believe circumstances warrant it.

If you willfully fail or refuse to comply with this order, you will be subject to the following sanction[s]. A fine of not more than $5,000 for each day which failure continues may be imposed under subsection (b) of section 106 of Public Law 96-510. [Further, should you be found liable under section 107 of Public Law 96-510 for costs incurred by the United States in responding to this incident, you may also be found liable for punitive damages for your failure without sufficient cause to provide the response action ordered above. The amount of these punitive damages will be at least equal to but no more than three times the amount of those incurred costs. See paragraph (3) of subsection (c) ofsection 107 of Public Law 96-510.]

In adition to possible penalties for non-compliance with this order, you may be liable under subsection (a) of section 107 of P.L. 96-510 for the actual costs incurred by the United States in responding to the ["release"or "release threat"] referred to above. [As (OSC representative) informed you, the Coast Guard has initiated a Federal cleanup because your actions to date have been determined to be unsatisfactory.] Compliance with this order does not alter your liability for government response costs incurred prior to that compliance.

Please address all inquiries concerning this matter to (name, address, phone number).

Issued at (unit, address) Signed:
on (time, date)

Delivered to (individual, title)
at: (place)
on: (time, date)
by: (person delivering)

Enclosure (1) Actions ordered by OSC