SUPERFUND DIRECTORY OF REGULATIONS

(1981-1984)

U. S. ENVIRONMENTAL PROTECTION AGENCY
Office of Solid Waste and Emergency Response
401 M Street, S.W.
Washington, D.C. 20460

SUPERFUND REGULATIONS

INDEX BY TITLE

TITLE	DATE
1981	
1982	
"Amendment to National Oil and Hazardous Substance Contingency Plan: The National Priorities List"	12/30/82
"Hazardous Substances: National Oil and Hazardous Substances Pollution Contingency Plan"	03/12/82
"National Oil and Hazardous Substances Contingency Plan"	07/16/82
1983	
"Amendments to National Oil and Hazardous Substance Contingency Plan; National Priorities List"	09/08/83
"Notification Requirements; Reportable Quantity Adjustments"	05/25/83
"Proposed National Priorities List, Appendix B of the National Oil and Hazardous Substances Contingency Plan"	03/04/83
1984	
"Amendment to National Oil and Hazardous Substances Contingency Plan; National Priorities List"	05/08/84
"Amendment to National Oil and Hazardous Substance Contingency Plan; National Priorities List"	09/21/84
"Amendment to National Oil and Hazardous Substance Contingency Plan; National Priorities List"	10/15/84
"National Oil and Hazardous Substances Pollution Contingency Plan; Final Plan"	07/18/84

SUPERFUND REGULATIONS

STATUS OF RULE

DATE		TITLE
1981		
1982		
03/12/82	Proposed	"Hazardous Substances: National Oil and Hazardous Substances Pollution Contingency Plan"
07/16/82	Final	"National Oil and Hazardous Substances Contingency Plan"
12/30/82	Proposed	"Amendment to National Oil and Hazardous Substance Contingency Plan: The National Priorities List"
1983		
03/04/83	Proposed	"Proposed National Priorities List, Appendix B of the National Oil and Hazardous Substances Contingency Plan"
05/25/83	Proposed	"Notification Requirements; Reportable Quantity Adjustments"
09/08/83	Final	"Amendments to National Oil and Hazardous Substance Contingency Plan; National Priorities List"
1984		
05/08/84	Final	"Amendment to National Oil and Hazardous Substances Contingency Plan; National Priorities List"
07/18/84	Final	"National Oil and Hazardous Substances Pollution Contingency Plan; Final Plan"
09/21/84	Final	"Amendment to National Oil and Hazardous Substance Contingency Plan; National Priorities List"
10/15/84	Proposed	"Amendment to National Oil and Hazardous Substance Contingency Plan; National Priorities List"

1982

federal register

Friday
March 12, 1982

Part III

Environmental Protection Agency

Hazardous Substances; National Oil and Hazardous Substances Pollution Contingency Plan; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

[SWH-FRL 1906-4]

Hazardous Substances; National Oil and Hazardous Substances Pollution Contingency Plan

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires revision of the National Contingency Plan originally published pursuant to section 311 of the Federal Water Pollution Control Act. In compliance with section 105, this proposed revision modifies the Plan to include the new responsibilities and authorities for responding to releases into the environment of hazardous substances and other pollutants and contaminants. This revision is intended to reflect and effectuate the responsibilities and powers created by CERCLA.

DATES: Comments must be submitted on or before April 12, 1982.

ADDRESSES: Comments may be mailed to William N. Hedeman, Jr., Director, Office of Emergency and Remedial Response (WH-548), Environmental Protection Agency, 401 M Street, SW Washington, D.C. 20460.

FOR FURTHER INFORMATION CONTACT: Sylvia Lowrance, Office of Emergency and Remedial Response (WH-548), Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460, Phone (202) 382-2235.

SUPPLEMENTARY INFORMATION:

I. INTRODUCTION

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Pub. L. 96-510 ("CERCLA" or "the Act"), enacted on December 11, 1980, establishes broad Federal authority to respond to releases or threats of releases of hazardous substances, pullutants or contaminants from vessels and facilities. The government may take response action under circumstances prescribed by the Act whenever there is a release or a substantial threat of a release of a hazardous substance, or there is a release or a substantial threat of a release of other pollutants or contaminants which may present an imminent and substantial danger to public health or welfare (section 104). Depending on the nature of the release or threat of release, the government may undertake short-term cleanup actions, long-term actions consistent with permanent remedy, or both.

The Act's authorization for government response is conditioned by section 104(a)(1), which states in pertinent part:

> • • • the President is authorized to act, consistent with the national contingency plan, to remove or arrange for the removal of, and provide for remedial action relating to such hazardous substance, pollutant, or contaminant at any time (including its removal from any contaminated natural resource), or take any other response measure consistent with the national contingency plan which the President deems necessary to protect the public health or welfare or the environment, unless the President determines that such removal and remedial action will be done properly by the owner or operator of the vessel or facility from which the release or threat of release emanates, or by any other responsible party.

Section 105 of the Act requires that modifications be made to the National Contingency Plan originally mandated by section 311(c)(2) of the Clean Water Act (CWA), 33 U.S.C. 1321(c)(2). This Plan originally was prepared by the Council on Environmental Quality (CEQ) and is located at 40 CFR Part 1510. Executive Order 12316, 46 FR 42237, delegates the responsibility to amend the National Contingency Plan to the Environmental Protection Agency. As a consequence, Part 1510 is proposed to be moved from 40 CFR Chapter V to 40 CFR Chapter I and redesignated Part 300. The CEQ Plan, which remains in effect until superseded by the revisions required by CERCLA, was last revised on March 19, 1980 (45 FR 17832). Specific requirements under the CWA are detailed in Subpart A of this proposal, along with the new requirements for the Plan specified by CERCLA.

Section 105 states that the revisions shall include a section to be known as the "national hazardous substance response plan." EPA has included in the revision a new Subpart F entitled "Hazardous Substance Response." This section includes new material applicable to actions taken pursuant to CERCLA. Subparts A-D, G and H, however, also contain material that generally is applicable to responses under CERCLA, as well as the CWA. While the new Subpart F contains most materials required to be in the section entitled "national hazardous substance response plan," EPA believes that response actions pursuant to CERCLA must be taken consistent with the entire NCP and has, therefore, not designated any single section as the national hazardous substance response plan.

CERCLA requires the addition of elements to the Plan which may be construed as regulatory in nature and provides for their adoption after opportunity for public comment. EPA has not included in the Plan material which is best described as "ministerial" by nature, and which is not required by statute or Executive Order. These ministerial portions will, in part, be included as guidance in a general CERCLA operating manual of which this Plan will be one part.

The development of the proposed revised Plan was guided by an analysis of the statutory and Executive Order requirements for the Plan. Inclusion of material beyond that required by statute or Executive Order was limited to material: (1) Not available in existing publications and (2) necessary to an understanding of the Plan's philosophy, purpose and/or operations. In all cases, care was used to ensure that the Plan accurately reflects actual Agency practices.

As presented in the proposed revision, the National Contingency Plan contains the basic policies to direct the Federal response to releases or threatened releases of oil and hazardous substances. It is a document which is designed to make Federal action reasonably predictable by both the regulated community and the general public which the statutes are intended to protect. In the explanation of the individual Subparts which follow, the more extensive or apparent changes to the current Plan are noted.

Major Revisions to the Existing NCP

A. Annexes

The nine annexes in the current Plan have been eliminated in this proposal. Material from the existing annexes has been included in the body of the proposed revised Plan as appropriate.

Annex I of the existing Plan details the entities to which the Plan would be distributed. The same entities will receive the proposed Plan but the distribution list is not made part of the Plan.

Annex II of the existing Plan provides a very detailed outline of the formats for Regional and local contingency plans. The proposed revision provides in Subpart D basic requirements for those plans including a provision that those plans shall follow the format of the national Plan as closely as possible.

Annex III of the existing Plan provides a listing of the addresses and telephone numbers of regional and local EPA and Coast Guard offices and a map of the standard EPA Federal regions. Given the

wide availability of current information in this regard, Annex III is eliminated in the proposed revision.

Annex IV lists Federal statutes and international agreements relative to control of pollution by oil and hazardous substances. This information has been eliminated from the proposed revision as being unnecessary as a part of the Plan.

Annex V provides a listing of communications services available in the National Response Center. This detailed listing has been eliminated as being of little practical value, available elsewhere, and subject to change. Information on contacting the NRC is included in Subpart C.

Annex VI details sample collection procedures to be followed by the On-Scene Coordinator. EPA believes this information should more appropriately be included in the general operating manual that it is preparing to supplement the Plan. Annex VI has therefore been eliminated from the Plan and will be reestablished in this supplemental guidance.

Annex VII of the current Plan provides a detailed listing of reference documents to be maintained in the National Response Center and in each Regional Response Center. Because the list of appropriate publications will change as new publications appear, this list has been eliminated in the proposed revision and the contents of the reference libraries has been left to the National Response Team to specify on a continuing basis.

Annex VIII contains definitions of terms used in the Plan. In the proposed revision, necessary definitions have been moved to Subpart A.

Annex IX is "reserved for future use" and therefore has been eliminated in the proposed revision.

Annex X which addresses the statutory requirement for a schedule of chemicals and other additives to remove oil and hazardous substances discharges has been rewritten and is addressed in Subpart H of the revised Plan.

B. Subparts

Subparts A through D of the proposed revision deal with the same general subject matter as the corresponding subparts of the existing Plan. Subpart E, now titled "Operational Response Phases" is retitled "Operational Response Phases for Oil Removal" while a new Subpart F, "Hazardous Substance Response" has been developed to reflect the new authorities of CERCLA. Under the proposed revision, some elements of the current Subpart F are incorporated into Subpart C. Two new Subparts, G and H, are included in the proposed revision. A detailed discussion of the new subparts is included below. The following details changes made to material in the existing Plan:

1. *Subpart A.* Subpart A details the satatutory and Executive Order base on which the Plan rests. This section also sets out with appropriate statutory citations those items which the Plan is required to address and provides an explanation of abbreviations and terms used throughout the Plan. Definitions have been taken from the appropriate statute without modification wherever possible and their source cited. Other definitions are constructs of the Plan used to refer to concepts more fully defined in the Plan. Principal among these are:

Coastal Zone which is used to distinguish the areas of United States Coast Guard responsibility under the Plan from that of EPA. This distinction in no way expands or limits overall Federal jurisdiction.

Fund or Trust Fund is used as a shorthand reference to the CERCLA Hazardous Substance Response Trust Fund.

Inland Zone also serves to delineate lead agency responsibility. It includes the environment inland of the coastal zone excluding the Great Lakes and specified ports and harbors of inland rivers as specifically identified in Federal regional contingency plans.

Lead Agency is used to refer to the agency that appoints the On-Scene Coordinator.

Oil Pollution Fund is used as a shorthand reference to that Fund created by section 311(k) of the Clean Water Act.

On-Scene Coordinator is used to refer to the Federal official designated to coordinate and direct a Federal response under the Plan. The designation of the On-Scene Coordinator, his duties, responsibilities, and authority are spelled out in the Plan.

Trustee is used to refer to the Federal agencies that shall act as trustees for natural resources pursuant to section 111 of CERCLA. The role of a trustee is explained in Subpart G.

United States and State are given their customary definition.

Volunteer is given a specific meaning in the context of the Plan. As used in the Plan volunteer means an individual accepted to perform services by an agency with authority to accept volunteer services.

Subpart A as proposed in this revision also reflects the following changes in the existing Plan:

—Redrafting of the *Purpose and Objectives* section to reflect the purpose and objectives of the CERCLA. (§ 510.1 of the existing Plan).

—Redrafting of the *Authority* section to reflect the passage of CERCLA and transfer of the listing of Plan contents from this section to the *Scope* section where it is more appropraite.

—Elimination from the *Scope* section of a recitation of limited geographic jurisdiction of the Plan which was rendered obsolete by CERCLA.

Two items ((9) and (10)) of the scope section were removed from the listing in the proposed revised Plan because they are not required by statute or Executive Order. First, the Plan continues to include provision for a Scientific Support Coordinator, but has deleted specific procedures for coordinating scientific support of cleanup operations, assessment of damage after a spill, and research efforts as not required or a necessary element of the Plan. Second, EPA has left to the National Response Team the opportunity to develop a system of referral and appeal for the Regional Response Teams and On-Scene Coordinators to the National Response Team.

The section of the existing Plan on abbreviations was amended in the proposed Plan in the following respects:

—The reference to the Department of Health, Education and Welfare (DHEW) was replaced by a reference to the Department of Health and Human Services (HHS) reflecting the changed Federal organization.

—The following new abbreviations were added to reflect new language introduced as a result of CERCLA, additions to the Plan:

NIOSH—National Institute for Occupational Safety and Health
OSHA—Occupational Safety and Health Administration
NSF—National Strike Force
PIAT—Public Information Assist Team

2. *Subpart B.* Subpart B assigns Federal responsibilities under the Plan to various Federal Agencies and Departments and also outlines State and local, and non-government participation in actions taken under the Plan, as required by section 311(c)(2)(A) of CWA and sections 105(4), 105(6), and 105(9) of CERCLA.

Principal Federal assignments of responsibility were made in two Executive Orders (11735 and 12316) and those delegations are incorporated in the Plan. In addition, Federal agencies which may from time to time be called upon to provide assistance in actions taken under the Plan are identified.

State and local participation in Plan activities are provided through Regional Response Teams and contracts or cooperative agreements. Finally

guidelines are provided for participation of non-government entities in plan activities.

This subpart amends § 1510.22 *Duties of Federal Agencies* and § 1510.23 *Non-Federal Participation*, of the existing Plan. The major change is the incorporation of Executive Order delegations in the Plan and a shortening of the description of individual agency activities.

3. *Subpart C.* This Subpart explains the administrative organization of the response program, delineates the authorities and responsibilities of participants and meets the requirements of sections 311(c)(2)(B) and 311(c)(2)(E) of CWA, as well as section 105(5) of CERCLA. The proposal does not change the basic organizational scheme of the Plan, but it discusses organizational components in the context of the principal categories of activities in which they engage: Planning and Coordination (§ 300.32), Response Operations (§ 300.33), and Communications (§ 300.35).

The role, responsibilities and authorities of the On-Scene Coordinator (OSC) under CERCLA will vary somewhat from that under section 311 of the Clean Water Act. Under section 311 the OSC's responsibilities and authorities have been very broad. The NRT and EPA believe that the OSC's duties should remain the same in the current Plan during emergency actions. Broad powers are critical in emergencies since time is of the essence, and immediate response by other officials or organizations often is impracticable.

The new authorities in CERCLA, however, contemplate response in situations other than classic emergencies such as response at hazardous waste sites with chronic low level releases. More time for planning, greater coordination with other government officials, larger Fund expenditures and a greater range of expertise may be required in managing these problems. Such nonemergency response includes planned removal and remedial actions, which are discussed in Subpart F of the proposed revised Plan. The revised description of the role of the OSC in Subpart C reflects not only the traditional responsibilities of the OSC, but also the changes in OSC responsibilities required by the new CERCLA authorities.

Subpart C also describes the circumstances under which each of the two major Fund-financed response agencies, EPA and the USCG, is responsible for designating the OSC for response action. For any particular release, the Agency making this designation is characterized throughout the proposal as the "lead agency". The Plan specifies that the USCG shall provide OSCs for Federally managed responses involving oil discharges and immediate removal of hazardous substance releases into the coastal zone, and that EPA shall provide OSCs for Federally managed responses involving oil discharges and immediate removal of hazardous substance releases into or threatening the inland zone. Unless otherwise provided, EPA shall designate the OSC for all Federally managed planned removal and remedial actions regardless of location.

4. *Subpart D.* Section 311(j)(1)(B) of the CWA requires that regulations be issued, consistent with the NCP, which establish criteria for the development and implementation of local and regional oil and hazardous substance removal contingency plans. Subpart D sets forth the required contents of Federal local and Federal regional contingency plans. Annex II of the existing NCP has been substantially incorporated in this Subpart by requiring that all Federal local and Federal regional contingency plans will follow the format of the NCP. The discussion of response and support equipment from Subpart D of the existing Plan is now included in Subpart C.

5. *Subpart E.* Subpart E addresses the operational phases for responding to discharges of oil into the waters of the United States. Phase I, § 300.51, provides a system of surveillance and notice designed to insure the earliest possible notice of discharges to the appropriate State and Federal agencies as required by section 311(c)(2)(D) of the CWA.

Sections 300.52 through 300.57 set forth procedures and techniques to be employed in identifying, containing, dispersing and removing oil as required by section 311(c)(2)(F) of the CWA, including procedures for documentation of cost recovery and required content for pollution reports. Section 300.58 entitled "Funding" has been added to the existing plan to identify controls on section 311(k) Oil Pollution Fund expenditures. Subsection 300.58(h) describes the system required by section 311(c)(2)(H) of the CWA whereby the States can act to remove a discharge and be reimbursed from the Fund established under section 311(k) of the CWA for reasonable costs.

The USCG, which has primary responsibility for responding to discharges of oil in the coastal area was directly involved in the revision of Subpart E and recommended only minor changes to the current Plan. Thus, Subpart E, as published today, remains substantially similar to Subpart E of the existing Plan.

III. Major Additions to the NCP

A. Subpart F

Subpart F establishes procedures and standards for responding to releases of hazardous substances, pollutants, and contaminants through the development of seven operational phases. Like Subpart E, it is organized by operational response phases. Phase I, entitled Discovery and Notification, sets forth the means by which a release may be discovered and reported to the National Response Center (NRC). Phase II, § 300.63, provides for a preliminary assessment of a release. The assessment may be undertaken by the lead agency for the purpose of gathering pertinent information as listed and for an evaluation of the magnitude of the hazard.

Phases III, IV, V and VI address the requirement of 105(3) of CERCLA that the Plan include methods and criteria for determining the appropriate extent of removal, remedy and other measures authorized by the Act. Section 101(23) of CERCLA defines removal as those response actions that should, to the extent possible, be taken relatively quickly after discovery to protect or prevent actual or potential injury to public health, welfare or the environment. Removal actions are limited to a Fund obligation of $1 mill., or six months duration unless a finding is made that: (1) Continued response actions are immediately required to prevent, limit, or mitigate an emergency, (2) there is an immediate risk to public health or welfare or the environment, and (3) response will not otherwise be provided on a timely basis (section 104(c)).

The Plan divides the statutory concept of removal into two categories "immediate" removal (Phase III) and "planned" removal (Phase V). The purpose of the division is to clearly delineate those circumstances when removal actions may be taken, thereby preventing the unchecked use of Trust Fund monies for all possible removal actions which could result in depletion of the Fund and an inability to fund remedial actions. It also serves to establish the appropriate extent of response in that immediate removal actions are terminated when the criteria for taking such action no longer are met.

1. *Immediate Removal.* Phase III, § 300.64, of the Plan provides that immediate removal actions may be taken when the OSC determines that prompt response may prevent immediate and significant harm or endangerment to human life, health or the environment. Immediate removal

would, therefore, be appropriate to avert or mitigate fires or explosions; human, animal or food-chain exposure to acutely toxic substances; contamination of a drinking water supply; or other similarly acute situations. The pattern of response outlined for this type of release is similar to the pattern of response used in the current Plan, Subpart E, for oil and hazardous substance removal. Immediate removal actions will be terminated after six months or $1 million is expended, unless findings required by section 104(c)(1) of the statute are made. Immediate removal will be terminated at any time prior to reaching these limitations when it is determined that the criteria in § 300.64(a)(1) are no longer present.

2. *Planned Removal.* Section 300.66 of Subpart F allows a planned removal at a release that is listed as a priority or at an unranked release to abate a threat that may result in a need to take immediate removal. Planned removals are appropriate when an expedited, but not necessarily immediate, response should be taken.

Planned removal is intended to conserve Fund monies by allowing timely response to releases which, if addressed expeditiously, will result in substantial cost savings while effectively minimizing and mitigating increases in damage or exposure that otherwise would occur if response were delayed. No planned removal may be taken, however, unless it will result in a self contained unit, the State agrees to share in at least 10 percent of the project expenses, and, in the case of an unranked site, the State assures the release will be submitted as a priority in the next revision of the National Priorities List. A self-contained component is one that (1) is a discrete activity which can be completed within the relevant time and funding constraints; (2) should not require future expenses on operation and maintenance; and (3) effectively contributes to lessening damages or exposure or increases in damages or exposure. Funding of such a component does not commit the Fund to taking any further action. Planned removal may not exceed the six months or $1 million limitation of section 104(c)(1) of CERCLA unless findings required by section 104(c)(1) of CERCLA are made. The six months or $1 million limitation does not include expenses incurred under section 104(b) of CERCLA.

3. *Remedial Response.* (a) *Establishment of National Priorities.* Releases that may be considered for remedial actions must be identified on the National Priority List. Section 300.65(d) sets forth the criteria and methodology contained in a Hazard Ranking System that the States and EPA will use to determine priorities for response among releases of hazardous substances. These proposed criteria have been used to establish an interim priority list of 115 releases or threatened releases which will be used to make initial funding decisions. EPA will use this interim ranking and any public comments received on the proposed revisions to the NCP to reexamine the Hazard Ranking System, and make any necessary modifications. The final criteria will be used to assign priority ranking to at least 400 of the highest priority releases. These will be published as the National Priority List. This list will be used to allocate funds for remedial and planned removal activities.

(1) *Hazard Ranking System.* The criteria and methodology to be used in ranking releases are referenced in § 300.65(d) as the Hazard Ranking System (HRS). The HRS is designed to provide an estimate of the relative severity of hazardous substance releases by considering: (1) The relative potential of substances to cause hazardous situations, (2) the likelihood and rate at which the substances may affect human and environmental receptors, and (3) the severity and magnitude of the potential effects.

The HRS identifies five major pathways of exposure to determine the relative hazard of each release or potential release. The five pathways of exposure are: (1) Ground water, (2) surface water, (3) air, (4) direct contact, and (5) fire and explosion. The first three pathways define the types of chronic harm which may be associated with releases to be addressed by remedial actions while the latter two define types of situations which normally are addressed by removal actions.

The probability of exposure to releases through each pathway is related to such factors as the geology of the location of the release, the kinds of engineering controls practiced at the facility, and the physical characteristics of the hazardous substances.

The degree of harm or endangerment, assuming exposure through one or more of the pathways, is considered to be a function of a number of factors, including the population exposed, the dangerous properties of the hazardous substances, and the value of the resources affected by the release.

In combining the two factors, probability and magnitude, the following equation is used to represent risks:

$R = (P)(M)$

where R = Risk

P = Probability (of adverse event)

M = Magnitude (of adverse event)

This approach is used in the HRS with modifications to reflect the uncertainties often present during investigations at hazardous substance releases. These uncertainties are a result of the inability of investigators to accurately quantify the probability (except where pollution is observed) or the magnitude of a threat without completing lengthy and expensive studies. Therefore, while the HRS can be used to discriminate relative risk among various facilities, it does not present absolute risks.

In order to calculate the hazard ranking score for a given release, one must assign a numerical value, for most factors on a scale of 0 to 3, for each pathway characteristic. Where releases have been observed, one assigns scores for observed pollution levels rather than estimating factors related to the probability of a release. For example, if ground water pollution has been verified through sampling and analysis, the probability of occurrence is known to be 100 percent and one assigns the highest score possible for those factors related to the probability of ground water pollution. These values are added or multiplied as appropriate to calculate a score for each pathway. The scores for the ground water, surface water, and air pathways are then aggregated to obtain the total score using the following formula:

The overall rating value =

$R_1^2 + R_2^2 + R_3^2$

where:

R_1 = the rating value for ground water

R_2 = the rating value for surface water

R_3 = the rating value for air

The other two pathways, fire and explosion and direct contact, are evaluated using the model, but the scores are not incorporated into the overall rating value. Rather, these scores are used to assess the need for possible removal actions at the facility. Section 300.65 references "A Model for Determining Priorities Among Hazardous Substance Releases," which provides detailed information on the Hazard Ranking System. It can be obtained from the Hazardous Site Control Division (WH-548-E), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460.

In developing the HRS, EPA reviewed several other models which have been developed for rating the relative hazard to public health and the environment posed by hazardous substance releases.

Among those models considered were: (1) The LeGrand model, (2) the Surface Impoundment Assessment (SIA) model, (3) EPA's Solid and Hazardous Waste Research Program Predictive Method (SPM), and (4) the Rating Methodology model developed by EPA to set priorities for investigation of hazardous waste sites. Each of these alternative models were determined to have weaknesses which rendered them inadequate for the purposes of the present program.

The LeGrand model evaluates the potential for ground water (primary wells) contamination by waste disposal sources. The final rating reflects the potential hazard of the wastes, the likelihood of the wastes reaching ground water, and the vulnerability of the ground water to contamination. However, the LeGrand model, appropriate only for ground water pollution, is not applicable because it does not address the spectrum of environmental routes, damage mechanisms, or target organisms that are covered under CERCLA.

The SIA model expands the scope of the LeGrand model to evaluate the potential threat of contamination to ground water itself, rather than the potential threat of contamination of wells. However, the model does not take into account hazards posed by other potential routes or damage mechanisms and, therefore, EPA rejected this model.

SPM involves the application of multivariate analysis to evaluate the relative importance of various rating factors in predicting ground water effects and classifies releases into three categories representing high, medium and low potential for ground water contamination. EPA believes multivariate analysis may be useful in refining weights given to pathways of exposure when complete data are available. This method, however, is not directly applicable to ranking of releases over many pathways of exposure, nor for classifying the releases into more than just a few categories.

The Rating Methodology Model was developed to assess landfills, surface impoundments and other types of land-based storage and disposal facilities for the purpose of allocating resources for site investigations. To accomplish that objective, a model was designed to require only readily available information, instead of making use of the results of field observations. After approximately one year of use in rating releases, EPA has decided that results based on this model are too imprecise to warrant its use in setting priorities.

Consequently, EPA initiated an effort to develop a system for setting priorities. The result of this effort is the HRS described in § 300.65(d) of this Plan. Like the Rating Methodology Model, each pathway is evaluated independently of the others. Also, where appropriate, factors are multiplicative rather than additive. This approach minimizes the likelihood that factors irrelevant to the risk at a given facility will significantly contribute to the hazard ranking score.

During the development of the HRS, issues were raised concerning: (1) The weighting factors given to the information considered by the system, (2) the apparent use of conservative assumptions when observed data are unavailable; and (3) the consideration of risks as being additive.

Concerning the weighting factors used in the HRS, EPA has verified the HRS, using empirical data to modify, where necessary, the weights and the selection of variables.

Concerning the apparent equal weights given to all pathways, the HRS does allow the maximum possible scores, representing worst case incidents, to be equal for all pathways. We do not believe we can discriminate the very serious hazard which would be presented to the public and environment in the worst case situation in one pathway from the hazard presenting the worst case in any other pathway. However, the HRS is structured so that high scores will be assigned to some pathways more frequently than to others, approximately the frequency distributions of problems in the various pathways.

With regard to the issue that the HRS apparently uses estimates or conservative assumptions when observed data are unavailable, the HRS makes no provision for estimates or conservative assumptions. The HRS is to be applied only where adequate data exist. It is possible that the comments referenced address the characteristics of the HRS where the user does not necessarily need to have observations demonstrating that a release has already occurred. Rather, it is possible to substitute factors which relate to the probability of the occurrence of a release. The Agency selected this approach, consistent with CERCLA section 105(8)(A), to allow the evaluation of threatened releases. In most cases, all other factors being equal, scores obtained using the capability of the HRS to predict that a release might occur will be lower than those obtained if a release has been observed. Only where all predictive factors are scored at the maximum, indicative of an extremely high probability of a release, would the scores of predicted and observed releases be similar.

Some reviewers stated that the HRS assumed that risks associated with the various pathways are additive. Those reviewers disagreed with the additive approach in combining the scores of the various pathways. The Agency agrees, and has not used an additive approach to combine pathway scores. The Agency has selected a formula for aggregating the pathway scores which has the following characteristics: (1) Ground water, surface water and air pathway scores are taken into account; (2) secondary pathway scores contribute significantly to the total only if they approach the maximum possible score; (3) if all pathway scores are low, the total score is low; and (4) even if only one pathway is rated with a high score, the total score will be sufficiently high so that the facility will be included among the highest priorities. This is accomplished by taking the square root of the sum of the squares of the score for the three major pathways to arrive at a total score. The other pathways (fire or explosion and direct contact) are also scored, and those scores are taken into account for planning removal actions.

(ii) *State Priority Submissions.* Section 300.65(d)(3)(B) provides that each State shall use the HRS to evaluate the threat posed by releases in the State, and to assign priorities to such releases for response activities. Each State is to develop a list of candidate releases which includes: (1) A summary of data pertinent to establishing the seriousness of the threat of the hight priority releases; (2) the availability of a financially viable, liable party and the status of any planned enforcement and/or response actions; (3) the next response phase needed and its estimated cost; and (4) an indication of the State's ability to make the assurances required by section 104(c)(3) of CERCLA. EPA will, from time to time, provide States with additional guidance on procedures for formulating and submitting candidates for the National Priority List.

(iii) *National Priorities.* The State candidates for the National Priority List will be submitted to the EPA Regional Offices for review to ensure uniform application of the Hazard Ranking System. EPA may, in consultation with the State and appropriate Federal agencies, add additional priority releases to the list submitted by the State. The State Priority Lists will be consolidated by EPA Headquarters into a National Priority List consisting of an estimated 400 highest priority releases. To the extent practicable, each State will have at least one site ranked among the 100 highest priority releases. The

National Priority List will then be published with releases categorized into priority groups.

The Agency believes that several purposes will be served by deferring publication of the National Priorities List at this time. First, priorities would be based on a larger and better pool of information, including that received pursuant to the hazardous waste site reports required under section 103(c) of the Act. Second, priorities would be based on the criteria in the final HRS adopted after notice and comment. Finally, if State Priority submissions are timely, EPA will have the benefit of additional valuable State input before publishing the National Priorities List. In the interim, EPA will continue to respond to those releases which it believes are most urgent.

(b) *Remedial Actions.* Phase VI Remedial Actions may be taken where response generally will require long-term and more costly action to prevent, contain, or cleanup releases. These actions are subject to the requirements for State participation pursuant to section 104(c)(3) of CERCLA. Before any remedial action is taken, States must assue that they will conduct all future maintenance for the expected life of such action and agree to pay 10 percent of the cost of the remedial action (or at least 50 percent of all response costs if the facility was owned by the State or political subdivision thereof at the time the hazardous substance was disposed of) including all future maintenance (section 104(c)(3)).

Phase VI addresses the methods and criteria for determining the appropriate extent of response for remedial actions. The remedial scheme presented in Phase VI focuses on the decision making process used during a remedial investigation and feasibility study to determine the most cost-effective remedy which will effectively minimize and mitigate the danger posed by the release and provide adequate protection of public health, welfare, or the environment. The process consists of the following steps:

(i) *Determine whether the release is ranked.* Remedial response will be taken only at releases on the National Priority List. If a release is not ranked, no remedial action will be taken by the Fund.

(ii) *Review and update of data to determine whether threat to public health, welfare, or the environment still exists.* This step entails a review of existing data and an update of that data, if necessary, to determine whether a threat to public health, welfare, or the environment still exists. This step primarily serves the purpose of assuring that conditions at releases have not changed such that the release no longer requires a response.

(iii) *Scoping.* This step requires careful assessment of the type of problem presented by the release and an initial determination of the type or types of remedial action that may be appropriate. In order to facilitate flexible decision-making and to provide a critical management tool for conserving Fund monies, the Plan provides for three types of remedial actions. Each is tailored to a particular type of problem. These actions may be taken alone or in combination, depending on the conditions at the particular release.

(A) *Initial Remedial Measures*—Section 300.67(e) allows such measures when EPA determines it is feasible and necessary to limit exposure or threat of exposure to a significant health or environmental hazard. These measures are intended to be limited in scope, require a minimum of planning and to be accomplished within a short period of time. These actions generally will run on a "fast track" and be accomplished separately from the remainder of the remedial action. Section 300.67(e) details criteria for taking such actions.

(B) *Source Control Remedial Action*—Section 300.67(f)(1) establishes criteria for determining whether source control actions may be necessary. Such actions would include those taken at or near the area where the hazardous substance was originally located in order to control the migration of such substances into the environment. These actions may include control of hazardous substances at or near the location of the release or transport of the substances off-site.

The creation of this category of remedial action reflects the belief that where the hazardous substance that was the cause of the original release is inadequately controlled, the first objective of a response should be to achieve a level of control that will prevent, minimize and mitigate any significant threat of harm from migration of the source material.

(C) *Off-site remedial actions*—Section 300.67(f)(2) contains criteria for determining whether action is needed to minimize and mitigate the migration of substances and the effects of this migration. These actions only are appropriate when EPA determines that source control actions are inadequate to effectively minimize and mitigate the threat posed by the release.

The distinction drawn between off-site and source control actions is designed to accommodate the diversity of conditions found at releases. The identification of source control actions as those taken at or near the area where the hazardous substances originally were located, provides the lead agency the necessary flexibility to determine the boundaries of the area which must be controlled in order to remedy the area where the hazardous substance originally was located. The off-site remedial action category also allows the lead agency the flexibility to remedy areas to which substances have migrated. Although there may be some overlap in these categories, the overlap is necessary given diverse conditions at releases and the need to develop cost-effective remedies.

(iv) *Collect and analyze data and develop limited number of alternatives.* After scoping the type or types of remedial action needed, more extensive data collection and analysis will be undertaken. This analysis will be used to develop a limited number of alternatives that may be feasible for remedying the release.

(v) *Initial screening of alternatives.* Section 300.67(h) requires that alternatives be screened using cost, environmental, health and engineering criteria. This screening entails a "macro" analysis of alternatives to reject those that fail to meet the criteria.

(vi) *Refine alternatives and perform detailed analysis.* Section 300.67(i) requires refinement of remaining alternatives and a detailed analysis of those alternatives in terms of cost, implementation and engineering feasibility, adequacy and reliability and potential adverse impacts on health or the environment.

(vii) *Selection of cost-effective alternative.* Section 300.67(j) requires the lead agency to choose the most cost-effective remedial alternative which effectively minimizes and mitigates the danger and provides adequate protection of public health, welfare, and the environment.

(vii) *Fund-balancing.* In the case of Fund-financed response, section 104(c)(4) of CERCLA requires that the need for protection of public health, welfare, or the environment be balanced against the amount of money available in the Fund to respond to other releases. Therefore, § 300.67(k) requires that the lead agency also apply this balancing requirement in determining the appropriate extent of remedy.

When the appropriate extent of remedy is determined, the project will be designed and constructed.

Each release presents a unique situation because of its diverse characteristics. This diversity, along with the fact that there is limited experience in remedying releases,

makes it imperative that flexibility be preserved throughout the remedial planning process. The remedial response scheme established in § 300.67 provides the lead agency with this important flexibility.

The need for this flexibility is demonstrated by EPA's prior experiences. Prior to the passage of CERCLA, the Agency's primary vehicles for releases from addressing releases from hazardous waste management facilities, other than the somewhat limited authority and funds of section 311 of the Clean Water Act, was enforcement action pursuant to various statutory emergency power provisions. The Federal Government has filed over 60 judicial enforcement actions as of October 1981 pursuant to these emergency power provisions, primarily under section 7003 of the Resource Conservation and Recovery Act.

In these enforcement actions, the Agency has, on a case-by-case basis, made a combined scientific and legal judgment as to the appropriate extent of remedy, based on the extent of hazard, existing Federal and State standards and criteria, available technologies and their relative costs, the financial capabilities of prospective defendants, the culpability of prospective defendants and relevant court precedents.

This has resulted in settlements and initial court decisions calling for remedial activity in individual circumstances ranging from complete elimination or cleanup of contaminants to nondetectable levels to installation of containment and/or treatment alternatives in addition to or in lieu of rehabilitation of the contaminated environment. EPA's experience from these enforcement actions has demonstrated that the appropriate extent of remedy will probably differ depending on the individual release. Based on this experience, the Agency has decided that a flexible standard for determining the appropriate extent of remedy is the best standard at this time. As the Agency gains greater knowledge regarding cleaning up releases of hazardous substances, more specific standards may be appropriate.

In developing this section, EPA considered a variety of options:

One option was to require cleanup to levels that met Federal and State standards or water quality criteria. The Agency has decided that such a rigid requirement would impose the use of potentially inappropriate levels of cleanup that would not allow consideration of individual circumstances at each release. Any appropriate standard or criteria will be considered in determining the cleanup level of a particular release, along with other technological and environmental factors. Additionally, CERCLA itself imposes a balancing test on the selection of remedies—that response at any particular release be weighed against need for response at other releases.

EPA also considered the suggestion to require a formal cost-benefit analysis for each remedial action. EPA believes that its selection of the appropriate extent of remedy will adequately consider the costs and benefits of the different remedial alternatives at each release. A requirement to conduct a formal cost-benefit analysis would inevitably be dependent on the data used in such an analysis and merely result in rigid calculations that would foreclose any flexibility in the ultimate decision-making. Such an analysis would not further the Agency's goal of selecting the most appropriate remedy for each release.

(c) *Other Response Considerations.* (i) Section 300.68, Documentation and Cost Recovery, provides that all actions taken under the Plan are documented, collected, and maintained to form the basis of cost recovery.

(ii) Section 300.69 lists those methods of remedying releases that should be considered when taking response action. This list is not intended to be exhaustive but to give an indication of the types of remedies that the NRT considers to be appropriate and demonstrated methods. This list will be modified and/or expanded from time to time as new technologies are developed.

(iii) Section 300.70 discusses special considerations such as worker health and safety, and allocation of funds from the Disaster Relief Act for certain emergency response activities. Section 300.70(b) discusses the eligibility of non-Federal costs of implementing the Plan for payment from the Fund. EPA will not pay for any non-Federal response unless the response and associated costs have been preauthorized.

B. *Subpart C.* This subpart designates the heads of Federal agencies to act as trustees for natural resources and assigns responsibilities to the agencies as trustees. The designation is in accord with section 111(h)(1) of CERCLA and section 311(f)(5) of CWA and Executive Order 12316.

C. *Subpart H.* In response to the statutory mandate that the Plan include a schedule identifying dispersants and how and where they may be used, the current Plan created a complex and expensive system for registering dispersants. The statute envisioned development of a schedule identifying dispersants, describing the parameters of proper usage and case-by-case decisions on the use of other dispersants. The current system has resulted in no schedule of approved dispersants and virtually no approval of dispersants on a case-by-case basis. The revised Plan seeks to simplify case-by-case approvals until there is sufficient information to promulgate a schedule of dispersants.

III. Regulatory Impact Analysis

An analysis of the economic impacts of the revisions to the NCP was conducted to determine whether they qualified as a major rule under Executive Order 12291. The results of the analysis, based on the approaches examined in developing the current proposed form of the Plan, indicate that the revisions to the Plan constitute a major rule, because they are likely to result in an annual effect on the economy of $100 million or more. The analysis is available for inspection at Room G-200, (WH-548-D), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460.

IV. Regulatory Flexibility Act

As required by the Regulatory Flexibility Act of 1980, the Agency has reviewed the impact of the revised NC on small entities. EPA certifies that th NCP will not have a significant impact on a substantial number of small entities.

V. Enforcement Actions

Consistent with the Plan, EPA will continue to pursue enforcement actions as an alternative or complement to Fund-financed response activities. It is EPA policy that the same factors used to determine the appropriate extent of remedy for Fund-financed cleanup be considered to evaluate the adequacy of or determine the level of cleanup to be sought through enforcement efforts. Section 300.67(c) explicitly reflects this policy by providing that the criteria in § 300.67 (e) through (j) will be used to determine the appropriate extent of remedy for private party cleanup.

VI. Period for Public Comment

The Agency is providing 30 days for public comment pursuant to an order of the United States District Court for the District of Columbia in the case of Environmental Defense Fund, et al. v. Gorsuch, et al. (Nos. 81-2083 and 81-2269, February 12, 1982). The Agenc intends to request the Court to ame order and allow more than 30 days f public comment. The Agency will publish a notice in the Federal Register

if the Court amends its order and allows more than 30 days for public comment.

Dated: March 3, 1982.

Anne M. Gorsuch,

Administrator.

Part 1510, Title 40 of the Code of Federal Regulations is proposed to be redesignated as Part 300, Title 40 and revised to read as follows:

PART 300—NATIONAL OIL AND HAZARDOUS SUBSTANCES POLLUTION CONTINGENCY PLAN

Subpart A—Introduction

Sec.
300.1 Purpose and objectives.
300.2 Authority.
300.3 Scope.
300.4 Application.
300.5 Abbreviations.
300.6 Definition.

Subpart B—Responsibility

300.21 Duties of President delegated to Federal agencies.
300.22 Coordination among and by Federal agencies.
300.23 Other assistance by Federal agencies.
300.24 State and local participation.
300.25 Non-government participation.

Subpart C—Organization

300.31 Organizational concepts.
300.32 Planning and coordination.
300.33 Response operations.
300.34 Multi-regional responses.
300.35 Communications.
300.36 Response equipment.

Subpart D—Plans

300.41 Regional and local plans.
300.42 Regional contingency plans.
300.43 Local contingency plans.

Subpart E—Operational Response Phases for Oil Removal

300.51 Phase I—Discovery and notification.
300.52 Phase II—Preliminary assessment and initiation of action.
300.53 Phase III—Containment, countermeasures, cleanup and disposal.
300.54 Phase IV—Documentation and cost recovery.
300.55 General pattern of response.
300.56 Pollution reports.
300.57 Special considerations.
300.58 Funding.

Subpart F—Hazardous Substance Response

300.61 General.
300.62 Phase I—Discovery or notification.
300.63 Phase II—Preliminary assessment.
300.64 Phase III—Immediate removal.
300.65 Phase IV—Evaluation and determination of appropriate response—planned removal and remedial action.
300.66 Phase V—Planned removal.
300.67 Phase VI—Remedial action.
300.68 Phase VII—Documentation and cost recovery.
300.69 Methods of remedying releases.
300.70 Special considerations.

Subpart G—Destination and Responsibilities of Federal Trustees of Natural Resources

300.71 Designation of trustees.
300.72 Responsibilities of trustees.

Subpart H—Use of Dispersants and Other Chemicals

300.81 General.

Authority: Sec. 105, Pub. L. 96–510, 94 Stat. 2764, 42 U.S.C. 9605 and sec. 311(c)(2), Pub. L. 92–500, as amended; 86 Stat. 865, 33 U.S.C. 1321(c)(2); Executive Order 12316, 46 FR 42237 (August 20, 1981); Executive Order 11735, 38 FR 21243 (August 1973).

Subpart A—Introduction

§ 300.1 Purpose and objectives.

The purpose of the National Oil and Hazardous Substances Pollution Contingency Plan (Plan) is to effectuate the response powers and responsibilities created by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the authorities established by section 311 of the Clean Water Act (CWA), as amended.

§ 300.2 Authority.

The Plan is required by section 105 of CERCLA, 42 U.S.C. 9605, and by section 311(c)(2) of the Clean Water Act (CWA), as amended, 33 U.S.C. 1321(c)(2). In Executive Order 12316 (46 FR 42237) the President delegated to the Environmental Protection Agency the authority and responsibility to prepare, publish, revise, and amend the Plan in coordination with the National Response Team and Federal Emergency Management Agency.

§ 300.3 Scope.

(a) The scope of the Plan is specified by the statutes requiring their promulgation. The Clean Water Act requires that the Plan "shall provide for efficient, coordinated, and effective action to minimize damage" from oil and hazardous substance discharges, and provides further that the Plan shall include:

(1) Assignment of duties and responsibilities among Federal agencies in coordination with State and local agencies (33 U.S.C. 1321(c)(2)(A)).

(2) Availability of response equipment and supplies (33 U.S.C. 1321(c)(2)(B)).

(3) Establishment of a strike force to carry out the Plan and establishment at major ports of emergency task forces and prevention and removal plans (33 U.S.C. 1321(c)(2)(C)).

(4) A system for surveillance and notice of discharges (33 U.S.C. 1321(c)(2)(D)).

(5) Establishment of a national center to ensure coordinated response (33 U.S.C. 1321(c)(2)(E)).

(6) Procedures and techniques for identifying, containing, dispersing, and cleaning up oil and hazardous substances (33 U.S.C. 1321(c)(2)(F)).

(7) A schedule developed in cooperation with States identifying dispersants, if any, that may be used in carrying out the Plan (33 U.S.C. 1321(c)(2)(G)).

(8) A system whereby the States can act to remove a discharge and be reimbursed from the Fund established under section 311(k) (33 U.S.C. 1321(c)(2)(H)).

(b) Section 105 of CERCLA requires that the NCP "shall establish procedures and standards for responding to releases of hazardous substances, pollutants, and contaminants." This requirement for establishing response procedures and standards is accompanied by ten enumerated provisions that the revised NCP "shall include." In summary, the ten provisions require:

(1) Methods for discovering and investigating facilities where hazardous substances may be disposed of or otherwise come to be located or stored (42 U.S.C. 9605(1)).

(2) Methods for evaluating, including analysis of relative costs, and remedying releases that pose a substantial danger to public health or the environment (42 U.S.C. 9605(2)).

(3) Methods and criteria for determining the appropriate extent of response (42 U.S.C. 9605(3)).

(4) Roles and responsibilities for Federal, State and local governments and nongovernmental entities (42 U.S.C. 9605(4)).

(5) Availability of response equipment and supplies (42 U.S.C. 9605(5)).

(6) Assignment of responsibility for reporting releases on Federally owned or controlled properties (42 U.S.C. 9605(6)).

(7) Means of assuring that remedial actions are cost-effective (42 U.S.C. 9605(7)).

(8) Criteria for determining priorities among releases. Criteria and priorities shall be based upon EPA's judgment of relative risk or danger to public health or welfare or the environment (42 U.S.C. 9605(8)(a)).

(9) Listing of priorities among releases (42 U.S.C. 9605(8)(b)).

(10) Specifying roles for private organizations (42 U.S.C. 9605(9)).

(c) In addition to the enumerated provisions summarized above, section 105 also references requirements in sections 311(c)(2) (F) and (G) and 311(j)(1) of the CWA for which comparable "procedures, techniques, materials, equipment, and methods for identifying, removing, or remedying

releases of hazardous substances" are to be included in the revised Plan. Therefore, additional requirements for identifying, removing or remedying releases include:

(1) Procedures for identifying, containing, dispersing, and removing hazardous substances.

(2) A schedule for dispersants of hazardous substances and how and where they may be used.

(3) Methods for removal of hazardous substances.

(4) Criteria for development and implementation of Federal regional and Federal local contingency plans for responding to releases of hazardous substances.

(5) Procedures and equipment to contain releases of hazardous substances.

(d) In implementing this Plan, consideration should be given to the Joint U.S./Canadian Contingency Plan (including the annexes pertaining to the Great Lakes, and the Eastern and Western Coastal Areas); the Joint U.S./Mexican Contingency Plan and international assistance plans and agreements, security regulations, and responsibilities based on international agreements, Federal statutes and Executive orders. Actions taken pursuant to this Plan shall conform to the provisions of international joint contingency Plans, where they are applicable. This Plan shall be utilized to coordinate U.S. involvement in pollution incidents occurring in waters not under the management jurisdiction of the United States. The Department of State should be consulted prior to taking any action which may affect its activities. Nothing in any of the foregoing treaties or plans shall limit the application of any provision of this Plan.

§ 300.4 Application.

The Plan is applicable to response taken pursuant to the authorities under CERCLA and section 311 of the CWA.

§ 300.5 Abbreviations.

(a) *Department and Agency Title Abbreviations:*

DOC—Department of Commerce
DOD—Department of Defense
DOE—Department of Energy
DOI—Department of the Interior
DOJ—Department of Justice
DOL—Department of Labor
DOT—Department of Transportation
DOS—Department of State
EPA—Environmental Protection Agency
FEMA—Federal Emergency Management Agency
HHS—Department of Health and Human Services
NIOSH—National Institute for Occupational Safety and Health
NOAA—National Oceanic and Atmospheric Administration
OSHA—Occupational Safety and Health Administration
USCG—U.S. Coast Guard
USDA—U.S. Department of Agriculture
USGS—U.S. Geological Survey

(b) *Operational Title Abbreviations:*

ERT—Environmental Response Team
NRC—National Response Center
NRT—National Response Team
NSF—National Strike Force
OSC—On-Scene Coordinator
PAAT—Public Affairs Assist Team
PIAT—Public Information Assist Team
RRC—Regional Response Center
RRT—Regional Response Team
SSC—Scientific Support Coordinator

§ 300.6 Definitions.

Terms not defined in this section have the meaning given by CERCLA or the CWA.

Claim, as defined by section 101(4) of CERCLA, means a demand in writing for a sum certain.

Claimant, as defined by section 101(5) of CERCLA, means any person who presents a claim for compensation under CERCLA.

Coastal zone, as defined for the purpose of this Plan, means all U.S. waters subject to the tide, U.S. waters of the Great Lakes, specified ports and harbors on the inland rivers, waters of the contiguous zone, other waters of the high seas subject to this Plan, and the land substrata, ground waters, and ambient air proximal to those waters. The term coastal zone delineates an area of Federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreements and identified in Federal regional contingency plans.

Contiguous zone means the zone of the high seas, established by the United States under Article 24 of the Convention on the Territorial Sea and Contiguous Zone, which is contiguous to the territorial sea and which extends 9 miles seaward from the outer limit of the territorial sea.

Discharge, as defined by section 311(a)(2) of CWA, includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping of oil. For purposes of this Plan, discharge shall also mean substantial threat of discharge.

Drinking water supply, as defined by section 101(7) of CERCLA, means 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.

Environment, as defined by section 101(8) of CERCLA, means (a) the navigable waters of the United States, the waters of the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the U.S. under the Fishery Conservation and Management Act of 1976, and (b) any other surface water, ground water, drinking water supply, land surface and subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

Facility, as defined by section 101(9) of CERCLA, means (a) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or (b) any site or area where a hazardous substance has been deposited, stored, disposed of, placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel.

Federally permitted release, as defined by section 101(10) of CERCLA, means (a) discharges in compliance with a permit under section 402 of the Federal Water Pollution Control Act, (b) discharges resulting from circumstance, identified and reviewed and made part of the public record with respect to a permit issued or modified under section 402 of the Federal Water Pollution Control Act and subject to a condition of such permit, (c) continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the Federal Water Pollution Control Act, which are caused by events occurring within the scope of relevant operating or treatment systems, (d) discharges in compliance with a legally enforceable permit under section 404 of the Federal Water Pollution Control Act, (e) releases in compliance with a legally enforceable final permit issued pursuant to section 3005 (a) through (d) of the Solid Waste Disposal Act from a hazardous waste treatment, storage, or disposal facility when such permit specifically identifies the hazardous substances and makes such substances subject to a standard of practice, control procedure or bioassay limitation or condition, or other control on the hazardous substances in such releases, (f) any release in compliance with a legally enforceable permit issued under section 102 or section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972, (g) any injection of fluids authorized under Federal underground injection control

programs (and not disapproved by the Administrator of EPA) pursuant to part C of the Safe Drinking Water Act, (h) any emission into the air subject to a permit or control regulation under section 111, section 112, title 1, part C, title 1 part D, or State implementation plans submitted in accordance with section 110 of the Clean Air Act (and not disapproved by the Administrator of EPA), including any schedule or waiver granted, promulgated, or approved under these sections, (i) any injection of fluids or other materials authorized under applicable State law (1) for the purpose of stimulating or treating wells for the production of crude oil, natural gas, or water, (2) for the purpose of secondary, tertiary, or other enhanced recovery of crude oil or natural gas, or (3) which are brought to the surface in conjunction with the production of crude oil or natural gas and which are reinjected, (j) the introduction of any pollutant into a publicly owned treatment works when such pollutant is specified in and in compliance with applicable pretreatment standards of section 307 (b) or (c) of the CWA and enforceable requirements in a pretreatment program submitted by a State or municipality for Federal approval under section 402 of such Act, and (k) any release of source, special nuclear, or byproduct material, as those terms are defined in the Atomic Energy Act of 1954, in compliance with a legally enforceable license, permit, regulation, or order issue pursuant to the Atomic Energy Act of 1954.

Fund or Trust Fund means the Hazardous Substance Response Trust Fund established by section 221 of CERCLA.

Ground water, as defined by section 101(12) of CERCLA, means water in a saturated zone or stratum beneath the surface of land or water.

Hazardous substance, as defined by section 101(14) of CERCLA, means (a) any substance designated pursuant to section 311(b)(2)(A) of the CWA, (b) any element, compound, mixture, solution, or substance designated pursuant to section 102 of CERCLA, (c) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (but not including any waste the regulation of which under the Solid Waste Disposal Act has been suspended by Act of Congress), (d) any toxic pollutant listed under section 307(a) of the CWA, (e) any hazardous air pollutant listed under section 112 of the Clean Air Act, and (f) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act. The terms do not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under paragraphs (a) through (f) of this paragraph, and the term does not include natural gas, natural gas liquids, liquified natural gas or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

Inland zone means the environment inland of the coastal zone excluding the Great Lakes and specified ports and harbors of inland rivers. The term inland zone delineates the area of Federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreement and identified in Federal regional contingency plans.

Lead agency means the agency that provides the On-Scene Coordinator.

Natural resources, as defined by section 101(16) of CERCLA, means land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States (including the resources of fishery conservation zones established by the Fishery Conservation and Management Act of 1976), any State or local government or any foreign government.

Offshore facility, as defined by section 101(17) of CERCLA and section 311(a)(11) of the CWA, means any facility of any kind located in, on, or under any of the navigable waters of the U.S. and any facility of any kind which is subject to the jurisdiction of the U.S. and is located in, on, or under any other waters, other than a vessel or a public vessel.

Oil, as defined by section 311(a)(1) of CWA, means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuses, and oil mixed with wastes other than dredged spoil.

Oil pollution fund means the fund established by section 311(k) of the CWA.

Onshore facility (a) as defined by section 101(18) of CERCLA means any facility (including but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under any land or non-navigable waters within the United States; and (b) as defined by section 311(a)(10) of CWA means any facility (including but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under any land within the United States other than submerged land.

On-Scene Coordinator means the Federal official predesignated by the EPA or the USCG to coordinate and direct Federal responses under this Plan.

Plan means the National Oil and Hazardous Substances Pollution Contingency Plan published under section 311(c) of the CWA and revised pursuant to section 105 of CERCLA.

Pollutant or *contaminant*, as defined by section 104(a)(2) of CERCLA, shall include, but not be limited to, any element, substance, compound, or mixture, including disease causing agents, which, after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformation, in such organisms or their offspring. The term does not include petroleum, including crude oil and any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under sections 101(14) (A) through (F) of CERCLA, nor does it include natural gas, liquified natural gas, or synthetic gas of pipeline quality (or mixtures of natural gas and synthetic gas).

Release, as defined by section 101(22) of CERCLA, means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, but excludes: (a) Any release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons, (b) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine, (c) release of source, by-product or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954, if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of such act, or, for the purposes of section 104 of CERCLA or any other response action, any release of source, by-product, or special nuclear material from any processing site designated under section 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act of 1978, and (d) the normal application of fertilizer. For the purposes

of this Plan, release also means substantial threat of release

Remove or *removal*, as defined by section 311(a)(8) of CWA refers to removal of oil or hazardous substances from the water and shorelines or the taking of necessary actions to minimize or mitigate damage to the public health or welfare. As defined by section 101(23) of CERCLA, means the cleanup or removal of released hazardous substances from the environment, such actions as may be necessary in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or the environment, which may otherwise result from such release or threat of release. The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under section 104(b) of CERCLA, and any emergency assistance which may be provided under the Disaster Relief Act of 1974.

Remedy or *remedial action*, as defined by section 101(24) of CERCLA, means those actions consistent with permanent remedy taken instead of, or in addition to removal action in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment. The term includes, but is not limited to, such actions at the location of the release as storage, confinement, perimeter protection using dikes, trenches, or ditches, clay cover, neutralization, cleanup of released hazardous substances or contaminated materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavations, repair or replacement of leaking containers, collection of leachate and runoff, onsite treatment or incineration, provision of alternative water supplies, and any monitoring reasonably required to assure that such actions protect the public health and welfare and the environment. The term includes the costs of permanent relocation of residents and businesses and community facilities where the President determines that, alone or in combination with other measures, such relocation is more cost-effective than and environmentally preferable to the transportation, storage, treatment, destruction, or secure disposition offsite of such hazardous substances or may otherwise be necessary to protect the public health or welfare. The term does not include offsite transport of hazardous substances, or the storage, treatment, destruction, or secure disposition offsite of such hazardous substances or contaminated materials unless the President determines that such actions: (a) Are more cost-effective than other remedial actions, (b) will create new capacity to manage, in compliance with subtitle C of the Solid Waste Disposal Act, hazardous substances in addition to those located at the affected facility, or (c) are necessary to protect public health or welfare or the environment from a present or potential risk which may be created by further exposure to the continued presence of such substances or materials.

Respond or *response*, as defined by section 101(25) of CERCLA, means remove, removal, remedy, or remedial action, as appropriate.

Size classes of discharges refers to the following size classes of discharges which are provided as guidance to the OSC and serve as the criteria for the actions delineated in Subpart E. They are not meant to imply associated degrees of hazard to public health or welfare, nor are they a measure of environmental damage. Any pollution that poses a substantial threat to the public health or welfare or results in critical public concern shall be classified as a major pollution incident regardless of the following quantitative measures:

(a) *Minor discharge* means a discharge to the inland zone of less than 1,000 gallons of oil or a discharge to the coastal zone of less than 10,000 gallons of oil.

(b) *Medium discharge* means a discharge of 1,000 to 10,000 gallons of oil to the inland zone or a discharge of 10,000 to 100,000 gallons of oil to the coastal zone.

(c) *Major discharge* means a discharge of more than 10,000 gallons of oil to the inland zone or more than 100,000 gallons of oil to the coastal zone.

Trustee means any Federal natural resources management agency designated in Subpart G of this plan, and any State agency which may prosecute claims for damages under section 107(f) of CERCLA.

United States and *State* includes the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Somoa, the United States Virgin Islands, the Commonwealth of the Northern Marianas and any other territory or possession over which the U.S. has jurisdiction.

Volunteer means any individual recruited, trained and accepted to perform services by a Federal agency which has authority to accept volunteer services (example: *See* 16 U.S.C. 7421(c)). A volunteer is subject to the provisions of the authorizing statute.

Subpart B—Responsibility

§ 300.21 Duties of President delegated to Federal agencies.

(a) In Executive Order 11735 and Executive Order 12316 the President delegated certain functions and responsibilities vested in him by the CWA and CERCLA, respectively. Responsibilities so delegated shall be responsibilities of Federal agencies under this Plan unless:

(1) Responsibility is redelegated pursuant to section 8(f) of Executive Order 12316, or

(2) Executive Order 11735 or Executive Order 12316 is amended or revoked.

§ 300.22 Coordination among and by Federal agencies.

(a) Federal agencies should coordinate their planning and response activities through the mechanisms described in Subpart C of this plan and other means as may be appropriate.

(b) Federal agencies should coordinate planning and response actions with affected State and local governments and private entities to the extent circumstances may permit.

(c) Federal agencies with facilities or other resources which may be useful in a Federal response situation should make those facilities or resources available consistent with agency capabilities.

(d) When the head of the lead agency determines:

(1) That there is an imminent and substantial threat to the public health or welfare or the environment because of a discharge of oil from any offshore or onshore facility, or

(2) That there may be an imminent and substantial endangerment to the public health or welfare or the environment because of a release or threatened release of a hazardous substance, pollutant or contaminar from a facility; he may request the Attorney General to secure the relief necessary to abate the threat. The NRT may recommend that EPA or the USCG

exercise this authority. The action described here is in addition to any actions taken by a State or local government for the same purpose.

(e) In accordance with section 311(d) of CWA, whenever a marine disaster in or upon the navigable waters of the United States has created a substantial threat of a pollution hazard to the public health or welfare, because of a discharge or an imminent discharge from a vessel of large quantities of oil or hazardous substances designated pursuant to section 311(b)(2)(A) of CWA, the United States may:

(1) Coordinate and direct all public and private efforts to abate the threat;

(2) Summarily remove and, if necessary, destroy the vessel by whatever means are available without regard to any provisions of law governing the employment of personnel or the expenditure of appropriated funds. The authority for these actions has been delegated under Executive Order 11735 to the Administrator of EPA and the Secretary of the Department in which the Coast Guard is operating, respectively, for the waters for which each designates the OSC under this Plan.

(f) Response actions to remove discharges originating from the Outer Continental Shelf Lands Act operations shall be in accordance with the August 1971 Memorandum of Understanding between DOI and DOT concerning respective responsibilities under this Plan.

(g) Where appropriate, discharges of radioactive materials shall be handled pursuant to the Interagency Radiological Assistance Plan.

§ 300.23 Other assistance by Federal agencies.

(a) Each of the participating Federal agencies has duties established by statute, Executive order, or Presidential directive which may be relevant to Federal response action following or in prevention of a discharge of oil or a release of a hazardous substance, pollutant or contaminant. These duties may also be relevant to the rehabilitation, restoration, and replacement of damaged or lost natural resources. Federal regional contingency plans should call upon agencies to carry out these duties in a coordinated manner.

(b) The following Federal agencies may be called upon by an OSC during the planning or implementation of a response to provide assistance in their respective areas of expertise, consistent with their capabilities:

(1) Department of Agriculture.

(2) Department of Commerce.

(3) Department of Defense.

(4) Department of Energy.

(5) Federal Emergency Management Agency.

(6) Department of Health and Human Services.

(7) Department of the Interior.

(8) Department of Justice.

(9) Department of Labor.

(10) Department of State.

(11) Department of Housing and Urban Development.

(12) The Small Business Administration.

(13) Department of Transportation.

(14) Environmental Protection Agency.

(c) In addition to their general responsibilities under paragraph (a) of this section, participating agencies should:

(1) Make necessary information available to the NRT, RRTs, and OSCs.

(2) Inform the NRT and RRTs (consistent with national security considerations) of changes in the availability of resources that would affect the operations of the plan.

(d) All Federal agencies are responsible for reporting the existence of facilities which may be located on Federally owned or controlled properties and any releases of hazardous substances from facilities which are under their jurisdiction or control in accordance with procedures outlined in Subparts E and F.

§ 300.24 State and local participation.

(a) Each State governor is requested to assign an office or agency to represent the State on the appropriate RRT. Local governments are invited to participate in RRT activities as may be provided by State law or arranged by the State's representative. The State's representative may participate fully in all facets of RRT activities and is encouraged to designate the element of the State government that will direct State supervised response operations.

(b) State and local government agencies are encouraged to include contingency planning for response, consistent with this Plan and Regional Contingency Plans, in all emergency and disaster planning.

(c) States are encouraged to use State authorities to compel potentially responsible parties to undertake response actions, or to themselves undertake response actions which are not eligible for Federal funding.

(d) States may enter into contracts or cooperative agreements pursuant to section 104 (c)(3) and (d) of CERCLA, to undertake actions authorized under section 1510.63 of this Plan. Prior to taking any remedial action pursuant to sections 104 (c)(3) and (d) of CERCLA, States shall enter into a cooperative agreement which meets the minimum requirements under sections 104 (c)(3) and (d) of the Act, and other requirements deemed necessary by appropriate Federal agencies.

(e) States are responsible for applying priority criteria in accordance with Subpart F and submitting State priorities for establishment of response priorities in accordance with Subpart F and applicable State guidlines.

(f) Where a State has assumed responsibility for response actions pursuant to Subpart F of this plan, the State is responsible for designating an individual to fulfill such responsibilities as the executing agency deems necessary.

§ 300.25 Non-Government participation.

(a) Industry groups, academic organizations, and others are encouraged to commit resources for response operations. Specific commitments should be listed in Federal regional, and Federal local contingency plans.

(b) It is particularly important to use the valuable technical and scientific information generated by the non-government local community along with those from Federal and State governments to assist the OSC in devising cleanup strategies where effective standard techniques are unavailable, to assist in the performance of damage assessments, and to ensure that pertinent research will be undertaken to meet national needs.

(c) Federal local contingency plans should establish procedures to allow for well-organized, worthwhile, and safe use of volunteers. Local plans should provide for the direction of volunteers by the OSC, or by other Federal, State or local officials knowledgeable in contingency operations and capable of providing leadership. If, in the judgment of the OSC or an appropriate participating agency, dangerous conditions exist, volunteers shall be restricted from on-scene operations.

(d) If any person other than the Federal Government or a State or person operating under contract or cooperative agreement with the United States, takes removal or remedial action and intends to seek reimbursement from the Fund, such actions to be in conformity with this Plan for purposes of section 111(b) of CERCLA may only be undertaken:

(1) After prior written notice to the Administrator of EPA of intention to undertake a removal (notice must be given at least thirty (30) days prior to initiation of removal, unless

circumstances require shorter notice to protect public health and welfare or the environment), and

(2) After prior consent and approval by the assigned OSC of plans, procedures, and costs to be incurred pursuant to CERCLA section 111(a), including recommendations for the protection of cleanup crews.

(e) A person that does not intend to seek reimbursement from the Fund for removal or remedial costs does not need to obtain preauthorization pursuant to § 1510.25(d) (1) and (2) to act consistent with this Plan.

(f) Fund compensation to claimants for response costs shall be subject to the provisions of CERCLA section 104(c), or CWA section 311(i) and must be consistent with all other provisions and requirements of the Plan and the CERCLA.

Subpart C—Organization

§ 300.31 Organizational concepts.

Three fundamental kinds of activity are performed pursuant to the Plan: Planning and coordination, communications, and operations at the scene of a discharge, release, or threat of release. The organizational elements created to perform these activities are discussed below in the context of their roles in these activities.

§ 300.32 Planning and coordination.

(a) National planning and coordination is accomplished through the National Response Team (NRT).

(1) The NRT consists of representatives from the participating agencies. Each participating agency shall designate a member to the team and sufficient alternates to ensure representation, as agency resources permit.

(2) Except for periods of activation because of a response action, the representative of EPA shall be the chairman and the representative of USCG shall be vice chairman of the NRT. The vice chairman shall maintain records of NRT activities along with national, regional, and local plans for response actions. When the NRT is activated for response action, the chairman shall be the representative of the lead agency.

(3) While the NRT desires to achieve a consensus on all matters brought before it, certain matters may prove unresolvable by this means. In such cases, each cabinet department or agency serving as a participating agency on the NRT may be accorded one vote in NRT proceedings.

(4) The NRT may establish such bylaws and committees as it deems appropriate to further the purposes for which it is established.

(5) When the NRT is not activated for a response action, it shall serve as a standing committee to evaluate methods of responding to discharges or releases, to recommend needed changes in the response organization, and to recommend revisions to this Plan.

(6) The NRT may consider and make recommendations to appropriate agencies on the training, equipping and protection of response teams and necessary research, development, demonstration, and evaluation to improve response capabilities as the need arises.

(7) Direct planning and preparedness responsibilities of the NRT include:

(i) Maintaining readiness to respond to a nationally significant discharge of oil or release of a hazardous substance or pollutant or contaminant.

(ii) monitoring incoming reports from all RRTs and responding when necessary.

(iii) Reviewing regional responses to oil discharges and hazardous substance releases, including an evaluation of equipment readiness and coordination among responsibile public agencies and private organizations.

(iv) Developing procedures to ensure the coordination of Federal, State, and local governments and private response to oil discharges and hazardous substance releases.

(b) The RRT serves as the regional body for planning and preparedness actions before a response action is taken and for coordination and advice during such action. The RRT consists of regional representatives of the participating agencies, and representatives of State and local governments, as appropriate.

(1) Except when the RRT is activated for a removal incident, the representatives of EPA and USCG shall act as co-chairmen.

(2) Each participating agency should designate one member and at least one alternate member to the RRT. Participating State and local governments may also designate one member and at least one alternate member to the Team. All agencies may also provide additional representatives as observers to meetings of the RRT.

(3) RRT members should designate representatives from their agencies to work with OSCs in developing local contingency plans, providing for the use of agency resources, and in responding to discharges and releases (see § 300.43).

(4) Federal regional and Federal local plans should adequately provide the OSC with assistance from the Federal agencies commensurate with agencies' resources, capabilities, and responsibilities within the region. During a response action the members of the RRT should seek to make available the resources of their agencies to the OSC as specified in the Federal regional and Federal local contingency plans.

(5) Affected States are encouraged to participate actively in all RRT activities (see § 300.23(a)), to designate representatives to work with the RRT and OSCs in developing Federal regional and Federal local plans, to plan for and make available State resources, and to serve as the contact point for coordination of response with local government agencies whether or not represented on the RRT.

(6) The RRT serves as a standing committee to recommend changes in the regional response organization as needed, to revise the regional plan as needed, and to evaluate the preparedness of the agencies and the effectiveness of local plans for the Federal response to discharges and releases. The RRT should:

(i) Make continuing review of regional and local responses to discharges or releases, considering available legal remedies, equipment readiness and coordination among responsible public agencies and private organizations.

(ii) Based on observations of respon operations, recommend revisions of the National Contigency Plan to the NRT.

(iii) Consider and recommend necessary changes based on continuing review of response actions in the region.

(iv) Review OSC actions to help ensure that Federal regional and Federal local contingency plans are developed satisfactorily.

(v) Be prepared to respond to major discharges or releases outside its region.

(vi) Meet at least semiannually to review response actions carried out during the preceding period, and consider changes in Federal regional and Federal local contingency plans.

(vii) Provide letter reports on their activities to the NRT twice a year, no later than January 31 and July 31. At a minimum, reports should summarize recent activities, organizational changes, operational concerns, and efforts to improve State and local coordination.

(c) The OSC is responsible for developing any Federal local contingency plans for the Federal response in the area of the OSC's responsibility. This may be accomplished in cooperation with the RRT and designated State and lo representatives (see § 300.43). Boundaries for Federal regional contingency plans shall follow those of the Standard Regions for Federal

Administration. Boundaries for Federal local contingency plans shall coincide with those agreed upon between EPA, DOD and the USCG to determine OSC areas of responsibility and should be clearly indicated in the regional contingency plan.

(d) Scientific support for the development of regional and local plans is organized by appropriate agencies to provide special expertise and assistance. Generally, the Scientific Support Coordinator (SSC) for plans encompassing the coastal area will be provided by NOAA and those for the inland area will be provided by EPA or DOI. This delineation of responsibility may be modified within a region by agreement between DOC, DOI, and EPA representatives to the RRT. SSCs may be obtained from other agencies if determined to be appropriate by the RRT.

§ 300.33. Response operations.

(a) EPA and USCG shall designate OSCs for all areas in each region, subject to Executive Order 12316. The USCG will furnish or provide OSCs for oil discharges and for the immediate removal of hazardous substances, pollutants, or contaminants into or threatening the coastal zone except that the USCG will not provide predesignated OSCs for discharges and releases from hazardous waste management facilities or in similarly chronic incidents. EPA shall furnish or provide OSCs for oil discharges and hazardous substances releases into or threatening the inland zone and, unless otherwise agreed, for all planned removals and remedial actions.

(b) The OSC directs Federal Fund-financed response efforts and coordinates all other Federal efforts at the scene of a discharge or release. As part of the planning and preparation for response to pollution incidents, the OSCs shall be predesignated by the regional or district head of the lead agency.

(1) The first official from an agency with responsibility under this plan to arrive at the scene of the discharge or release should coordinate activities under this plan until the OSC arrives.

(2) The OSC shall to the extent practicable under the circumstances collect pertinent facts about the discharge or release, such as its source and cause; the existence of potentially responsibile parties; the nature, amount, and location of discharged or released materials; the probable direction and time of travel of discharged or released materials; the pathways to human exposure, potential impact on human health, welfare and safety; the potential impact on natural resources and property which may be affected; priorities for protecting human health, welfare and the environment; and appropriate cost documentation.

(3) The OSC will direct response operatons (see Subparts E and F for descriptive details). The OSC's effort shall be coordinated with other appropriate Federal, State, local, and private response agencies.

(4) The OSC will consult regularly with the RRT in carrying out this Plan and will keep the RRT informed of activities under the Plan.

(5) The OSC shall advise the appropriate State agency (as agreed upon with each State) as promptly as possible of discharges and releases.

(6) The OSC shall evaluate incoming information and immediately advise FEMA of potential major disaster situations.

(7) In those instances where a possible public health emergency exists, the OSC should notify the HHS representative to the RRT.

(8) All Federal agencies are required by Executive Orders 11735 and 12048 to develop emergency plans and procedures for dealing with oil discharges and releases of hazardous substances (designated under section 311(b)(2) of the CWA) from vessels and facilities under their jurisdiction. All Federal agencies, therefore, are responsible for designating the offices that can coordinate such incidents in accordance with this Plan and applicable Federal regulations and guidelines. If, in the opinion of the OSC, the responsible Federal agency does not act promptly or take appropriate action to respond to a discharge or release caused by a facility or vessels under its jurisdiction, the appropriate OSC (depending on the area where the discharge or release occurs) may conduct appropriate response activities. With respect to incidents on Department of Defense (DOD) facilities, the OSC shall be furnished by the DOD.

(9) In the event of a major disaster or emergency, under the Disaster Relief Act of 1974 (Pub. L. 93-288), the OSC will coordinate any response activities with the Federal Coordinating Officer designated by the President.

(10) The OSC is responsible for addressing worker safety concerns at a response scene.

(c) The National Strike Force (NSF) consists of the Strike Teams established by the USCG on the East, West and Gulf coasts and includes emergency task forces to provide assistance to the OSC.

(1) The Strike Teams can provide communication support, advice, and assistance for oil and hazardous substances removal. These teams also have knowledge of ship salvage, damage control, and diving. Additionally, they are equipped with specialized containment and removal equipment, and have rapid transportation available. When possible, the Strike Teams will train the emergency task forces and assist in the development of regional and local contingency plans.

(2) The Strike Teams provide assistance to the OSCs on request. Requests for a team may be made directly to the Commanding Officer of the appropriate team, the USCG member of the RRT, the appropriate USCG Area Commander, or Commandant of the USCG through the NRC.

(3) Emergency task forces consist of personnel trained to evaluate, monitor, and supervise pollution responses. Additionally, they have limited "first aid" response capability to deploy equipment prior to the arrival of a cleanup contractor.

(d) The ERT is established by EPA in accordance with its disaster and emergency responsibilities. The ERT includes expertise in biology, chemistry, hydrology, geology and engineering. It can provide access to special contamination equipment for chemical releases and advice to the OSC in hazard evaluation; risk assessment; multimedia sampling and analysis program; on-site safety, including development and implementation plans; cleanup techniques and priorities; water supply contamination and protection; application of dispersants; damage assessment and restoration of natural resources; degree of cleanup required; and disposal of contaminated material.

(1) The ERT also provides both introductory and intermediate level training courses to prepare response personnel.

(2) OSC or RRT requests for ERT support should be made to the EPA representative on the RRT, the EPA Headquarters, Director, Hazardous Response Support Division, or the appropriate EPA regional emergency coordinator.

(e) When requested by the OSC, the SSC shall serve as a member of the OSC's staff and assist the OSC in fulfilling responsibilities regarding damage assessment. The extent and nature of SSC involvement in the operational mode shall be determined by the OSC. The SSC may:

(1) Coordinate response from the scientific community to OSC requests for assistance and to requests from the OSC or trustees of the affected natural resources, as appropriate, for

performance of damage assessment investigation.

(2) Serve as the principal liaison for scientific advice from the scientific community to the OSC. The SSC shall ensure that differing scientific views within the scientific community are communicated to the OSC in a timely manner.

(3) The SSC will assist in responding to requests for assistance from State and Federal agencies regarding scientific studies, damage assessments, and natural resource restoration. Details on provision of access to scientific support shall be included in regional contingency plans.

(f)(1) The RRT may be activated by the Chairman as an emergency response team when a discharge or release:

(i) Exceeds the response capability available to the OSC in the place where it occurs;

(ii) Transects regional boundaries; or

(iii) May pose a substantial threat to the public health or welfare or to regionally significant amounts of property. Regional contingency plans shall specify detailed criteria for activation of RRTs.

(2) When the RRT is activated for an immediate removal action, the chairman shall be the representative of the lead agency. When the RRT is activated for a planned removal or remedial action, the chairman shall be the representative of EPA.

(3) The RRT is activated in the event of a major discharge or a major release. The RRT may be activated during any other pollution emergency by a request from any RRT representative to the chairman of the Team. Request for Team activation shall later be confirmed in writing. Each representative, or an appropriate alternate, should be notified immediately when the RRT is activated.

(4) During prolonged removal or remedial action, the RRT may not need to be activated or may need to be activated only in a limited sense during such actions, or have available only those members of the RRT who are directly affected by or can provide direct response assistance. When activated for a discharge or release, agency representatives should meet at the call of the chairman and may:

(i) Monitor and evaluate reports from the OSC. The RRT may advise the OSC on the duration and extent of Federal response and may recommend to the OSC specific actions to respond to the discharge or release.

(ii) Request other Federal, State or local governments, or private agencies to provide resources under their existing authorities to respond to a discharge or release or to monitor response operations.

(iii) Help the OSC prepare information releases for the public and for communication with the NRT.

(iv) If the circumstances warrant, advise the regional or district head of the agency providing the OSC that a different OSC should be designated.

(v) Submit Pollution Reports (POLREPS) to the NRC as significant developments occur.

(5) When the RRT is activated, affected States may participate in all RRT deliberations. State or local government representatives participating in the RRT have the same status as any Federal member of the RRT.

(6) The RRT can be deactivated by agreement between the EPA and USCG team members. The time of deactivation should be included in the POLREPS.

(g) The NRT may be activated as a emergency response team when an oil discharge or hazardous substance release:

(1) Exceeds the response capability of the region in which it occurs;

(2) Transects regional boundaries; or

(3) Involves significant population hazards or national policy issues, substantial amounts of property, or substantial threats to natural resources.

Also, when requested by any team representatives, the NRT may act as an emergency response team.

(h) When activated for a response action, the NRT shall meet at the call of the chairman and may:

(1) Monitor and evaluate reports from the OSC. The NRT may recommend to the OSC, through the RRT or otherwise, actions to combat the discharge or release.

(2) Request other Federal, State and local governments, or private agencies to provide resources under their existing authorities to combat a discharge or release or to monitor response operations.

(3) Coordinate the supply of equipment, personnel, or technical advice to the affected region from other regions or districts.

§ 300.34 Multi-regional responses.

(a) If a discharge or release or a substantial threat of a discharge or release moves from the area covered by one Federal local or Federal regional contingency plan into another area, the authority for pollution control actions should likewise shift. If a discharge or release or substantial threat of discharge or release affects areas covered by two or more regional plans, the response mechanism of both plans may be activated. In this case, pollution control actions of all regions concerned shall be fully coordinated as detailed in the regional plans.

(b) There should be only one OSC at any time during the course of a response operation. Should a discharge or release affect two or more areas, the EPA, USCG and DOD, as appropriate, should give prime consideration to the area vulnerable to the greatest damage. The RRT shall designate the OSC if EPA and USCG members are unable to agree on a designation. The NRT shall designate the OSC if members of one RRT or of two adjacent RRTs are unable to agree on the designation.

(c) Where the USCG has provided the OSC for emergency response to a release from a waste site located in the coastal zone, the responsibility for response action following the immediate removal action shall shift to EPA, in accordance with EPA/USCG agreements.

§ 300.35 Communications.

(a) The NRC is the national communications center for activities related to response actions. It is located at USCG Headquarters in Washington, D.C. The NRC receives and relays notices of discharges or releases to the appropriate OSC, disseminates OSC and RRT reports to the NRT when appropriate, and provides facilities for the NRT to use in coordinating a national response action when required.

(b) The Commandant, USCG, will provide the necessary communications, plotting facilities, and equipment.

(c) Notice of an oil discharge or a release of a hazardous substance or pollutant or contaminant should be made immediately in accordance with 33 CFR Part 153, Subpart B. Means of satisfying this requirement includes notification of the NRC Duty Officer, HQ USCG, Washington, D.C., telephone (800) 424-8802 (or current local telephone number), or notification to the predesignated OSC. All notices of discharges or releases received at the NRC should be relayed immediately by telephone to the OSC and State.

(d) Pollution Reports (POLREPS) Should be submitted by the RRT to the NRC as significant developments occur during response actions.

(e) Each regional plan will specify the location for the RRC. The RRC provides facilities and personnel for communications, information storage, and other requirements for coordinating response.

(f) The USCG Public Information Assist Team (PIAT) and the EPA Pu... Affairs Assist Team (PAAT), may help OSCs and regional or district offices

meet the demands for public information and participation during major responses.

§ 300.36 Response equipment.

The Spill Cleanup Inventory (SKIM) system is available to help OSCs and RRTs gain rapid information as to the location of response and support equipment. This inventory is accessible through the National Response Center (NRC) and USCG's OSCs. The inventory includes private and commercial equipment, as well as government resources. The RRTs and OSCs shall ensure that data in the system are current and accurate. The USCG is responsible for maintaining and updating the system with RRT and OSC input.

Subpart D—Plans

§ 300.41 Regional and local plans.

(a) In addition to the National Contingency Plan (NCP), a Federal regional plan shall be developed for each standard Federal region and a Federal local plan shall be developed for each area in which an On-Scene Coordinator (OSC) deems it necessary. In areas in which the USCG designates the OSC, such plans shall be developed in all cases.

(b) These plans will be available for inspection at EPA Regional Offices or USCG District Offices. Addresses and telephone numbers for these offices may be found in the United States Government Manual (issued annually) or in local telephone directories.

§ 300.42 Regional contingency plans.

(a) The RRTs, working with the States, should develop Federal regional plans for each standard Federal region. The purpose of these plans is coordination of a timely, effective response by various Federal agencies and other organizations to discharges of oil and releases of hazardous substances and releases of pollutants or contaminants in order to protect public health or welfare and the environment. Regional contingency plans should include information on all useful facilities and resources in the region, from government, commercial, academic and other sources. To the greatest extent possible, regional plans will follow the format of the National Contingency Plan.

(b) Regional Scientific Support Coordinators (SSCs) shall organize and coordinate the contributions of scientists of each region to the response activities of the OSC and RRT to the greatest extent possible. SSCs, with advice from RRT members, shall also develop the parts of the regional plan that relate to scientific support.

(c) Regional plans shall contain lines of demarcation between the inland and coastal zones, as mutually agreed upon by USCG and EPA.

§ 300.43 Local contingency plans.

(a) Each OSC shall maintain a Federal local plan for response in his or her area of responsibility, where practicable. In areas in which the USCG provides the OSC such plans shall be developed in all cases. The plan should provide for a well-coordinated response that is integrated and compatible with the pollution response, fire, emergency and disaster plans of local, State and other non-Federal entities. The plan should identify the probable locations of discharges or releases, the resources to respond to multi-media incidents, where such resources can be obtained, waste disposal methods and facilities consistent with local and State plans developed under the Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*), and a local structure for responding to discharge or releases. To the extent possible, Federal local plans will follow the format of the NCP.

(b) While the OSC is responsible for developing Federal local plans, a successful planning effort will depend upon the full cooperation of all the agencies' representatives and includes the development of local capabilities to respond to discharges or releases. Particular attention must be given, during the planning process, to developing a multi-agency local response team for coordinating on-scene efforts. The RRT should ensure proper liaison between the OSC and local representatives of RRT members.

Subpart E—Operational—Response Phases for Oil Removal

§ 300.51 Phase I—Discovery and notification.

(a) A discharge of oil may be discovered through:

(1) A report submitted by the responsible party in accordance with statutory requirements;

(2) Deliberate search by patrols; and

(3) Random or incidental observation by government agencies or the public.

(b) Reports of discharges should be made to the NRC or the nearest USCG or EPA office. All reports shall be promptly relayed to the NRC if not previously reported. Federal regional and Federal local plans shall provide for prompt reporting to the NRC, RRC, appropriate State agency (as agreed upon with the State), and the affected land manager or owner.

(c) Upon receipt of a notification of discharge the NRC shall promptly notify the OSC through the appropriate RRC. The OSC shall proceed with the following phases as outlined in Federal regional, and Federal local plans.

§ 300.52 Phase II—Preliminary assessment and initiation of action.

(a) The agency providing the OSC for a particular area is responsible for initiating an immediate preliminary assessment.

(b) The preliminary assessment shall be conducted using available information, supplemented where necessary and possible by an on-scene inspection. The OSC shall undertake actions to:

(1) Evaluate the magnitude and severity of the discharge or threat to public health and welfare and the environment;

(2) Assess the feasibility of removal; and

(3) Determine the existence of potential responsible parties.

(c) Oil pollution Fund-financed response shall not be initiated when:

(1) There is no discharge or threat of discharge; or

(2) A responsible person, or any other person (except a State), is providing appropriate response.

(d) The OSC in consultation with appropriate legal authorities shall make a reasonable effort to have the responsible party voluntarily and promptly perform removal actions. The OSC shall ensure adequate surveillance over whatever actions are initiated. If effective actions are not being taken to eliminate the threat, or if removal is not being properly done, the OSC will so advise the responsible party. If the responsible party does not take proper removal actions, or is unknown, or is otherwise unavailable, the OSC shall, pursuant to section 311(c)(1) of the CWA, determine whether authority for a Federal response exists, and, if so, take appropriate response actions. Where practicable, continuing efforts should be made to encourage response by responsible parties.

(e) The OSC shall ensure that the trustees of affected natural resources are notified, in order that the trustees may initiate appropriate actions, when natural resources have been or are likely to be damaged (see Subpart G).

§ 300.53 Phase III—Containment, countermeasures, cleanup, and disposal.

(a) Defensive actions should begin as soon as possible to prevent, minimize, or mitigate damage to the public health or welfare or the environment. Actions

may include: Analyzing water samples to determine the source and spread of the pollutant; controlling the source of discharge; measuring and sampling; damage control or salvage operations; placement of physical barriers to deter the spread of pollution or to protect endangered species; control of the water discharged from upstream impoundment; and the use of chemicals and other materials in accordance with Subpart H, to restrain the spread of the pollutant and mitigate its effects.

(b) Appropriate actions should be taken to recover the pollutant or mitigate its effects. Of the numerous chemical and physical methods that may be used, the chosen methods should be the most consistent with protecting the public health and welfare and the environment.

(c) Pollutants and contaminated materials recovered in cleanup operations shall be disposed of in accordance with Federal regional and Federal local contingency plans.

§ 300.54 Phase IV—Documentation and Cost Recovery.

(a) Documentation shall be collected and maintained to support all actions taken under the CWA and to form the basis for cost recovery. In general, documentation should be sufficient to prove the source and circumstances of the incident, the responsible party or parties, and impacts and potential impacts to the public health and welfare and the environment. When appropriate, documentation should also be collected for scientific understanding of the environment and for the research and development of improved response methods and technology. Damages to private citizens (including loss of earnings) are not addressed by this Plan. Evidentiary and cost documentation procedures and requirements are specified in the USCG directive CG-495 and 33 CFR Part 153.

(b) The OSC shall ensure the necessary collection and safeguarding of information, samples, and reports. Samples and information must be gathered expeditiously during the response to ensure an accurate record of the impacts incurred. Documentation materials shall be made available to the trustees of affected natural resources where practicable.

(c) Information and reports obtained by the OSC shall be transmitted to the RRC which will forward copies to the NRC, RRT members, and others as appropriate.

§ 300.55 General pattern of response.

(a) When the OSC receives a report of a discharge, actions normally should be taken in the following sequence:

(1) Immediately notify the RRC and NRC when the reported incident is an actual or potential major incident.

(2) Investigate the report to determine pertinent information such as the threat posed to public health or welfare, or the environment, the type and quantity of polluting material, and the source of the discharge.

(3) Notify RRT members, Scientific Support Coordinator, and the trustees of affected natural resources, in accordance with the applicable regional plan.

(4) Determine whether the "responsible party" is properly carrying out removal. Removal is being done properly when:

(i) The cleanup is fully sufficient to minimize or mitigate damage to the public welfare (removal efforts are "improper" to the extent that Federal efforts are necessary to prevent further damage).

(ii) The removal efforts are in accordance with applicable regulations and guidelines, including this Plan.

(5) Officially classify the size of the incident and determine the course of action to be followed.

(6) Determine whether a State or political subdivision has the capability to carry out response actions and a contract or cooperative agreement has been established with the appropriate fund administrator for this purpose.

(b) The preliminary inquiry will probably show that the situation falls into one of five classes. These classes and the appropriate response to each are outlined below:

(1) If the investigation shows that no discharge exists, the case shall be considered a false alarm and should be closed.

(2) If the investigation shows a minor discharge with the responsible party taking appropriate removal action, contact should be established with the party. The removal action should be monitored to ensure continued proper action.

(3) If the investigation shows a minor discharge with improper removal action being taken, the following measures shall be taken:

(i) An immediate effort should be made to stop further pollution.

(ii) The responsible party shall be so advised of what action will be considered appropriate.

(iii) If the responsible party does not properly respond, he shall be notified of his potential liability for Federal response performed under the Act. This liability includes all costs of removal and may include the costs of assessing and restoring damaged natural resources and other actual or necessary costs of a Federal response.

(iv) The OSC shall notify appropriate State and local officials, keep the RRT advised and initiate Phase III operations as conditions warrant.

(v) Information shall be collected for possible recovery of response costs in accordance with § 300.54.

(4) When the investigation shows that an actual or potential medium pollution incident exists, the OSC shall follow the same general procedures as for a minor discharge. If appropriate, the OSC shall recommend activation of the Regional Response Team.

(5) When the investigation shows an actual or potential major pollution incident, the OSC shall follow the same procedures as for minor and medium discharges and, in addition, shall immediately notify the RRC and NRC.

§ 300.56 Pollution reports.

(a) Within 60 days after the conclusion of a major pollution incident and when requested by the RRT, the OSC shall submit to the RRT a complete report on the response operation and the actions taken. The OSC shall at the same time send a copy of the report to the NRT. The RRT shall review the OSC's report and prepare an endorsement to the NRT for review. This shall be accomplished within 30 days after the report has been received.

(b) The OSC's report shall accurately record the situation as it developed, the actions taken, the resources committed and the problems encountered. The OSC's recommendations are a source for new procedures and policy.

(c) The format for the OSC's report will be as follows:

(1) Summary of Events—A chronological narrative of all events, including:

(i) The cause of the incident;

(ii) The initial situation;

(iii) Efforts to obtain response by response by responsible parties;

(iv) The organization of the response; and

(v) The resources committed.

(vi) The location (water body, State, city, latitude and longitude) of the oil spill; whether the discharge was in connection with activities regulated under the Outer Continental Shelf Lands Act (OCSLA), the Trans-Alaska Pipeli Authority Act or Deepwater Port Act; whether it might have or actually did affect natural resources under the

exclusive management authority of the United States.

(vii) Comments on Federal or State efforts to replace or restore damaged natural resources and damage assessment activities.

(viii) Details of any threat abatement actions taken under sections 311(c) or (d) of the CWA.

(2) Effectiveness of Removal Actions—A candid and thorough analysis of the effectiveness of removal actions taken by:

(i) The responsible party;

(ii) State and local forces;

(iii) Federal agencies and special forces; and

(iv) (if applicable) contractors, private groups and volunteers.

(3) Problems Encountered—A list of problems affecting response with particular attention to problems of intergovernmental coordination.

(4) Recommendations—OSC recommendations, including at a minimum:

(i) Means to prevent a recurrence of the incident;

(ii) Improvement of response actions;

(iii) Any recommended changes in the National Contingency Plan or Federal regional plan.

§ 300.57 Special considerations.

(a) Safety of Personnel—The OSC should be aware of threats to human health and safety and shall ensure that persons entering the response area use proper pecautions, procedures, and equipment and that they posses proper training. Federal local plans shall identify sources of information on anticipated hazards, precautions, and requirements to protect personnel during response operations. Names and phone numbers of people with relevant information shall be included. Responsibility for the safety of all Federal employees rests with the heads of their agencies. Accordingly, each Federal employee on the scene must be apprised of and conform with OSHA regulations and others deemed necessary by the OSC. All private contractors who are working on-site must be fully informed of applicable provisons of the Occupational Safety and Health Act and standards deemed necessary by the OSC, and be required to conform with them.

(b) Waterfowl Conservation—The DOI representative and the State liaison to the RRT shall arrange for the coordination of professional and volunteer groups permitted and trained to participate in waterfowl dispersal, collection, cleaning, rehabilitation and recovery activities. Federal regional and Federal local plans will, to the extent practicable, identify organizations or institutions that are permitted to participate in such activities and operate such facilities. Waterfowl conservation activities will normally be included in Phase III response actions § 300.53 of this subpart).

§ 300.58 Funding.

(a) If the person responsible for the discharge does not act promptly or take proper removal actions, or if the person responsible for the discharge is unknown, Federal discharge removal actions may begin under section 311(c)(1) of the CWA. The discharger, if known, is liable for the costs of Federal removal in accordance with section 311(f) of the CWA and other Federal law.

(b) Actions undertaken by the participating agencies in response to pollution shall be carried out under existing programs and authorities when available. This Plan intends that Federal agencies will make resources available, expend funds, or participate in response to oil discharges under their existing authority. Authority to expend resources will be in accordance with agencies' basic statutes and, if required, through interagency agreements. Specific interagency reimbursement agreements may be signed when necessary to ensure that the Federal resources will be available for a timely response to a discharge of oil. The ultimate decison as to the appropriateness of expending funds rests with the agency that is held accountable for such expenditures.

(c) The oil pollution fund, administered by Commandant, USCG, has been established pursuant to section 311(k) of the CWA. Regulations governing the administration and use of the fund are contained in 33 CFR Part 153. The OSC shall exercise sufficient control over removal operations to be able to certify that reimbursement from the fund is appropriate.

(d) Response actions, other than removal, such as scientific investigations not in support of removal actions or law enforcement, shall be provided by the agency with legal responsibility for those specific actions.

(e) The funding of a response to a discharge from a Federally operated or supervised facility or vessel is the responsibility of the operating or supervising agency.

(f) The following agencies have funds available for certain discharge removal actions:

(1) The EPA may provide funds to begin timely discharge removal actions when the OSC is an EPA representative.

(2) The USCG pollution control efforts are funded under "operating expenses." These funds are used in accordance with agency directives.

(3) The Department of Defense has two specific sources of funds which may be applicable to an oil discharge under appropriate circumstances. (This does not consider military resources which might be made available under specific conditions.)

(i) Funds required for removal of a sunken vessel or similar obstruction of navigation are available to the Corps of Engineers through Civil Functions Appropriations, Operations and Maintenance, General.

(ii) The U.S. Navy has funds available on a reimbursable basis to conduct salvage operations.

(4) Certain emergency response activities of State and local governments under this Plan may qualify for reimbursement as a "major disaster" or an "emergency." The President may allocate funds from the Disaster Relief Act (Pub. L. 93–288, as amended), managed by FEMA. FEMA may make financial assistance available to State and local governments and certain private, non-profit organizations for debris removal, emergency protective measures, and repairs and restoration of public facilities. The Director of FEMA may also direct and reimburse Federal agencies to perform disaster-related work for State and local governments which do not have the capability to respond on their own. (See 44 CFR Part 205.)

(5) Pursuant to section 311(c)(2)(H) of the CWA, the State or States affected by a discharge of oil, may act where necessary to remove such discharge and may, pursuant to 33 CFR Part 153, be reimbursed from the pollution revolving fund for the reasonable costs incurred in such a removal.

(i) Removal by a State is necessary within the meaning of section 311(c)(2)(H) of the Act when the OSC determines that the owner or operator of the vessel, onshore facility, or offshore facility from which the discharge occurs cannot effect removal properly and that:

(A) State action is required to minimize or mitigate significant damage to the public health or welfare which Federal action cannot minimize or mitigate, or

(B) Removal or partial removal can be done by the State at a cost which is less than or not significantly greater than the cost which would be incurred by the Federal departments or agencies.

(ii) State removal actions must be in compliance with the Plan in order to qualify for reimbursement.

(iii) State removal actions are considered to be Phase III actions, under

the same definitions applicable to Federal agencies.

(iv) Actions taken by local government in support of Federal discharge removal operations are considered to be actions of the State for purpose of this section. Federal regional and Federal local plans shall show what funds and resources are available from participating agencies under various conditions and cost arrangements. Interagency agreements may be necessary to specify when reimbursement is required.

Subpart F—Hazardous Substance Response

§ 300.61 General.

(a) This subpart establishes methods and criteria for determining the appropriate extent of response authorized by CERCLA when any hazardous substance is released or there is a substantial threat of such a release into the environment, or there is a release or substantial threat of a release into the environment of any pollutant or contaminant which may present an imminent and substantial danger to the public health, welfare, or the environment.

(b) Section 104(a)(1) of CERCLA authorizes removal or remedial action unless it is determined that such removal and remedial action will be done properly by the owner or operator of the vessel or facility from which the release or threat of release emanates, or by any other responsible party.

(c) In determining the need for and in planning or undertaking Fund-financed action, response personnel should, to the extent practicable, consider the following:

(1) Encourage State participation in response actions.

(2) Conserve Fund monies by encouraging private party cleanup.

(3) Keep the local community informed.

(4) Rely on established technology when feasible and cost-effective.

(5) Encourage the participation and sharing of technology by industry and other experts.

§ 300.62 Phase I—Discovery or notification.

(a) A release may be discovered through:

(1) Notification in accordance with sections 103(a), (b) or (c) of CERCLA;

(2) Investigation by government authorities conducted in accordance with section 104(e) of CERCLA or other statutory authority;

(3) Notification of a release by a Federal or State permit holder when required by its permit;

(4) Inventory efforts or random or incidental observation by government agencies or the public;

(5) Other sources.

(b) If not reported previously, a release should be promptly reported to the NRC. The NRC shall convey the notification expeditiously to appropriate government agencies, and in the case of notices received pursuant to section 103(a) the NRC shall notify the Governor of any affected State and the appropriate State agency as agreed upon by the State.

(c) Upon receipt of a notification of a release, the NRC shall promptly notify the appropriate OSC.

§ 300.63 Phase II—Preliminary assessment.

(a) A preliminary assessment of a release identified for possible CERCLA response should be undertaken by the lead agency. If the reported release potentially requires immediate removal, the preliminary assessment should be done as promptly as possible. Other releases shall be assessed as soon as practicable considering priorities. The lead agency should base its assessment on readily available information. This assessment may include:

(1) Evaluation of the magnitude of the hazard;

(2) Identification of the source and nature of the release;

(3) Determination of the existence of a non-Federal party or parties ready, willing, and able to undertake a proper response; and

(4) Evaluation of factors necessary to make the determination of whether immediate removal is necessary.

(b) A preliminary assessment of releases from hazardous waste management facilities may include data such as site management practices, information from generators, photographs, analysis of historical photographs, literature searches, and personal interviews conducted as appropriate. In addition, a perimeter (off-site) inspection may be necessary to determine the potential for a release. Finally, if more information is needed, and if sophisticated safety equipment is not needed, a site visit may be performed.

(c) A preliminary assessment should be terminated when the OSC determines:

(1) There is no release;

(2) The source is neither a vessel nor a facility;

(3) The release involves neither a hazardous substance, nor a pollutant or contaminant that may pose an imminent and substantial danger to public health or welfare;

(4) The amount released does not warrant Federal response;

(5) A party responsible for the release, or any other person, is providing appropriate response, and on-scene monitoring by the government is not recommended or approved by the lead agency; or

(6) The assessment is completed.

§ 300.64 Phase III—Immediate removal.

(a) In determining the appropriate extent of action to be taken at a given release the lead agency shall first review the preliminary assessment to determine if immediate removal action is appropriate. Immediate removal action shall be deemed appropriate in those cases in which the lead agency determines that the initiation of immediate removal action will prevent or mitigate immediate and significant risk of harm to human life or health or to the environment from such situations as:

(1) Human, animal, or food chain exposure to accutely toxic substances.

(2) Contamination of a drinking water supply;

(3) Fire and/or explosion; or

(4) Similarly acute situations.

(b) If the lead agency determines that immediate removal is appropriate, defensive actions should begin as soon as possible to prevent or mitigate danger to the public health, welfare, or the environment. Actions may include, but are not limited to:

(1) Collecting and analyzing samples to determine the source and dispersion of the hazardous substance and documenting those samples for possible evidentiary use.

(2) Providing alternative water supplies.

(3) Installing security fencing or other measures to limit access.

(4) Controlling the source of release.

(5) Measuring and sampling.

(6) Moving hazardous substances off-site for storage, destruction, treatment, or disposal provided that the substances are moved to a facility that is in compliance with subtitle C of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act.

(7) Placing physical barriers to deter the spread of the release.

(8) Controlling the water discharge from an upstream impoundment.

(9) Temporarily evacuating threatened individuals not otherwise provided for

(10) Using chemicals and other materials in accordance with Subpart H

to restrain the spread of the pollutant and to mitigate its effects.

(11) Executing damage control or salvage operations.

(c) Immediate removal actions are complete when, in the opinion of the lead agency, the criteria in subsection [a] of § 300.64 are no longer met and any contaminated waste materials have been treated or disposed of properly.

(d) If the lead agency determines that the release still may require planned removal or remedial action, the lead agency or a State may initiate, either simultaneously or sequentially, Phase IV or V, as appropriate.

§ 300.65 Phase IV—Evaluation and determination of appropriate response—planned removal and remedial action.

(a) The purpose of this phase is to determine the appropriate action when the preliminary assessment indicates that planned removal or remedial action may be necessary or when the OSC requests and the lead agency concurs that planned removal or remedial action should follow an immediate removal action.

(b) Pursuant to sections 104(b) and (e) of CERCLA, the responsible official may undertake investigations, monitoring, surveys, testing and other information gathering as appropriate. These efforts shall be undertaken jointly by the Federal or State officials responsible for providing Fund-financed response and those responsible for enforcing legal requirements. These coordination procedures shall be specified as appropriate in any contract or cooperative agreement with States.

(c) As soon as practicable, an inspection will be undertaken to assess the nature and extent of the release and its priority for Fund-financed response. A major objective of an inspection is to determine if there is any immediate danger to persons living or working near the facility. In general, the collection of samples should be minimized during inspection activities; however, situations in which there is an apparent risk to the public should be treated as exceptions to that practice. Examples of apparent risk include use of nearby wells for drinking water, citizen complaints of unusual taste or odor in drinking water, or chemical odors or unusual health problems in the vicinity of the release. Under those circumstances, a sampling protocol should be developed for the inspection to allow for the earliest possible detection of any human exposure to hazardous substances. The site inspection may also address:

(1) Determining the need for immediate removal or other emergency measures;

(2) Assessing amounts, types, and locations of hazardous substances stored;

(3) Assessing potential for substances to migrate from areas where they were originally located;

(4) Determining or documenting immediate threats to the public or environment.

(d) Methods for Listing Priorities—States that wish to have their priority lists considered for inclusion in the National Priority List must use the Hazard Ranking System to establish State priorities for adequately investigated, known, or potential releases and must furnish EPA with the scores. Detailed methods and criteria for ranking hazardous substance releases are included in "A Model for Determining Priorities Among Hazardous Substance Releases." The publication contains detailed direction for assigning value to ranking factors, worksheets, and the rationale behind the model. The model is available upon request from the Hazardous Site Control Division [WH-548-E], U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460.

(e) State Priority Submissions—States that wish to have their priority candidates considered for inclusion in the National Priority List must furnish a list of these releases to the appropriate EPA Regional Office. The list will include a listing of the most serious releases located in the State in order of priority and a summary of all data pertinent to establishing the seriousness of threat among high priority facilities. In addition, the list will indicate, for each release ranked: Whether a responsible party exists; whether the State intends to take enforcement action against the responsible party; the next response phase to be undertaken; an estimate of the cost of that phase; and an estimate of the total cost of the response. As part of the list, the State will indicate in a letter of intent either its ability to make the assurances required by section 104(c)(3) of the Act or its intention to make those assurances at the appropriate time. Briefly, the State will:

(1) Assure the future maintenance of the response actions provided;

(2) Assure the availability of a hazardous waste disposal facility in compliance with Subtitle C of the Solid Waste Disposal Act for any necessary off-site disposal of hazardous waste; and

(3) Assure payment or pay 10 percent of the costs of the remedial action (or at least 50 percent, if the facility was owned at the time of release by the State or by a political subdivision). The letter of intent should also contain the State's schedule for entering into a cooperative agreement or contract with EPA for responses at any or all releases in the priority plan. Finally, the State may, at its discretion, designate in its priority plan the highest ranked release which the State believes requires federally funded remedial action and which should be included on the national priority list of one hundred.

(f) National Priority List—(1) Consolidation of State and Regional Lists—The EPA Regional Offices will review State hazard rankings to ensure uniform application of the hazard ranking system and will add, in consultation with the States, any additional priority releases known to EPA. The State priorities will be reviewed and consolidated by EPA Headquarters into a National Priority List.

(2) Grouping of Releases—Similar scores cannot accurately differentiate risks at their associated releases. Thus, in order to avoid misleading the public that real differences in risk exist, similar scores may be grouped. Releases within any group will be listed alphabetically. The EPA may treat all releases listed within a group as identical in risk when considering response activities.

(3) The EPA will submit the recommended National Priority List to the NRT for review and comment.

§ 300.66 Phase V—Planned removal.

(a) With the lead agency's approval, planned removal may be undertaken when a release is listed as a national priority pursuant to the Hazard Ranking System or at an unranked release when there are conditions that may result in a release requiring immediate removal.

(b) Planned removals may be taken only if the lead agency determines that:

(1) There will be a substantial cost-savings by proceeding with the planned removal in lieu of remedial action;

(2) A limited action is needed to minimize and mitigate damages and exposure that otherwise would occur;

(3) The State provides adequate assurance that it will provide at least 10 percent of project expenses and that the release will be submitted as a priority by the State for inclusion in the next revision of the National Priority List; and

(4) The action will minimize and mitigate damages without relying on future response actions.

(c) A planned removal should emphasize actions which are consistent with any subsequent remedial activities that may be necessary to further mitigate or eliminate the release of substances in question.

(d) Responsible officials may undertake or request (consistent with delegations in Executive Order 12316) any actions authorized under section 104(b) of CERCLA when taking a planned removal action.

(e) Pollution reports (POLREPS) for planned removal releases of hazardous substances shall be submitted in accordance with requirements established for discharges of oil under § 300.56.

(f) Planned removal shall be terminated after $1,000,000 has been obligated for the action or six months has elasped from the date of initial response to a release or threatened release of hazardous substances unless it is determined that:

(1) Continued response actions are immediately required to prevent, limit, or mitigate an emergency,

(2) There is an immediate risk to public health or welfare or the environment, and

(3) Such assistance will not otherwise be provided on a timely basis.

§ 300.67 Phase IV—Remedial action.

(a) Remedial actions are those reponses to releases on the National Priority List that require longer-term and possibly more expensive efforts to prevent or mitigate the migration of a release of hazardous substances.

(b) Pursuant to section 104(c)(3) of CERLCA, before any Fund-financed remedial action may be taken, the affected State(s) must enter into a contract or cooperative agreement with the Federal Government. EPA also shall consult with the affected State or States in determining an appropriate remedial action.

(c) As an alternative or in addition to Fund-financed remedial action, the lead agency may seek, through voluntary agreement or administrative or judicial process, to have those persons responsible for the release clean up in a manner that effectively mitigates and minimizes damage to and provides adequate protection of public health, welfare, and the environment. The lead agency shall evaluate the adequacy of cleanup proposals submitted by responsible parties or determine the level of cleanup to be sought through enforcement efforts, by consideration of the factors discussed in paragraphs (e) through (j) below. The lead agency will not, however, apply the cost balancing considerations discussed in (k) of this section to determine the appropriate extent of responsible party cleanup.

(d) A remedial investigation should be undertaken by the lead agency (or responsible party if the responsible party will be developing a cleanup proposal) to determine the nature and extent of the problem presented by the release. This includes sampling and monitoring, as necessary, and includes the gathering of sufficient information to determine the necessity for and proposed scope of remedial action.

(e) In some instances, initial remedial measures can and should begin before final selection of an appropriate remedial action if such measures are determined to be feasible and necessary to limit exposure or threat of exposure to a significant health or environmental hazard and if such measures are cost-effective. Compliance with § 300.67(b) is a prerequisite to taking initial remedial measures. The following factors should be used in determining whether initial remedial measures are appropriate:

(1) Actual or potential direct contact with hazardous substances by nearby population. (Measures might include fences and other security precautions.)

(2) Absence of an effective drainage control system (with an emphasis on run-on control). (Measures might include drainage ditches.)

(3) Severely contaminated drinking water at the tap. (Measures might include the temporary provision of an alternative water supply.)

(4) Hazardous substances in drums, barrels, tanks, or other bulk storage containers, above surface. (Measures might include transport of drums off-site.)

(5) Highly contaminated soils largely at or near surface, posing a serious threat to public health. (Measures might include temporary capping or removal of highly contaminated soils from drainage areas.)

(6) Substantial threat of fire or explosion or of serious public health hazard. (Measures might include security or drum removal.)

(7) Weather conditions that may cause substances to migrate posing serious health hazards. (Measures might include stabilization of berms, dikes or impoundments.)

(f) Identification of Appropriate Type of Remedy. Based on information gathered during the remedial investigation, the lead agency shall determine the nature of the threat to public health, welfare, or the environment and assess whether the threat can be mitigated and minimized by controlling the source of the contamination at or near the area where the hazardous substances were originally located (source control remedial actions) or whether additional actions will be necessary because the hazardous substances have migrated from the area of their original location (off-site remedial actions).

(1) Source control remedial actions may be appropriate if a substantial concentration of hazardous substances remain at or near the area where they were originally located and inadequate barriers exist to retard migration of substances into the environment. Source control remedial actions are not appropriate if all substances have migrated from the area where originally located or if the lead aency determines that the substances are adequately contained. Source control remedial actions may include alternatives to contain the hazardous substances where they are located or eliminate potential contamination by transporting the hazardous substances to a new location. The following criteria should be assessed in determining whether and what type of source control remedial actions should be considered:

(i) The extent to which substances pose a danger to public health, welfare, or the environment. Factors which should be considered in assessing this danger include:

(A) Population at risk;

(B) Amount and form of the substa present;

(C) Hazardous properties of the substances;

(D) Hdydrogeological factors (e g. soil permeability depth to saturated zone, hydrologic gradients, proximity to a drinking water aquifer); and

(E) Climate (rainfall, etc.).

(ii) The extent to which substances have migrated or are contained by either natural or man-made barriers.

(iii) The experiences and approaches used in similar situations by State and Federal agencies and private parties.

(iv) Environmental effects and welfare concerns.

(2) In some situations it may be appropriate to take action (referred to as off-site remedial actions) to minimize and mitigate the migration of hazardous substances and the effects of such migration. These actions may be taken when the lead agency determines that source control remedial actions may not effectively mitigate and minimize the threat and there is a significant threat to public health, welfare, or the environment. These situations typically will result from contamination th migrated beyond the area wher hazardous substances were orig located. Off-site measures may include provision of permanent alternative

water supplies, management of a drinking water aquifer plume or treatment of drinking water aquifers. The following criteria should be used in determining whether and what type of off-site remedial actions should be considered:

(i) Contribution of the contamination to an air, land or water pollution problem.

(ii) The extent to which the substances have migrated or are expected to migrate from the area of their original location and whether continued migration may pose a danger to public health, welfare or environment.

(iii) The extent to which natural or man-made barriers currently contain the hazardous substances and the adequacy of the barriers.

(iv) The factors listed in paragraph (f)(1)(i).

(v) The experiences and approaches used in similar situations by State and Federal agencies and by private parties.

(vi) Environmental effects and welfare concerns.

(g) Development of Alternatives. A limited number of alternatives should be developed for either source control or off-site remedial actions (or both) depending upon the type of response that has been identified under paragraph (f) as being appropriate. Where appropriate, one alternative should be a no-action alternative. No action alternatives are appropriate, for example, when action may cause a greater environmental or health danger than no action or when there is no appropriate engineering solution. These alternatives should be developed based upon the assessment conducted under paragraph (f) and reflect the types of source control or off-site remedial actions determined to be appropriate under paragraph (f).

(h) Initial Screening of Alternatives. The alternatives developed under paragraph (g) will be subjected to an initial screening to narrow the list of potential remedial actions for further detailed analysis. Three broad criteria should be used in the initial screening of alternatives:

(1) Cost. For each alternative, the cost of installing or implementing the remedial action must be considered, including operation and maintenance costs. An alternative that far exceeds (e.g. by an order of magnitude) the costs of other alternatives evaluated should usually be excluded from further consideration.

(2) Effects of the Alternative. The effects of each alternative should be evaluated in two ways: (i) Whether the alternative itself or its implementation has any adverse enviromental effects; and (ii) for source control remedial actions, whether the alternative is likely to achieve adequate control of source material, or for off-site remedial actions, whether the alternative is likely to effectively mitigate and minimize the threat of harm to public health, welfare or the environment. If an alternative has significant adverse environmental effects, it should be excluded from further consideration. Only those alternatives that effectively contribute to protection of public health, welfare, or the environment should be considered further.

(3) Acceptable Engineering Practices. Alternatives must be feasible for the location and conditions of the release, applicable to the problem, and represent a reliable means of addressing the problem.

(i) Detailed Analysis of Alternatives.

(1) A more detailed evaluation will be conducted of the limited number of alternatives that remain after the initial screening in (h).

(2) The detailed analysis of each alternative should include:

(i) Refinement and specification of alternatives in detail, with emphasis on use of established technology;

(ii) Detailed cost estimation, including distribution of costs over time;

(iii) Evaluation in terms of engineering implementation, or constructability; and

(iv) An analysis of any adverse environmental impacts, methods for mitigating these impacts, and costs of mitigation.

(3) In performing the detailed analysis of alternatives, it may be necessary to gather additional data in order to complete the analysis.

(j) The appropriate extent of remedy shall be determined by the lead agency's selection of the remedial alternative which the agency determines is cost-effective (i.e. the lowest cost alternative that is technologically feasible and reliable) and which effectively mitigates and minimizes damage to and provides adequate protection of public health, welfare, or the environment.

(k) Section 104(c)(4) of CERCLA requires that the need for protection of public health, welfare and the environment, be balanced against the amount of money available in the Fund to respond to releases under consideration and the need to respond to other releases. Accordingly, in determining the appropriate extent of remedy for Fund-financed response the lead agency also must consider the need to respond to other releases with Fund monies.

§ 300.68 Phase VII—Documentation and cost recovery.

(a) During all phases, documentation shall be collected and maintained to support all actions taken under this plan, and to form the basis for cost recovery. In general, documentation should be sufficient to provide the source and circumstances of the condition, the identity of responsible parties, accurate accounting of Federal costs incurred, and impacts and potential impacts to the public health, welfare, and environment.

(b) The information and reports obtained by the lead agency should be transmitted to the RRC. Copies can then be forwarded to the NRT, members of the RRT, and others as appropriate.

§ 300.69 Methods of remedying releases.

(a) The following section lists methods for remedying releases that may be considered by the lead agency in taking response action. This list of methods should not be considered inclusive of all possible methods of remedying releases.

(b) Engineering Methods for On-site Actions.

(1) Control and containment actions.

(i) Air emissions control—The control of volatile gaseous compounds should address both lateral movement and atmospheric emissions. Before gas migration controls can be properly installed, field measurements to determine gas concentrations, pressures, and soil permeabilities should be used to establish optimum design for control. In addition, the types of hazardous substances present, the depth to which they extend the nature of the gas and the subsurface geology of the release area should, if possible, be determined. Typical emission control techniques include the following:

(A) Pipe vents;

(B) Trench vents;

(C) Gas barriers;

(D) Gas collection systems.

(ii) Surface water controls—These are remedial techniques designed to reduce waste infiltration and to control runoff at release areas. They also serve to reduce erosion and to stabilize the surface of covered sites. These types of control technologies are usually implemented in conjunction with other types of controls such as the elimination of ground water infiltration and/or waste stabilization, etc. Technologies applicable to surface water control include the following:

(A) Surface seals;

(B) Surface water diversion and collection systems;

(I) Dikes and berms;

(2) Ditches, diversions, waterways;
(3) Chutes and downpipes;
(4) Levees;
(5) Seepage basins and ditches;
(6) Sedimentation basins and ponds;
(7) Terraces and benches;
(C) Grading;
(D) Revegetation.

(iii) Ground water controls—Ground water pollution is a particularly serious problem because once an aquifer has been contaminated, the resource cannot usually be cleaned without the expenditure of great time, effort and resources. Techniques that can be applied to the problem with varying degrees of success are as follows:

(A) Impermeable barriers;
(1) Slurry walls;
(2) Grout curtains;
(3) Sheet pilings;
(B) Permeable treatment beds;
(C) Ground water pumping;
(1) Water table adjustment;
(2) Plume containment.

(D) Leachate control—Leachate control systems are applicable to control of surface seeps and seepage of leachate to ground water. Leachate collection systems consist of a series of drains which intercept the leachate and channel it to a sump, wetwall, treatment system, or appropriate surface discharge point. Technologies applicable to leachate control include the following:

(1) Subsurface drains;
(2) Drainage ditches;
(3) Liners.

(iv) Contaminated water and sewer lines—Sanitary sewers and municipal water mains located down gradient from hazardous waste disposal sites may become contaminated by infiltration of leachate or polluted ground water through cracks, ruptures, or poorly sealed joints in piping. Technologies applicable to the control of such contamination to water and sewer lines include:

(A) Grouting;
(B) Pipe relining and sleeving;
(2) Treatment Technologies.

(i) Gaseous emissions treatment—Gases from waste disposal sites frequently contain malodorous and toxic substances, and thus require treatment before release to the atmosphere. There are two basic types of gas treatment systems:

(A) Adsorption by vapor phase carbon;
(B) Thermal oxidation.

(ii) Direct waste treatment methods—In most cases, these techniques can be considered long-term permanent solutions. Many of these direct treatment methods are not fully developed and the applications and process reliability are not well demonstrated. Use of these techniques for waste treatment may require considerable pilot plant work. Technologies applicable to the direct treatment of wastes are:

(A) Biological methods;
(1) Treatment via modified conventional wastewater treatment techniques;
(2) Anaerobic, aerated and facultative lagoons;
(3) Rotating biological disks;
(B) Chemical methods;
(1) Chlorination;
(2) Precipatation, flocculation, sedimentation;
(3) Neutralization;
(4) Equalization;
(C) Physical methods;
(1) Air stripping;
(2) Carbon adsorption;
(3) Ion exchange;
(4) Reverse osmosis;
(5) Permeable bed treatment;
(6) Wet air oxidation;
(7) Incineration.

(iii) Contaminated soils and sediments—In some cases where it can be shown to be cost-effective, contaminated sediments and soils will be treated on the site. Technologies available include:

(A) Incineration;
(B) Wet air oxidation;
(C) Solidification;
(D) Encapsulation;
(E) In situ treatment;
(1) Solution mining, (soil washing or soil flushing);
(2) Neutralization / detoxification;
(3) Microbiological degradation;

(c) Off-site Transport for Storage, Treatment, Destruction or Secure Disposition.

(1) General—Offsite transport or storage, treatment, destruction, or secure disposition offsite may be provided in cases where EPA determines that such actions:

(i) Are more cost-effective than other forms of remedial action.

(ii) Will create new capacity to manage, in compliance with Subtitle C of the Solid Waste Disposal Act, hazardous substances in addition to those located at the affected facility, or

(iii) Are necessary to protect public health, welfare, or the environment from a present or potential risk which may be created by further exposure to the continued presence of such substances or materials.

(2) Contaminated soils and sediments may be removed from the site. Technologies used to remove contaminated sediments on soils:

(i) Excavation;
(ii) Hydraulic dredging;
(iii) Mechanical dredging.

(d) Provision of Alternate Water Supplies. Alternative water supplies can be provided in several ways:

(1) Provision of individual treatment units;
(2) Provision of water distribution system;
(3) Provisions of new wells in a new location or deeper wells;
(4) Provision of cisterns;
(5) Provision of bottled water;
(6) Provision of upgraded treatment for existing distribution systems.

(e) Relocation—Permanent relocation of residents, businesses, and community facilities may be provided where it is determined that human health is in danger and that, alone or in combination with other measures, relocation would be cost effective and environmentally preferable to other remedial response.

§ 300.70 Special considerations.

(a) Worker health and safety. (1) Lead agency personnel should be aware of hazards due to release of hazardous material to human health and safety and exercise great caution in allowing civilian or government personnel into an affected area until the nature of the discharge or release has been ascertained. In accord with section 301(f) of CERCLA, which requires a study of provisions for the protection of the health and safety of employees involved in response actions, the OSC shall provide EPA, DOT (USCG), OSHA, and NIOSH with an assessment of the effectiveness of measures taken to protect the health and welfare of workers at any removal or remedial operation. This assessment will be provided in accord with applicable Agency directive and should include recommendations for protective actions to be taken at subsequent removal or remedial operations. These recommendations will be considered by EPA, USCG, OSHA, and NIOSH in drafting modifications to this Plan. In the interim, OSCs shall use the Interim Standard Operating Safety Procedures issued by EPA as guidance.

(2) Local contingency plans may identify sources of information on anticipated hazards, precautions, and requirements to protect personnel during removal and remedial operations. Names and phone numbers of people with relevant information should be included.

(b) Non-Federal costs. (1) Non-Federal costs of implementing this Plan are eligible for payment from the Fund to the extent such costs are incurred related to releases for which response action has been specifically approved in advance by EPA. In most cases, costs

will be preauthorized pursuant to a cooperative agreement or contract.

(2) The following types of non-Federal response costs may be eligible as direct response costs except as excluded by paragraph (b)(4) of this section and any related guidance when they are incurred under, pursuant to this subpart, a cooperative agreement or contract.

(i) Technical review and management of a subagreement for response activities by the State OSC or project officer.

(ii) Salary and wages of State employees directly involved with the response activities and the portion of the time their first level supervisor devotes to on-site management of their work on the project.

(iii) Cost of materials and supplies necessary for carrying out response actions.

(iv) Cost of equipment used in the response action less its residual value.

(v) Any necessary travel of the OSC, project officer or other State employees working directly on response actions associated with carrying out a response action.

(3) Eligible indirect non-Federal governmental costs are subject to the requirements of OMB Circular A-87.

(4) Ineligible non-Federal costs include, but are not limited to:

(i) State and local costs of complying with section 104(c)(3) of CERCLA; and

(ii) All costs of other preparations for response leading to ranking of a release and prior to a decision to take enforcement action.

(c) Certain emergency response activities of State and local governments under this Plan may qualify for reimbursement as a "major disaster" or an "emergency." The President may allocate funds from the Disaster Relief Act (PL 93-288, as amended), managed by FEMA. FEMA may make financial assistance available to State and local governments and certain private, non-profit organizations for debris removal, emergency protective measures, and repairs and restoration of public facilities. The Director of FEMA may also direct and reimburse Federal agencies to perform disaster-related work for State and local governments which do not have the capability to respond on their own. (See 44 CFR Part 205.)

Subpart G—Designation and Responsibilities of Federal Trustees of Natural Resources

§ 300.71 Designation of trustee.

When natural resources are lost or damaged as a result of a discharge of oil or release of a hazardous substance or pollutant or containment, the following Federal officials are designated to act as trustees of those natural resources specified below:

(a)(1) *Natural Resource Loss.* Damage to resource of any kind located on, over or under land subject to the management of a Federal land managing agency, other than land in or under United States waters that are navigable by deep draft vessels, including waters of the contiguous zone and parts of the high seas to which the National Contingency Plan is applicable and other waters subject to tidal influence.

(2) *Trustee.* The head of the Federal land managing agency, or the head of any other single entity designated by it to act as trustee for a specific resource.

(b)(1) *Natural Resource Loss.* Damage to resources of any kind lying in or under United States waters that are navigable by deep draft vessels, including waters of the contiguous zone and parts of the high seas to which the National Contingency Plan is applicable and other waters subject to tidal influence, and upland areas serving as habitat for marine mammals and other species subject to the protective jurisdiction of NOAA.

(2) *Trustee.* The Secretary of Commerce or the head of any other single Federal entity designated by it to act as trustee for a specific resource. Where migratory birds, marine mammals, or endangered or threatened species or their habitats subject to the protective jurisdiction of the Secretary of the Interior are lost or damaged, the Secretary of Commerce shall obtain the concurrence of the Secretary of the Department of the Interior with respect to assessments, claims and restoration plans pertaining to such resources.

(c)(1) *Natural Resource Loss.* Damages to resources located on lands held by the United States in trust for an Indian tribe or individual Indians within the boundaries of an Indian Reservation lands and held by the United States in trust for an Indian tribe or individual Indians outside of the boundary of an Indian reservation.

(2) *Trustee.* The Secretary of the Department of the Interior, or the head of any other single Federal entity designated by it to act as trustee for specific resources.

§ 300.72 Responsibilities of trustees.

The Federal trustees for natural resources shall be responsible for assessing damages to the resources, seeking recovery for the losses from the person responsible or from the Fund, and devising and carrying out restoration, rehabilitation and replacement plans pursuant to CERCLA.

Subpart H—Use of Dispersants and Other Chemicals

§ 300.81 General.

(a) Section 311(c)(2)(C) of the Clean Water Act requires that EPA prepare a schedule of dispersants and other chemicals, *if any,* that may be used in carrying out the plan.

(b) EPA has determined that its experience with dispersants and other chemicals in oil spills is not yet sufficient to support preparation of a schedule to permit routine usage.

(c) EPA will continue to authorize use of dispersants and other chemicals on a case-by-case basis and may, after additional field experience, choose to propose a schedule which would permit routine usage. Case-by-case approvals will be made by the Administrator or her designee.

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Part V

Environmental Protection Agency

National Oil and Hazardous Substances Contingency Plan

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

[SWH-FRL 2163-4]

National Oil and Hazardous Substances Contingency Plan

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: Pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and Executive Order 12316, the Environmental Protection Agency is promulgating revisions to the National Contingency Plan (NCP) for oil and hazardous substances. The revised NCP effectuates the new responsibilities and powers created by CERCLA. CERCLA provides that actions taken in response to releases of hazardous substances shall, to the greatest extent possible, be in accordance with the revised NCP. Section 311 of the Clean Water Act provides that actions taken to remove oil discharges shall, to the greatest extent possible, be in accordance with the NCP. The revised NCP, promulgated today, shall be applicable to response actions taken pursuant to CERCLA and section 311 of the Clean Water Act.

DATES: The promulgation date for the revised National Contingency Plan shall be July 16, 1982. Under section 305 of CERCLA, this revised Plan cannot take effect until Congress has had at least sixty "calendar days of continuous session" from the date of promulgation in which to review the Plan. Since the actual length of this review period may be affected by Congressional action, it is not possible at this time to specify a date on which this revised Plan will become effective. Therefore, EPA will publish a notice in the Federal Register at the end of the review period announcing the effective date of this revised Plan.

ADDRESSES: The public docket for the revised National Contingency Plan is located in Room S-398, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460, and is available for viewing from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding holidays.

FOR FURTHER INFORMATION CONTACT: Sylvia Lowrance, Office of Emergency and Remedial Response (WH-548), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460, Phone (202) 382-2203.

SUPPLEMENTARY INFORMATION:

I. Introduction

Pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Pub. L. 96-510 ("CERCLA" or "the Act") and Executive Order 12316, the Environmental Protection Agency ("EPA" or "the Agency"), on March 12, 1982, proposed revisions to the National Contingency Plan (NCP) (47 FR 10972). The supplementary information section of the March 12 proposal discussed in detail the statutory basis of the NCP and the nature and purpose of the proposed revisions. (See 47 FR 10972 through 10978.) The Agency allowed the public forty-five days to submit comments on the proposed revisions. The Agency received 146 comments totalling over 1,000 pages in length on the proposed revisions.

Today, the Agency is promulgating revisions to the NCP. In preparing the revisions to the Plan, the Agency has carefully considered all of the public comments submitted on the proposed revisions. The Agency has made many modifications to the proposed revisions in response to the public comments.

In developing the proposed revisions to the Plan, the Agency's primary concerns were to ensure that the revised Plan met the statutory requirements of CERCLA and section 311 of the Clean Water Act (CWA), and that it established an effective response program. The Agency reviewed the public comments and incorporated suggested changes where appropriate.

All significant comments and the Agency's response to those comments are discussed below. EPA believes that the revised Plan includes all of the expanded CERCLA response authorities and adequately meets each of the statutory requirements of CERCLA and section 311 of the CWA. In meeting these requirements, EPA has also sought to ensure that the Plan does not contain unnecessarily rigid or cumbersome provisions, or provisions that are beyond the statutory mandate. EPA did not believe it was necessary to expand upon the national response organization and procedures established by Subparts A through D, nor upon the procedures for responding to oil discharges in the existing Plan. Experience has shown the national response organization and the oil discharge procedures to be efficient and effective methods for responding to environmental emergencies. It would be counter-productive to abandon established and workable procedures. Therefore, EPA has left the response structure of the existing Plan generally intact so that the proven national and regional response structure may be used for the expanded hazardous substance response authorities of CERCLA.

Section II of this preamble explains how the revised NCP meets the statutory requirements of section 105 of CERCLA and related provisions of section 311 of the CWA. The preamble to the proposed revisions discussed the revisions in relation to each of the subparts of the Plan and not with respect to how each statutory requirement was satisfied (47 FR 10972 through 10978). To ensure that it is clear how the revised Plan addresses each of the statutory requirements, Section II discusses in detail those provisions of the Plan that implement each of the statutory requirements.

Sections III, IV, V, and VI of this preamble address the major issues raised in the public comments. The sections summarize the significant comments submitted on each of these issues and the Agency's response to these comments. Section VII addresses additional comments that related to specific provisions in Subparts A through H of the Plan. Section VIII addresses any remaining general comments.

II. Statutory Requirements for the NCP

The following is a section-by-section analysis of each component required by section 105 of the CERCLA and related provisions of section 311 of the CWA, and a description of how the Plan meets each requirement.

1. *Section 105(1)—Methods for discovering and investigating facilities at which hazardous substances have been disposed of or otherwise come to be located.*

(a) *Discovery.* Section 300.63 of the Plan lists five methods by which a release or facility can be discovered. The major tools for discovery are those provided by Congress in CERCLA. Section 103(a) of CERCLA requires persons in charge of facilities or vessels to notify the National Response Center (NRC) as soon as they have knowledge of releases into the environment of hazardous substances in amounts equal to or greater than reportable quantities determined pursuant to section 102 of CERCLA. Section 103(c) of CERCLA requires persons to notify EPA of the existence of certain hazardous waste treatment, storage, and disposal facilities. EPA published guidance with respect to this requirement on April 15, 1981 (46 FR 22144). In addition, section 104(e) of CERCLA provides investigatory authority which may lead to discovery of a release by an investigating official. Section 300.63

further provides for discovery of releases through inventory efforts (e.g. section 3012 of the Resource Conservation and Recovery Act (RCRA)) and reports required by Federal or State permits. The Plan lists existing requirements for reporting releases and authorities for discovering releases, and complements these methods by referencing other sources of discovery, including random inventories and incidental observations.

EPA believes that the methods discussed above are adequate to discover most releases. The Agency's experience has shown these methods to be effective. When implementing the section 103(c) notification requirements, EPA received 11,000 reports of facilities where hazardous wastes are or had been potentially treated, stored or disposed. Moreover, since enactment of CERCLA, persons have been required to immediately report to the National Response Center (NRC) hazardous substance releases that exceed reportable quantities. The reports which are required by these sections cover most releases for which EPA and the United States Coast Guard (USCG) are delegated response authority under section 104 of CERCLA.

(b) *Investigation.* For investigating releases, the Plan sets forth a three-step process: (1) Initial investigation to determine the nature of the release (§ 300.64); (2) screening to determine whether the release warrants immediate response or further investigation (§ 300.64(a) and (c) and 300.65); and (3) further investigation for non-emergency releases which may warrant Federal action (§§ 300.66, 300.67(d) and (e), and 300.68(e) through (i)).

Section 300.64 of the Plan details the initial steps to be undertaken in investigating a reported release through a preliminary assessment. The assessment can be adapted to address the specific nature of a particular release. For example, a release that could cause immediate and significant harm to human health, welfare or the environment should be assessed much more rapidly than a release in which the risk of harm is less acute and immediate. Flexibility in the initial investigation process is provided for in § 300.64(a)(1) through (4) which sets forth a methodology for an initial evaluation of the release based on readily available data. In the case of hazardous waste management facilities, § 300.64(b) provides for the gathering of additional data when more time is available. The distinctions between §300.64(a) and (b) recognize that, in responding to most CERCLA releases, additional information may be necessary beyond that required to respond in classic spill situations under section 311 of the CWA. Thus, in order to implement CERCLA effectively, EPA has added the additional components of § 300.64(b). EPA considered and decided against adding greater detail to the requirements in this section because the scope of the assessment is most appropriately determined by the conditions of the release.

After the preliminary assessment, the Plan provides for either terminating investigation activities under the conditions detailed in § 300.64(c), taking an immediate removal pursuant to § 300.65 or continuing investigatory activities of non-emergency releases as discussed in § 300.66. The Plan allows for the three methods by which investigatory activities may be continued: through use of investigatory authorities provided in section 104(b) of CERCLA; through use of entry and investigatory authorities allowed under section 104(e) of CERCLA (see § 300.66(c)(1)); and through inspection of the release as detailed in § 300.66(c)(2).

The investigatory methodology described above and included in the Plan provides EPA with sufficient discretion to undertake the necessary investigatory activities as determined by the nature of the release in a manner consistent with the statute. In developing the investigatory methodology, the Agency relied upon experience gained under the section 311 program for investigating releases, which has proven to be very effective. The authorities are designed to provide response personnel with a detailed framework for investigation of releases, while still providing them with enough flexibility to tailor assessments to particular release conditions.

2. *Section 105(2)—Methods for evaluating, including analyses of relative costs, and remedying any releases from facilities which pose substantial danger to the public health or the environment.*

(a) *Evaluation.* The investigation activities explained above are the first step contained in the Plan for evaluating a release. Once investigatory activities are completed, the Plan establishes an evaluation scheme based on the type of release under consideration. The basic premise supporting the evaluation scheme is that the less imminent the threat, the greater the time available for the evaluation process.

For releases requiring immediate removal (i.e., emergency response), § 300.65 of the Plan provides for the initiation of response action without delay based upon the determination during the preliminary assessment that an emergency situation requires immediate response action (see §§ 300.64(a) and 300.65(a)). For releases that may require planned removal (i.e., short-term but not emergency response), § 300.67 provides for evaluation of the release by the State requesting the removal. The evaluation must include the information required by §300.67(b) of the Plan. The evaluation of candidates for planned removal continues as EPA applies the factors in § 300.67 to determine whether the release should, in fact, be funded as a planned removal.

The most extensive evaluations are those required for releases which potentially require remedial action (i.e., long-term response) and thus are candidates for inclusion on the National Priorities List. After the inspection has been completed (see § 300.66(b) and (c)), releases may be ranked pursuant to the Hazard Ranking System. This ranking system provides for a more detailed evaluation of the particular threats presented by the release and determines placement on the National Priorities List. (The Hazard Ranking System is contained in Appendix A and is explained in section V(A) below). Evaluation activities continue even after the release is included on the National Priorities List. Because of the complexity of releases that may require long-term remedial response, and the need to assure that remedies will adequately mitigate the threat from individual releases, § 300.68(f) through (i) provides for both investigation and study prior to undertaking a remedial response. Both of these steps include a final evaluation of the release and potential remedies based on factors enumerated in § 300.68(g) through (j).

EPA believes that the methods for evaluating releases discussed above and included in the Plan provide the most effective evaluation approach for dealing with widely varying threats posed by releases. Where the threat is immediate, evaluation actions are limited in order that rapid response can be taken. As the threats become less immediate, the Plan allows more extensive evaluation.

(b) *Methods for evaluating relative costs.* In the area of cost evaluation, EPA again bases the level of evaluation on the immediacy of the threat. First, for immediate removals, cost evaluation is limited to the statutory threshold of six months or $1 million unless an emergency continues (see § 300.65(d)). Thus, once the Agency determines that an immediate removal is necessary, the Plan vests in the lead agency the

authority to take whatever action the lead agency deems necessary to abate the emergency. In an emergency, it is not possible to require detailed cost evaluation because of the critical need to act as rapidly as possible.

In the case of a planned removal, the Plan provides for additional cost evaluation requirements. Section 300.67(a)(1) includes cost-savings as one of the criteria for taking a planned removal. Moreover, the nature of the response itself provides for cost-savings by allowing preventative actions. Finally, like immediate removal, § 300.67(e) imposes the statutory limits of six months of $1 million on the action. Thus, the Plan maintains stringent limitations on the costs of planned removal actions which must be included in the planning of the project.

The remedial response category provides for extensive cost evaluation. From the time the proposed extent of a remedial action is determined pursuant to §300.68(e), the costs of the remedial alternatives are considered. First, after alternatives are initially developed as provided in § 300.68(g), the Plan requires analysis of the cost of each alternative relative to the other alternatives under consideration (see §300.68(h)). On the basis of this analysis of comparative costs and other factors, the Plan calls for an assessment of the various alternatives in order to eliminate those that are more expensive but that do not provide significantly greater health or environmental protection. For the remaining alternatives, the Plan then requires (§300.68(i)) that costs be examined in detail for each individual alternative. This entails extensive evaluation of the costs of each remedial alternative to facilitate comparison of feasible alternatives. This analysis is used to make the final judgment on the appropriate remedial alternative based on costs and the other factors required by § 300.68(j).

(c) *Methods for remedying releases.* Section 300.70 contains a lengthy, although not exhaustive, list of methods for remedying releases. This list provides information on those methods of remedying releases which are considered appropriate and demonstrated methods. In addition, EPA has developed a technical handbook which can be utilized along with this section of the NCP to provide more technical information on the circumstances and types of releases in which these methods may be successfully employed. The manual is entitled "Handbook for Remedial Action at Waste Disposal Sites" and is available from Environmental Protection Agency, Office of Research and Development, Municipal Environmental Research Laboratory, Solid and Hazardous Waste Research Division, Cincinnati, Ohio 45268.

3. *Section 105(3)—Methods and criteria for determining the appropriate extent of removal, remedy, and other measures authorized by CERCLA.*

Sections 300.65(c) and 300.67(d) establish the procedures by which the appropriate extent of removal is determined. For this limited response category, EPA has determined that the appropriate extent of action is the abatement of the threat that required the initiation of a removal action. Therefore, in the case of immediate removal, EPA has limited the extent of removal to abatement of the immediate and significant risk (see § 300.65 (a) and (c)). Likewise in the case of planned removals, the Plan limits the extent of the action to abatement of the problem posed by the presence of factors listed in § 300.67(c).

EPA believes that this type of *a priori* procedure for limiting removal actions is necessary because removal response is statutorily a more limited action than remedial response. Removal actions are intended to eliminate the threat which precipitated the action. These responses may not fully abate the threat caused by a release. However, without such limitations, an inordinate share of the Fund might be spent on completing removal actions at releases which pose a less significant threat than other releases which have been placed on the National Priorities List. Moreover, if removal actions were not limited in scope, projects might continue until reaching the statutory limitation of six months or $1 million, without having achieved any tangible or specified clean-up objectives.

Section 300.68 of the Plan establishes methods and criteria for determining the appropriate extent of remedy. Remedial response involves long-term actions to mitigate threats primarily from hazardous waste management facilities. This section of Subpart F is one of the most extensive sections of the Plan. The Agency has far less experience with remedial actions than with removal actions. Under the removal program in section 311 of the CWA, EPA gained a great deal of experience in undertaking short-term clean-up actions, primarily in response to spills of oil. However, CERCLA created remedial action as a new type of response. In order to assure that response personnel have adequate guidance to follow when investigating, planning, and implementing remedial response, EPA has provided a detailed systematic procedure for determining the appropriate extent of remedy in Subpart F. The procedure is structured in a step-by-step format which requires a series of analyses and judgments based upon criteria enumerated in the Plan. The methodology set forth in § 300.68 includes:

(1) An initial scoping of the project based on criteria in § 300.68(e) to determine the type or types of remedial action that may be necessary. (Remedial response is categorized as initial, source control, or off-site remedial action.)

(2) A remedial investigation to determine the precise nature and extent of the problem and to assure that the remedial evaluation was accurate (see § 300.68(f)).

(3) Development of alternatives based on the type or types of remedial action necessary (see § 300.68(g)).

(4) An initial screening of the alternatives based on economic, engineering and environmental criteria specifically enumerated in § 300.68(h)(1), (2), and (3). This step requires a decision, based on the criteria, to eliminate certain alternatives because: (a) The alternative requires an expenditure of money far in excess of other alternatives (without providing substantially greater public health or environmental benefit) (§ 300.68(h)(1)); (b) the alternative has significant adverse environmental impacts or fails to effectively contribute to the protection of public health, welfare or the environment (§ 300.68(h)(2)); and (c) the alternative is not feasible from an engineering perspective (§ 300.68(h)(3)).

(5) Detailed analysis of remaining alternatives based on components specifically referenced in § 300.68(i)(2).

(6) The lead agency's determination of the appropriate extent of remedy, based upon its selection of the alternative which meets the standard of § 300.67(j) (i.e., "the lowest cost alternative which effectively mitigates and minimizes damage to and provides adequate protection of public health, welfare and the environment").

EPA believes that this process provides a sound basis for determining the appropriate extent of remedy, particularly given the limited experience in remedying hazardous substance releases. This process allows for the selection of the appropriate remedies developed through careful study and inquiry without requiring a rigid selection process which would preclude the flexibility needed to incorporate our expanding knowledge and experience in developing remedies. Significant issues concerning the Agency's selection of the

appropriate extent of response are discussed in Section III of this preamble.

4. *Section 105(4)—Appropriate roles and responsibilities for the Federal, State, and local governments and for interstate and non-governmental entities in effectuating the Plan.*

EPA has developed an entire subpart and numerous other provisions of the Plan to assure efficient and effective coordination of all participants in response to oil discharges and hazardous substance releases. These provisions of the Plan are largely based on extensive experience gained under the section 311 response program.

The following sections of the Plan address Federal agency involvement:

(1) Section 300.21—specifies responsibilities delegated to each Federal agency under Executive Orders 11735 and 12316.

(2) Section 300.22—encourages all Federal agencies to coordinate activities through the National Response Team (NRT) and Regional Response Team (RRT) structure and with affected private and public entities and to make facilities and resources available for response actions.

(3) Section 300.23—identifies those Federal agencies which are members of the NRT and which may be called upon by response personnel for assistance; encourages use of regional contingency plans to specify roles relevant to the subject area; requests that Federal agencies appoint members to participate in the national response structure; and specifically enumerates the new responsibilities for hazardous substance response among EPA, USCG, the Department of Health and Human Services (HHS), the Department of Defense (DOD), and the Federal Emergency Management Agency (FEMA).

State and local roles and responsibilities are specified in § 300.24, which requests that each State participate in RRTs; gives States authority to fully participate (and vote) on the RRT; encourages local governments to participate in RRT activities; encourages States to use enforcement authorities; and encourages States to take the lead on CERCLA responses by entering into agreements with the Federal government. In addition, a new § 300.62 has been added which addresses the State role in taking remedial response and the States' responsibilities when doing so. A more thorough discussion of the State role is contained in Section IV of this preamble.

Roles of private entities are specified in § 300.25, which encourages and stresses the critical importance of private commitments for assisting in response, and requests that private entities assume specific responsibilities in the appropriate regional or local contingency plans. This section also contains information on the safe and effective use of volunteers in response actions.

Subpart C further specifies the roles that each of these groups can play in the national response structure—Federal agencies through their participation in the NRT (§ 300.32(a)); and Federal agencies, States, and localities through their participation in the RRT (§ 300.32(b)). Within this national framework, Subpart C further discusses the role of the on-scene coordinator (OSC) in coordinating with States, the private sector and other Federal entities. For example, § 300.33(b) requires the OSC to notify States and Federal agencies when they are affected or when their expertise is requested in a response action. While the Plan contains the critical framework for national roles and responsibilities, regional and local plans are designed to specify how these roles and responsibilities will be carried out in light of particular regional and local capabilities and needs.

5. *Section 105(5)—Provision for identification, procurement, maintenance, and storage of response equipment and supplies.*

The requirements of CERCLA section 105(5) are satisfied in several sections of the Plan, briefly summarized here. The NRT evaluates equipment readiness and coordination, and makes recommendations as to the appropriate equipping and protection of response teams (§ 300.32(a)). The NRT also coordinates the supply of equipment and personnel to the affected region in the event of a response action (§ 300.34(h)). The RRTs consider equipment readiness and similar issues in their continuing reviews of regional and local responses (§ 300.32(b)(6)). The role of the RRTs in requesting and coordinating assistance and provision of resources from Federal, State, and local government agencies and from private parties in the event of a release (§ 300.34(f)) bears directly on the requirements of CERCLA section 105(5). Section 300.34 of the Plan also provides for the use of the National Strike Force and Strike Teams which make available specialized containment and removal equipment, emergency task forces managed by USCG OSCs who have the capability to deploy equipment, and the Emergency Response Team (ERT) of the EPA which can provide access to specialized decontamination equipment. The Plan also devotes a separate section, § 300.37—Response Equipment, to the Spill Clean-up Inventory system which is available for obtaining rapid information on the location of response and support equipment.

In addition to these provisions in the Plan which insure access to response equipment and supplies, Subpart D emphasizes the importance of the development of Federal regional plans for each standard Federal region, and of Federal local plans wherever practicable. Included in these plans should be information on all useful facilities and resources available from all sources that can be employed in the event of a release (§§ 300.42(a) and 300.43(a)). The Plan does not discuss in great detail the precise division of responsibility assigned to all levels of government because the amount and type of resources available will vary among regions, as will the need for particular types of resources. In addition, it is possible that different levels of government will take more active roles in planning and carrying out response activities. Accordingly, the Plan provides that responsibilities in the identification, procurement, maintenance, or storage of equipment and supplies shall be assigned at this level through the development of Federal regional and Federal local plans.

6. *Section 105(6)—A method for and assignment of responsibility for reporting the existence of such facilities which may be located on federally owned or controlled properties and any releases of hazardous substances from such facilities.*

Section 300.23(d) sets forth responsibilities of all Federal agencies for reporting the releases of hazardous substances and discharges of oil from facilities or vessels which are under their jurisdiction or control. The reporting procedures in § 300.23(d) are in accordance with CERCLA section 103 and Subparts E and F of the Plan. Specifically, in Subpart E, § 300.51(b), reports of discharges are directed to the NRC or the nearest USCG or EPA office. If not previously reported to the responsible OSC, all reports are required to be relayed promptly to the NRC. Subpart F, § 300.63(b), reiterates the statutory requirement of CERCLA section 103(a) for immediate notification of the NRC by the person in charge of a vessel or facility as soon as he has knowledge of a release from the vessel or facility of a hazardous substance in an amount equal to or greater than the reportable quantity, established pursuant to section 102 of CERCLA. Any releases that have not been previously reported should also be promptly

reported to the NRC. Thus, the Plan both assigns responsibility to the Federal agencies involved and provides the method by which such reporting is to be accomplished.

7. Section 105(7)—Means of assuring that the remedial action measures are cost-effective over the period of potential exposure to hazardous substances of contaminated materials.

EPA has devoted a great deal of attention to developing a process that will insure the cost-effectiveness of remedial action measures. There are several aspects of this process which should be noted. First, the Plan limits the extent of evaluation and investigation activities if the release does not present complex technical problems or requires rapid response. Section 300.68(d) and (e) focuses investigation activities and development of alternatives on the problems presenting the greatest need. Second, the Plan emphasizes the systematic development of remedial alternatives (including, where appropriate, the alternative of taking no action) which forms the basis for examining cost-effectiveness. Third, the initial screening of remedial action alternatives to eliminate those with extremely high costs that do not offer significantly greater protection further safeguards the process against unnecessary expenditures. Fourth, the remaining viable alternatives must be evaluated in terms of their costs, the level of protection that they provide, their reliability in providing that level of protection, and the ability to implement the remedy after considering technical, environmental, legal, and administrative constraints (§ 300.68(i)).

EPA notes that, in both the initial screening and the detailed analysis of alternatives, the costs of alternatives must be compared over time and must include operation and maintenance costs (§ 300.68(h)(1) and (i)(2)(ii)). This ensures that the statutory requirement for consideration of the duration of costs is satisfied. Finally, EPA has included in § 300.68(j) an explicit statement that the extent of remedy to be selected for each site will be the cost-effective remedial alternative. Thus, EPA has both established the procedures for arriving at a cost-effective remedial action and provided a decision rule for selection of cost-effective remedies in order to fulfill the statutory requirement.

8. Section 105(8)—Criteria for determining priorities among releases or threatened releases and, based upon this criteria, a list of national priorities.

EPA has included as Appendix A to the Plan a Hazard Ranking System (HRS) which, together with the administrative system established in § 300.66, constitutes the criteria and methods EPA is using to establish national priorities for remedial action. The Agency presented a detailed discussion of the development and components of the HRS in the preamble to the proposed revisions (see 47 FR 10975 through 10978). Additionally, a discussion of the significant public comments on the HRS and the National Priorities List and EPA's response to those comments is presented in Section V of this preamble. EPA is deferring publication of the National Priorities List at this time. It will be included as Appendix B to this Plan. Accordingly, this Appendix is reserved.

9. Section 105(9)—Specified roles for private organizations and entities in preparation for response and in responding to releases of hazardous substances, including identification of appropriate qualifications and capacity thereof.

Section 300.25 specifies the roles of volunteers, industry groups, and academic organizations in response actions. This section stresses the important role of these groups in providing scientific and technical information needed in devising clean-up strategies as well as the assistance role of volunteers in response. As discussed in subsection 4 above, coordination of these entities is achieved through the national and regional response structure. It is critical that private entities be coordinated closely with governmental entities to assure efficient response actions. Therefore, the Plan calls for specific commitments of resources by private entities in § 300.25, and for detailing these specific commitments in regional and local plans. EPA believes these plans are the appropriate mechanisms to list those private resources that are nearby, applicable to local conditions, and readily available.

10. Section 105 also requires that the Plan specify procedures, techniques, materials, equipment, and methods to be employed in identifying, removing, or remedying releases of hazardous substances comparable to those required under section 311(c)(2) (F) and (G) and (j)(1) of CWA.

Section 311(c)(2)(G) of the CWA requires that the Plan include a schedule specifying dispersants or other chemicals, if any, that may be used in removing oil or hazardous substances from water. Subpart H of the Plan establishes procedures for authorizing the use of dispersants and other chemicals for removing oil discharges or releases of hazardous substances. Subpart H vests authority in the OSC to authorize use of any dispersant or other chemical to move an oil discharge if such dispersant or chemical is on EPA's Acceptance List developed under Annex X of the existing Plan. Use of dispersants and chemicals not on EPA's list may be authorized by the Administrator or her designee. Section VII(H) of this preamble contains a further discussion of this issue.

The remaining provisions of sections 311(c)(2)(F) and (j)(1) of the CWA require development of procedures that have comparable provisions in section 105 of CERCLA and have been discussed above. With regard to comparable provisions for the removing and remedying of hazardous substance releases, § 300.70—Methods of Remedying Releases, details the types of techniques that may be considered in remedial actions. Furthermore, both § 300.65—Immediate Removal, and § 300.67—Planned Removal, contain information on the types of techniques and measures which may be used for removal action for hazardous substance releases.

III. Comments on Determining the Appropriate Extent of Response

The Agency received many comments on the Plan's provisions in Subpart F relating to the determination of the appropriate extent of response. Most of the comments focused on the provisions for determining the appropriate extent of remedy. While some commenters supported the process established in § 300.68 for selecting a remedy, many commenters criticized the Plan for not explicitly requiring consideration of State and Federal health and environmental standards in development of remedies. Similar comments stated that the Plan should include specific levels of clean-up that must be attained with any remedy.

EPA developed the methodology for determining the appropriate extent of remedy based on the recognition that experience in developing remedies for hazardous waste sites is limited. Moreover, each hazardous waste site has unique characteristics which merit individual attention. Often the unique characteristics of sites will represent factors that have never been dealt with before. These considerations led EPA to develop a methodology which would provide structured and reasoned decision-making while still allowing the flexibility to deal with unique and unforeseen characteristics. EPA believes the system included in § 300.68 of the NCP accomplishes these goals.

A. Environmental Standards

The system does not explicitly require that environmental standards be used in determining the appropriate extent of remedy. However, § 300.68 does specify "environmental effects and welfare concerns" as one of the criteria to be considered in determining the appropriate extent of remedy. In some cases, this would allow EPA to consider applicable standards in selecting the appropriate remedy. It must be noted, however, that circumstances will frequently arise in which there are no clearly applicable standards. For instance, acceptable levels of hazardous substances in soil are not established, and there are no generally accepted levels for many other hazardous substances in other media. Even where there are standards for a particular substance, they may not be applicable to the conditions surrounding the release. Therefore, if the Plan included a rigid requirement that standards be met, it would obscure the real issue in many cases of how to adequately protect public health.

EPA cannot develop new standards for the hundreds of substances it will be confronted with in response actions. Not only is the requisite legal authority lacking in CERCLA, but such a task would also be enormous, costly and time-consuming, and would unduly hamper the clean-up of releases, which is CERCLA's primary mandate. Therefore, EPA has developed a system for decision-making which has as its primary feature a reasoned process that contains a series of checks throughout to ensure that the decision-making process produces an effective remedy. The methodology emphasizes cost-effective, environmentally sound remedies which are feasible and reliable from an engineering standpoint.

B. Cost Effectiveness

Several commenters argued that the process for selecting a remedy placed too much emphasis on cost.

Although cost does play an important role in selection of remedies, it does not take precedence over protection of public health, welfare and the environment. First, the initial scoping of a project provided for in § 300.68(e) does not involve any consideration of cost other than requesting Fund financing for the work. The primary consideration at this stage is defining the nature of the problem requiring remedy. As alternatives for remedying the release are developed under § 300.68(g), again the primary emphasis is on the techniques available to clean up, not on cost.

Cost considerations are first addressed when alternatives are initially screened in § 300.68(h). This cost analysis is required by section 105(2) of CERCLA. EPA has modified § 300.68(h)(1) to clarify that alternatives cannot be rejected on the basis of cost alone, since any clean-up alternative would be more costly in simple dollar terms than a no action alternative. Alternatives may be rejected for cost reasons at this stage, but only if they do not provide substantially greater public health or environmental benefit. This section requires that in order for alternatives to be given further consideration they must be technically and environmentally sound and must effectively contribute to protection of public health, welfare and the environment. For the alternatives that remain after the initial screening, a detailed analysis is required of their cost, engineering feasibility, and environmental, welfare and public health effectiveness.

Some of the commenters' concern as to the extent of the Plan's emphasis on environmental and public health protection could be the result of an inadvertent omission in the Federal Register of one of the factors requiring analysis in § 300.68(i). Section 300.68(i)(2)(iv) requires comparative assessment of alternatives in terms of their effectiveness in minimizing and mitigating the health or environmental problem. This assessment is essential, along with consideration of cost and engineering reliability, in making the decision required by § 300.68(j). The final decision on the appropriate alternative is based on cost-effectiveness; it selects the lowest cost alternative which effectively mitigates and minimizes damage to and provides adequate protection of public health, welfare and the environment (§ 300.68(j)). EPA notes that this series of analyses and check points explicitly requires remedies that provide the requisite protection of public health while still meeting statutory requirements for analysis of costs and cost-effectiveness. Cost alone may not control these decisions.

IV. Comments on the Role of States in Implementing the Plan.

Several commenters stated that the Plan generally failed to adequately identify the roles of State and local governments. Other more specific comments on the role of States included: (1) That States should be allowed to designate OSCs and participate fully in the national response structure; (2) that the Plan should allow greater State participation in decision-making regarding the need for and extent of CERCLA-funded response; (3) that the Plan should specify procedures for entering into contracts or cooperative agreements; and (4) disagreement with the requirement that States share in response costs other than those costs specified in section 104(c)(4) of CERCLA.

EPA agrees with commenters that the States should play a large role in the Superfund program. Subpart B of the Plan provides extensive detail as to States' participation in response actions (see discussion in Section II(4) above). To the extent States are willing and capable, the Plan allows States to participate fully in the national response structure. In addition to the specific provisions cited in section II(4) of this preamble, the Plan also encourages State involvement and delineates State roles in the following provisions.

(1) Section 300.25(b)—encourages use of technical and scientific information generated by States.

(2) Section 300.25(c)—encourages State officials to coordinate volunteers pursuant to local plans.

(3) Section 300.32(a)(7)(iv)—allows NRT to develop procedures to improve coordination with States.

(4) Section 300.32(b)—includes States on RRTs.

(5) Section 300.32(b)(2)—allows State membership in RRT and allows additional State representatives as observers.

(6) Section 300.32(b)(3)—encourages States to participate actively in RRT activities and designate individuals to assist in development of Federal regional and Federal local plans, and to serve as the contact point for coordinating response with local governments.

(7) Section 300.32(b)(6)(vii)—requires RRT to include in reports to NRT efforts taken to improve State and local coordination.

(8) Section 300.33(b)(3)—requires the OSC to coordinate response efforts with appropriate State agencies.

(9) Section 300.33(b)(5)—requires OSC to notify States of possible discharges or releases.

(10) Section 300.34(d)(3)—requires the SSC to assist OSC in responding to State requests for assistance.

(11) Section 300.34(f)(6)—gives the States participating in the RRT the same status as any Federal member of the RRT.

(12) Section 300.36(c)—requires the NRC to advise States of notices of discharges or releases.

(13) Section 300.42(a)—requires RRTs to work with States in developing regional plans.

(14) Section 300.43—specifies that local plans should provide for coordination with the State.

(15) Section 300.55(a)(5)—provides for OSC to determine whether State has capability and an agreement in place to undertake oil discharge response, in lieu of Federal lead response being taken.

(16) Section 300.57(b)—requires the State representative to the RRT and DOI to arrange for use of volunteers for waterfowl affected by oil discharges.

(17) Section 300.58(f)(4)—allows States to be reimbursed for oil removal pursuant to 33 CFR Part 153.

(18) Section 300.61(c)—encourages State participation in response actions.

(19) Section 300.63(b)—requires the NRC to notify the State when notices of releases are received pursuant to section 103(a) of CERCLA.

(20) Section 300.66(c)(1)—requires State officials responsible for providing Fund-financed response to coordinate with those responsible for enforcement activities.

(21) Section 300.66(d)—establishes a system by which States can submit candidates for the Nation Priorites List.

(22) Section 300.61(b)—requires OSC to consult with affected States before authorizing use of dispersants of other chemicals.

In addition to these numerous provisions, to respond to commenter's concerns, EPA has added a new § 300.62 which specifically outlines the manner in which States may enter into contracts and cooperative agreements for response actions pursuant to CERCLA. EPA believes that State participation and cooperation are crucial to undertaking response actions. Therefore, under this section, States are encouraged to undertake response actions. The extent of activities that a State will be authorized to undertake will be specified in the cooperative agreement or contract. EPA cannot specify in the Plan all authorities which a State will exercise because the specific content of each agreement or contract will be determined by the nature of the response action to be taken, the extent of State capabilities, and the extent to which the State wishes to have responsibility for the response. Section 300.62(d) sets forth commitments which the State must provide prior to remedial design activity. Section 300.62 also authorizes contracts or cooperative agreements for undertaking removal action.

EPA agrees with commenters that States should be able to designate OSCs and act as full partners in the response structure. Providing that statutory and administrative requirements are met by States, the Plan permits and, in fact, encourage States to take the lead on response actions pursuant to a contract or cooperative agreement. In order to clarify that an OSC may be a State official whose scope of authority is specified in the cooperative agreement, EPA has modified the definition of "On-Scene Coordinator" in § 300.6. Moreover, to clarify that a "lead agency" may be a State acting pursuant to the terms of a contract or cooperative agreement, EPA has modified the definition of lead agency in § 300.6 as well. These modifications are discussed at greater length in section VII(A) of this preamble.

Finally, many of the comments questioned provisions included in the Guidance for Entering into Cooperative Agreements. EPA notes that this guidance was published the day before the NCP was proposed. The guidance is not a part of this Plan, and thus a discussion of the provisions in that guidance is not appropriate to a discussion of the provisions of this Plan. However, one issue which was raised in this context also affects the Plan. The issue is whether the statute allows EPA to require cost-sharing by States when it is not explicitly set forth in the statute. In the Plan, this issue is relevant to section § 300.67(b)(4) which requires States to share costs of planned removals.

CERCLA section 104(c) requires that no remedial actions be provided pursuant to section 104 of CERCLA unless the State in which the release occurs first enters into a contract or cooperative agreement providing assurances that (1) The State will assure all future maintenance of the removal and remedial action; (2) the State will assure availability of an acceptable hazardous waste disposal facility, if necessary; and (3) that the State will pay either 10 per cent of the cost of the remedial action (including all future maintenance) or, in the case of a facility that was owned at the time of disposal of hazardous substances therein by the State or political subdivision thereof, at least 50 per cent of any sums expended in response to a release at such a facility. The statute is silent with respect to State cost-sharing for removal actions at privately-owned sites. EPA will require that States requesting Fund-financed removals enter into an appropiate cooperative agreement or contract. EPA's general grant regulations provide that grantees and those receiving Federal assistance through a cooperative agreement must share project costs except as otherwise provide by law (see 40 CFR 30.720(a)). Where, as here, the statute is silent as to cost-sharing on certain response actions, EPA can require the States carrying out such actions to contribute at least 5 per cent of the cost of the action. Pursuant to its grant regulations, EPA has decided to require that States pay 10 per cent of planned removal costs at privately-owned sites. The same requirement shall apply to planned removals provided pursuant to a State/EPA contract. The type of legal instrument (i.e., cooperative agreement or contract) used in authorizing the planned removal should not affect the State's share of the cost and, therefore, both arrangements will require a 10 per cent State cost share.

V. Comments on the Hazard Ranking System and the National Priorities List

The preamble to the proposed revisions included a detailed discussion of the Hazard Ranking System (HRS) and the National Priorities List (NPL) (47 FR 10975 through 10977). The Agency received extensive comments on the HRS and NPL. Many of the comments supported the basic structure of the HRS and EPA's proposed development of the NPL. Others made suggestions for general and specific modifications. The Agency has adopted many of the suggested comments and they are discussed below. The HRS is included as Appendix A to the revised Plan. In the preamble to the proposed revisions, the Agency explained why it was deferring publication of the NPL (47 FR 10977). Now that the HRS is finalized, the Agency has requested that the States submit their priority rankings applying the HRS. After the Agency receives the State submissions, it will develop the NPL and propose that list for public comment. When promulgated, the NPL will be Appendix B to the revised Plan.

The Agency has included a very lengthy and, at times, quite technical discussion in response to the comments on the HRS and NPL. The Agency believes that this extensive discussion is necessary in order to respond to all of the significant public comments which often addressed very technical aspects of the HRS. Many of the comments questioned the data requirements of the HRS with a frequent criticism being that the HRS failed to accurately distinguish between the degree of hazard presented at different releases; the result being that the HRS might give high scores to releases that otherwise should not be included on the NPL.

The role and importance of the HRS and NPL must be kept in perspective.

the NPL, which will include at least 400 releases, is merely the first step in considering a release for Fund-financed remedial response. If a release is included on the NPL but a later remedial investigation discloses the hazard to be less significant than originally thought to be, a decision may be made not to provide Fund-financed remedial response. Similarly, the NPL will be reviewed periodically and a release can be added if more extensive data indicate a more significant hazard at the release.

A. Hazard Ranking System

1. *Overview of the Hazard Ranking System.* As discussed in the preamble to the proposed revisions (47 FR 10975), the HRS is designed to estimate the potential hazard presented by releases or threatened releases of hazardous substances, pollutants and contaminants. Application of the HRS to data from an observed or potential release will enable the Agency to calculate a "score" or estimate of the risk from such release. The HRS score for each release will be used in determining the placement of the release on the NPL.

The calculation of the HRS score for a release analyzes the five potential "pathways" of exposure of the human population or a sensitive environment. Each release or potential release is analyzed for exposure from (1) ground water, (2) surface water, (3) air, (4) direct contact, and (5) fire and explosion. A score will be developed for each of the first three "pathways." Pathways (4) and (5) are used to identify emergency situations that require removal action and, therefore, are not considered in calculating the HRS score.

For each "pathway," the HRS analyzes three categories of "factors" that are designed to encompass most aspects of the likelihood of exposure to a hazardous substance through a release and the magnitude or degree of harm from such exposure. The three categories of "factors" analyzed for each of the three "pathways" reflect: (1) The existence or likelihood of a release, (2) the characteristics of the hazardous substances that have been or may be released, and (3) the population or sensitive environment that is threatened. In the HRS, the first category of factors includes three subsets of factors, one for an "observed" release and, as an alternative when no release has been observed, two for assessing the likelihood of a release, designated as "route" and "containment" factors. For purposes of discussion, they will all be considered as part of the first of the three categories of factors. Each of the three categories may have a number of separate "factors" that will each receive a numerical value according to a set scale for each factor. For example, under category (2), factors that would be analyzed and given numerical values would include the toxicity, persistence, and quantity of the hazardous substance.

After numerical values are assigned to each factor, the HRS uses mathematical formulas, chosen to reflect the relative importance and interrelationships of the various factors to calculate a final score. Those formulas combine the numerical values of all "factors" in a category, then combine the three categories within each "pathway," and finally, combine the three pathway scores to yield a final score for the release or potential release. Therefore, the HRS score represents, for each release or potential release, an analysis of the probability and magnitude of harm to the human population or sensitive environment from exposure to hazardous substances as a result of contamination of ground water, surface water, or air.

2. *Response to Comments.* Commenters generally supported the HRS in its structure of "pathways" and "factor" categories, and the mathematical calculations for approximating the relative potential hazard. Thus, the HRS as promulgated today remains fundamentally the same as the proposed HRS. However, commenters did raise significant issues and suggest changes that are addressed below. General comments and responses are contained in subsection (a). Specific comments on the three "factor" categories are arranged according to each category and are addressed in subsection (b).

(a) *Response to General Comments.* (1) *Cost and Availability of Information.* Several commenters maintained that the data required by the HRS to score releases can be very expensive and will slow the remedial action process for many releases. Other commenters argued that some of the data required would not be available. Other commenters suggested that more factors should be considered or that existing factors should be considered in a higher level of detail.

As these conflicting comments indicate, the amount of information to be collected must be balanced against the cost and time required to obtain that information. EPA anticipates that several thousand releases may eventually be evaluated for inclusion on the NPL. The number and type of factors in the HRS must be consistent with the costs of data collection, the large number of releases, and the resources available for implementing the program. The Agency's experience with the Interim Priorities List indicates that the HRS data requirements, after some adjustments, are adequate without being unduly burdensome or costly.

EPA agrees that some of the data required by the proposed HRS may not be readily available. In developing the HRS, the Agency has excluded a number of factors, such as "bioaccumulation," because sufficient information is not currently available. The Agency believes that adequate information exists or can be obtained for each of the remaining factors in the three "factor" categories in the HRS.

Some commenters suggested that such non-technical factors as political concerns, community and socio-economic interests, and previous response actions should be included in the HRS.

The Agency has not included such non-technical considerations in the HRS. Section 105(8)(A) of CERCLA requires the establishment of priorities in light of the relative potential hazard to public health, welfare and the environment, and the HRS is designed to estimate this relative hazard, rather than assess the above subjective factors. However, the Agency may consider community interests and socio-economic factors in determining the appropriate remedial action for releases once they are included on the NPL.

The Agency does not believe that previous response actions should be taken into account in scoring a release. The HRS makes clear that releases are scored on the basis of conditions that existed prior to any response actions. Allowing partial response to affect the score would be a disincentive for public agencies to undertake any clean-up action because Federal funding for full-scale clean-up might not be available. In addition, if responsible parties have undertaken partial or temporary clean-up actions prior to scoring, releases might be excluded from the NPL without sufficient consideration of the need for further action or permanent remedy.

A number of commenters maintained that the HRS promotes the listing of releases with known quantified data, to the detriment of releases where analysis has not been performed.

As discussed above, EPA has tried to minimize the information required for the HRS, so that releases which have not been extensively investigated are not eliminated from the system. However, the HRS does include minimum data requirements. The

alternative would be to score releases on the basis of inadequate information, or to wait until extensive information has been generated for every release. It would be difficult to develop a system that provides a meaningful comparison between releases where information has been collected and releases where little is known. The requirement of section 105(8)(A) of CERCLA to list national priorities will not be met if EPA waits until extensive information has been generated for all releases. Releases for which the minimum data required for HRS scoring do not exist can also be addressed in revisions of the NPL, after adequate information has been collected for these releases.

Some commenters expressed concern that some of the scientific literature referenced in the HRS had not been subject to rigorous peer review.

The scientific literature referenced in the HRS was taken from scientific literature available for public review and scrutiny. In addition, the rating factors have been reviewed by the States, the EPA regional offices and the general public as part of the rulemaking. In developing the HRS, the Agency evaluated additional scientific literature and selected that literature that it believed to be the most appropriate and scientifically sound.

(2) *Pathways.* One commenter suggested that the HRS should be designed so that releases with scores for a particular "pathway" (i.e., ground water, surface water, or air) that exceed a designated threshold are automatically given higher placement on the NPL, or are subject to further analysis.

The Agency believes that the HRS is adequately designed to accommodate situations where a release has a high potential for contamination through a single pathway. The scoring formula of the HRS ensures that if only one pathway is rated with a high score, the HRS score could still be sufficiently high that the release could be included among the highest priorities. Using a designated threshold, as suggested by this comment, would also accomplish this objective. However, EPA does not believe this is necessary and the existing process for aggregating all factors to obtain the score for a relase more accurately reflects the situation at a particular release.

One commenter objected because the HRS gives equal consideration to the air, surface water, and ground water pathways, arguing that ground water contamination has broader implications, is more costly and difficult to clean up, and lasts much longer.

Under the revised HRS, the highest possible score, representing worst case incidents, is the same for each pathway. The Agency does not believe that it can discriminate between the very serious hazard resulting from contamination of ground water or any other pathway.

(3) *Other comments.* Several commenters pointed out that the HRS is not adequate to serve as the basis for making management decisions concerning Fund expenditures for remedial action.

The HRS is designed to rank releases on the basis of hazards presented by each release. However, the HRS is not the sole tool for making Fund management decisions. Decisions concerning Fund expenditures for particular projects are also based on further technical information derived from remedial investigations and cost estimates based on feasibility studies and state assurances (see section 300.67). All of this information must be compiled before a decision can be made that a release on the NPL warrants Fund-financed remedial action.

A number of commenters objected because the HRS was not published in the Federal Register. Some argued that the HRS was therefore unavailable for public review and comment.

Section 300.65(d) of the proposed NCP specifically referenced the HRS as the basis for the detailed methods and criteria for ranking hazardous substance releases. The Agency included an address where the HRS could be obtained upon request and solicited comment on the HRS. The substantial comment submitted on the HRS refutes any argument that it was unavailable for public review and comment.

Some commenters objected to what they termed premature publicity on releases when the releases are being analyzed and compared for inclusion on the NPL.

The Agency agrees that premature publicity should be avoided when possible. The process of ranking and selecting releases necessarily involves some degree of publicity because the States are encouraged to involve the public in their selection process. Publicity is also, to some extent, unavoidable because the NPL will be proposed in the Federal Register prior to final promulgation.

Some commenters were concerned that the HRS could be manipulated to place certain releases in a higher priority position than justified.

The Agency has instituted a training program for EPA regional offices and States designed to ensure proper application of the HRS, and developed a quality assurance program to review the scoring of releases prior to preparing the NPL. These measures, together with the intent to propose the NPL for comment, are intended to minimize any inconsistencies in scoring or attempts to manipulate the HRS.

(b) *Response to Comments on the Three "Factor" Categories.* (1) *Category 1: Observed Releases or Likelihood of Threatened Releases.* Several commenters asserted that the approach to assigning single scores to "observed" releases is inappropriate because the frequency and quantity of releases are not considered. Commenters argued that a one-time or minor release would be treated as equivalent to a frequent chronic source of release.

The score for an observed release indicates that the likelihood of a release is 100%. The fact that some substances have been released is a good indication that substances at the site can escape and increases the likelihood of a more substantial subsequent release. Data on frequency and quantity of an actual observed release, and data necessary to determine that a release is a minor occurrence rather than a frequent problem, would require standardized long-term monitoring to establish representative concentrations. This would add inordinately to the cost and time needed to score releases. The extent of the release is more appropriately considered during subsequent investigations.

Several commenters stated that releases should not be treated as observed releases if they are within regulatory limits. For example, air emission rates should be compared to emission rates permitted for operating facilities.

The Agency believes that permitted releases of pollutants are not analogous to uncontrolled releases of hazardous substances. First, the actual pattern of nonpermitted releases generally will not be regular or predictable and the observed release used for scoring may be followed by more substantial releases. Continuous or frequent monitoring would be necessary to establish the long-term level of release. Second, emission or effluent limits do not necessarily represent levels which cause no harm to the public health or the environment. These limitations are frequently established on the basis of economic impacts or achievability. Therefore, releases are treated as observed releases whenever hazardous substances, pollutants or contaminants have escaped from a facility.

One commenter suggested that the existence of a release should be measured in the aquifer of concern.

EPA agrees with this comment and has clarified the directions in section 3.5 of the revised HRS, concerning "Targets for the Ground Water Migration Route." The same "aquifer of concern" must be used for all rating factors, so that if a release is observed in any specific aquifer, this aquifer must be used to identify "target" populations as well.

Several commenters argued that qualitative evidence of release, such as objectionable taste in water, should not be equated with quantitative evidence of release, such as measured presence of substances.

The HRS now requires more conclusive evidence to demonstrate the existence of an observed release. Generally, only analytical measurements are acceptable as evidence of an observed release. Qualitative evidence of releases justifies a score for an observed release only if there is conclusive evidence to confirm that a release has occurred at the facility.

Several commenters suggested that the HRS should give greater consideration to the mobility of hazardous substances. A few commenters specifically suggested that the lack of mobility of heavy metals in soil should be taken into account in estimating the likelihood of release.

The HRS considers mobility by assessing the physical state (i.e., whether liquid, gas or solid) of the hazardous substance and assigning the highest value for liquid substances and the lowest value for solid substances. This factor is now considered under the HRS's designation of "route" factor, designed to estimate the likelihood of a release. The Agency does not believe that it is feasible to include other factors reflecting mobility in the HRS. The level of scientific understanding of the transport and fate of hazardous substances in the environment is not adequately developed to justify estimates of the likelihood of a release without an expensive and extensive data collection effort. For example, to determine the mobility of metals at a particular facility, extensive data collection and analyses of the soils and leachate are necessary. EPA believes that these analyses would add inordinately to the cost and time required to collect data, without significantly improving the ability of the HRS to predict the likelihood of release. Other factors which might affect mobility, such as solubility and volatility, have been deleted from the HRS because of insufficient information, and because the information that is available applies only to pure compounds not normally found at hazardous waste releases.

A few commenters objected to designating as "liquid" the physical state of liquids in wastewater treatment ponds regulated by NPDES permits or by RCRA.

The Agency has determined that spills and one-time or continuous accidental releases of untreated or partially treated substances from these facilities may be addressed under CERCLA. Higher values are assigned to liquids because they are more likely to migrate from the facility. If releases from such facilities are scored, there is no reason not to treat liquid hazardous substances as "liquids." If the substance is well controlled because the facility is well operated, the release will receive a low numerical value for the "containment" factors.

Some commenters objected because the HRS does not include geochemical removal mechanisms, such as sorption and coprecipitation, that remove metals and radiochemical pollutants from migrating ground water.

EPA believes that the data base regarding these mechanisms is not sufficiently broad to warrant inclusion in the HRS. If it is shown that these mechanisms will prevent migration of substances at a facility, this fact will be taken into account in determining the need for response action at a particular release.

Some commenters argued that the HRS should provide for scoring the potential for a release to the air.

The HRS has not been changed in this respect. There must be an observed release, rather than a potential release, in the air pathway. Definitive characteristics could not be established for air migration because existing data bases were inadequate. Air releases must currently exist, must be measured, and must not be caused by disturbances from investigations.

One commenter suggested that gases not be considered under the ground water pathway.

EPA disagrees because many gases are soluble in water and therefore may migrate to ground water with leachate from a facility.

Finally, the HRS now provides that, in determining net precipitation to identify the potential for leachate generation at a facility, seasonal rather than annual data may be used when available. In some regions of the country, seasonally heavy rainfall may increase the likelihood of leachate generation, even if net precipitation is low when measured on an annual basis.

(2) *Category 2: "Waste" Characteristics.* Most of the comments on the waste characteristics category of the HRS concerned two issues: toxicity and persistence, and quantity of hazardous substances. (The HRS uses the term "hazardous waste" and "waste characteristics." These terms encompass all hazardous substances that are covered by CERCLA section 101(14) and allow for including those substances meeting the definition of pollutant or contaminant in section 104(a)(2).)

(i) *Toxicity and Persistence.* Some commenters argued that the range of numerical values (generally zero to three) that can be assigned to a factor is too narrow to realistically rate relative toxicity because of the differences among the many substances.

In developing the HRS, EPA reviewed many rating schemes and determined that rating schemes using high, medium and low ratings function in a satisfactory manner for the purposes of the HRS. Releases will be scored on a large number of factors and distinctions among releases will emerge after consideration of all factors.

A number of commenters disagreed with the use of the Sax rating system for chronic effects. They suggested that the HRS rate only acute toxicity because of the lack of recognized authority on chronic toxicity effects. In addition, some commenters suggested that values derived from acute toxicity tests should be applied to identify and classify toxicity values for the HRS.

The Agency believes that the HRS appropriately considers chronic effects. Most exposures to hazardous substances via air and water exist at low levels and extend over a long period. In addition, most projected health effects are chronic. These effects may contribute significantly to the potential hazard of releases to public health and the environment. An in-depth search was made of the scientific literature and state-developed systems to find alternative methods of incorporating acute and chronic toxic effects in the HRS. No system has been identified as a suitable alternative to the rating system developed by Sax. Alternative scoring methods suggested by commenters have been carefully studied and ruled out for reasons including inapplicability, complexity, and expense of application. Exclusive reliance on acute toxicity testing is not appropriate because a system is needed for both acute and chronic values.

Some commenters maintained that the score for the factor evaluating the degree of hazard of substances at a release should not be based on a

substance that is present only in miniscule quantities.

The HRS provides that the score for the factor evaluating the degree of hazard of substances at a release, rated by toxicity and persistence, is based on the most hazardous substance at the release. The HRS has been revised so that if information is available on the amount of the substance present, the hazardous substance used to evaluate the degree of hazard must be present at levels at least equal to the reportable quantities established under section 102 of CERCLA.

Some commenters objected to the fact that the HRS determines degree of hazard by scoring the most hazardous substance that is not adequately contained. Thus, a facility with waste containing only a small proportion of an extremely hazardous substance could score the same for degree of hazard as a facility with waste containing a very high proportion of that substance.

The Agency does not believe that it is possible to require a detailed analysis of the relative proportion of different types of hazardous substances at a facility without inordinate expense and delay. Representing the hazards at facilities on the basis of the most hazardous single compound present will generally provide an adequate evaluation of the relative hazards.

A number of commenters argued that concentration of hazardous substances should be considered in rating toxicity, so that the toxicity of a substance is measured at the point where impacts on human health or the environment actually occur.

The Agency's position is that concentration data on long- or short-term levels are frequently unavailable, controversial, and costly to obtain. Experience in sampling and monitoring programs has shown that actual measurements at different locations of a release may vary considerably. The determination of a representative concentration would require repetitive or continuous monitoring over a long period of time, using the same protocols at all releases to generate comparable data. In addition, the points of human contact vary for each release or potential release. The HRS does assign lower values to target populations that are further from the release; however, EPA does not believe that it is necessary to expend a large portion of the Fund to collect data simply to determine precisely the relative potential risk of a release on a national scale.

Several commenters proposed that a bioaccumulation factor should be added to reflect the fact that some chemicals are stored and accumulated in body tissue.

EPA has investigated the use of bioaccumulation and found that there is no measure of bioaccumulation potential with readily available data that would enable EPA to inlcude this factor in the HRS.

Finally, the HRS now combines toxicity and persistence in a matrix, and the scale has been changed so that their combined value equals zero when toxicity equals zero, regardless of persistence. The change was made for simplicity and to facilitate application of the HRS.

(ii) *Hazardous Substance Quantity.* A number of commenters argued that hazardous substance or "waste" quantity should be part of the assessment of the nature of the substance and that treating quantity as a separate category serves to bias the HRS so that large quantities of low hazard substances score high.

The Agency agrees with this comment. Accordingly, quantity has been changed into an additive factor under "Waste Characteristics," thus reducing its significance to the overall score. In addition, the HRS instructions have been clarified to specifically exclude contaminated soil and water from determinations of hazardous substance quantity.

A number of commenters stated that the HRS is designed to address those releases which have 2,000 or more drums of hazardous substances.

The Agency has changed the HRS so that it no longer requires any minimum quantity of hazardous substances, unless the substances are not present in reportable quantities.

Some commenters maintained that the quantity of substances used to rate the waste quantity factor should be calculatd by multiplying the concentration of hazardous substances by the total quantity of hazardous and nonhazardous substances at the facility. Some suggested that, if the concentration of hazardous and nonhazardous substances at a facility is known, then the waste quantity factor should be determined by only the quantity of hazardous substances at the facility.

The Agency believes any method to identify actual quantities of hazardous substances at a facility must take into account the fact that nearly all substances contain some portion of non-hazardous materials. The Agency has considered several alternative methods and has been unable to develop an internally consistent approach for comparing pure hazardous substance quantity at facilities where definitive information is available with hazardous substance quantity at facilities where such information is not available. Therefore, the HRS remains unchanged and waste quantity is calculated according to the total amount of substances at a facility.

(3) *Category 3: "Target" Population and Sensitive Environment That Is Threatened.* The "target" category consists of factors for estimating the magnitude of the threat to affected populations or sensitive environments potentially exposed to the release. Comments generally addressed three areas: exposure from contaminated ground water, use of water resources, and the sensitive environmental factor.

(i) *Exposure from Contaminated Ground Water.* The method for determining the population potentially exposed to ground water contamination is to estimate the number of people living within a three-mile radius. Some commenters maintained that the actual population that is potentially exposed should be identified where information exists to show that these estimates do not reflect the actual exposed population. They also argued that the HRS should allow consideration of hydrogeologic information on ground water flow direction and natural in-place geologic barriers between shallow and deep aquifers.

The population within a three-mile radius of the facility is still considered the potentially exposed population under the revised HRS. Determining the extent of population actually exposed or threatened by using ground water flow information is generally not practicable. In many instances the information is not available, and in others the flow direction varies. Even where there is extensive knowledge of geohydrology, interpretation is nearly always subject to dispute. Requiring a precise measure of the affected population would add inordinately to the time and expense of applying the HRS. Provisions for limiting the area of concern based on flow are not included in the HRS, because of the lack of reliable data on direction of flow and because the direction of flow frequently varies. The HRS does require that the same aquifer used to identify a release must be used in determining the potentially exposed population. In addition, geohydrological data on known aquifer interruptions may be used to show that potential targets which are located within three miles do not draw from the affected aquifer.

Some commenters objected on the basis that the three-mile radius is excessive in comparison to the area

designated by EPA under the underground injection progam.

The area of review in the Safe Drinking Water Act's Underground Injection Control (UIC) program, however, refers to that area within which existing wells, because of increased formation pressure caused by injection activity, might allow the movement of fluids between formations. It does not refer to any estimate of how far contaminants may travel. The three-mile radius used in the HRS is based on EPA's experience that, in most cases currently under investigation, contaminants can migrant to at least this distance. It should be noted that no commenters disagreed with the selection of three miles for technical or scientific reasons.

Some commenters asserted that, when determining the nearest well, it is not appropriate to assume that houses or buildings near a facility have wells that draw from the aquifer of concern.

The Agency agrees and has changed the text under "Populations Served by Groundwater" (Appendix A, section 3.5) to require more definitive evidence of ground water use. People within three miles who do not use water from the aquifer of concern are not to be counted.

A number of commenters suggested that the HRS should consider the dilution of contaminants by the environmental media since it is the concentration at the probable point of exposure that is of concern.

The HRS has been designed to consider environmental dilution of released hazardous substances by lowering the score of populations potentially exposed as their distance from the hazardous substance increases. A sophisticated analysis of attenuation would require information that is not readily available for most of the releases that should be considered for the NPL.

Finally, the HRS now combines the distance to the nearest well and the population served by ground water into a matrix to provide greater discrimination of scores. The combined value equals zero when either the population served equals zero or the distance to the nearest well is greater then three miles (see Appendix A, section 3.5).

(ii) *Use of Water Resources.* Some commenters maintained that, when considering an aquifer of concern, the HRS should distinguish between aquifers in use, not used, or unusable

Section 3.5 of the HRS addressing "Targets for Ground Water Use" has been changed, so that points are not assigned for aquifers that are unusable for reasons such as extreme salinity or extremely low yield.

Some commenters felt that the HRS should contain a provision for considering industrial use of ground or surface water which may affect the extent of exposure.

The Agency agrees and has elevated the value for water used for commercial food processing. Though less hazardous than direct consumption of drinking water, this use warrants a higher value than provided in the previous version of the HRS.

A number of commenters suggested that the HRS ratings should consider future use of resources.

The Agency considered ways of addressing future uses, but was unable to develop or identify a mechanism to objectively measure future use. The Agency concluded that attempting to assign numerical values to future uses would be too speculative

Several commenters asserted that food chain exposure to hazardous substances should be considered in the HRS.

While the food chain is not treated as a separate pathway of exposure, food chain contamination is specifically addressed in rating factors for water use, land use, and the target population exposed to potentially contaminated water through irrigation.

(iii) *Sensitive Environment Factor-The Distance to a Sensitive Environment.* Category 3 includes a factor for assigning a numerical value based on the distance from a hazardous substance release to a sensitive environment, such as wetlands or the critical habitats of endangered species.

Some commenters maintained that the factor assessing the distance from a release to a critical habitat of an endangered species should assess the distance to the "range" of an endangered species, not just the critical habitat. Other commenters suggested that national wildlife refuges should be added to the environmental factor in addition to critical habitats.

The Agency believes that the concept of "range" for endangered species is much too broad to be used in the HRS. The majority of potential exposures of endangered species within their range would be temporary in nature and would likely have little effect on their safety. The Agency has modified the environmental factor to include national wildlife refuges as a sensitive environment.

Several commenters proposed that the environmental factor representing the distance to a wetland should be refined to differentiate between wetlands along streams at high flow conditions and streams at stagnant flow conditions.

The Agency has not made this change because of the difficulties in predicting the transport and fate of hazardous substances and estimating the potential damage based on stream flow rates.

Some commenters argued that flood plains should not be equated with critical habitats in the sensitive environment factor.

EPA agrees because flood plains may accommodate a wide range of activities instead of, or in addition to, serving as critical habitats. The reference to flood plains has been deleted from the sensitive environment factor.

A number of commenters objected to the fact that the HRS assigns the highest score for the factor "distance to a sensitive environment" when a facility is within ¼ mile of federal reserved lands, regardless of how well the facility is constructed. The commenters suggested that this provision reduces the availability of such areas for new facility siting.

The HRS is not used to rank prospective sites for future hazardous waste disposal facilities. Any facility located in such an area that is well constructed and maintained will rank very low due to other factors in the HRS.

Some commenters suggested that a sensitive environment factor should be added to the list of potential targets of ground water contamination. The HRS only includes the sensitive environment as a factor for the surface water and air pathways.

When contaminated ground water is released or flows into surface water, it is considered under the surface water pathway. The Agency is unaware of any serious impacts on sensitive environments due exclusively to ground water pollution. As a result, it is not necessary to add a separate rating factor under the ground water pathway, since sensitive environments are addressed under the surface water pathway.

Finally, a general comment made by several commenters was that there are inconsistencies in the methods used to assign numerical values to the different factors.

The Agency believes that the conditions represented by rating factors in the HRS are not equally important in the evaluation of a hazardous situation. Accordingly, the rating factor scales are intentionally different and multipliers have been chosen based on professional judgment and experience concerning the relative importance of each factor. The selection of scales and multipliers has been confirmed by the consistency of

scores with the perceived hazard at releases.

B. National Priorities List

The most significant comments on the provisions governing the NPL (§ 300.66 (d) and (e)) requested: (1) Clarification of criteria used for including releases on the NPL; (2) explanation of the relation of the NPL to remedial actions; (3) inclusion of procedures for adding and deleting releases from the NPL; (4) deletion of the requirement for State assurances at the time the releases are submitted to EPA, and (5) clarification of provisions for adding State top priority releases to the NPL. The following sections discuss these comments and explain the Agency's changes in response to these comments.

1. *Criteria for Including Releases on the NPL.* Some commenters indicated that it is not clear whether the Plan provided that inclusion (ranking) of a release or "site" on the NPL would be based on the purely "mathematical" factors included in the HRS, or whether other factors will also be considered.

The HRS was developed pursuant to section 105(8)(A) of CERCLA. This section provides for development of criteria and priorities based on relative risk or danger to public health or welfare or the environment, taking into account the following considerations: (1) The population at risk, (2) the hazard potential of hazardous substances at such facilities, (3) the potential for contamination of drinking water supplies, (4) the potential for direct human contact, (5) the potential for destruction of sensitive ecosystems, (6) State preparedness to assure State costs and responsibilities, and (7) other appropriate factors. The HRS was designed to take into account only those aspects of the above considerations (generally, considerations (1) through (5)) that reflect the risk of harm existing at releases and that can be quantified for inclusion in a mathematical model. Once an HRS score has been assigned, the additional factors referenced in section 105(8)(A) will be considered in selecting releases for the NPL, and in selecting releases from the NPL for Fund-financed remedial actions. This process is set forth in Subpart F of the NCP.

Other commenters argued that releases which may present the sufficient degree of risk to be placed on the NPL should nonetheless be excluded if CERCLA does not authorize Fund-financed response. One example is the provision in section 111(e)(3) precluding use of Fund money for remedial action with respect to "federally owned facilities."

The Agency has decided that where available data indicates that active Federal facilities are the source of a release (either inside or outside the facility), these facilities will not be included on the NPL.

2. *Role of the HRS in Selecting Releases from the NPL for Remedial Action.* Many commenters maintained that the HRS does not provide sufficient detail to distinguish among releases for the purpose of deciding when to take remedial action, and therefore all releases on the NPL should be equally eligible for remedial action. Several others stated that, all other factors being equal, releases with a high HRS score should be given a higher priority for remedial action.

The NPL identifies releases that are eligible for remedial action and the relative risk as calculated by the HRS. The actual selection of sites for remedial action depends not only on relative risk but also on the availability of cost-sharing and other State assurances, the existence and status of responsible parties, the status of enforcement actions, and other considerations included in Subpart F of the Plan. In addition, remedial investigations or feasibility studies might produce more precise information that affects the urgency of remedial action. The Agency will therefore not necessarily respond to releases in order of their HRS scores.

3. *Adding and Deleting Releases from the NPL.* Several commenters suggested that the Plan should explicitly provide that the NPL will be updated at least annually as required by CERCLA section 105(8)(B). Other commenters suggested that the Plan should explain the process by which a release can be removed from or added to the NPL after the initial publication of the NPL. Specific grounds suggested by commenters for deleting releases from the List included: (1) The existence of a Federal agreement for clean-up by private parties; (2) a more sophisticated assessment of risk; and (3) voluntary remedial actions that may reduce the release's NPL ranking.

EPA has added to the NCP a provision [§ 300.66(e)(7)], stating that EPA will revise the NPL at least annually. The criteria for adding releases to the NPL are the same criteria for including releases on the initial List. Additions will be made consistent with the process in § 300.66(e) for developing the initial List. The Agency has not included criteria for deleting releases from the List. At this time, EPA did not believe that it had the necessary experience to establish a procedure in the Plan for removing releases from the List. In guidance issued on June 28, 1982, EPA indicated conditions when it might remove releases from the NPL. If, after EPA and the States acquire experience in working with the NPL, it becomes necessary to establish such a procedure in the Plan, EPA will propose the necessary modifications.

4. *State Assurances.* Section 300.65(e) of the proposed revisions to the NCP required States, when submitting releases for inclusion in the NPL, to indicate in a letter of intent either their ability to make the assurances for cost-sharing, future maintenance, and disposal site availability as required by section 104(c)(3) of CERCLA, or their intention to make those assurances at the appropriate time. Many States objected to the requirement to make assurances at this early stage in the process. They argued that States are in no position to make these assurances when submitting releases for inclusion on the NPL, because the appropriate extent of remedy, the types and amounts of wastes that require off-site disposal and the amounts of money needed to fulfill these assurances are uncertain. States also argued that they should not be required to provide assurances at a stage when EPA has not committed to providing funds for remedial action on a site.

EPA has reconsidered this requirement in light of the public comments and has decided to eliminate the requirement for assurances when releases are submitted for inclusion on the NPL. There will be sufficient time before remedial actions are initiated for the States to provide the necessary assurances.

5. *State Priority Submissions.* Several commenters suggested that EPA should clarify the provision for States to identify their top priority release. One commenter requested that EPA explicitly acknowledge that the State's top priority release need not be the top ranked under the HRS.

Section 300.66(d)(3) provides that each State may designate a release as the State's highest priority release by certifying that the release presents the greatest danger to public health, welfare and the environment among known releases in the State. The State's highest priority release does not have to be the State's highest ranked release under the HRS.

One commenter indicated that releases should be included on the NPL at the initiative of States, and that EPA should include releases only after consultation and general agreement with the States.

The great majority of the releases considered for inclusion on the NPL will

be at the initiative of the States. EPA has the authority, however, to add releases where necessary to assure that the NPL reflects, to the extent possible, the releases presenting the greatest risk or danger to public health, welfare and the environment. Section 300.66(e)(1) provides that States' priorities will be reviewed and consolidated by EPA into the NPL, and that EPA may add, in consultation with the States, any additional priority releases known to EPA.

VI. Comments Regarding Planned Removal

In the preamble to the proposed revisions, EPA explained its reasons for delineating two categories of removal actions—"immediate" and "planned" (47 FR 10975). This delineation was intended to specify those circumstances when the Agency believed it would be appropriate for the Fund to finance a removal action. The delineation neither authorized response actions beyond the statutory definitions of removal, nor improperly restricted the types of removal actions authorized by the Act.

Many commenters felt that the proposed description of planned removals was confusing and not adequately explained. Other commenters expressed concern that the criteria for taking a planned removal were too broad or undefined and did not adequately differentiate planned removal from immediate removal or remedial action. In order to more clearly delineate those situations in which planned removals may be taken and the purposes for which this category of response is intended, EPA has modified § 300.67.

Section 300.67(a)(1) allows for planned removals when the conditions for terminating an immediate removal exist, yet a substantial cost savings can be realized by completing the action and not demobilizing equipment and resources. EPA believes that such response flexibility is needed to ensure the effective use of Fund money and to achieve the greatest amount of protection of public health and the environment with the funds available. This category will be used to respond to releases at which a small amount of work is necessary to complete clean-up at a release, thus avoiding the high costs of demobilizing equipment only to mobilize again for a continued response. In addition, § 300.67(a)(2) allows action at a release that is not on the National Priorities List and that does not meet the criteria for an immediate removal, yet poses a risk to public health or the environment that requires action before the release could be added to the National Priorities List for remedial action.

Some commenters questioned whether planned removals were needed at all, or whether the statutory categories of removal and remedial action could suffice.

Immediate removals are intended for response to situations of immediate and significant harm to human life or health or the environment; these are emergency situations which require rapid immediate response. Other situations also exist which require an expedited response, but not an immediate one. In these situations, more deliberation can be given to planning the response action. The statutory category removal action covers both of these situations. By making this distinction between immediate and expedited response, the Plan provides for better management of the Fund.

Section 300.67(b) requires that any request for a planned removal be made by the State governor or his or her designee. This request must include relevant information about the release and assurances for cost-sharing. Many commenters questioned EPA's proposal to require State cost-sharing for planned removal actions. Commenters felt that States would not have sufficient funds to meet these requirements; that such a requirement would delay response action unnecessarily; and that CERCLA did not authorize requiring State cost-sharing for removal actions.

EPA has chosen to require cost-sharing for planned removals, in exercise of its discretion under the statute and EPA grant regulations (discussed in Section IV above), for a number of reasons. First, such cost-sharing provides evidence that the State is committed to removal action at the site in question, and has made the determination that action is needed to prevent a significant risk to public health or the environment. Second, the statute provides for and encourages an active State role in selecting the releases that require response and in sharing the costs of response. This requirement contributes to effectuating the State role under CERCLA. The NCP section on planned removals provides for both aspects of this role. Planned removals will only be undertaken if the State governor or his designee requests such action. Therefore, the Plan now gives the States a high degree of flexibility in selecting their own sites for receiving Federal money. The request for planned removal, however, must be accompanied by a plan for the removal action and by assurance that the State will help in the funding of the action. Finally, although situations appropriate for planned removals require expedited action, EPA believes that there will be sufficient time before taking a planned removal to arrange for cost-sharing with the affected State without causing delay in response.

Several commenters noted that it would be contradictory to require a State to submit a planned removal site for the National Priorities List, since there would be no point in listing a release as a priority after it had been cleaned up.

EPA has consequently eliminated this requirement. Other commenters noted that the provisions of § 300.68 of the proposal were inconsistent at several points: for example, in requiring a planned removal action to minimize and mitigate damages without relying on future response actions, while also emphasizing actions which are consistent with any subsequent remedial activities. EPA has therefore eliminated these provisions. EPA has also eliminated from this section the requirement that pollution reports be submitted, since the requirement that OSCs submit these reports is already included in Subpart C.

To fulfill the mandate of CERCLA section 105(3), EPA has added considerable detail to the section on planned removals pertaining to the appropriate extent of planned removal action. The Plan now delineates the types of situations in which planned removal action may be appropriate (§ 300.67(a)), the criteria for taking planned removal action (§ 300.67 (a) and (c)), and the criteria for terminating a planned removal action (§ 300.67(d)). The Plan reiterates the statutory limitation in CERCLA on the time period and dollar expenditure allowed for removal action except under certain specified conditions.

VII. Comments and Modifications Relating to Individual Subparts

This section responds to additional comments (not discussed above) and explains other changes made to each subpart of the Plan as a result of comments.

A. *Subpart A*

Several commenters noted that § 300.3 of Subpart A merely repeated the statutory requirements for the NCP's content. Other commenters suggested that, instead of this repetition, the Plan should clearly delineate its coverage.

EPA agrees and has replaced the list of statutory requirements in the Plan with a new § 300.3(a) which specifies the scope of Federal response

authorities under Section 311 of the CWA and under CERCLA. In addition, EPA has added a new paragraph (b) to this section which summarizes the scope of the Plan's provisions. This summary more accurately reflects the coverage of the Plan.

Many commenters suggested modifications to the definitions in § 300.6. In most cases, the suggested modifications pertained to definitions that were taken directly from the Clean Water Act or CERCLA, and modification was deemed unnecessary.

Several commenters noted that it was unclear that the definition of "size class of discharges" in § 300.6 referred only to discharges of oil. EPA has modified the definition by changing the undefined term "pollution" to "oil discharges" and stating explicitly that it means discharges of oil only. It is noted that the term "discharge," as used in the Plan, applies only to oil.

Other commenters suggested that the Plan establish size classes for releases of hazardous substances. Most of the commenters were concerned that reporting requirements under CERCLA were too stringent and could lead to reporting of insignificant releases.

EPA does not believe it is appropriate to establish in the Plan general size classes for releases of hazardous substances, since the quantity of a hazardous substance is not always indicative of its toxicity. Small quantities of one hazardous substance may be more toxic and present a more significant threat to human health than greater quantities of other hazardous substances. CERCLA establishes reporting requirements for releases of hazardous substances and authorizes EPA to establish specific reportable quantities for releases of all hazardous substances. Until such time as EPA develops regulations revising reportable quantities, section 102(b) of CERCLA assigns a reportable quantity of one pound to substances defined as hazardous by section 101(14) of CERCLA, with the exception of those substances for which reportable quantities have been established pursuant to section 311(b)(4) of the Clean Water Act. For the above stated reasons, the Agency believes that it is neither appropriate nor necessary to establish size classes of releases for hazardous substances in the Plan. Definition of reportable quantities is not a requirement of section 105 of CERCLA. Rather, the Agency has initiated separate proceedings to address this matter as required by section 102 of CERCLA.

A few commenters noted that the definition of "coastal zone" contained in the Plan differs from that under the Coastal Zone Management Act (CZMA) and questioned whether it should be consistent. The definition included in the Plan specifies that it is to be used only "for the purpose of this Plan." This term is used in the Plan for the sole purpose of distinguishing between EPA and USCG jurisdictional areas for response activities. Accordingly, it need not be consistent with the CZMA definition.

One significant modification to Subpart A is in response to comments that specific decision-making responsibilities in the Plan should be clarified. Commenters noted that the use of the terms "lead agency" and "on-scene coordinator" (OSC) referred only to Federal officials, to the exclusion of State officials, and that the term "lead agency" was unclear. EPA has modified the definitions of "lead agency" and "OSC" to provide that both may include a State agency or official acting pursuant to the terms and authorities granted through a contract or cooperative agreement with the Federal government. This modification acknowledges the important role States may exercise in response actions. The term "lead agency" refers to the Federal or State official that provides the OSC. "Lead agency" is used because several agencies are granted the authorities that will be exercised by the "lead agency" under the Plan. These authorities often extend beyond the authority of an OSC.

To further delineate the responsibilities of OSCs, the final revised Plan includes a provision for designation of a "responsible official" to exercise OSC authority in certain situations. The new term "responsible official" refers to those individuals responsible for undertaking planned removals or remedial actions under CERCLA. The definition includes State officials if the State is granted this authority pursuant to a contract or cooperative agreement. EPA added this term to clarify that, in the case of planned removal or remedial actions, the official in charge may not always be called an OSC. In such long-term actions, the official in charge could be an OSC, but is more likely to be another official of the Federal or State government. Accordingly, this official is defined as a "responsible official" and is given the authorities and responsibilities assigned to OSCs.

Finally, commenters suggested that it was inappropriate to require that volunteers be recruited and trained by the response authority. This provision is simply intended to require that volunteers be competent for the actions for which they are being utilized. EPA has clarified this provision by deleting the words "recruited" and "trained" from the definition of volunteer in § 300.6 and has clarified § 300.25(c) pertaining to volunteers. This modification is discussed below.

B. Subpart B

Subpart B delineates the responsibilities and roles that all levels of government and private entities may play in response activities. Several commenters suggested that § 300.21 detail the delegations given to the various Federal agencies in Executive Orders 12316 and 11735. In addition, several commenters suggested that Subpart B should include an outline of the specific responsibilities and capabilities of Federal agencies under the Plan. A few commenters suggested that additional material on the roles of HHS and FEMA would be appropriate, since they have new response authority under CERCLA.

EPA does not believe it is necessary to include details from Executive Orders 12316 and 11735. Both are referenced in § 300.21 and are readily available to the public. Details from Executive Order 11735 were not repeated in the existing Plan, and experience indicates that there was no misunderstanding resulting from their absence in the Plan. EPA notes that where delegations are germane to the Plan, they are stated in the appropriate context, as in the division of responsibilities between EPA and USCG in response actions noted in § 300.33(a).

In addition, EPA finds it unnecessary to specifically list all the responsibilities and capabilities each agency has to bring to bear in a response action. Responsibilities and capabilities are subject to constant change by statutory modifications and reorganizations and, because of resource constraints, capabilities will vary. EPA believes the Plan appropriately delineates the responsibilities that each agency should fulfill in the context of the national response structure and the potential capabilities of each agency. EPA agrees, however, that the roles of FEMA, HHS and DOD deserve special mention in the Plan. Unlike the section 311 program, in which response authority was vested only in the USCG and EPA, Executive Order 12316 grants certain response authorities to FEMA, HHS and DOD. EPA has added an explanation of the division of responsibilities between EPA, USCG, FEMA, HHS and DOD in a new § 300.23(e).

Section 300.22 of Subpart B requires that, where appropriate, discharges of radioactive materials will be handled

pursuant to the appropriate Federal radiological plan. EPA recognizes that many such incidents may not be covered by authorities under CERCLA or the CWA. The precise extent of response authority under CERCLA has not been determined. Accordingly, any clean-up activity under CERCLA of radioactive releases will be determined on a case-by-case basis. Federal authorities for responding to radiological incidents fall within the purview of several agencies. To assure that the Federal government adequately coordinates these authorities, there are several existing mechanisms and others under development. For radioactive releases from commercial nuclear power plants, Federal emergency response is coordinated by FEMA and the NRC through the National Radiological Emergency Preparedness/Response Plan for Commercial Nuclear Power Plant Accidents (Master Plan), 45 FR 84910. For radioactive releases not associated with commercial nuclear power plants, the Federal radiological assessment and monitoring is coordinated by DOE under the Interagency Radiological Assistance Plan (IRAP). FEMA is preparing a comprehensive Federal plan that will encompass all types of radiological incidents that may require a Federal response. It will include incidents or accidents at commercial nuclear power plants. The tentative title for the new Federal plan is the Federal Radiological Emergency Response Plan (FRERP). The IRAP has been revised and updated by DOE and will soon be republished as the Federal Radiological Monitoring and Assessment Plan (FRMAP). The FRMAP will be incorporated into the FRERP to establish the latter as one single Federal response plan for any type of significant radiological emergency.

Several commenters suggested that § 300.22 (a) through (c), relating to coordination of Federal agency activities, should include the mandatory "shall" rather than "should."

EPA disagrees and notes again that Federal agency responsibilities will vary due to statutory and budgetary constraints beyond the control of EPA as author of the Plan. EPA cannot impose obligations upon these agencies which they may not be able to fulfill. The Plan must be flexible enough to accommodate these changing conditions. Agency budgets and missions are modified annually. Moreover, Interagency Agreements, Memoranda of Understanding, and guidance documents are the appropriate mechanisms for detailed descriptions of tasks each agency will perform.

Several commenters stated that the thresholds contained in § 300.22(d) did not include a "substantial" threat of release as required by statute.

Section 300.22(d)(2) refers to enforcement authority under section 106(a) of CERCLA, rather than response authority under section 104(a) of CERCLA. Section 106(a) of CERCLA does not require a "substantial" threat as does section 104. Due to this difference, no change is necessary.

One commenter objected to the fact that § 300.22(d)(2) allowed the NRT to recommend that EPA or USCG exercise its enforcement authorities, since the NRT is not delegated such authority. EPA agrees and has deleted this provision.

A few commenters questioned the wording of § 300.22(e) stating that it gives a great deal of authority to the government to coordinate private behavior and that terms such as "pollution" and "large" quantity of oil were not defined. This provision is taken directly from section 311(b)(2)(A) of the Clean Water Act. In this section, Congress did not define the referenced terms. In situations requiring the exercise of this authority, decisions must necessarily be subjective since they are based on the unique circumstances surrounding each situation.

Many commenters stated that it was unclear which agencies were "participating" agencies under § 300.23 (a) and (c). EPA has clarified this by deleting the term "participating" agencies in § 300.23 and noting instead that the agencies are the "Federal" agencies listed in paragraph (b) of the same section. The agencies listed in paragraph (b) are the current members of the National Response Team. EPA has deleted HUD and SBA from this list since they are not current members.

One commenter suggested it was preferable to put the requirement that Federal agencies provide representation to the NRT and RRT and assist in formulating regional and local plans in section 300.23(c), in order to include agency responsibilities to the NRT and RRTs in one place. EPA agrees and has added this requirement in § 300.23(c)(3).

To avoid duplication in the Plan, EPA has deleted the second sentence of § 300.24 (d), (e) and (f) and instead added a cross-reference to the new § 300.62 (discussed in section IV above) which more comprehensively outlines the State role under CERCLA.

Some commenters requested State participation in the Regional Response Team be greater and that it be mandatory. Other commenters questioned whether State participation in RRT activities was a reimburseable cost.

Section 300.24 does allow States full membership on the RRT. This membership is not mandatory, however, since States should have the discretion to participate or not participate given State needs and resources. The issue of which costs are eligible is not one that the Plan resolves. Rather, the extent to which costs will be reimbursed shall be specified in individual cooperative agreements with States. Another commenter noted that §§ 300.24(a) and 300.32(b)(2) were contradictory in that § 300.32 allows local governments to fully participate in RRT activities while § 300.24(a) makes local participation contingent upon approval of the State representative. EPA agrees that these sections are inconsistent and has modified § 300.32(b)(2) to provide that only States have the same status as Federal members (i.e. voting members), leaving local participation subject to the provisions of § 300.24(a).

Other commenters stated that the provisions of § 300.24(c) potentially created duplicative State programs and unnecessarily encouraged States to take response and enforcement actions. EPA disagrees. This section merely recognizes that many States have active response and enforcement programs which are in no way pre-empted by CERCLA. Where such programs exist, EPA encourages their use. This section recognizes that such programs and the Federal program are important complements to one another. One commenter stated that the Plan should not indicate a preference for State enforcement action over Federal action. EPA agrees and notes that § 300.24(c) encourages State enforcement but does not indicate a preference over Federal enforcement action.

Other commenters objected to the use of the term "potentially" in referring to responsible parties in § 300.24(c) and elsewhere in the Plan.

EPA used this term in response to comments on earlier drafts of the Plan which raised objections to calling all involved parties responsible until enough evidence was gathered for the Agency to determine that they are responsible. Since this is often a time-consuming process, EPA has used the term "potentially" responsible.

A few commenters questioned whether the Plan adequately specified those actions that would be eligible for Federal funding.

Subpart F establishes criteria upon which decisions as to eligibility for Federal funding will be based. The

eligibility of particular actions will be decided on a case-by-case basis using these factors. The Plan cannot ensure funding approval for specific actions since current demands for response and expected future demands exceed available funds.

Many commenters were confused as to the provisions in § 300.25 (d) through (f). Several questioned when the Fund will be used to pay for private party clean-up, and whether the section prohibits the taking of remedial action by any person who does not have prior approval. Moreover, commenters stated that § 300.25(e) of the proposal implied that anyone who does not intend to seek Fund reimbursement needs no prior approval. Others questioned whether there should be any prior approval requirements.

In response to these concerns, EPA has substantially modified § 300.25 (d) through (f). Paragraphs (e) and (f) of the proposal have been eliminated and paragraph (d) has been rewritten to require that persons who intend to undertake response actions, and seek reimbursement from the Fund, must obtain preauthorization in order for the response action to be considered consistent with the Plan for purposes of section 111(a)(2) of CERCLA. This provision does not apply to the Federal government or to a State or other person acting pursuant to a contract or cooperative agreement.

Section 111(a)(2) of CERCLA allows payment of claims for response costs incurred by "any other person" as a result of carrying out the NCP, *provided* that such costs are approved under the Plan and certified by the responsible Federal official. Section 300.25(d) provides the mechanism for approval of such costs under the NCP. This mechanism is through notice to the Administrator or her designee and submission of an application for prior approval (preauthorization) of the action.

This preauthorization process allows EPA to better manage Fund money, and helps ensure that private response is conducted in an environmentally sound manner. Further, the preauthorization process gives persons who wish to submit response claims a method to assure themselves that their costs will meet the approval component of section 111(a)(2). EPA is developing procedures for processing such claims pursuant to section 112 of CERCLA.

The provision requiring that private response actions be preauthorized is included in the Plan to ensure that Fund money is spent in a cost-effective and environmentally sound manner, regardless of the party taking the action. In the case of those operating pursuant to a contract or cooperative agreement, EPA can assure consistency with the NCP through the agreement. In the case of the Federal government taking Fund-financed action, consistency with the Plan is assured through internal agency approval procedures. Section 300.25(d) imposes a similar advance approval requirement on those wishing to bring a claim against the Fund for response costs in accordance with section 111(a)2). Section 300.25(d) does not apply to private parties who undertake response actions, but do not intend to seek reimbursement from the Fund.

C. Subpart C

Subpart C establishes the national and regional response structure and explains the role of government and private entities in the response structure.

Several commenters requested further detail in § 300.32(a) on the responsibilities and authorities of the NRT. EPA believes this section adequately details the role of the NRT as the national organization for coordinating Federal response to major pollution incidents and developing recommended actions for national response policies. Roles and responsibilities of the NRT during response actions are detailed in § 300.34 (f) and (g). One commenter noted that, while the Plan allows the NRT to make recommendations on training, equipping, and protecting response teams and coordination of governmental and private entities, section 105 requires that such provisions be specified in the Plan. EPA notes that the Plan does specify these components throughout Subparts B and C. The provision regarding the NRT is intended to allow the body to recommend improvements or modifications in these areas, based on its collective expertise.

Some commenters objected to deletion of material from the existing Plan relating to by-laws of the NRT. EPA eliminated these provisions because they were considered "ministerial" and neither necessary nor appropriate in the Plan. Section 300.32(a) allows the NRT to adopt such by-laws as it deems necessary to its operations. Other commenters suggested making provision in the Plan that NRT meetings be open to the public. Again, such a provision is not appropriate in this Plan, since some meetings may be public and others may require executive session. It is more efficient for the NRT to provide for these decisions in its own procedures.

Several commenters asked how membership on the NRT is determined and suggested that the Plan provide for State membership on the RRT. EPA has clarified the membership process by adding a sentence to § 300.32(a)(1) which provides that agencies may request membership on the NRT by forwarding such requests to the chairman. States are not permitted to be members of the NRT; participation is limited to members with a national presence. The RRT is the appropriate coordinative body for States. The NRT likewise restricts Federal agency members to those with a national presence. For example, the Tennessee Valley Authority is a Federal entity that is very active in response activities. It is a member only of the RRT, however, because its activities are limited to a single geographic area.

Several commenters pointed out that the provisions of § 300.32(a)(7)(i) were confusing since they implied that the NRT responds only to nationally significant releases. EPA has clarified this section by providing that the NRT maintains national readiness to respond to incidents which are beyond regional capability. This provision clarifies that the NRT role is complementary to that of the RRT.

Other commenters maintained that the Plan vested broad and unspecified discretionary authorities in the NRT and RRTs. These commenters believed that certain responsibilities vested in the NRT and RRTs should be specified in the Plan. EPA disagrees. The Plan provides the NRT and RRTs with the authority they require to act as effective coordinating bodies. Their activities are not exclusive of the Plan; rather, they are complementary to the Plan. For example, the NRT is empowered to develop procedures for ensuring coordination of response activities among the various levels of government and private entities (§ 300.32(a)(7)(iv)). This authority obviously does not preempt the rest of Subparts B and C which also provide for such coordination. This section is simply one of the many provisions in these subparts to assure such coordination.

Several commenters were confused over the role of State and local governments on the Regional Response Teams. EPA has clarified § 300.32(b) to provide that States may be voting members on the RRT, while local representatives may participate in meetings in a non-voting capacity. The reason for allowing only one vote per State is to assure efficiency of RRT operations. Allowing an unlimited number of representatives from a single State to vote would distort the fairness of representation on the RRT. This would result in an unwieldy and unfair

voting system, which could be biased toward whoever had the most people in attendance. It should be noted that voting is rarely necessary within either the NRT or RRTs since members usually achieve consensus.

Another commenter suggested that the Plan specify those agencies that compose the Regional Response Team. Such specification is not appropriate to the national Plan, since participating agencies may vary from region to region. Therefore, specification is left to the regional plans.

Several commenters suggested that qualifications for various response personnel mentioned in Subpart C (OSC, SSC, etc.) be included in the Plan. EPA believes that the Plan is an inappropriate place to specify personnel qualifications. Depending on the area covered, qualifications may vary and they are more appropriately considered in the hiring process, not through regulation.

Section 300.33 of the Plan discusses the division of responsibilities, roles and coordinating activities that should be used in a response. Section 300.33(a) specifies the geographic division of response authority between EPA and the USCG. Because commenters noted that, within the USCG/EPA division, DOD has authority for response to releases from its own facilities, EPA has inserted this exception in § 300.33(a).

Many commenters urged that the Plan clearly state that the OSC is responsible for response operations, that others at the scene are under the direction of the OSC, and that the OSC must not be unduly hampered by officials not at the scene. Section 300.33(b) of the Plan clearly specifies that it is the OSC that directs on-scene operations. That is, the OSC is the official in charge of directing on-scene operations. The OSC's authority is subject only to other response authorities delegated under Executive Order 12316. Otherwise, the OSC directs all activities during a response action. The special assistance authorized by Subpart C (i.e., the SSC, ERT and strike forces) includes entities which may be called upon by the OSC to assist in response operations. EPA is sensitive to the fact that response should not be unduly delayed while awaiting approvals or concurrence by officials who are removed from the scene.

Section 300.33(b) (1) through (10) provides a checklist of OSC responsibilities during a response. This list is complementary to responsibilities in Subparts E and F and serves primarily to assure appropriate coordination by the OSC. One commenter suggested adding to § 300.33(b)(6) a requirement that the OSC notify FEMA of situations potentially requiring evacuation, temporary housing, or permanent relocation. EPA agrees and has added this requirement and consolidated § 300.33(b) (6) and (9) into a single paragraph. In addition, in order to assure that the notifications for which an OSC has responsibility are stated in one place, EPA has added a sentence to § 300.33(b)(7) noting that the OSC may call upon HHS for advice in the worker health and safety area and included a new paragraph (9) requiring notification of affected Federal land managing agencies. Several commenters stated that in § 300.33(b), the OSC also should be required to notify State and local agencies. EPA does not believe this notification is necessary since the Plan already provides for the National Response Center to notify the Governor of the affected State or his or her designee of discharges or releases. Other State and local agencies should arrange to be notified through their State's mechanisms.

A few commenters suggested that the Emergency Response Team (ERT) responsibilities cited in § 300.33(d) of the proposal be expanded and that only the OSC be allowed to request the support of the ERT. EPA does not believe expansion of ERT responsibilities is necessary, since those detailed in the Plan are broad examples of the types of services the ERT provides. Although the OSC is the primary requester of ERT services, the ERT also may be needed for response activities by others. EPA believes this flexbility should be preserved in the Plan. Another commenter stated that the Plan leaves to the ERT decisions which should be made in the Plan. EPA notes that nowhere in § 300.34(c) does the Plan require decision making by the ERT—it simply outlines ERT expertise which can be called upon.

Several commenters questioned how the RRT decides whether or not to activate. Some of these commenters were concerned that the RRT should not become involved in response operations without approval of the OSC. The Regional Response Team is activated when the criteria in § 300.34(f) are met. It is not necessary for the RRT to receive OSC concurrence to activate. Instead, the chairman of the RRT makes the decision as to whether the RRT should be activated (often on the basis of a request from a State representative). In the majority of cases, the chairman is from the same agency as the OSC, and, in fact, can be the OSC's supervisor. Therefore, there should be no disagreement as to the need to activate the RRT. Imposition of formal OSC concurrence requirements are unnecessary and inappropriate.

Section 300.34(f)(5)(iv) allows the RRT to suggest replacement of the OSC. A few commenters suggested that private parties also be allowed to do so. Certainly, the Plan does not preclude such a request; however, it is inappropriate to encourage such requests in the Plan, especially since the OSC will often be involved in situations where private parties have failed to clean up properly. Requests for replacement of OSCs should not occur every time a responsible party disagrees with the OSC action.

Several commenters noted that proposed § 300.36(c) did not clearly state the CERCLA and CWA requirements for reporting discharges and releases. Accordingly, EPA has clarified the Plan to note that reports of discharges or releases of oil and hazardous substances above reportable quantities should be made in accordance with 33 CFR Part 153, and section 103(a) of CERCLA. In addition, EPA has eliminated § 300.35(d) regarding pollution reports since the same requirement appears elsewhere in the Plan. A few commenters requested that § 300.36 of the proposal note that the Spill Clean-up Inventory System (SKIM) is also available to private parties. EPA agrees and has noted this availability in § 300.37.

D. Subpart D

Subpart D establishes requirements for Federal regional contingency plans and Federal local contingency plans. Several commenters requested that additional detail be added to the NCP regarding the required content of these plans. EPA does not believe additional material is necessary. First, in the case of regional plans, § 300.42 (a), (b) and (c) outlines the components that should be included in such plans, and explicitly states that regional plans will follow the format of the NCP to the extent possible. This provides guidance to the regions on the topics which should be covered in their plans. Further detail could result in an unduly rigid mechanistic formula for developing regional plans. EPA recognizes that each region will have distinct needs in developing such plans and has provided the flexibility to allow these plans to be tailored to regional needs. These plans are required to be developed by RRTs in consultation with States.

In the case of Federal local plans (§ 300.43), EPA has deleted the requirement that they follow the format of the national Plan. Several

commenters pointed out that this section gave inadequate attention to local needs and conditions. By deleting the requirement that Federal local plans should follow the NCP, EPA is providing greater flexibility for local plans to be developed in accordance with provisions in § 300.43(a) and to be adequately coordinated with existing local response structures.

Finally, several commenters questioned why the Plan did not require State and local contingency planning by State and local governments. EPA strongly encourages all levels of government to undertake such planning; however, EPA believes it is only appropriate for the NCP to specify mandatory planning by Federal entities.

Several commenters suggested that the Plan require adoption of State and local plans when they accomplish the same purposes as the Federal regional or Federal local plan. Such a requirement is unnecessary in this Plan. First, regional plans cover Federal regions which cross State boundaries, thus State plans would not be appropriate as regional plans. Second, both Federal regional and Federal local plans outline how Federal entities will coordinate with State and local governments. Local and State plans generally deal with coordination of State and local entities. Because of these differences, such a requirement would, in most cases, simply pose an additional burden of examining and determining that such Plans are not appropriate. It should be noted, however, that nothing in this Plan precludes drawing upon State and local plans where they are appropriate.

Conversely, other suggested that State plans be required to conform to the NCP. EPA does not believe that such a requirement is appropriate to the national Plan since States should be free to tailor State plans to particular State needs. This would not, however, preclude EPA from requiring State planning as a condition for receipt of Federal funds.

E. Subpart E

Subpart E establishes procedures for responding to discharges of oil pursuant to section 311 of the Clean Water Act. This section reflects the experience gained in oil removal under that program and remains largely unchanged from the existing Plan. Like Subpart F, this subpart includes phases of response, beginning with discovery of discharges under § 300.51, and continuing through documentation for cost recovery actions in § 300.54. In addition, § 300.55 contains a summary of actions the OSC should take upon being notified of a discharge of oil; § 300.56 details requirements for pollution reports, which are reports submitted on removal actions; § 300.57 details special considerations for safety of personnel and waterfowl conservation which must be considered during removal action; and § 300.58 details funding requriements for oil removal.

EPA received very few comments on this Subpart. Most comments generally favored EPA's decision not to make any significant changes to the procedures in the existing Plan for responding to oil discharges. The comments and modifications to Subpart E are discussed below.

Some commenters noted that Subpart E did not clearly differentiate between the requirements for persons "in charge" and "responsible parties" under section 311 of the CWA. EPA has clarified this distinction in two provisions. First, § 300.51(a)(1) has been modified to clarify that notification requirements in case of oil spills under section 311(b)(5) apply to all persons "in charge," not "responsible parties." Second, similar clarification has been made to § 300.55(a)(4) where "responsible party" has been changed to a "discharger or other person."

One commenter noted that § 300.58 did not adequately discuss all sources of funding available for oil response actions. EPA agrees and has modified § 300.58(c) to more clearly differentiate between oil related funds, including the oil pollution fund authorized by section 311(k) of the CWA; the fund authorized by the Deepwater Port Act; the fund authorized by the Outer Continental Shelf Lands Act; and the fund authorized by the Trans-Alaska Pipeline Authorization Act.

F. Subpart F

Subpart F is the major new section of the NCP. It establishes the management system under which response to hazardous substances will be undertaken. Although most of Subpart F applies to Fund-financed response, it should be noted that § 300.68 (e) through (j) also applies to clean-up by responsible parties. Subpart F establishes seven phases of response, from discovery through various levels of response to documentation of response for cost recovery purposes. The phases are designed to give response personnel a decisionmaking framework for undertaking response action. All of the phases need not be undertaken. For example, Phase III—Immediate Removal, will not be necessary at all releases, nor will all releases be eligible for such funding.

Several commenters stated that the process established in Subpart F appears to contemplate a lengthy planning process. One commenter suggested that the Plan include deadlines for particular actions. Another suggested that planning be minimized.

EPA believes that the response steps established in Subpart F assure that Fund money is spent in the most judicious manner on the most severe problems by providing several check points for taking further action. Such checks are necessary, since at each step in the planning process new information may become available showing that the problem is not as severe as anticipated or that it is, in fact, more severe than anticipated. The inclusion of such check points does not cause delay or lengthy planning. Subpart F allows the planning to be tailored to the complexity of the problem presented.

Many commenters suggested that, throughout Subpart F, the term "release" should explicitly include "substantial threat of release" under section 104(a) of CERCLA. EPA notes that the Plan's definition of "release" (see § 300.6) incorporates this term in order to avoid repeating the phrase. Where the Plan refers to section 106 of CERCLA in which enforcement authority does not include "substantial threat" but merely a threat posing imminent and substantial endangerment, the Plan notes this through reference to section 106 of CERCLA. The same scheme has been used with regard to discharges of oil.

Section 300.61 sets forth basic hazardous substance response authorities and policies. Several commenters questioned the adequacy of § 300.61(c)(3) and pointed out that it is important to keep the public informed and to include them in the decision-making process. Specific comments included: (1) Strong advocacy of greater emphasis on public participation; (2) that the Plan places unlimited and unquestioned authority in the hands of the lead agency and NRT; (3) that there should be some procedure to enable the public to understand the protection they are being provided; and (4) that the Plan should include specific procedural requirements for public information and consultation.

EPA agrees that it is important to be sensitive to the needs of communities affected by hazardous substance releases and has incorporated this in § 300.61(c)(3). EPA has devoted substantial effort toward developing an effective community relations program which has been implemented through guidance documents. In order to indicate

that the Agency has issued guidance in this area. EPA has added in § 300.61(c)(3) that it is necessary to be sensitive to local concerns "in accordance with applicable guidance." The guidance provides for development of community relations programs on a site-by-site basis.

EPA has added a new § 300.62 on the State role under CERCLA. EPA decided to add this new section to emphasize the ability of States to undertake responsibility for much of the response detailed in Subpart F. This new section is discussed at length in Section IV of this Preamble.

Section 300.63 of Subpart F is the first step in any response. It details the methods by which releases are discovered, and therefore, the methods by which response personnel became aware of potential problems. This section is required by section 105(1) of CERCLA. The provisions of this section are discussed at length in Section II of this preamble. A few specific comments on this section are noted here. Several commenters noted that § 300.62(b) of the proposal was unclear as to the notification requirements for reporting releases to the NRC. EPA has clarified this provision in a new § 300.63(b) by detailing the requirements for notification and noting that reporting requirements under section 103(a) of CERCLA arise when a reportable quantity is released. Another commenter pointed out that States may not want to be notified in the case of minor releases pursuant to proposed § 300.62. EPA notes that this is a statutory requirement of section 103 of CERCLA.

Section 300.64 of the Plan establishes the procedures for performing a preliminary assessment of releases. This assessment is generally based on readily available information and is tailored to the particular type of release (i.e., emergency or long-term). In situations requiring emergency action pursuant to § 300.65, this initial investigation and evaluation will be short. In the case of slower, long-term releases, this step will be more extensive and is the first step for investigating and evaluating the problems posed by the release. The content of this section is discussed generally in Section II above. Additional comments are noted below.

Several commenters said that the Plan was not specific enough regarding the appropriate extent of a preliminary assessment and that the assessment procedures were not adequate for evaluating a release. Others requested that such assessments be eliminated since assesaments can be very time consuming and costly.

EPA believes that § 300.64 is sufficiently detailed. The preliminary assessment is for screening purposes only—it is not the final evaluation for determining whether remedial action is needed. Requirements for a more detailed preliminary assessment would interfere with and delay the decision making process at this stage of the response. For example, a less severe release where information is readily available would allow an expedited assessment. More serious releases with little information available would require an extended assessment. For this reason, EPA has included the methods which may be employed to undertake an assessment, while the lead agency reserves the discretion to tailor the assessment to the factors pertaining to the individual release. EPA further notes that the assessment is just the first step in evaluating a release. It is used to screen out those releases which may not merit a Federal response. For example, EPA's experience indicates that the vast majority of classic spills are responded to by private parties or State or local governments, making further Federal involvement unnecessary or very limited. The assessment also allows the lead agency to quickly move into Phase III and take emergency action, if necessary; to determine that the release requires further evaluation under Phase IV, through a site inspection, and perhaps investigation; or to determine that it does not require Fund-financed response. This preliminary assessment assures that limited Fund money is available to respond to the most significant releases.

Other commenters questioned the need for a site visit during Phase II. A site visit will be made only in those situations in which additional information is needed (§ 300.64(b)) to allow the lead agency to make an informed decision on the appropriate response to the release.

One commenter pointed out that § 300.63(b) would have prohibited a site visit if sophisticated safety equipment was needed, thus prohibiting a visit even if such equipment was available. EPA agrees that this provision could be better worded and has replaced this requirement with: "* * * if conditions are such that it may be performed safely." This modification allows such visits to be taken when safety equipment is readily available, while still assuring the safety of response personnel going on or near the release.

A few commenters questioned how EPA will determine whether further response is required, i.e., whether certain levels of contamination will be responded to while others will not. During the preliminary assessment, one cannot determine with certainty the degree of contamination. For this reason, EPA has included the factors of § 300.64(c) for the lead agency to use in determining when no further action is necessary. Amount of contamination alone is not the sole determining factor. The other factors of § 300.64(c) must be considered as well.

Section 300.65 establishes criteria for undertaking immediate removals (i.e., emergency response). Several commenters contended that the criteria for taking immediate removal needed to be more detailed. The Plan gives several examples of the types of situations requiring emergency action as well as a threshold for taking such action (see § 300.65(a)). EPA does not believe that further detail is appropriate. The Agency has listed as examples those situations that will clearly require emergency response. For those situations that are not specifically listed, application of the criteria contained in § 300.65(a) will determine whether emergency removal is necessary. EPA believes that this format provides the flexibility required for effective response to a wide range of emergencies.

Several commenters pointed out that the statutory requirement of § 104(c)(3) of CERCLA for limiting response to six months or $1 million was omitted from the section on Immediate Removal. EPA agrees that the statutory requirement should be reiterated in the Plan and has accordingly added a new paragraph (d).

Several commenters suggested that a substantial amount of decisionmaking authority should be delegated to OSCs in order that response not be delayed pending consultation with officials not at the site. Another commenter suggested requiring OSC consultation with EPA Headquarters to assure consistency of Fund expenditures. Moreover, one commenter suggested that the Plan allow OSCs to spend up to $500,000 on removal actions. EPA agrees that response personnel must be able to address classic emergency situations in a timely manner, and believes that § 300.65 facilitates timely response. EPA does not believe, however, that delegations of spending authority should be included in the Plan, since such delegations are often subject to modifications. Internal agency approval processes for EPA personnel to expend funds are neither appropriate to the Plan nor required by section 105 of CERCLA. Instead, § 300.65 contains the methods and criteria for determining whether the problem should be addressed as an emergency, leaving administrative

funding procedures to Agency guidance and directives.

Section 300.66—Phase IV provides for continuing evaluation of releases through investigation and inspection of the release, and details the procedure for using the Hazard Ranking System and compiling the National Priorities List. Section II of this preamble discusses investigation and inspection activities and Section V discusses the establishment of the National Priorities List.

Section 300.67—Phase V sets forth the criteria for undertaking planned removal actions. A discussion of comments related to planned removal provisions in the Plan is included in Section VI above.

Section 300.68—Phase VI provides methods and criteria for undertaking remedial action and for determining the appropriate extent of remedy. A full discussion of the criteria and methods for determining the appropriate extent of remedy and the comments on these criteria and methods is set forth in Sections II and III of this preamble.

Section 300.69—Phase VII requires response personnel to maintain and collect information during all response actions for potential use in cost recovery. This section of proposed revisions is unchanged except for the addition to paragraph (b) of the provision that information and reports on response actions must be forwarded by response personnel only when taking Fund-financed action. This modification clarifies that Federal agencies, such as DOD, that take remedial action using their own funds need not forward such reports to the RRC or NRT.

Section 300.70 sets forth methods for remedying releases in accordance with section 105 of CERCLA. A discussion of this provision is included in Section II of this preamble. Several comments were received suggesting minor modifications and additions to this section. The Agency has incorporated those modifications and additions that included appropriate methods for remedying releases and covered by a category already listed that were not already included in the methods listed in § 300.70

Section 300.71 establishes requirements for worker health and safety. This section was proposed as § 300.70 and detailed worker health and safety considerations, eligible and noneligible costs, and methods for obtaining funding under the Disaster Relief Act. EPA has deleted the eligible and noneligible costs section of the proposal. Several commenters found the section vague and confusing. Since it is difficult to discern cost components that are eligible or noncligible from broad categories which are outlined in the proposal, EPA is deleting this section. EPA notes that delineation of eligible and noneligible costs in the Plan is not a requirement of section 105 of CERCLA. Eligible costs are specifically defined in State contracts or cooperative agreements and other guidance (such as OMB circulars and EPA grant regulations).

Proposed § 300.70(a) (now section 300.71) has been modified to clarify that response personnel must comply with applicable OSHA regulations. EPA has deleted the requirement that OSCs submit safety reports to the work group established pursuant to section 301(f) of CERCLA. The work group has nearly completed its study and recommendations; thus, it is unnecessary for OSCs to submit safety reports for the group's consideration.

G. Subpart G

Section 111(h)(1) of CERCLA provides that damages for injury to, destruction of, or loss of natural resources resulting from a release of hazardous substance, for purposes of CERCLA and section 311(f) (4) and (5) of the CWA, will be assessed by Federal officials designated by the President under the National Contingency Plan. If further provides that designated officials will act as trustees for purposes of section 111 of CERCLA and section 311(f)(5) of the CWA.

Section 111(b) of CERCLA allows claims to be asserted against the Superfund for (1) claims asserted and compensable but unsatisfied under section 311 of the CWA which are modified by section 304 of CERCLA; and (2) other claims resulting from a release or threat of release of a hazardous substance from a vessel or facility for injury to, destruction of, or loss of natural resources, including cost for damage assessment. Such claims may be asserted only by the President, acting as trustee, for natural resources over which the United States has sovereign rights, or natural resources within the territory or the fishery conservation zone to the extent they are managed or protected by the United States, or by any State for natural resources within the boundary of that State belonging to, managed by, controlled by, or appertaining to the State.

Section 107(f) of CERCLA provides that the President or authorized representative of a State will act on behalf of the public as trustee to recover for damages to natural resources pursuant to section 107 of CERCLA.

Subpart G implements these provisions, pursuant to Executive Order 12316, by designating those Federal trustees who will act on behalf of the President in assessing damages, bringing claims, and recovering damages for natural resources under these provisions of CERCLA. A few commenters were concerned that Subpart G did not adequately note the purposes for which trustees are appointed. EPA has clarified this by noting in section 300.72 that Subpart G is limited to the purposes of CERCLA. To clarify that States are also given authority to undertake such actions, EPA has added a new § 300.73 that provides that States are trustees for resources within the States' boundaries, belonging to, managed by, controlled by, or appertaining to the State. In addition, EPA has added a new subsection in § 300.72. Section 300.72(a) designates trustees for land subject to the management or protection of a Federal land managing agency and § 300.72(b) designates trustees for fixed or non-fixed resources subject to the management or protection of a Federal agency. These subsections are intended to clarify trusteeship responsibility for these individual resources. Subsequent sections have been renumbered accordingly.

In addition, EPA has also modified § 300.72(c) to clarify that in subsection (c), where affected resources are subject to the respective statutory authorities and jurisdictions of both DOI and DOC in the geographical areas identified in this subsection, they will act as co-trustees. In order to facilitate more efficient and effective exercise of Federal trusteeship responsibilities, the DOC and DOI, as part of the co-trusteeship responsibility for waters subject to tidal influence and for contiguous upland areas where a pollution incident may affect resources under the authorities of both agencies, are encouraged to enter, as soon as practicable, into a Memorandum of Understanding which will delineate the respective trusteeship responsibilities of each agency in these areas. Co-trusteeship will not apply to a resource(s) for which either agency has sole management or protective responsibility. In these cases, the agency having that responsibility will act as sole Federal trustee. EPA has also added a provision to § 300.74 which encourages that, in cases where trustees have concurrent jurisdiction, the trustees coordinate their activities. The term "natural resources," as defined by CERCLA, is extremely broad. The term includes both fixed and non-fixed resources. It is, therefore, possible that trusteeship responsibilities will overlap. Since natural resource assessment, damage assessment, and restoration

planning generally will need to be performed and restoration plans developed on a geographic basis. It is important that trustees coordinate efforts.

H. Subpart H

The proposed Subpart H replaced Annex X of the previous Plan and provided for a case-by-case authorization by the Administrator or her designee of the use of dispersants or other chemicals in treating oil discharges or hazardous substance releases. The Agency explained in the preamble to the proposed revisions (47 FR 10978) that it was eliminating the detailed testing procedures of Annex X in order to simplify the process for authorizing the use of dispersants and other chemicals. Testing procedures and a process for authorizing use of dispersants and other chemicals would be developed as the Agency gained greater knowledge on this subject.

Many commenters objected to the proposed Subpart H. Most commenters urged that the decision making authority should not be with the Administrator or a designee in Headquarters but rather should be with the OSC in order to enable rapid decision making. Several other commenters suggested that the Plan should include testing procedures to enable the Agency to develop a list of acceptable dispersants and other chemicals that could be used as a guide in decision making. Finally, some commenters stated that Subpart H should provide for involvement of the affected State in the decision making process.

In response to these comments, EPA has made the following changes to Subpart H. First, the proposed text of § 300.81(b) has been deleted as being unnecessary and, in its place, provision has been made for OSCs to authorize the use of dispersants or other chemicals. The OSC may authorize the use of dispersants or other chemicals to treat discharges of oil, if such dispersants or other chemicals are on EPA's Acceptance List developed pursuant to the testing and acceptance procedures of the previous Plan. There are three important limitations in this authorization. First, it applies only to discharges of oil and not to releases of hazardous substances. OSCs have much greater experience in responding to discharges of oil than releases of hazardous substances into water. Additionally, most of the dispersants or other chemicals on EPA's Acceptance List are for use primarily in treating discharges of oil. The second limitation is that OSCs may only authorize use of dispersants or other chemicals on EPA's Acceptance List. That list includes twenty-eight products tested and found acceptable for their intended purposes pursuant to Annex X of the previous Plan. While EPA believes that the procedures in former Annex X need modification to simplify the testing requirements, EPA also believes that the decisions to include those twenty-eight products on the list were sound and that they can be used in an environmentally safe manner under the proper conditions and directions. Finally, the Agency, in § 300.81(b), has specifically provided that the affected State will be consulted regarding the use of any dispersant or other chemicals in the waters of such State. The OSC must also obtain the concurrence of the EPA representative to the Regional Response Team.

For those dispersants and other chemicals not on EPA's Acceptance List, § 300.81(c) continues to provide that the Administrator or her designee may authorize use of such products for discharges of oil or releases of hazardous substances. This provision ensures that any product may be authorized for use if it is determined that such product can be used safely in the waters into which the oil has been discharged or the hazardous substances released.

Subpart H, at this time, does not include testing procedures and a process for designation dispersants or other chemicals as acceptable for use. However, the Agency is developing new testing procedures and will propose those procedures and an approval process for public comment in the near future. The time constraints for promulgating the final revisions precluded completion of development of new testing procedures in time for including them in this publication.

VIII. Other Comments

This section discusses additional issues raised by comments which were generally applicable to the Plan or a particular subpart, or which were outside the scope of the NCP.

Several commenters objected to language in the Plan that used the term "should" in lieu of "shall." In some instances, EPA agreed with the comments and has modified the language. Each of these modifications is noted in the discussion above of the individual subparts. However, EPA believes that, in the remaining cases, use of the term "should" is preferable for several reasons. First, EPA sought, in revising the Plan, to provide a document that would allow the Federal government, or States acting under contracts or cooperative agreements, the flexibility to design response actions to the particular needs of individual releases. Use of the term "shall" would impose upon response personnel the duty to routinely perform certain actions regardless of site-specific exigencies, thus inhibiting timely and effective response. Second, response personnel have many mandatory statutory requirements that they must meet prior to or during a response. Where there is a mandatory statutory requirement, the Plan specifies those requirements as mandatory. However, if the Plan were to make all other requirements mandatory (such as notification of all other Federal agencies, all individual State agencies, and all involved parties) response personnel would be faced with an enormous administrative burden that would severely hamper their ability to perform their primary objective of timely and effective response. Finally, in the new CERCLA response program, there is, to date, little experience in responding to releases from hazardous waste sites. EPA has made mandatory these provisions relating to activities that experience has shown to be necessary at all hazardous waste sites, or which are required by statutes. EPA has provided discretion for other activities that may be appropriate. This allows the OSC or responsible official to make the decision, based on the particular site conditions, that an action is or is not appropriate.

Other commenters questioned whether permits would be required for CERCLA sites. EPA also believes this is an issue beyond the scope of the NCP. This issue will be resolved in conjunction with those EPA programs that affect CERCLA actions.

Several commenters asked what criteria EPA would use in determining whether a release poses an "imminent and substantial endangerment." This term has limited usage in CERCLA, and it pertains exclusively to response authority thresholds for Fund-financed response to pollutants and contaminants under section 104(a) of CERCLA and to the threshold for enforcement actions under section 106 of CERCLA. Section 106 is not implemented through the Plan. The term is a legal term of art which the courts have interpreted through a series of cases, and thus, is beyond the scope of the NCP.

Many commenters questioned how clean-up of Federal facilities would be addressed. EPA is currently developing guidance on this issue. Since the issue requires agreement among Federal agencies as to their respective clean-up obligations, EPA believes that the issue should be resolved in guidance, or

through Memoranda of Understanding, rather than through the Plan.

Several commenters objected to the deletion of Annex VI of the previous Plan which contained sampling procedures. Suggestions included: (1) That, if deleted, a manual should thoroughly cover sampling; and (2) that a separate section should specify basic elements of a site assessment, including reference to sampling and test protocols. The Plan does specify the basic elements for site assessments in sections 300.64 and 300.66. However, EPA does not believe it is necessary to include technical sampling guidance in the Plan and notes that sampling procedures are not required by section 105 of CERCLA. However, EPA agrees that sampling procedures are important in assessing sites and, accordingly, has begun preparation of a sampling manual.

One commenter suggested that Subpart F should provide for restoration of natural resources. The statute does not require that the Plan address resource restoration, other than that which is incidental to the actual response operation. The appropriate place for addressing the restoration phase is through the damage assessment regulations and claims procedures required by sections 301 and 112 of CERCLA.

A few commenters noted that treatment of oil and hazardous substances as separate entities in the Plan makes it difficult to report and fund incidents involving both oil and hazardous substances. EPA will coordinate such incidents on a case-by-case basis. The statutory authorities (and, therefore, funding and response requirements) for the two types of materials are distinct. Reporting of discharges or releases should not pose a problem since both are reported to one central telephone number.

Several commenters raised issues regarding CERCLA enforcement efforts. Enforcement efforts are not addressed by the NCP. Guidelines for use of enforcement authorities have been published in a separate document at 47 FR 20664 (May 13, 1982).

IX. Regulatory Impact Analysis; Regulatory Flexibility Act

An analysis of the economic impacts of the revisions to the NCP was conducted to determine whether the revised NCP is a major rule under Executive Order 12291 and, therefore, required the preparation of a Regulatory Impact Analysis. EPA concluded that the revised Plan is a major rule because it is likely to result in an annual effect on the economy of $100 million or more. The Regulatory Impact Analysis is available for inspection at Room S-398, Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460. This regulation was reviewed by the Office of Management and Budget.

As required by the Regulatory Flexibility Act of 1980, the Agency has reviewed the impact of the revised NCP on small entities. EPA certifies that the NCP will not have a significant impact on a substantial number of small entities. Aside from the level of clean-up required by responsible parties, the NCP does not address enforcement actions. However, the Regulatory Impact Analysis recognizes that some enforcement actions (including cost recovery actions) taken against parties responsible for hazardous substance releases at sites that are identified on the National Priorities List after it is published. Therefore, some of these costs have been included in assessing the total impact of the NCP. Moreover, it is a matter of Agency discretion whether or not to proceed with enforcement actions against small entities which may be significantly affected by such actions. Therefore, there are no *necessary* adverse impacts on small entities directly associated with the NCP.

As part of the Regulatory Impact Analysis of the revised NCP, EPA estimated that some 60 small firms might be adversely affected by enforcement actions associated with the NCP. This estimate is based on the relative proportions of small firms to other size firms within affected industries, and is not reflective of actual responsibilities of small firms for particular hazardous substance releases. The Agency is consequently not committed to taking this number of enforcement actions against small firms, nor limited to this figure. Nevertheless, EPA estimates that this would result in far less than 20 percent of the total number of small firms experiencing adverse effects. In general, parties responsible for hazardous substance releases may be found across a full range of industries and SIC codes. No small organizations will be adversely affected by the revised NCP, nor is there any likelihood of significant impacts on a substantial number of small municipalities as a result of enforcement actions associated with the NCP. Interested parties are referred to the details of the analysis, which is available for inspection at Room S-398, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

List of Subjects in 40 CFR Part 300

Air pollution control, Chemicals, Hazardous materials Intergovernmental relations, National resources, Occupational safety and health, Oil pollution, Reporting and record keeping requirements, Superfund, Waste treatment and disposal, Water pollution control, Water supply.

Dated: July 8, 1982.

Anne M. Gorsuch,

Administrator

Part 1510, Title 40 of the Code of Federal Regulations is redesignated as Part 300 in a new Subchapter J of Chapter I and revised to read as follows:

PART 300—NATIONAL OIL AND HAZARDOUS SUBSTANCES POLLUTION CONTINGENCY PLAN

Subchapter J—Superfund Programs

Subpart A—Introduction

Sec.

300.1 Purpose and objectives.
300.2 Authority.
300.3 Scope.
300.4 Application.
300.5 Abbreviations.
300.6 Definitions.

Subpart B—Responsibility

300.21 Duties of President delegated to Federal agencies.
300.22 Coordination among and by Federal agencies.
300.23 Other assistance by Federal agencies.
300.24 State and local participation.
300.25 Non-government participation.

Subpart C—Organization

300.31 Organizational concepts.
300.32 Planning and coordination.
300.33 Response operations.
300.34 Special forces and teams.
300.35 Multi-regional responses.
300.36 Communications.
300.37 Response equipment.

Subpart D—Plans

300.41 Regional and local plans.
300.42 Regional contingency plans.
300.43 Local contingency plans.

Subpart E—Operational Response Phases for Oil Removal

300.51 Phase I—Discovery and notification.
300.52 Phase II—Preliminary assessment and initiation of action.
300.53 Phase III—Containment, countermeasures, clean-up and disposal.
300.54 Phase IV—Documentation and cost recovery.
300.55 General pattern of response.
300.56 Pollution reports.
300.57 Special considerations.
300.58 Funding.

Subpart F—Hazardous Substance Response

300.61 General.
300.62 State role.
300.63 Phase I—Discovery and notification.
300.64 Phase II—Preliminary assessment.

Sec.
300.65 Phase III—Immediate removal.
300.66 Phase IV—Evaluation and determination of appropriate response—planned removal and remedial action.
300.67 Phase V—Planned removal.
300.68 Phase VI—Remedial action.
300.69 Phase VII—Documentation and cost recovery.
300.70 Methods of remedying releases.
300.71 Worker health and safety.

Subpart G—Trustees for Natural Resources

300.72 Designation of Federal trustees.
300.73 State trustees.
300.74 Responsibilities of trustees.

Subpart H—Use of Dispersants and Other Chemicals

300.81 General.
Appendix A—Uncontrolled Hazardous Waste Site Ranking System: a users manual.

Authority: Sec. 105, Pub. L. 96-510, 94 Stat. 2764, 42 U.S.C. 9605 and sec. 311(c)(2), Pub. L. 92-500, as amended; 86 Stat. 865, 33 U.S.C. 1321(c)(2); Executive Order 12316, 47 FR 42237 (August 20, 1981); Executive Order 11735, 38 FR 21243 (August 1973).

Subpart A—Introduction

§ 300.1 Purpose and objectives.

The purpose of the National Oil and Hazardous Substances Pollution Contingency Plan (Plan) is to effectuate the response powers and responsibilities created by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERLA) and the authorities established by section 311 of the Clean Water Act (CWA), as amended.

§ 300.2 Authority.

The Plan is required by section 105 of CERCLA, 42 U.S.C. 9605, and by section 311(c)(2) of the CWA, as amended, 33 U.S.C. 1321(c)(2). In Executive Order 12316 (46 FR 42237) the President delegated to the Environmental Protection Agency the responsibility for the amendment of the NCP and all of the other functions vested in the President by section 105 of CERCLA. 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.

§ 300.3 Scope.

(a) The Plan applies to all Federal agencies and is in effect for:

(1) The navigable waters of the United States and adjoining shorelines, for the contiguous zone, and the high seas beyond the contiguous zone in connection with activities under the Outer Continental Shelf Lands Act or the Deep Water Port Act of 1974, or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976). (See sections 311(b)(1) and 502(7) of the Clean Water Act.)

(2) Releases or substantial threats of releases of hazardous substances into the environment, and releases or substantial threats of releases of pollutants or contaminants which may present an imminent and substantial danger to public health or welfare.

(b) The Plan provides for efficient, coordinated and effective response to discharges of oil and releases of hazardous substances, pollutants and contaminants in accordance with the authorities of CERCLA and the CWA. It provides for:

(1) Division and specification of responsibilities among the Federal, State and local governments in response actions, and appropriate roles for private entities.

(2) The national response organization that may be brought to bear in response actions, including description of the organization, response personnel and resources that are available to respond.

(3) The establishment of requirements for Federal regional and Federal local contingency plans, and encouragement of pre-planning for response by other levels of government.

(4) Procedures for undertaking removal operations pursuant to section 311 of the Clean Water Act.

(5) Procedures for undertaking response operations pursuant to CERCLA.

(6) Designation of trustees for natural resources for purposes of CERCLA.

(7) National policies and procedures for the use of dispersants and other chemicals in removal and response actions.

(c) In implementing this Plan, consideration shall be given to the Joint Canada/U.S. Contingency Plan; the U.S./Mexico Joint Contingency Plan and international assistance plans and agreements, security regulations and responsibilities based on international agreements, Federal statutes and executive orders. Actions taken pursuant to this Plan shall conform to the provisions of international joint contingency Plans, where they are applicable. The Department of State should be consulted prior to taking any action which may affect its activities.

§ 300.4 Application.

The Plan is applicable to response taken pursuant to the authorities under CERCLA and section 311 of the CWA.

§ 300.5 Abbreviations.

(a) Department and Agency Title Abbreviations.

DOC—Department of Commerce
DOD—Department of Defense
DOE—Department of Energy
DOI—Department of the Interior
DOJ—Department of Justice
DOL—Department of Labor
DOS—Department of State
DOT—Department of Transportation
EPA—Environmental Protection Agency
FEMA—Federal Emergency Management Agency
HHS—Department of Health and Human Services
NIOSH—National Institute for Occupational Safety and Health
NOAA—National Oceanic and Atmospheric Administration
OSHA—Occupational Safety and Health Administration
USCG—U.S. Coast Guard
USDA—U.S. Department of Agriculture

(b) Operational Title Abbreviations.

ERT—Environmental Response Team
FCO—Federal Coordinating Officer
NRC—National Response Center
NRT—National Response Team
NSF—National Strike Force
OSC—On-Scene Coordinator
PAAT—Public Affairs Assist Team
PIAT—Public Information Assist Team
RRC—Regional Response Center
RRT—Regional Response Team
SSC—Scientific Support Coordinator

§ 300.6 Definitions.

Terms not defined in this section have the meaning given by CERCLA or the CWA.

Claim, as defined by section 101(4) of CERCLA, means a demand in writing for a sum certain.

Claimant, as defined by section 101(5) of CERCLA, means any person who presents a claim for compensation under CERCLA.

Coastal zone, as defined for the purpose of this Plan, means all U.S. waters subject to the tide, U.S. waters of the Great Lakes, specified ports and harbors on the inland rivers, waters of the contiguous zone, other waters of the high seas subject to this Plan, and the land surface or land substrata, ground waters, and ambient air proximal to those waters. The term coastal zone delineates an area of Federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreements and identified in Federal regional contingency plans.

Contiguous zone means the zone of the high seas, established by the United

States under Article 24 of the Convention on the Territorial Sea and Contiguous Zone, which is contiguous to the territorial sea and which extends nine miles seaward from the outer limit of the territorial sea.

Discharge, as defined by section 311(a)(2) of CWA, includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping of oil. For purposes of this Plan, discharge shall also mean substantial threat of discharge.

Drinking water supply, as defined by section 101(7) of CERCLA, means 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.

Environment, as defined by section 101(8) of CERCLA, means (a) the navigable waters of the United States, the waters of the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the U.S. under the Fishery Conservation and Management Act of 1976, and (b) any other surface water, ground water, drinking water supply, land surface and subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

Facility, as defined by section 101(9) of CERCLA, means (a) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or (b) any site or area where a hazardous substance has been deposited, stored, disposed of or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel.

Federally permitted release, as defined by section 101(10) of CERCLA, means (a) discharges in compliance with a permit under section 402 of the Federal Water Pollution Control Act; (b) discharges resulting from circumstances identified and reviewed and made part of the public record with respect to a permit issued or modified under section 402 of the Federal Water Pollution Control Act and subject to a condition of such permit; (c) continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the Federal Water Pollution Control Act, which are caused by events occurring within the scope of relevant operating or treatment systems; (d) discharges in compliance with a legally enforceable permit under section 404 of the Federal Water Pollution Control Act; (e) releases in compliance with a legally enforceable final permit issued pursuant to section 3005 (a) through (d) of the Solid Waste Disposal Act from a hazardous waste treatment, storage, or disposal facility when such permit specifically identifies the hazardous substances and makes such substances subject to a standard of practice, control procedure or bioassay limitation or condition, or other control on the hazardous substances in such releases; (f) any release in compliance with a legally enforceable permit issued under section 102 or section 103 of the Marine Protection, Research and Sanctuaries Act of 1972; (g) any injection of fluids authorized under Federal underground injection control programs or State programs submitted for Federal approval (and not disapproved by the Administrator of EPA) pursuant to part C of the Safe Drinking Water Act; (h) any emission into the air subject to a permit or control regulation under section 111, section 112, title 1 part C, title 1 part D, or State implementation plans submitted in accordance with Section 110 of the Clean Air Act (and not disapproved by the Administrator of EPA), including any schedule or waiver granted, promulgated, or approved under these sections; (i) any injection of fluids or other materials authorized under applicable State law (1) for the purpose of stimulating or treating wells for the production of crude oil, natural gas, or water, (2) for the purpose of secondary, tertiary, or other enhanced recovery of crude oil or natural gas, or (3) which are brought to the surface in conjunction with the production of crude oil or natural gas and which are reinjected; (j) the introduction of any pollutant into a publicly-owned treatment works when such pollutant is specified in and in compliance with applicable pretreatment standards of section 307 (b) or (c) of the CWA and enforceable requirements in a pretreatment program submitted by a State or municipality for Federal approval under section 402 of such Act, and (k) any release of source, special nuclear, or by-product material, as those terms are defined in the Atomic Energy Act of 1954, in compliance with a legally enforceable license, permit, regulation, or order issue pursuant to the Atomic Energy Act of 1954.

Fund or Trust Fund means the Hazardous Substance Response Trust Fund established by section 221 of CERCLA.

Ground water, as defined by section 101(12) of CERCLA, means water in a saturated zone or stratum beneath the surface of land or water.

Hazardous substance, as defined by section 101(14) of CERCLA, means (a) any substance designated pursuant to section 311(b)(2)(A) of the CWA; (b) any element, compound, mixture, solution, or substance designated pursuant to section 102 of CERCLA; (c) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (but not including any waste the regulation of which under the Solid Waste Disposal Act has been suspended by Act of Congress); (d) any toxic pollutant listed under section 307(a) of the CWA; (e) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (f) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act. The terms do not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (a) through (f) of this paragraph, and the term does not include natural gas, natural gas liquids, liquified natural gas or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

Inland zone means the environment inland of the coastal zone excluding the Great Lakes and specified ports and harbors of inland rivers. The term inland zone delineates the area of Federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreement and identified in Federal regional contingency plans.

Lead agency means the Federal agency (or State agency operating pursuant to a contract or cooperative agreement executed pursuant to section 104(d)(1) of CERCLA) that provides the on-scene coordinator or the responsible official.

Natural Resources, as defined by section 101(16) of CERCLA, means land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States (including the resources of fishery conservation zones established by the Fishery Conservation and Management Act of 1976), any State or local government or any foreign government.

Offshore facility, as defined by section 101(17) of CERCLA and section 311(a)(11) of the CWA, means any facility of any kind located in, on, or under any of the navigable waters of the U.S. and any facility of any kind which

is subject to the jurisdiction of the U.S. and is located in, on, or under any other waters, other than a vessel or a public vessel.

Oil, as defined by section 311(a)(1) of CWA, means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

Oil pollution fund means the fund established by section 311(k) of the CWA.

Onshore facility, (a) as defined by section 101(18) of CERCLA means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under any land or non-navigable waters within the United States; and (b) as defined by section 311(a)(10) of CWA means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under any land within the United States other than submerged land.

On-Scene Coordinator means the Federal official predesignated by the EPA or the USCG (or a State official acting pursuant to a contract or cooperative agreement executed pursuant to section 104(d)(1) of CERCLA) to coordinate and direct Federal responses under this Plan; provided, however, that with respect to releases from DOD facilities or vessels, the OSC shall be designated by DOD.

Person, as defined by section 101(21) of CERCLA, means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, U.S. Government, State, municipality, commission, political subdivision of a State, or any interstate body.

Plan means the National Oil and Hazardous Substances Pollution Contingency Plan published under section 311(c) of the CWA and revised pursuant to section 105 of CERCLA.

Pollutant or contaminant, as defined by section 104(a)(2) of CERCLA, shall include, but not be limited to, any element, substance, compound, or mixture, including disease causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingesting through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformation, in such organisms or their offspring. The term does not include petroleum, including crude oil and any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under section 101(14)(A) through (F) of CERCLA, nor does it include natural gas, liquified natural gas, or synthetic gas of pipeline quality (or mixtures of natural gas and synthetic gas).

Release, as defined by section 101(22) of CERCLA, means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, but excludes (a) any release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons; (b) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine; (c) release of source, by-product or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954, if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of such act, or, for the purposes of section 104 of CERCLA or any other response action, any release of source, by-product, or special nuclear material from any processing site designated under section 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act of 1978; and (d) the normal application of fertilizer. For the purposes of this Plan, release also means substantial threat of release.

Remove or removal, as defined by section 311(a)(8) of CWA refers to removal of oil or hazardous substances from the water and shorelines or the taking of such other actions as may be necessary to minimize or mitigate damage to the public health or welfare. As defined by section 101(23) of CERCLA, remove or removal means the clean-up or removal of released hazardous substances from the environment; such actions as may be necessary taken in the event of the threat of release of hazardous substances into the environment; such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances; the disposal of removed material; or the taking or such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or the environment, which may otherwise result from such release or threat of release. The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under section 104(b) of CERCLA, and any emergency assistance which may be provided under the Disaster Relief Act of 1974.

Remedy or remedial action, as defined by section 101(24) of CERCLA, means those actions consistent with permanent remedy taken instead of, or in addition to, removal action in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment. The term includes, but is not limited to, such actions at the location of the release as storage, confinement, perimeter protection using dikes, trenches, or ditches, clay cover, neutralization, clean-up of released hazardous substances or contaminated materials recycling or reuse, diversion, destruction, segregation or reactive wastes, dredging or excavations, repair or replacement of leaking containers, collection of leachate and runoff, onsite treatment or incineration, provision of alternative water supplies, and any monitoring reasonably required to assure that such actions protect the public health and welfare and the environment. The term includes the costs of permanent relocation of residents and businesses and community facilities where the President determines that, alone or in combination with other measures, such relocation is more cost-effective than and environmentally preferable to the transportation, storage, treatment, destruction, or secure disposition offsite of hazardous substances or may otherwise be necessary to protect the public health or welfare. The term does not include offsite transport of hazardous substances, or the storage, treatment, destruction, or secure disposition offsite of such hazardous substances or contaminated materials unless the President determines that such actions (a) are more cost-effective than other remedial actions; (b) will create new capacity to manage in compliance with subtitle C of the Solid Waste Disposal Act, hazardous substances in addition to those located at the affected facility; or (c) are necessary to protect public health or welfare or the environment from a present or potential risk which may be created by further exposure to the continued presence of such substances or materials.

Respond or response, as defined by section 101(25) of CERCLA, means remove, removal, remedy, or remedial action.

Responsible official refers to the Federal offical (or State official acting pursuant to a contract or cooperative agreement executed pursuant to section 104(d)(1) of CERCLA), assigned by the lead agency, responsible for coordinating planned removals, remedial actions and related activities under Subpart F of this plan. Where reference is made to the responsibilities and authorities of an OSC, those responsibilities and authorities also apply to a responsible official.

Size classes of discharges refers to the following size classes of oil discharges which are provided as guidance to the OSC and serve as the criteria for the actions delineated in Subpart E. They are not meant to imply associated degrees of hazard to public health or welfare, nor are they a measure of environmental damage. Any oil discharge that poses a substantial threat to the public health or welfare or results in critical public concern shall be classified as a major discharge regardless of the following quantitative measures:

(a) *Minor discharge* means a discharge to the inland waters of less than 1,000 gallons of oil or a discharge to the coastal waters of less than 10,000 gallons of oil.

(b) *Medium discharge* means a discharge of 1,000 to 10,000 gallons of oil to the inland waters or a discharge of 10,000 to 100,000 gallons of oil to the coastal waters.

(c) *Major discharge* means a discharge of more than 10,000 gallons of oil to the inland waters or more than 100,000 gallons of oil to the coastal waters.

Trustee means any Federal natural resources management agency designated in Subpart G of this plan, and any State agency which may prosecute claims for damages under section 107(f) of CERCLA.

United States, as defined by section 311(2)(5) of CWA, refers to the States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the Virgin Islands, and the Trust Territory of the Pacific Islands. As defined by section 101(27) of CERCLA, United States and State include the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, The Commonwealth of the Northern Marianas and any other territory or possession over which the U.S. has jurisdiction.

Volunteer means any individual accepted to perform services by a Federal agency which has authority to accept volunteer services (example: see 16 U.S.C. 742f(c)). A volunteer is subject to the provisions of the authorizing statute, and § 300.25 of this Plan.

Subpart B—Responsibility

§ 300.21 Duties of President delegated to Federal agencies.

(a) In Executive Order 11735 and Executive Order 12316 the President delegated certain functions and responsibilities vested in him by the CWA and CERCLA, respectively. Responsibilities so delegated shall be responsibilities of Federal agencies under this Plan unless:

(1) Responsibility is redelegated pursuant to section 8(f) of Executive Order 12316, or

(2) Executive Order 11735 or Executive Order 12316 is amended or revoked.

§ 300.22 Coordination among and by Federal agencies.

(a) Federal agencies should coordinate their planning and response activities through the mechanisms described in Subpart C of this Plan and other means as may be appropriate.

(b) Federal agencies should coordinate planning and response action with affected State and local government and private entities.

(c) Federal agencies with facilities or other resources which may be useful in a Federal response situation should make those facilities or resources available consistent with agency capabilities and authorities.

(d) When the Administrator of EPA or the Secretary of the Department in which the Coast Guard is operating determines:

(1) That there is an imminent and substantial threat to the public health or welfare because of a discharge of oil from any offshore or onshore facility; or

(2) That there may be an imminent and substantial endangerment to the public health or welfare of the environment because of a release or threatened release of a hazardous substance, from a facility; he/she may request the Attorney General to secure the relief necessary to abate the threat. The action described here is in addition to any actions taken by a State or local government for the same purpose.

(e) In accordance with section 311(d) of CWA, whenever a marine disaster in or upon the navigable waters of the United States has created a substantial threat of a pollution hazard to the public health or welfare, because of a discharge or an imminent discharge from a vessel of large quantities of oil or hazardous substances designated pursuant to section 311(b)(2)(A) of CWA, the United States may:

(1) Coordinate and direct all public and private efforts to abate the threat;

(2) Summarily remove and, if necessary, destroy the vessel by whatever means are available without regard to any provisions of law governing the employment of personnel or the expenditure of appropriated funds. The authority for these actions has been delegated under Executive Order 11735 to the Administrator of EPA and the Secretary of the Department in which the Coast Guard is operating, respectively, for the waters for which each designates the OSC under this Plan.

(f) Response actions to remove discharges originating from the Outer Continental Shelf Lands Act operations shall be in accordance with this Plan.

(g) Where appropriate, discharges of radioactive materials shall be handled pursuant to the appropriate federal radiological plans.

§ 300.23 Other assistance by Federal agencies.

(a) Each of the Federal agencies listed in paragraph (b) of this section has duties established by statute, executive order, or Presidential directive which may be relevant to Federal response action following or in prevention of a discharge of oil or a release of a hazardous substance, pollutant or contaminant. These duties may also be relevant to the rehabilitation, restoration, and replacement of damaged or lost natural resources. Federal regional contingency plans should call upon agencies to carry out these duties in a coordinated manner.

(b) The following Federal agencies may be called upon by an OSC during the planning or implementation of a response to provide assistance in their respective areas of expertise, consistent with their capabilities and legal authorities:

(1) Department of Agriculture.
(2) Department of Commerce.
(3) Department of Defense.
(4) Department of Energy.
(5) Federal Emergency Management Agency.
(6) Department of Health and Human Services.
(7) Department of the Interior.
(8) Department of Justice.
(9) Department of Labor.
(10) Department of State.
(11) Department of Transportation.
(12) Environmental Protection Agency.

(c) In addition to their general responsibilities under paragraph (a) of section Federal agencies should:

(1) Make necessary information available to the NRT, RRTs, and OSCs.

(2) Inform the NRT and RRTs (consistent with national security considerations) of changes in the availability of resources that would affect the operations of the Plan.

(3) Provide representative as necessary to the NRT and RRTs and assist RRTs and OSCs in formulating Federal regional and Federal local contingency plans.

(d) All Federal agencies are responsible for reporting releases of hazardous substances and discharges of oil from facilities or vessels which are under their jurisdiction or control in accordance with section 103 of CERCLA, and Subparts E and F of this Plan.

(e) Executive Order 12316 delegates to the USCG and EPA all authorities under sections 104 (a) and (b) and 101(24) of CERCLA subject to the following:

(1) HHS is delegated all authorities under section 104(b) of CERCLA relating to a determination that illness, disease or complaints thereof may be attributable to exposure to a hazardous substance, pollutant or contaminant. (In addition, section 104(i) of CERCLA calls on HHS to: establish appropriate disease/exposure registries; conduct appropriate health surveys and studies; develop and provide appropriate testing for exposed individuals; develop, maintain and provide information on health effects of toxic substances; and maintain a list of areas restricted or closed because of toxic substance contamination.)

(2) FEMA is delegated the authorities vested in the President by section 104(a) of CERCLA 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. (FEMA is also delegated authority under section 101(24) of CERCLA to the extent they require a determination by the President that "permanent relocaton of residents and businesses and community facilities" is included within the terms "remedy" and "remedial action" as defined in section 101(24) of CERCLA.)

(3) DOD is delegated all authority of section 104 (a) and (b) of CERCLA with respect to releases from DOD facilities or vessels, including vessels owned or reboat chartered and operated.

(f) If the situation is beyond the capability of State and local governments and the statutory authority of Federal agencies, the President, acting upon a request by the Governor, may declare a major disaster or emergency and appoint a Federal Coordinating Officer to assume responsibility for direction and control of the Federal response.

§ 300.24 State and local participation.

(a) Each State governor is requested to assign an office or agency to represent the State on the appropriate RRT. Local governments are invited to participate in activities on the appropriate RRT as may be provided by State law or arranged by the State's representative. The State's representative may participate fully in all facets of activities of the appropriate RRT and is encouraged to designate the element of the State government that will direct State supervised response operations.

(b) State and local government agencies are encouraged to include contingency planning for response, consistent with this Plan and Regional Contingency Plans, in all emergency and disaster planning.

(c) States are encouraged to use State authorities to compel potentially responsible parties to undertake response actions, or to themselves undertake response actions which are not eligible for Federal funding.

(d) States may enter into contracts or cooperative agreements pursuant to section 104(c)(3) and (d) of CERCLA or section 311(c)(2)(H) of the CWA, as appropriate, to undertake actions authorized under Subparts E and F of this Plan. Requirements for entering into these agreements are included in §§ 300.58 and 300.62 of this Plan.

§ 300.25 Non-Government participation.

(a) Industry groups, academic organizations, and others are encouraged to commit resources for response operations. Specific commitments should be listed in Federal regional and Federal local contingency plans.

(b) It is particularly important to use the valuable technical and scientific information generated by the non-government local community along with those from Federal and State government to assist the OSC in devising clean-up strategies where effective standard techniques are unavailable, and to ensure that pertinent research will be undertaken to meet national needs.

(c) Federal local contingency plans should establish procedures to allow for well-organized, worthwhile, and safe use of volunteers. Local plans should provide for the direction of volunteers by the OSC, or by other Federal, State or local officials knowledgeable in contingency operations and capable of providing leadership. Local plans also should identify specific areas in which volunteers can be used, such as beach surveillance, logistical support, and bird and wildlife treatment. Unless specifically requested by the OSC, volunteers generally should not be used for physical removal or remedial activities. If, in the judgement of the OSC or an appropriate participating agency, dangerous conditions exist, volunteers shall be restricted from on-scene operations.

(d) If any person other than the Federal government or a State or person operating under contract or cooperative agreement with the United States, takes response action and intends to seek reimbursement from the Fund, such actions to be in conformity with this Plan for purposes of section 111(a)(2) of CERCLA may only be undertaken if such person notifies the Administrator of EPA or his/her designee prior to taking such action and receives prior approval to take such action.

Subpart C—Organization.

§ 300.31 Organizational concepts.

Three fundamental kinds of activity are performed pursuant to the Plan: planning and coordination, operations at the scene of a discharge and/or release, and communications. The organizational elements created to perform these activities are discussed below in the context of their roles in these activities.

§ 300.32 Planning and coordination.

(a) National planning and coordination is accomplished through the National Response Team (NRT).

(1) The NRT consists of representatives from the agencies named in § 300.23. Each agency shall designate a member to the team and sufficient alternates to ensure representation, as agency resources permit. Other agencies may request membership on the NRT by forwarding such requests to the chairman of the NRT.

(2) Except for periods of activation because of a response action, the representative of EPA shall be the chairman and the representative of USCG shall be the vice chairman of the NRT. The vice chairman shall maintain records of NRT activities along with national, regional, and local plans for response actions. When the NRT is activated for response action, the chairman shall be the representative of the Federal lead agency.

(3) While the NRT desires to achieve a consensus on all matters brought before it, certain matters may prove unresolvable by this means. In such cases, each cabinet, department or agency serving as a participating agency on the NRT may be accorded one vote in NRT proceedings.

(4) The NRT may establish such by-laws and committees as it deems appropriate to further the purposes for which it is established.

(5) When the NRT is not activated for a response action, it shall serve as a standing committee to evaluate methods of responding to discharges or releases, to recommend needed changes in the response organization and to recommend revisions to this Plan.

(6) The NRT may consider and make recommendations to appropriate agencies on the training, equipping and protection of response teams and necessary research, development, demonstration, and evaluation to improve response capabilities.

(7) Direct planning and preparedness responsibilities of the NRT include:

(i) Maintaining national readiness to respond to a major discharge of oil or release of a hazardous substance or pollutant or contaminant which is beyond regional capabilities;

(ii) Monitoring incoming reports from all RRTs and activating when necessary;

(iii) Reviewing regional responses to oil discharges and hazardous substance releases, including an evaluation of equipment readiness and coordination among responsible public agencies and private organizations; and

(iv) Developing procedures to ensure the coordination of Federal, State, and local governments and private response to oil discharges and releases of hazardous substances, pollutants or contaminants.

(8) The NRT may consider matters referred to it for settlement by an RRT.

(b) The RRT serves as the regional body for planning and preparedness actions before a response action is taken and for coordination and advice during such action. The RRT consists of regional representatives of the participating agencies and representatives of State governments (and local governments as agreed upon with States).

(1) Except when the RRT is activated for a removal incident, the representatives of EPA and USCG shall act as co-chairmen.

(2) Each participating agency should designate one member and at least one alternate member to the RRT. Participating States may also designate one member and at least one alternate member to the Team. All agencies and States may also provide additional representatives as observers to meetings of the RRT.

(3) RRT members should designate representatives from their agencies to work with OSCs in developing Federal local contingency plans, providing for the use of agency resources, and in responding to discharges and releases (see § 300.43).

(4) Federal regional and Federal local plans should adequately provide the OSC with assistance from the Federal agencies commensurate with agencies' resources, capabilities, and responsibilities within the region. During a response action, the members of the RRT should seek to make available the resources of their agencies to the OSC as specified in the Federal regional and Federal local contingency plans.

(5) Affected States are encouraged to participate actively in all RRT activities (see § 300.24(a)), to designate representatives to work with the RRT and OSCs in developing Federal regional and Federal local plans, to plan for and make available State resources, and to serve as the contact point for coordination of response with local government agencies whether or not represented on the RRT.

(6) The RRT serves as a standing committee to recommend changes in the regional response organization as needed, to revise the regional plan as needed, and to evaluate the preparedness of the agencies and the effectiveness of local plans for the Federal response to discharges and releases. The RRT should:

(i) Make continuing review of regional and local responses to discharges or releases, considering available legal remedies, equipment readiness and coordination among responsible public agencies and private organizations.

(ii) Based on observations of response operations, recommend revisions of the National Contingency Plan to the NRT.

(iii) Consider and recommend necessary changes based on continuing review of response actions in the region.

(iv) Review OSC actions to help ensure that Federal regional and Federal local contingency plans are developed satisfactorily.

(v) Be prepared to respond to major discharges or releases outside the region.

(vi) Meet at least semi-annually to review response actions carried out during the preceding period, and consider changes in Federal regional and Federal local contingency plans.

(vii) Provide letter reports on their activities to the NRT twice a year, no later than January 31 and July 31. At a minimum, reports should summarize recent activities, organizational changes, operational concerns, and efforts to improve State and local conditions.

(c) The OSC is responsible for developing any Federal local contingency plans for the Federal response in the area of the OSC's responsibility. This may be accomplished in cooperation with the RRT and designated State and local representatives (see § 300.43). Boundaries for Federal local contingency plans shall coincide with those agreed upon between EPA, DOD and the USCG (subject to Executive Order 12316) to determine OSC areas of responsibility and should be clearly indicated in the regional contingency plan. Where practicable, consideration should be given to jurisdictional boundaries established by State and local plans.

(d) Scientific support for the development of regional and local plans is organized by appropriate agencies to provide special expertise and assistance. Generally, the Scientific Support Coordinator (SSC) for plans encompassing the coastal area will be provided by NOAA, and the SSC for the inland area will be provided by EPA or DOI. This delineation of responsibility may be modified within a region by agreement between DOC, DOI, and EPA representatives to the RRT. SSCs may be obtained from other agencies if determined to be appropriate by the RRT.

§ 300.33 Response operations.

(a) EPA and USCG shall designate OSCs for all areas in each region provided, however, that DOD shall designate OSCs for releases from DOD facilities and vessels. DOD will be the immediate removal response authority with respect to incidents involving DOD military weapons and munitions. Immediate removal actions involving nuclear weapons should be conducted in accordance with the joint Department of Defense, Department of Energy, and Federal Emergency Management Agency Agreement for Response to Nuclear Incidents and Nuclear Weapons Significant Incidents, of January 8, 1981. The USCG will furnish or provide OSCs for oil discharges and for the immediate removal of hazardous substances, pollutants, or contaminants into or threatening the coastal zone except that the USCG will not provide predesignated OSCs for discharges and releases from hazardous waste management facilities or in similarly chronic incidents. EPA shall furnish or provide OSCs for oil discharges and hazardous substance releases into or

threatening the inland zone and, unless otherwise agreed, for all planned removals and remedial actions.

(b) The OSC directs Federal Fund-financed response efforts and coordinates all other Federal efforts at the scene of a discharge or release subject to Executive Order 12316. As part of the planning and preparation for response, the OSCs shall be predesignated by the regional or district head of the lead agency.

(1) The first official from an agency with responsibility under this plan to arrive at the scene of the discharge or release should coordinate activities under this Plan until the OSC arrives.

(2) The OSC shall, to the extent practicable under the circumstances, collect pertinent facts about the discharge or release, such as its source and cause; the existence of potentially responsible parties; the nature, amount, and location of discharged or released materials; the probable direction and time of travel of discharged or released materials; the pathways to human exposure; potential impact on human health, welfare and safety; the potential impact on natural resources and property which may be affected; priorities for protecting human health, welfare and the environment; and appropriate cost documentation.

(3) The OSC shall direct response operations (see Subparts E and F for descriptive details). The OSC's effort shall be coordinated with other appropriate Federal, State, local and private response agencies.

(4) The OSC shall consult regularly with the RRT in carrying out this Plan and will keep the RRT informed of activities under this Plan.

(5) The OSC shall advise the appropriate State agency (as agreed upon with each State) as promptly as possible of reported discharges and releases.

(6) The OSC shall evaluate incoming information and immediately advise FEMA of potential major disaster situations. In the event of a major disaster or emergency, under the Disaster Relief Act of 1974 (Pub. L. 93-288), the OSC will coordinate any response activities with the Federal Coordinating Officer designated by the President. In addition, the OSC should notify FEMA of situations potentially requiring evacuation, temporary housing, and permanent relocation.

(7) In those instances where a possible public health emergency exists, the OSC should notify the HHS representative to the RRT. Throughout response actions, the OSC may call upon the HHS representative for assistance in determining public health threats and for advice on worker health and safety problems.

(8) All Federal agencies should plan for emergencies and develop procedures for dealing with oil discharges and releases of hazardous substances (designated under section 311(b)(2) of the CWA) from vessels and facilities under their jurisdiction. All Federal agencies, therefore, are responsible for designating the offices that can coordinate response to such incidents in accordance with this Plan and applicable Federal regulations and guidelines. If, in the opinion of the OSC, the responsible Federal agency does not act promptly or take appropriate action to respond to a discharge or release caused by a facility or vessels under its jurisdiction, the OSC in charge of area where the discharge or release occurs may conduct appropriate response activities. With respect to discharges or releases from Department of Defense (DOD) facilities and vessels, the OSC shall be furnished by the DOD.

(9) The OSC should advise the affected land managing agency and trustees of natural resources, as promptly as possible, of releases and discharges affecting Federal resources under its jurisdiction.

(10) The OSC is responsible for addressing worker health and safety concerns at a response scene, in accordance with §§ 300.57 and 300.71 of this Plan.

(11) The OSC shall submit pollution reports to the RRC and appropriate agencies as significant developments occur during removal actions.

§ 300.34 Special Forces and Teams.

(a) The National Strike Force (NSF) consists of the Strike Teams established by the USCG on the Atlantic, Pacific and Gulf coasts and includes emergency task forces to provide assistance to the OSC.

(1) The Strike Teams can provide communication support, advice and assistance for oil and hazardous substances removal. These teams also have knowledge of ship salvage, damage control, and diving. Additionally, they are equipped with specialized containment and removal equipment, and have rapid transportation available. When possible, the Strike Teams will train the emergency task forces and assist in the development of regional and local contingency plans.

(2) The OSC may request assistance from the Strike Teams. Requests for a team may be made directly to the Commanding Officer of the appropriate team, the USCG member of the RRT, the appropriate USCG Area Commander, or the Commandant of the USCG through the NRC.

(b) Each USCG OSC manages emergency task forces trained to evaluate, monitor, and supervise pollution responses. Additionally, they have limited "initial aid" response capability to deploy equipment prior to the arrival of a clean-up contractor, or other response personnel.

(c)(1) The Emergency Response Team (ERT) is established by EPA in accordance with its disaster and emergency responsibilities. The ERT includes expertise in biology, chemistry, hydrology, geology and engineering.

(2) It can provide access to special de-contamination equipment for chemical releases and advice to the OSC in hazard evaluation; risk assessment; multimedia sampling and analysis program; on-site safety, including development and implementation plans; clean-up techniques and priorities; water supply de-contamination and protection; application of dispersants; environmental assessment; degree of clean-up required; and disposal of contaminated material.

(3) The ERT also provides both introductory and intermediate level training courses to prepare response personnel.

(4) OSC or RRT requests for ERT support should be made to the EPA representative on the RRT; the EPA Headquarters, Director, Office of Emergency and Remedial Response; or the appropriate EPA regional emergency coordinator.

(d) When requested by the OSC, the SSC shall serve as a member of the OSC's staff and assist the OSC in fulfilling responsibilities in support of response actions. The extent and nature of SSC involvement in the operational mode shall be determined by the OSC. The SSC may:

(1) Coordinate response from the scientific community to OSC requests for assistance and to requests from the OSC, as appropriate, for performance of environmental assessment.

(2) Serve as the principal liaison for scientific advice from the scientific community to the OSC. The SSC shall ensure that differing scientific views within the scientific community are communicated to the OSC in a timely manner.

(3) The SSC will assist in responding to requests for assistance from State and Federal agencies regarding scientific studies and environmental assessments. Details on provision of access to scientific support shall be included in regional contingency plans.

(e) The USCG Public Information Assist Team (PIAT) and the EPA Public Affairs Assist Team (PAAT) may help OSCs and regional or district offices meet the demands for public information and participation during major responses. Requests for these teams may be made through the NRC.

(f)(1) The RRT should be activated by the Chairman as an emergency response team when a discharge or release:

(i) Exceeds the response capability available to the OSC in the place where it occurs;

(ii) Transects regional boundaries; or

(iii) May pose a substantial threat to the public health, welfare or to the environment, or to regionally significant amounts of property. Regional contingency plans shall specify detailed criteria for activation of RRTs.

(2) When the RRT is activated for an immediate removal action, the chairman shall be the representative of the lead agency. When the RRT is activated for a Fund-financed planned removal or remedial action, the chairman shall be the representative of EPA.

(3) The RRT may be activated during any pollution emergency by a request from any RRT representative to the chairman of the Team. Request for RRT activation shall later be confirmed in writing. Each representative, or an appropriate alternate, should be notified immediately when the RRT is activated.

(4) During prolonged removal or remedial action, the RRT may not need to be activated or may need to be activated only in a limited sense, or have available only those members of the RRT who are directly affected or can provide direct response assistance.

(5) When the RRT is activated for a discharge or release, agency representatives shall meet at the call of the chairman and may:

(i) Monitor and evaluate reports from the OSC. The RRT may advise the OSC on the duration and extent of Federal response and may recommend to the OSC specific actions to respond to the discharge or release.

(ii) Request other Federal, State or local government, or private agencies to provide resources under their existing authorities to respond to a discharge or release or to monitor response operations.

(iii) Help the OSC prepare information releases for the public and for communication with the NRT.

(iv) If the circumstances warrant, advise the regional or district head of the agency providing the OSC that a different OSC should be designated.

(v) Submit Pollution Reports (POLREPS) to the NRC as significant developments occur.

(6) When the RRT is activated, affected States may participate in all RRT deliberations. State government representatives participating in the RRT have the same status as any Federal member of the RRT.

(7) The RRT can be deactivated by agreement between the EPA and USCG team members. The time of deactivation should be included in the POLREPS.

(g) The NRT should be activated as an emergency response team when an oil discharge or hazardous substance release:

(1) Exceeds the response capability of the region in which it occurs;

(2) Transects regional boundaries;

(3) Involves significant population hazards or national policy issues, substantial amounts of property, or substantial threats to natural resources; or

(4) Is requested by any NRT member.

(h) When activated for a response action, the NRT shall meet at the call of the chairman and may:

(1) Monitor and evaluate reports from the OSC. The NRT may recommend to the OSC, through the RRT, actions to combat the discharge or release.

(2) Request other Federal, State and local governments, or private agencies, to provide resources under their existing authorities to combat a discharge or release or to monitor response operations.

(3) Coordinate the supply of equipment, personnel, or technical advice to the affected region from other regions or districts.

§ 300.35 Multi-regional responses.

(a) If a discharge or release moves from the area covered by one Federal local or Federal regional contingency plan into another area, the authority for removal or response actions should likewise shift. If a discharge or release or substantial threat of discharge or release affects areas covered by two or more regional plans, the response mechanisms of both may be activated. In this case, removal or response actions of all regions concerned shall be fully coordinated as detailed in the regional plans.

(b) There shall be only one OSC at any time during the course of a response operation. Should a discharge or release affect two or more areas, the EPA, DOD and USCG, as appropriate, shall give prime consideration to the area vulnerable to the greatest damage. The RRT shall designate the OSC if EPA, DOD and USCG members are unable to agree on the designation. The NRT shall designate the OSC if members of one RRT or two adjacent RRTs are unable to agree on the designation.

(c) Where the USCG has provided the OSC for emergency response to a release from hazardous waste management facilities located in the coastal zone, the responsibility for response action shall shift to EPA, in accordance with EPA/USCG agreements.

§ 300.36 Communications.

(a) The NRC is the national communications center for activities related to response actions. It is located at USCG Headquarters in Washington, D.C. The NRC receives and relays notices of discharges or releases to the appropriate OSC, disseminates OSC and RRT reports to the NRT when appropriate, and provides facilities for the NRT to use in coordinating a national response action when required.

(b) The Commandant, USCG, will provide the necessary communications, plotting facilities, and equipment for the NRC.

(c) Notice of an oil discharge or a release of a hazardous substance in an amount equal to or greater than the reportable quantity must be made immediately in accordance with 33 CFR Part 153, Subpart B and section 103(a) of CERCLA, respectively. Notification shall be made to the NRC Duty Officer, HQ USCG, Washington, D.C. telephone (800) 424-8802 (or current local telephone number). All notices of discharges or releases received at the NRC shall be relayed immediately by telephone to the OSC and State.

(d) The RRC provides facilities and personnel for communications, information storage, and other requirements for coordinating response. Each regional plan will specify the location for the RRC.

§ 300.37 Response equipment.

The Spill Cleanup Inventory (SKIM) system is available to help OSCs and RRTs and private parties gain rapid information as to the location of response and support equipment. This inventory is accessible through the NRC and USCG's OSCs. The inventory includes private and commercial equipment, as well as government resources. The RRTs and OSCs shall ensure that data in the system are current and accurate. The USCG is responsible for maintaining and updating the system with RRT and OSC input.

Subpart D—Plans.

§ 300.41 Regional and local plans.

(a) In addition to the National Contingency Plan (NCP), a Federal regional plan shall be developed for

each standard Federal region and, where practicable, a Federal local plan shall be developed.

(b) These plans will be available for inspection at EPA regional offices or USCG district offices. Addresses and telephone numbers for these offices may be found in the United States Government Manual (issued annually) or in local telephone directories.

§ 300.42 Regional contingency plans.

(a) The RRTs, working with the States, shall develop Federal regional plans for each standard Federal region. The purpose of these plans is coordination of a timely, effective response by various Federal agencies and other organizations to discharges of oil and releases of hazardous substances, pollutants and contaminants in order to protect public health, welfare and the environment. Regional contingency plans should include information on all useful facilities and resources in the region, from government, commercial, academic and other sources. To the greatest extent possible, regional plans will follow the format of the National Contingency Plan.

(b) SSCs shall organize and coordinate the contributions of scientists of each region to the response activities of the OSC and RRT to the greatest extent possible. SSCs, with advice from RRT members, shall also develop the parts of the regional plan that relate to scientific support.

(c) Regional plans shall contain lines of demarcation between the inland and coastal zones, as mutually agreed upon by USCG and EPA.

§ 300.43 Local contingency plans.

(a) Each OSC shall maintain a Federal local plan for response in his or her area of responsibility, where practicable. In areas in which the USCG provides the OSC, such plans shall be developed in all cases. The plan should provide for a well-coordinated response that is integrated and compatible with the pollution response, fire, emergency and disaster plansof local, State and other non-Federal entities. The plan should identify the probable locations of discharges or releases, the available resources to respond to multi-media incidents, where such resources can be obtained, waste disposal methods and facilities consistent with local and State plans developed under the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.), and a local structure for responding to discharges or releases.

(b) While the OSC is responsible for developing Federal local plans, a successful planning effort will depend upon the full cooperation of all the agencies' representatives and the development of local capabilities to respond to discharges or releases. Particular attention should be given, during the planning process, to developing a multi-agency local response team for coordinating on-scene efforts. The RRT should ensure proper liaison between the OSC and local representatives.

Subpart E—Operational Response Phases for Oil Removal

§ 300.51 Phase I—Discovery and notification.

(a) A discharge of oil may be discovered through:

(1) A report submitted by the person in charge of the vessel or facility in accordance with statutory requirements;

(2) Deliberate search by patrols; and

(3) Random or incidental observation by government agencies or the public.

(b) Reports of discharges should be made to the NRC or the nearest USCG or EPA office. All reports shall be promptly relayed to the NRC if not previously reported to the responsible OSC. Federal regional and Federal local plans shall provide for prompt reporting to the NRC, RRC, and appropriate State agency (as agreed upon with the State).

(c) Upon receipt of a notification of discharge, the NRC shall promptly notify the OSC. The OSC shall proceed with the following phases as outlined in Federal regional and Federal local plans.

§ 300.52 Phase II—Preliminary assessment and initiation of action.

(a) The OSC for a particular area is responsible for promptly initiating preliminary assessment.

(b) The preliminary assessment shall be conducted using available information, supplemented where necessary and possible by an on-scene inspection. The OSC shall undertake actions to:

(1) Evaluate the magnitude and severity of the discharge or threat to public health and welfare and the environment;

(2) Assess the feasibility of removal;

(3) Determine the existence of potential responsible parties; and

(4) Ensure that jurisdiction exists for undertaking additional response actions.

(c) The OSC, in consultation with legal authorities when appropriate, shall make a reasonable effort to have the discharger voluntarily and promptly perform removal actions. The OSC shall ensure adequate surveillance over whatever actions are initiated. If effective actions are not being taken to eliminate the threat, or if removal is not being properly done, the OSC shall so advise the responsible party. If the responsible party does not take proper removal actions, or is unknown, or is otherwise unavailable, the OSC shall, pursuant to section 311(c)(1) of the CWA, determine whether authority for a Federal response exists, and, if so, take appropriate response actions. Where practicable, continuing efforts should be made to encourage response by responsible parties.

(d) The OSC should ensure that the trustees of affected natural resources are notified, in order that the trustees may initiate appropriate actions when natural resources have been or are likely to be damaged (see Subpart G).

§ 300.53 Phase III—Containment, countermeasures, clean-up, and disposal.

(a) Defensive actions should begin as soon as possible to prevent, minimize, or mitigate damage to the public health or welfare or the environment. Actions may include: analyzing water samples to determine the source and spread of the oil; controlling the source of discharge; measuring and sampling; damage control or salvage operations; placement of physical barriers to deter the spread of the oil or to protect endangered species; control of the water discharged from upstream impoundment; and the use of chemicals and other materials in accordance with Subpart H, to restrain the spread of the oil and mitigate its effects.

(b) Appropriate actions should be taken to recover the oil or mitigate its effects. Of the numerous chemical physical methods that may be used, the chosen methods should be the most consistent with protecting the public health and welfare and the environment. Sinking agents shall not be used.

(c) Oil and contaminated materials recovered in clean-up operations shall be disposed of in accordance with Federal regional and Federal local contingency plans.

§ 300.54 Phase IV—Documentation and cost recovery.

(a) Documentation shall be collected and maintained to support all actions taken under the CWA and to form the basis for cost recovery. In general, documentation should be sufficient to prove the source and circumstances of the incident, the responsible party or parties, and impact and potential impacts to the public health and welfare and the environment. When appropriate, documentation should also be collected for scientific understanding of the environment and for the research and development of improved response

methods and technology. Damages to private citizens (including loss of earnings) are not addressed by this Plan. Evidentiary and cost documentation procedures and requirements are specified in the USCG Marine Safety Manual (Commandant Instruction M16000.3) and 33 CFR Part 153.

(b) The OSC shall ensure the necessary collection and safeguarding of information, samples, and reports. Samples and information must be gathered expeditiously during the response to ensure an accurate record of the impacts incurred. Documentation materials shall be made available to the trustees of affected natural resources where practicable.

(c) Information and reports obtained by the EPA or USCG OSC shall be transmitted to the appropriate offices responsible for follow-up actions.

§ 300.55 General pattern of response.

(a) When the OSC receives a report of a discharge, actions normally should be taken in the following sequence:

(1) Immediately notify the RRT and NRC when the reported discharge is an actual or potential major discharge.

(2) Investigate the report to determine pertinent information such as the threat posed to public health or welfare, or the environment, the type and quantity of polluting material, and the source of the discharge.

(3) Officially classify the size of the discharge and determine the course of action to be followed.

(4) Determine whether a discharger or other person is properly carrying out removal. Removal is being done properly when:

(i) The clean-up is fully sufficient to minimize or mitigate damage to the public welfare (removal efforts are "improper" to the extent that Federal efforts are necessary to prevent further damage).

(ii) The removal efforts are in accordance with applicable regulations and guidelines, including this Plan.

(5) Determine whether a State or political subdivision has the capability to carry out response actions and a contract or cooperative agreement has been established with the appropriate fund administrator for this purpose.

(6) Notify the RRT (including the affected State), SSC, and the trustees of affected natural resources in accordance with the applicable regional plan.

(b) The preliminary inquiry will probably show that the situation falls into one of five classes. These classes and the appropriate response to each are outlined below:

(1) If the investigation shows that no discharge exists, the case shall be considered a false alarm and should be closed.

(2) If the investigation shows a minor discharge with the responsible party taking proper removal action, contact should be established with the party. The removal action should be monitored to ensure continued proper action.

(3) If the investigation shows a minor discharge with improper removal action being taken, the following measures shall be taken:

(i) An immediate effort should be made to stop further pollution.

(ii) The responsible party shall be advised of what action will be so considered appropriate.

(iii) If the responsible party does not properly respond, he shall be notified of his potential liability for Federal response performed under the CWA. This liability includes all costs of removal and may include the costs of assessing and restoring damaged natural resources and other actual or necessary costs of a Federal response.

(iv) The OSC shall notify appropriate State and local officials, keep the RRT advised and initiate Phase III operations as conditions warrant.

(v) Information shall be collected for possible recovery of response costs in accordance with § 300.54.

(4) When the investigation shows that an actual or potential medium oil discharge exists, the OSC shall follow the same general procedures as for a minor discharge. If appropriate, the OSC shall recommend activation of the RRT.

(5) When the investigation shows an actual or potential major oil discharge, the OSC shall follow the same procedures as for minor and medium discharges.

§ 300.56 Pollution reports.

(a) Within 60 days after the conclusion of a major discharge or when requested by the RRT, the EPA or USCG OSC shall submit to the RRT a complete report on the response operation and the actions taken. The OSC shall at the same time send a copy of the report to the NRT. The RRT shall review the OSC's report and prepare an endorsement to the NRT for review. This shall be accomplished within 30 days after the report has been received.

(b) The OSC's report shall accurately record the situation as it developed, the actions taken, the resources committed and the problems encountered. The OSC's recommendations are a source for new procedures and policy.

(c) The format for the OSC's report shall be as follows:

(1) Summary of Events—A chronological narrative of all events, including:

(i) The cause of the discharge;

(ii) The initial situation;

(iii) Efforts to obtain response by responsible parties;

(iv) The organization of the response;

(v) The resources committed;

(vi) The location (water body, State, city, latitude and longitude) of the oil discharge and an indication of whether the discharge was in connection with activities regulated under the Outer Continental Shelf Lands Act (OCSLA), the Trans-Alaska Pipeline Authority Act or Deepwater Port Act; or whether it might have or actually did affect natural resources managed or protected by the U.S.;

(vii) Comments on Federal or State efforts to replace or restore damaged natural resources and damage assessment activities; and

(viii) Details of any threat abatement actions taken under section 311 (c) or (d) of the CWA.

(2) Effectiveness of Removal Actions—A candid and thorough analysis of the effectiveness of removal actions taken by:

(i) The responsible party;

(ii) State and local forces;

(iii) Federal agencies and special forces; and

(iv) (If applicable) contractors, private groups and volunteers.

(3) Problems Encountered—A list of problems affecting response with particular attention to problems of intergovernmental coordination.

(4) Recommendations—OSC recommendations, including at a minimum:

(i) Means to prevent a recurrence of the discharge;

(ii) Improvement of response actions;

(iii) Any recommended changes in the National Contingency Plan or Federal regional plan.

§ 300.57 Special considerations.

(a) *Safety of Personnel*—The OSC should be aware of threats to human health and safety and shall ensure that persons entering the response area use proper precautions, procedures, and equipment and that they possess proper training. Federal local plans shall identify sources of information on anticipated hazards, precautions, and requirements to protect personnel during response operations. Names and phone numbers of people with relevant information shall be included. Responsibility for the safety of all Federal employees rests with the heads of their agencies. Accordingly, each Federal employee on the scene must be apprised of and conform with OSHA regulations and other deemed necessary

by the OSC. All private contractors who are working on-site must conform to applicable provisions of the Occupational Safety and Health Act and standards deemed necessary by the OSC.

(b) *Waterfowl Conservation*—The DOI representative and the State liaison to the RRT shall arrange for the coordination of professional and volunteer groups permitted and trained to participate in waterfowl dispersal, collection, cleaning, rehabilitation and recovery activities (consistent with 16 U.S.C. 703–712 and applicable State laws). Federal regional and Federal local plans will, to the extent practicable, identify organizations or institutions that are permitted to participate in such activities and operate such facilities. Waterfowl conservation activities will normally be included in *Phase III response actions* (§ 300.53 of this subpart).

§ 300.58 Funding.

(a) If the person responsible for the discharge does not act promptly or take proper removal actions, or if the person responsible for the discharge is unknown, Federal discharge removal actions may begin under section 311(c)(1) of the CWA. The discharger, if known, is liable for the costs of Federal removal in accordance with section 311(f) of the CWA and other Federal laws.

(b) Actions undertaken by the participating agencies in response to pollution shall be carried out under existing programs and authorities when available. This Plan intends that Federal agencies will make resources available, expend funds, or participate in response to oil discharges under their existing authority. Authority to expend resources will be in accordance with agencies' basic statutes and, if required, through interagency agreements. Specific interagency reimbursement agreements may be signed when necessary to ensure that the Federal resources will be available for a timely response to a discharge of oil. The ultimate decision as to the appropriateness of expending funds rests with the agency that is held accountable for such expenditures.

(c) The OSC shall exercise sufficient control over removal operations to be able to certify that reimbursement from the following funds is appropriate:

(1) The oil pollution fund, administered by the Commandant, USCG, has been established pursuant to section 311(k) of the CWA. Regulations governing the administration and use of the fund are contained in 33 CFR Part 153.

(2) The fund authorized by the Deepwater Port Act is administered by the Commandant, USCG. Governing regulations are contained in 33 CFR Parts 136 and 150.

(3) The fund authorized by the Outer Continental Shelf Lands Act, as amended, is administered by the Commandant, USCG. Governing regulations are contained in 33 CFR Parts 136 and 150.

(4) The fund authorized by the Trans-Alaska Pipeline Authorization Act is administered by a Board of Trustees under the purview of the Secretary of the Interior. Governing regulations are contained in 43 CFR Part 29.

(d) Response actions other than removal, such as scientific investigations not in support of removal actions or law enforcement, shall be provided by the agency with legal responsibility for those specific actions.

(e) The funding of a response to a discharge from a Federally operated or supervised facility or vessel is the responsibility of the operating or supervising agency.

(f) The following agencies have funds available for certain discharge removal actions:

(1) EPA may provide funds to begin timely discharge removal actions when the OSC is an EPA representative.

(2) The USCG pollution control efforts are funded under "operating expenses." These funds are used in accordance with agency directives.

(3) The Department of Defense has two specific sources of funds which may be applicable to an oil discharge under appropriate circumstances. (This does not consider military resources which might be made available under specific conditions.)

(i) Funds required for removal of a sunken vessel or similar obstruction of navigation are available to the Corps of Engineers through Civil Works Appropriations, Operations and Maintenance, General.

(ii) The U.S. Navy may conduct salvage operations contingent on defense operational commitments, when funded by the requesting agency. Such funding may be requested on a direct cite basis.

(4) Pursuant to section 311(c)(2)(H) of the CWA, the State or States affected by a discharge of oil, may act where necessary to remove such discharge and may, pursuant to 33 CFR Part 153, be reimbursed from the pollution revolving fund for the reasonable costs incurred in such a removal.

(i) Removal by a State is necessary within the meaning of section 311(c)(2)(H) of the CWA when the OSC determines that the owner or operator of the vessel, onshore facility, or offshore facility from which the discharge occurs does not effect removal properly, or is unknown, and that:

(A) State action is required to minimize or mitigate significant damage to the public health or welfare which Federal action cannot minimize or mitigate, or

(B) Removal or partial removal can be done by the State at a cost which is less than or not significantly greater than the cost which would be incurred by the Federal departments or agencies.

(ii) State removal actions must be in compliance with this Plan in order to qualify for reimbursement.

(iii) State removal actions are considered to be Phase III actions, under the same definitions applicable to Federal agencies.

(iv) Actions taken by local governments in support of Federal discharge removal operations are considered to be actions of the State for purposes of this section. Federal regional and Federal local plans shall show what funds and resources are available from participating agencies under various conditions and cost arrangements. Interagency agreements may be necessary to specify when reimbursement is required.

Subpart F—Hazardous Substance Response

§ 300.61 General.

(a) This subpart establishes methods and criteria for determining the appropriate extent of response authorized by CERCLA when any hazardous substance is released or there is a substantial threat of such a release into the environment, or there is a release or substantial threat of a release into the environment of any pollutant or contaminant which may present an imminent and substantial danger to the public health or welfare.

(b) Section 104(a)(1) of CERCLA authorizes removal or remedial action unless it is determined that such removal or remedial action will be done properly by the owner or operator of the vessel or facility from which the release or threat of release emanates, or by any other responsible party.

(c) In determining the need for and in planning or undertaking Fund-financed action, response personnel should, to the extent practicable, consider the following:

(1) Encourage State participation in response actions (see § 300.63).

(2) Conserve Fund monies by encouraging private party clean-up.

(3) Be sensitive to local community concerns (in accordance with applicable guidance).

(4) Rely on established technology when feasible and cost-effective.

(5) Encourage the participation and sharing of technology by industry and other experts.

§ 300.62 State role.

(a) States are encouraged to undertake actions authorized under this subpart. Section 104(d)(1) of CERCLA authorizes EPA to enter into contracts or cooperative agreements with the State to take response actions authorized under CERCLA, when EPA determines that the State has the capability to undertake such actions.

(b) EPA will provide assistance from the Fund to States pursuant to a contract or cooperative agreement. The agreement can authorize States to undertake most actions specified in this Subpart.

(c)(1) Pursuant to section 104(c)(3) of CERCLA, before any Fund-financed remedial action may be taken, the affected State(s) must enter into a contract or cooperative agreement with the Federal government.

(2) Included in such contract or cooperative agreement must be assurances by the State consistent with requirements of section 104(c)(3) of CERCLA.

(d) Prior to remedial design activity, the State must make a firm commitment, through either a cooperative agreement or a new or amended State contract, to provide funding for remedial implementation by:

(1) Authorizing the reduction of a State credit to cover its share of costs;

(2) Identifying currently available funds earmarked for remedial implementation; or

(3) Submitting a plan with milestones for obtaining necessary funds.

(e) State credits allowed under section 104(c)(3) of CERCLA must be documented on a site-specific basis for State out-of pocket, non-Federal eligible response costs between January 1, 1978, and December 11, 1980. Prior to remedial investigation activity at a site, the State must submit its estimate of these costs as a part of the pre-application package when a cooperative agreement is used, or as a part of the State contract. State credits will be applied against State cost shares for Federally-funded remedial actions. A State cannot be reimbursed from the Fund for credit in excess of its matching share.

(f) Pursuant to section 104(c)(2) of CERCLA, prior to determining any appropriate remedial action, EPA shall consult with the affected State or States.

§ 300.63 Phase I—Discovery or notification.

(a) A release may be discovered through:

(1) Notification in accordance with sections 103(a) or (c) of CERCLA;

(2) Investigation by government authorities conducted in accordance with section 104(e) of CERCLA or other statutory authority;

(3) Notification of a release by a Federal or State permit holder when required by its permit;

(4) Inventory efforts or random or incidental observation by government agencies or the public;

(5) Other sources.

(b) If not reported previously, a release should be promptly reported to the NRC. Section 103(a) of CERCLA requires any person in charge of a vessel or facility to immediately notify the NRC as soon as he has knowledge of a release (other than a federally permitted release) of a hazardous substance from such vessel or facility in an amount equal to or greater than the reportable quantity determined pursuant to section 102(b) of CERCLA. The NRC shall convey the notification expeditiously to appropriate government agencies, and in the case of notices received pursuant to section 103(a), the NRC shall also notify the Governor of any affected State.

(c) Upon receipt of a notification of a release, the NRC shall promptly notify the appropriate OSC.

§ 300.64 Phase II—Preliminary assessment.

(a) A preliminary assessment of a release identified for possible CERCLA response should be undertaken by the lead agency. If the reported release potentially requires immediate removal, the preliminary assessment should be done as promptly as possible. Other releases shall be assessed as soon as practicable. The lead agency should base its assessment on readily available information. This assessment may include:

(1) Evaluation of the magnitude of the hazard;

(2) Identification of the source and nature of the release;

(3) Determination of the existence of a non-Federal party or parties ready, willing, and able to undertake a proper response; and

(4) Evaluation of factors necessary to make the determination of whether immediate removal is necessary.

(b) A preliminary assessment of releases from hazardous waste management facilities may include collection or review of data such as site management practices, information from generators, photographs, analysis of historical photographs, literature searches, and personal interviews conducted as appropriate. In addition, a perimeter (off-site) inspection may be necessary to determine the potential for a release. Finally, if more information is needed, a site visit may be performed, if conditions are such that it may be performed safely.

(c) A preliminary assessment should be terminated when the OSC determines:

(1) There is no release;

(2) The source is neither a vessel nor a facility;

(3) The release involves neither a hazardous substance, nor a pollutant or contaminant that may pose an imminent and substantial danger to public health or welfare;

(4) The amount released does not warrant Federal response;

(5) A party responsible for the release, or any other person, is providing appropriate response, and on-scene monitoring by the government is not recommended or approved by the lead agency; or

(6) The assessment is completed.

§ 300.65 Phase III—Immediate removal.

(a) In determining the appropriate extent of action to be taken at a given release, the lead agency shall first review the preliminary assessment to determine if immediate removal action is appropriate. Immediate removal action shall be deemed appropriate in those cases in which the lead agency determines that the initiation of immediate removal action will prevent or mitigate immediate and significant risk of harm to human life or health or to the environment from such situations as:

(1) Human, animal, or food chain exposure to acutely toxic substances;

(2) Contamination of a drinking water supply;

(3) Fire and/or explosion; or

(4) Similarly acute situations.

(b) If the lead agency determines that immediate removal is appropriate, defensive actions should begin as soon as possible to prevent or mitigate danger to the public health, welfare, or the environment. Actions may include, but are not limited to:

(1) Collecting and analyzing samples to determine the source and dispersion of the hazardous substance and documenting those samples for possible evidentiary use.

(2) Providing alternative water supplies.

(3) Installing security fencing or other measures to limit access.

(4) Controlling the source of release.

(5) Measuring and sampling.

(8) Moving hazardous substances off-site for storage, destruction, treatment, or disposal provided that the substances are moved to a facility that is in compliance with subtitle C of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act.

(7) Placing physical barriers to deter the spread of the release.

(8) Controlling the water discharge from an upstream impoundment.

(9) Recommending to appropriate authorities the evacuation of threatened individuals.

(10 Using chemicals and other materials in accordance with Subpart H to restrain the spread of the substance and to mitigate its effects.

(11) Executing damage control or salvage operations.

(c) Immediate removal actions are complete when, in the opinion of the lead agency, the criteria in subsection (a) of § 300.65 are no longer met and any contaminated waste materials transported off-site have been treated or disposed of properly.

(d) Immediate removal action shall be terminated after $1 million has been obligated for the action or six months have elapsed from the date of initial response to a release or threatened release unless it is determined that:

(1) Continued response actions are immediately required to prevent, limit or mitigate an emergency;

(2) There is an immediate risk to public health or welfare or the environment; and

(3) Such assistance will not otherwise be provided on a timely basis.

(e) If the lead agency determines that the release still may require planned removal or remedial action, the lead agency or a State may initiate, either simultaneously or sequentially, Phase IV or V as appropriate.

§ 300.66 Phase IV—Evaluation and determination of appropriate response—planned removal and remedial action.

(a) The purpose of this phase is to determine the appropriate action when the preliminary assessment indicates that further response may be necessary or when the OSC requests and the lead agency concurs that further response should follow an immediate removal action.

(b) As soon as practicable, an inspection will be undertaken to assess the nature and extent of the release and to assist in determining its priority for Fund-financed response.

(c)(1) Pursuant to section 104 (b) and (e) of CERCLA, the responsible official may undertake investigations, monitoring, surveys, testing and other information gathering as appropriate. These efforts shall be undertaken jointly by the Federal or State officials responsible for providing Fund-financed response and those responsible for enforcing legal requirements.

(2) A major objective of an inspection is to determine if there is any immediate danger to persons living or working near the facility. In general, the collection of samples should be minimized during inspection activities; however, situations in which there is an apparent risk to the public should be treated as exceptions to that practice. Examples of apparent risk include use of nearby wells for drinking water, citizen complaints of unusual taste or odor in drinking water, or chemical odors or unusual health problems in the vicinity of the release. Under those circumstances, a sampling protocol should be developed for the inspection to allow for the earliest possible detection of any human exposure to hazardous substances. The site inspection may also address:

(i) Determining the need for immediate removal action;

(ii) Assessing amounts, types and location of hazardous substances stored;

(iii) Assessing potential for substances to migrate from areas where they were originally located;

(iv) Determining or documenting immediate threats to the public or environment.

(d) *Methods for Establishing Priorities.* (1) States that wish to submit candidates for the National Priorities List must use the Hazard Ranking System (included in Appendix A) to rank the releases.

(2) EPA will notify States at least thirty days prior to the deadline for submitting candidate releases for the National Priorities List or any subsequent revisions.

(3) Each State may designate a facility as the State's highest priority release by certifying, in writing signed by the Governor or the Governor's designee, that the facility presents the greatest danger to public health, welfare or the environment among known facilities in the State.

(e) *National Priorities List.* (1) Compiling the National Priorities List—EPA Regional Office will review State hazard rankings to ensure uniform application of the Hazard Ranking System and may add, in consultation with the States, any additional priority releases known to EPA. The States' priorities will be reviewed and consolidated by EPA Headquarters into a National Priorities List pursuant to section 105(8) of CERCLA. To the extent practicable, each State's designated top priority facility will be included among the one hundred highest priority facilities.

(2) No facilities presently owned by the Federal Government will be included on the National Priorities List.

(3) EPA will submit the recommended National Priorities List to the NRT for review and comment.

(4) EPA will publish a proposed National Priorities List for public comment.

(5) The National Priorities List is presented in Appendix B.

(6) Ranking of Releases—Similar hazard ranking scores assigned to releases cannot accurately differentiate among risks represented by the releases. Thus, in order to avoid misleading the public that real differences in risk exist, similar scores may be grouped on the National Priorities List.

(7) EPA will revise and publish the National Priorities List at least once annually. In addition, revisions will give notice of the deletion (if any) of releases previously listed.

§ 300.67 Phase V—Planned removal.

(a) Planned removal may be undertaken pursuant to a contract or cooperative agreement when the lead agency determines that:

(1) There would be a substantial cost savings by continuing a response action with the equipment and resources mobilized for an immediate removal action taken pursuant to § 300.64, but terminate pursuant to § 300.64(c); or

(2) The public and/or environment will be at risk from exposure to hazardous substances if response is delayed at a release not on the National Priorities List.

(b) Planned removal must be requested by the Governor of the affected State or his designee. Requests must include:

(1) A description of the nature and extent of the release;

(2) A description of actions taken or underway at the site;

(3) A description of the proposed planned removal; and

(4) Assurances that the State will pay at least 10 percent of the costs of the action, including all future maintenance, or at least 50 percent or such greater amount as EPA may determine appropriate, taking into account the degree of responsibility of the State or political subdivision, of any sums expended in response to a release at a facility that was owned at the time of any disposal of hazardous substances therein by the State or a political subdivision thereof.

(c) Among the factors that EPA will use to determine whether a planned removal is appropriate under § 300.67(a)(2) are the following:

(1) Actual or potential direct contact with hazardous substances by nearby population;

(2) Contaminated drinking water at the tap;

(3) Hazardous substances in drums, barrels, tanks, or other bulk storage containers, that are known to pose a serious threat to public health or the environment;

(4) Highly contaminated soils largely at or near surface, posing a serious threat to public health or the environment;

(5) Sericus threat of fire or explosion; or

(6) Weather conditions that may cause substances to migrate and pose a serious threat to public health or the environment.

(d) Planned removal actions shall be terminated when the lead agency determines that the risk to the public health or the environment has been abated. In making this determination, the lead agency shall consider whether the factors listed in § 300.68(c) continue to apply to the release and whether any contaminated waste materials transported off-site have been treated or disposed of properly.

(e) Unless the EPA finds that (1) continued response actions are immediately required to prevent, limit or mitigate an emergency, (2) there is an immediate risk to public health or welfare or the environment, and (3) such assistance will not otherwise be provided on a timely basis, obligations from the Fund, other than those authorized by section 104(b) of CERCLA, shall not continue after $1 million has been obligated for response actions or six months has elapsed from the date of initial response to the release.

§ 300.68 Phase VI—Remedial action.

(a) Remedial actions taken pursuant to this section (other than responses at Federal facilities) are those responses to releases on the National Priorities List that are consistent with permanent remedy to prevent or mitigate the migration of a release of hazardous substances into the environment.

(b) States are encouraged to undertake Fund-financed remedial actions in accordance with § 300.62 of this Plan.

(c) As an alternative or in addition to Fund-financed remedial action, the lead agency may seek, through voluntary agreement or administrative or judicial process, to have those persons responsible for the release clean up in a manner that effectively mitigates and minimizes damage to, and provides adequate protection of, public health, welfare, and the environment. The lead agency shall evaluate the adequacy of clean-up proposals submitted by responsible parties or determine the level of clean-up to be sought through enforcement efforts, by consideration of the factors discussed in paragraphs (e) through (j) of this section. The lead agency will not, however, apply the cost balancing considerations discussed in paragraph (k) of this section to determine the appropriate extent of responsible party clean-up.

(d)(1) The lead agency, in cooperation with State(s), will examine available information and determine, based on the factors in paragraph (g) of this section, the type or types of remedial response that may be needed to remedy the release. This scoping will serve as the basis for requesting funding for a remedial investigation and feasibility study:

(i) In the case of initial remedial measures, a single request may be made by a State for funding the remedial investigation, feasibility study, design and implementation, in order that such measures may be expedited while continuing the remainder of the remedial planning process.

(ii) In the case of source control or off-site remedial action, the initial funding request should be for the remedial investigation and feasibility study. Requests for funding of design and implementation should be made after the completion of the feasibility study.

(2) As a remedial investigation progresses, the project may be modified if the lead agency determines that, based on the factors in 300.68(e), such modifications would be appropriate.

(e) In determining the appropriate extent of remedial action, the following factors should be used to determine the type or types of remedial action that may be appropriate:

(1) In some instances, initial remedial measures can and should begin before final selection of an appropriate remedial action if such measures are determined to be feasible and necessary to limit exposure or threat of exposure to a significant health or environmental hazard and if such measures are cost-effective. Compliance with § 300.67(b) is a prerequisite to taking initial remedial measures. The following factors should be used in determining whether initial remedial measures are appropriate:

(i) Actual or potential direct contact with hazardous substances by nearby population. (Measures might include fences and other security precautions.)

(ii) Absence of an effective drainage control system (with an emphasis on run-on control). (Measures might include drainage ditches.)

(iii) Contaminated drinking water at the tap. (Measures might include the temporary provision of an alternative water supply.)

(iv) Hazardous substances in drums, barrels, tanks, or other bulk storage containers, above surface posing a serious threat to public health or the environment. (Measures might include transport of drums off-site.)

(v) Highly contaminated soils largely at or near surface, posing a serious threat to public health or the environment. (Measures might include temporary capping or removal of highly contaminated soils from drainage areas.)

(vi) Serious threat of fire or explosion or other serious threat to public health or the environment. (Measures might include security or drum removal.)

(vii) Weather conditions that may cause substances to migrate and to pose a serious threat to public health or the environment. (Measures might include stabilization of berms, dikes or impoundments.)

(2) Source control remedial actions may be appropriate if a substantial concentration of hazardous substances remain at or near the area where they were originally located and inadequate barriers exist to retard migration of substances into the environment. Source control remedial actions may not be appropriate if most substances have migrated from the area where originally located or if the lead agency determines that the substances are adequately contained. Source control remedial actions may include alternatives to contain the hazardous substances where they are located or eliminate potential contamination by transporting the hazardous substances to a new location. The following criteria should be assessed in determining whether and what type of source control remedial actions should be considered:

(i) The extent to which substances pose a danger to public health, welfare, or the environment. Factors which should be considered in assessing this danger include:

(A) Population at risk;

(B) Amount and form of the substance present;

(C) Hazardous properties of the substances;

(D) Hydrogeological factors (e.g. soil permeability depth to saturated zone, hydrologic gradients, proximity to a drinking water aquifer); and

(E) Climate (rainfall, etc.).

(ii) The extent to which substances have migrated or are contained by either natural or man-made barriers.

(iii) The experiences and approaches used in similar situations by State and Federal agencies and private parties.

(iv) Environmental effects and welfare concerns.

(3) In some situations it may be appropriate to take action (referred to as offsite remedial actions) to minimize and mitigate the migration of hazardous substances and the effects of such migration. These actions may be taken when the lead agency determines that source control remedial actions may not effectively mitigate and minimize the threat and there is a significant threat to public health, welfare, or the environment. These situations typically will result from contamination that has migrated beyond the area where the hazardous substances were originally located. Offsite measures may include provision of permanent alternative water supplies, management of a drinking water aquifer plume or treatment of drinking water aquifers. The following criteria should be used in determining whether and what type of offsite remedial actions should be considered:

(i) Contribution of the contamination to an air, land or water pollution problem.

(ii) The extent to which the substances have migrated or are expected to migrate from the area of their original location and whether continued migration may pose a danger to public health, welfare or environment.

(iii) The extent to which natural or man-made barriers currently contain the hazardous substances and the adequacy of the barriers.

(iv) The factors listed in paragraph (e)(2)(i) of this section.

(v) The experiences and approaches used in similar situations by State and Federal agencies and private parties.

(iv) Environmental effects and welfare concerns.

(f) A remedial investigation should be undertaken by the lead agency (or responsible party if the responsible party will be developing a clean-up proposal) to determine the nature and extent of the problem presented by the release. This includes sampling and monitoring, as necessary, and includes the gathering of sufficient information to determine the necessity for and proposed extent of remedial action. During the remedial investigation, the original scoping of the project may be modified based on the factors in § 300.68(e). Part of the remedial investigation involves assessing whether the threat can be mitigated and minimized by controlling the source of the contamination at or near the area where the hazardous substances were originally located (source control remedial actions) or whether additional actions will be necessary because the hazardous substances have migrated from the area of their original location (offsite remedial actions).

(g) *Development of Alternatives.* A limited number of alternatives should be developed for either source control or offsite remedial actions (or both) depending upon the type of response that has been identified under paragraphs (e) and (f) of this section as being appropriate. One alternative may be a no-action alternative. No-action alternatives are appropriate, for example, when response action may cause a greater environmental or health danger than no action. These alternatives should be developed based upon the assessment conducted under paragraphs (e) and (f) of this section and reflect the types of source control or offsite remedial actions determined to be appropriate under paragraphs (e) and (f) of this section.

(h) *Initial Screening of Alternatives.* The alternatives developed under paragraph (g) of this section will be subjected to an initial screening to narrow the list of potential remedial actions for further detailed analysis. Three broad criteria should be used in the initial screening of alternatives:

(1) *Cost.* For each alternative, the cost of installing or implementing the remedial action must be considered, including operation and maintenance costs. An alternative that far exceeds (e.g. by an order of magnitude) the costs of other alternatives evaluated and that does not provide substantially greater public health or environmental benefit should usually be excluded from further consideration.

(2) *Effects of the Alternative.* The effects of each alternative should be evaluated in two ways: (i) Whether the alternative itself or its implementation has any adverse environmental effects: and (ii) for source control remedial actions, whether the alternative is likely to achieve adequate control of source material, or for offsite remedial actions, whether the alternative is likely to effectively mitigate and minimize the threat of harm to public health, welfare or the environment. If an alternative has significant adverse effects, it should be excluded from further consideration. Only those alternatives that effectively contribute to protection of public health, welfare, or the environment should be considered further.

(3) *Acceptable Engineering Practices.* Alternatives must be feasible for the location and conditions of the release, applicable to the problem, and represent a reliable means of addressing the problem.

(i) *Detailed Analysis of Alternatives*

(1) A more detailed evaluation will be conducted of the limited number of alternatives that remain after the initial screening in paragraph (h).

(2) The detailed analysis of each alternative should include:

(A) Refinement and specification of alternatives in detail, with emphasis on use of established technology;

(B) Detailed cost estimation, including distribution of costs over time;

(C) Evaluation in terms of engineering implementation, or constructability;

(D) An assessment of each alternative in terms of the extent to which it is expected to effectively mitigate and minimize damage to, and provide adequate protection of, public health, welfare, and the environment, relative to the other alternatives analyzed; and

(E) An analysis of any adverse environmental impacts, methods for mitigating these impacts, and costs of mitigation.

(3) In performing the detailed analysis of alternatives, it may be necessary to gather additional data in order to complete the analysis.

(j) The appropriate extent of remedy shall be determined by the lead agency's selection of the remedial alternative which the agency determines is cost-effective (i.e. the lowest cost alternative that is technologically feasible and reliable and which effectively mitigates and minimizes damage to and provides adequate protection of public health, welfare, or the environment).

(k) Section 104(c)(4) of CERCLA requires that the need for protection of public health, welfare and the environment at the facility under consideration be balanced against the amount of money available in the Fund to respond to other sites which present or may present a threat to public health or welfare or the environment, taking into consideration the need for immediate action. Accordingly, in determining the appropriate extent of remedy for Fund-financed response, the lead agency also must consider the need to respond to other releases with Fund monies.

§ 300.69 Phase VII—Documentation and cost recovery.

(a) During all phases, documentation shall be collected and maintained to support all actions taken under this Plan, and to form the basis for cost recovery. In general, documentation should be sufficient to provide the

source and circumstances of the condition, the identity of responsible parties, accurate accounting of Federal costs incurred, and impacts and potential impacts to the public health, welfare and environment.

(b) The information and reports obtained by the lead agency for Fund-financed response action should be transmitted to the RRC. Copies can then be forwarded to the NRT, members of the RRT, and others as appropriate.

§ 300.70 Methods of remedying releases.

(a) The following section lists methods for remedying releases that may be considered by the lead agency in taking response action. This list of methods should not be considered inclusive of all possible methods of remedying releases.

(b) *Engineering Methods for On-Site Actions.*—(1)(i) *Air emissions control*—The control of volatile gaseous compounds should address both lateral movement and atmospheric emissions. Before gas migration controls can be properly installed, field measurements to determine gas concentrations, pressures, and soil permeabilities should be used to establish optimum design for control. In addition, the types of hazardous substances present, the depth to which they extend, the nature of the gas and the subsurface geology of the release area should, if possible, be determined. Typical emission control techniques include the following:

(A) Pipe vents;
(B) Trench vents;
(C) Gas barriers;
(D) Gas collection systems;
(E) Overpacking.

(ii) *Surface water controls*—These are remedial techniques designed to reduce waste infiltration and to control runoff at release areas. They also serve to reduce erosion and to stabilize the surface of covered sites. These types of control technologies are usually implemented in conjunction with other types of controls such as the elimination of ground water infiltration and/or waste stabilization, etc. Technologies applicable to surface water control include the following:

(A) Surface seals;
(B) Surface water diversion and collection systems:
(*1*) Dikes and berms;
(*2*) Ditches, diversions, waterways;
(*3*) Chutes and downpipes;
(*4*) Levees;
(*5*) Seepage basins and ditches;
(*6*) Sedimentation basins and ponds;
(*7*) Terraces and benches.
(C) Grading;
(D) Revegetation.

(iii) *Ground water controls*—Ground water pollution is a particularly serious problem because, once an aquifer has been contaminated, the resource cannot usually be cleaned without the expenditure of great time, effort and resources. Techniques that can be applied to the problem with varying degrees of success are as follows:

(A) Impermeable barriers:
(*1*) Slurry walls;
(*2*) Grout curtains;
(*3*) Sheet pilings.
(B) Permeable treatment beds;
(C) Ground water pumping:
(*1*) Water table adjustment;
(*2*) Plume containment.
(D) Leachate control—Leachate control systems are applicable to control of surface seeps and seepage of leachate to ground water. Leachate collection systems consist of a series of drains which intercept the leachate and channel it to a sump, wetwell, treatment system, or appropriate surface discharge point. Technologies applicable to leachate control include the following:

(*1*) Subsurface drains;
(*2*) Drainage ditches;
(*3*) Liners.

(iv) *Contaminated water and sewer lines*—Sanitary sewers and municipal water mains located down gradient from hazardous waste disposal sites may become contaminated by infiltration of leachate or polluted ground water through cracks, ruptures, or poorly sealed joints in piping. Technologies applicable to the control of such contamination to water and sewer lines include:

(A) Grouting;
(B) Pipe relining and sleeving;
(C) Sewer relocation.

(2) *Treatment technologies.* (i) *Gaseous emissions treatment*—Gases from waste disposal sites frequently contain malodorous and toxic substances, and thus require treatment before release to the atmosphere. There are two basic types of gas treatment systems:

(A) Vapor phase adsorption;
(B) Thermal oxidation.

(ii) *Direct waste treatment methods*—In most cases, these techniques can be considered long-term permanent solutions. Many of these direct treatment methods are not fully developed and the applications and process reliability are not well demonstrated. Use of these techniques for waste treatment may require considerable pilot plant work. Technologies applicable to the direct treatment of wastes are:

(A) Biological methods:
(*1*) Treatment via modified conventional wastewater treatment techniques;
(*2*) Anaerobic, aerated and facultative lagoons;
(*3*) Supported growth biological reactors.
(B) Chemical methods:
(*1*) Chlorination;
(*2*) Precipitation, flocculation, sedimentation;
(*3*) Neutralization;
(*4*) Equalization;
(*5*) Chemical oxidation.
(C) Physical methods:
(*1*) Air stripping;
(*2*) Carbon absorption;
(*3*) Ion exchange;
(*4*) Reverse osmosis;
(*5*) Permeable bed treatment;
(*6*) Wet air oxidation;
(*7*) Incineration.

(iii) *Contaminated soils and sediments*—In some cases where it can be shown to be cost-effective, contaminated sediments and soils will be treated on the site. Technologies available include:

(A) Incineration;
(B) Wet air oxidation;
(C) Solidification;
(D) Encapsulation;
(E) In situ treatment:
(*1*) Solution mining, (soil washing or soil flushing);
(*2*) Neutralization/detoxification;
(*3*) Microbiological degradation.

(c) *Offsite Transport for Storage, Treatment, Destruction or Secure Disposition.*—(1) *General*—Offsite transport or storage, treatment, destruction, or secure disposition offsite may be provided in cases where EPA determines that such actions:

(i) Are more cost-effective than other forms of remedial actions;

(ii) Will create new capacity to manage, in compliance with Subtitle C of the Solid Waste Disposal Act, hazardous substances in addition to those located at the affected facility; or

(iii) Are necessary to protect public health, welfare, or the environment from a present or potential risk which may be created by further exposure to the continued presence of such substances or materials.

(2) *Contaminated soils and sediments may be removed from the site.* Technologies used to remove contaminated sediments on soils include:

(i) Excavation;
(ii) Hydraulic dredging;
(iii) Mechanical dredging.

(d) *Provision of Alternative Water Supplies*—Alternative water supplies can be provided in several ways:

(1) Provision of individual treatment units;
(2) Provision of water distribution system;
(3) Provision of new wells in a new location or deeper wells;
(4) Provision of cisterns;
(5) Provision of bottled or treated water;
(6) Provision of upgraded treatment for existing distribution systems.

(e) *Relocation*—Permanent relocation of residents, businesses, and community facilities may be provided where it is determined that human health is in danger and that, alone or in combination with other measures, relocation would be cost-effective and environmentally preferable to other remedial response. Temporary relocation may also be taken in appropriate circumstances.

§ 300.71 Worker health and safety.

Lead agency personnel should be aware of hazards, due to a release of hazardous substances, to human health and safety and exercise great caution in allowing civilian or government personnel into an affected area until the nature of the release has been ascertained. Accordingly, the OSC or responsible official must conform to applicable OSHA requirements and other guidance. All private contractors who are working at the scene of a release must conform to applicable provisions of the Occupational Safety and Health Act and any other requirements deemed necessary by the lead agency.

Subpart G—Trustees for Natural Resources.

§ 300.72 Designation of Federal trustees.

When natural resources are lost or damaged as a result of a discharge of oil or release of a hazardous substance, the following officials are designated to act as Federal trustees pursuant to section 111(h)(1) of CERCLA for purposes of sections 111(h)(1), 111(b) and 107(f) of CERCLA:

(a)(1) *Natural Resource Loss.* Damage to resources of any kind located on, over or under land subject to the management or protection of a Federal land managing agency, other than land or resources in or under United States waters that are navigable by deep draft vessels, including waters of the contiguous zone and parts of the high seas to which the National Contingency Plan is applicable and other waters subject to tidal influence.

(2) *Trustee.* The head of the Federal land managing agency, or the head of any other single entity designated by it to act as trustee for a specific resource.

(b)(1) *Natural Resource Loss.* Damage to fixed or non-fixed resources subject to the management or protection of a Federal agency, other than land in resources in or under United States waters that are navigable by deep draft vessels, including waters of the contiguous zone and parts of the high seas to which the National Contingency Plan is applicable and other waters subject to tidal influence.

(2) *Trustee.* The head of the Federal agency authorized to manage or protect these resources by statute, or the head of any other single entity designated by it to act as trustee for a specific resource.

(c)(1) *Natural Resource Loss.* Damage to resource of any kind subject to the management or protection of a Federal agency and lying in or under United States waters that are navigable by deep draft vessels, including waters of the contiguous zone and parts of the high seas to which the National Contingency Plan is applicable and other waters subject to tidal influence, and upland areas serving as habitat for marine mammals and other species subject to the protective jurisdiction of NOAA.

(2) *Trustee.* The Secretary of Commerce or the head of any other single Federal entity designated by it to act as trustee for a specific resource; provided, however, that where resources are subject to the statutory authorities and jurisdictions of the Secretaries of the Departments of Commerce or the Interior, they shall act as co-trustees.

(d)(1) *Natural Resource Loss.* Damages to natural resources protected by treaty (or other authority pertaining to Native American tribes) or located on lands held by the United States in trust for Native American communities or individuals.

(2) *Trustee.* The Secretary of the Department of the Interior, or the head of any other single Federal entity designated by it to act as trustee for specific resources.

§ 300.73 State trustees.

Pursuant to section 111(h)(1) of CERCLA and for purposes of sections 111(h)(1), 111(b) and 107(f) of CERCLA, States may act as trustee for damage to resources within the boundary of a State belonging to, managed by, controlled by, or appertaining to such State.

§ 300.74 Responsibilities of trustees.

(a) The Federal trustees for natural resources shall be responsible for assessing damages to the resources in accordance with regulations promulgated under section 301(c) of CERCLA, seeking recovery for the losses from the person responsible or from the Fund, and devising and carrying out restoration, rehabilitation and replacement plans pursuant to CERCLA.

(b) Where there are multiple trustees, because of co-existing or contiguous natural resources or concurrent jurisdictions, they shall coordinate and cooperate in carrying out these responsibilities.

Subpart H—Use of Dispersants and Other Chemicals

§ 300.81 General.

(a) Section 311(c)(2)(G) of the Clean Water Act requires that EPA prepare a schedule of dispersants and other chemicals, if any, that may be used in carrying out the plan.

(b) The OSC, with the concurrence of the EPA representative to the RRT and in consultation with the States, may authorize the use of dispersants and other chemicals on oil spills; provided, however, that such dispersants and other chemicals must be on the list of accepted dispersants prepared by EPA.

(c) In the case of dispersants and other chemicals not included on the list of accepted dispersants, EPA will continue to authorize use on a case-by-case basis. Case-by-case approvals will be made by the Administrator or her designee.

Appendix A—Uncontrolled Hazardous Waste Site Ranking System; A Users Manual

Table of Contents

List of Illustrations OList of Tables
1.0 Introduction
2.0 Using the Hazard Ranking System—General Considerations
3.0 Ground Water Migration Route
3.1 Observed Release
3.2 Route Characteristics
3.3 Containment
3.4 Waste Characteristics
3.5 Targets
4.0 Surface Water Route
4.1 Observed Release
4.2 Route Characteristics
4.3 Containment
4.4 Waste Characteristics
4.5 Targets
5.0 Air Route
5.1 Observed Release
5.2 Waste Characteristics
5.3 Targets
6.0 Computing the Migration Hazard Mode Score, S_M
7.0 Fire and Explosion
7.1 Containment
7.2 Waste Characteristics
7.3 Targets
8.0 Direct Contact
8.1 Observed Incident
8.2 Accessibility
8.3 Containment
8.4 Waste Characteristics
8.5 Targets

List of Illustrations

Figure No.

1 HRS Cover Sheet
2 Ground Water Route Work Sheet
3 Depth to Aquifer of Concern
4 Mean Annual Lake Evaporation (In Inches)
5 Normal Annual Total Precipitation (Inches)
6 Distance to the Nearest Well
7 Surface Water Route Work Sheet
8 One Year 24-Hour Rainfall
9 Air Route Work Sheet
10 Work Sheet for Computing S_M
11 Fire and Explosion Work Sheet
12 Direct Contact Work Sheet
13 Values for Land Use (Air Route)
14 NFPA Ignitability Levels and Assigned Values
15 Values for Sensitive Environments (Fire and Explosion)

List of Tables

Table No.

1 Comprehensive List of Rating Factors
2 Permeability of Geologic Materials
3 Containment for Ground Water Route
4 Waste Characteristics Values for Some Common Chemicals
5 Persistence (Biodegradability) of Some Organic Compounds
6 Sax Toxicity Ratings
7 NFPA Toxicity Ratings
8 Values for Facility Slope and Intervening Terrain
9 Containment Values for Surface Water Route
10 Values for Sensitive Environment (Surface Water)
11 NFPA Reactivity Ratings
12 Incompatible Materials

1.0 Introduction

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) (Pub. L. 96–510) requires the President to identify the 400 facilities in the nation warranting the highest priority for remedial action. In order to set the priorities, CERCLA requires that criteria be established based on relative risk or danger, taking into account the population at risk; the hazardous potential of the substances at a facility; the potential for contamination of drinking water supplies, for direct human contact, and for destruction of sensitive ecosystems; and other appropriate factors.

This document describes the Hazard Ranking System (HRS) to be used in evaluating the relative potential of uncontrolled hazardous substance facilities to cause health or safety problems, or ecological or environmental damage. Detailed instructions for using the HRS are given in the following sections. Uniform application of the ranking system in each State will permit EPA to identify those releases of hazardous substances that pose the greatest hazard to humans or the environment. However, the HRS by itself cannot establish priorities for the allocation of funds for remedial action. The HRS is a means for applying uniform technical judgment regarding the potential hazards presented by a facility relative to other facilities. It does not address the feasibility, desirability, or degree of cleanup required. Neither does it deal with the readiness or ability of a State to carry out such remedial action as may be indicated, or to meet other conditions prescribed in CERCLA.

The HRS assigns three scores to a hazardous facility:

- S_M reflects the potential for harm to humans or the environment from migration of a hazardous substance away from the facility by routes involving ground water, surface water, or air. It is a composite of separate scores for each of the three routes.
- S_{FE} reflects the potential for harm from substances that can explode or cause fires.
- S_{DC} reflects the potential for harm from direct contact with hazardous substances at the facility (i.e., no migration need be involved).

The score for each hazard mode (migration fire and explosion and direct contact) or route is obtained by considering a set of factors that characterize the potential of the facility to cause harm (Table 1). Each factor is assigned a numerical value (on a scale of 0 to 3, 5 or 8) according to prescribed guidelines. This value is then multiplied by a weighting factor yielding the factor score. The factor scores are then combined: scores within a factor category are added; then the total scores for each factor category are multiplied together to develop a score for ground water, surface water, air, fire and explosion, and direct contact.

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TABLE 1

COMPREHENSIVE LIST TO RATING FACTORS

HAZARD MODE	FACTOR CATEGORY	FACTORS		
		GROUND WATER ROUTE	SURFACE WATER ROUTE	AIR ROUTE
Migration	Route Characteristics	• Depth to Aquifer of Concern • Net Precipitation • Permeability of Unsaturated Zone • Physical State	• Facility Slope and Intervening Terrain • One-Year 24-Hour Rainfall • Distance to Nearest Surface Water • Physical State	
	Containment	• Containment	• Containment	
	Waste Characteristics	• Toxicity/Persistence • Hazardous Waste Quantity	• Toxicity/Persistence • Hazardous Waste Quantity	• Reactivity/Incompatibility • Toxicity • Hazardous Waste Quantity
	Targets	• Ground Water Use • Distance to Nearest Well/ Population Served	• Surface Water Use • Distance to Sensitive Environment • Population Served/Distance to Water Intake Downstream	• Land Use • Population Within 4-Mile Radius • Distance to Sensitive Environment
Fire and Explosion	Containment	• Containment		
	Waste Characteristics	• Direct Evidence • Ignitability • Reactivity • Incompatibility • Hazardous Waste Quantity		
	Targets	• Distance to Nearest Population • Distance to Nearest Building • Distance to Nearest Sensitive Environment • Land Use • Population Within 2-Mile Radius • Number of Buildings Within 2-Mile Radius		
Direct Contact	Observed Incident	• Observed Incident		
	Accessibility	• Accessibility of Hazardous Substances		
	Containment	• Containment		
	Toxicity	• Toxicity		
	Targets	• Population Within 1-Mile Radius • Distance to Critical Habitat		

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In computing S_{FE} or S_{DC} pr an individual migration route score, the product of its factor category scores is divided by the maximum possible score, and the resulting ratio is multiplied by 100. The last step puts all scores on a scale of 0 to 100.

S_M is a composite of the scores for the three possible migration routes:

$$S_M = \frac{1}{1.73}\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$$

where:
S_{gw} = ground water route score
S_{sw} = surface water route score
S_a = air route score

The effect of this means of combining the route scores is to emphasize the primary (highest scoring) route in aggregating route scores while giving some additional consideration to the secondary or tertiary routes if they score high. The factor 1/1.73 is used simply for the purpose of reducing S_M scores to a 100-point scale.

The HRS does not quantify the probability of harm from a facility or the magnitude of the harm that could result, although the factors have been selected in order to approximate both those elements of risk. It is a procedure for ranking facilities in terms of the potential threat they pose by describing:

- The manner in which the hazardous substances are contained,
- The route by which they would be released,
- The characteristics and amount of the harmful substances, and
- The likely targets.

The multiplicative combination of factor category scores is an approximation of the more rigorous approach in which one would express the hazard posed by a facility as the product of the probability of a harmful occurrence and the magnitude of the potential damage.

The ranking of facilities nationally for remedial action will be based primarily on S_M. S_{FE} and S_{DC} may be used to identify facilities requiring emergency attention.

2.0 Using the Hazard Ranking System—General Considerations

Use of the HRS requires considerable information about the facility, its surroundings, the hazardous substances present, and the geological character of the area down to the aquifers that may be at risk.

Figure 1 illustrates a format for recording general information regarding the facility being evaluated. It can also serve as a cover sheet for the work sheets used in the evaluation.

Where there are no data for a factor, it should be assigned a value of zero. However, if a factor with no data is the only factor in a category (e.g., containment), then the factor is given a score of 1. If data are lacking for more than one factor in connection with the evaluation of either S_{gw}, S_{sw}, S_a, S_{FE}, or S_{DC}, that route score is set at zero.

The following sections give detailed instructions and guidance for rating a facility. Each section begins with a work sheet designed to conform to the sequence of steps required to perform the rating. Guidance for evaluating each of the factors then follows. Using the guidance provided, attempt to assign a score for each of the three possible migration routes. Bear in mind that if data are missing for more than one factor in connection with the evaluation of a route, then you must set that route score at 0 (i.e., there is no need to assign scores to factors in a route that will be set at 0).

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Facility name: _____

Location: _____

EPA Region: _____

Person(s) in charge of the facility: _____

_____

_____

Name of Reviewer: _____ Date: _____

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

_____

_____

_____

_____

_____

_____

_____

Scores: S_M = (S_{gw} = S_{sw} = S_a =)

S_{FE} =

S_{DC} =

FIGURE 1
HRS COVER SHEET

BILLING CODE 6560-50-C

3.0 Ground Water Migration Route

3.1 *Observed Release.* If there is direct evidence of release of a substance of concern from a facility to ground water, enter a score of 45 on line 1 of the work sheet for the ground water route (Figure 2); then you need not evaluate route characteristics and containment factors (lines 2 and 3). Direct evidence of release must be analytical. If a contaminant is measured (regardless of frequency) in ground water or in a well in the vicinity of the facility at a significantly (in terms of demonstrating that a release has occurred, not in terms of potential effects) higher level than the background level, then quantitative evidence exists, and a release has been observed. Qualitative evidence of release (e.g., an oily or otherwise objectionable taste or smell in well water) constitutes direct evidence only if it can be confirmed that it results from a release at the facility in question. If a release has been observed, proceed to "3.4 *Waste Characteristics*" to continue scoring. If direct evidence is lacking, enter a value of 0 on line 1 and continue the scoring procedure by evaluating *Route Characteristics.*

3.2 *Route Characteristics. Depth to aquifer of concern* is measured vertically from the lowest point of the hazardous substances to the highest seasonal level of the saturated zone of the aquifer of concern (Figure 3). This factor is one indicator of the ease with which a pollutant from the facility could migrate to ground water. Assign a value as follows:

Distance (feet)	Assigned value
>150	0
76 to 150	1
21 to 75	2
0 to 20	3

Net precipitation (precipitation minus evaporation) indicates the potential for leachate generation at the facility. Net seasonal rainfall (seasonal rainfall minus seasonal evaporation) data may be used if available. If net precipitation is not measured in the region in which the facility is located, calculate it by subtracting the mean annual lake evaporation for the region (obtained from Figure 4) from the normal annual precipitation for the region (obtained from Figure 5). EPA Regional Offices will have maps for areas outside the continental U.S. Assign a value as follows:

Net precipitation (inches)	Assigned value
< −10	0
−10 to +5	1
+5 to +15	2
>+15	3

Permeability of unsaturated zone (or intervening geological formations) is an indicator of the speed at which a contaminant could migrate from a facility. Assign a value from Table 2.

TABLE 2.—PERMEABILITY OF GEOLOGIC MATERIALS[1]

Type of material	Approximate range of hydraulic conductivity	Assigned value
Clay, compact till, shale; unfractured metamorphic and igneous rocks.	$< 10^{-7}$ cm/sec	0
Silt, loess, silty clays, silty loams, clay loams; less permeable limestone, dolomites, and sandstone; moderately permeable till.	$< 10^{-5} > 10^{-7}$ cm/sec	1
Fine sand and silty sand; sandy loams; loamy sands; moderately permeable limestone, dolomites, and sandstone (no karst); moderately fractured igneous and metamorphic rocks, some coarse till	$< 10^{-3} > 10^{-5}$ cm/sec	2
Gravel, sand; highly fractured igneous and metamorphic rocks; permeable basalt and lavas; karst limestone and dolomite.	$> 10^{-3}$ cm/sec	3

[1] Derived from: Davis, S. N., *Porosity and Permeability of Natural Materials in Flow-Through Porous Media*, R.J.M. DeWest ed., Academic Press, New York, 1969; Freeze, R.A. and J.A. Cherry, *Groundwater*, Prentice-Hall, Inc., New York, 1979.

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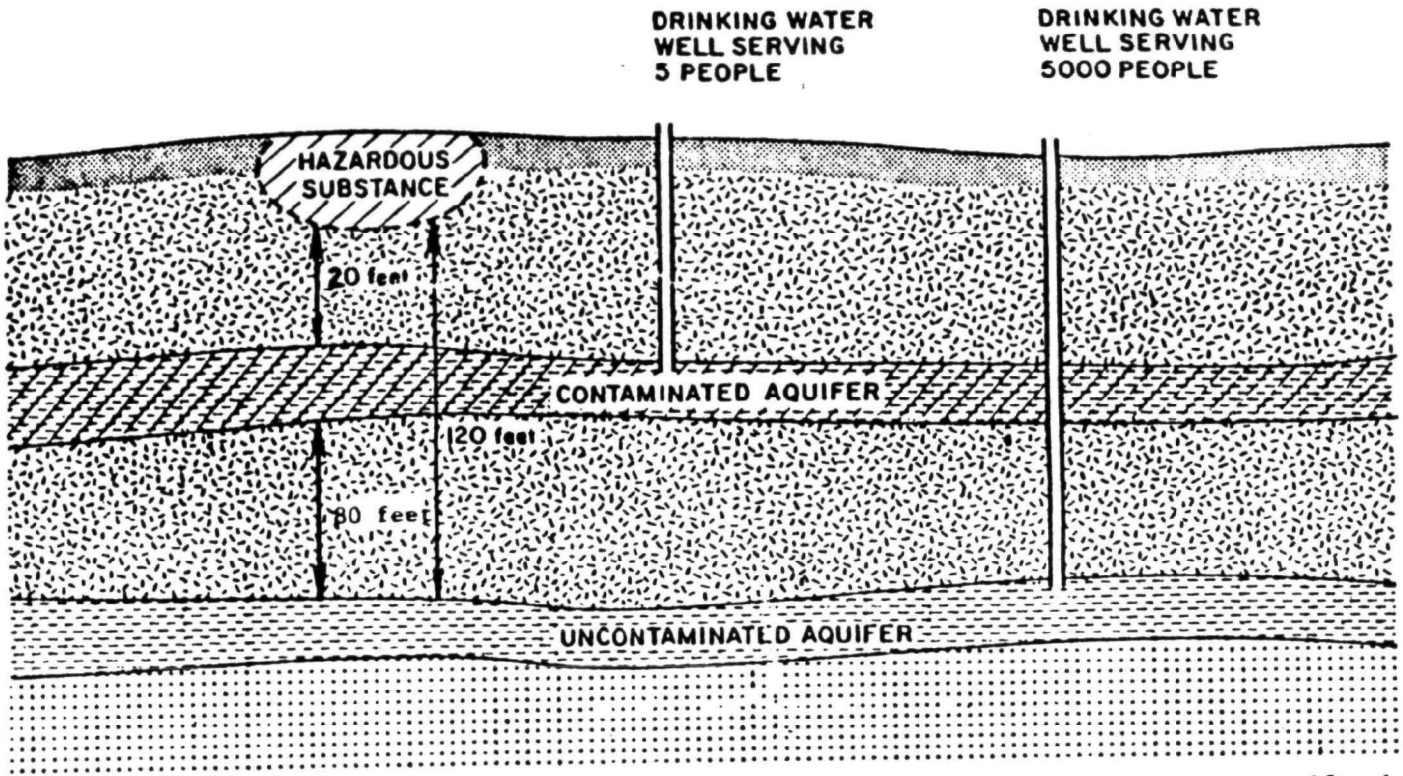
Ground Water Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 45	1		45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 3	2		6	
Net Precipitation	0 1 2 3	1		3	
Permeability of the Unsaturated Zone	0 1 2 3	1		3	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
3 Containment	0 1 2 3	1		3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 18	1		18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				26	
5 Targets					3.5
Ground Water Use	0 1 2 3	3		9	
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1		40	
Total Targets Score				49	
6 If line 1 is 45, multiply 1 x 4 x 5. If line 1 is 0, multiply 2 x 3 x 4 x 5				57,330	
7 Divide line 6 by 57,330 and multiply by 100	S_{gw} =				

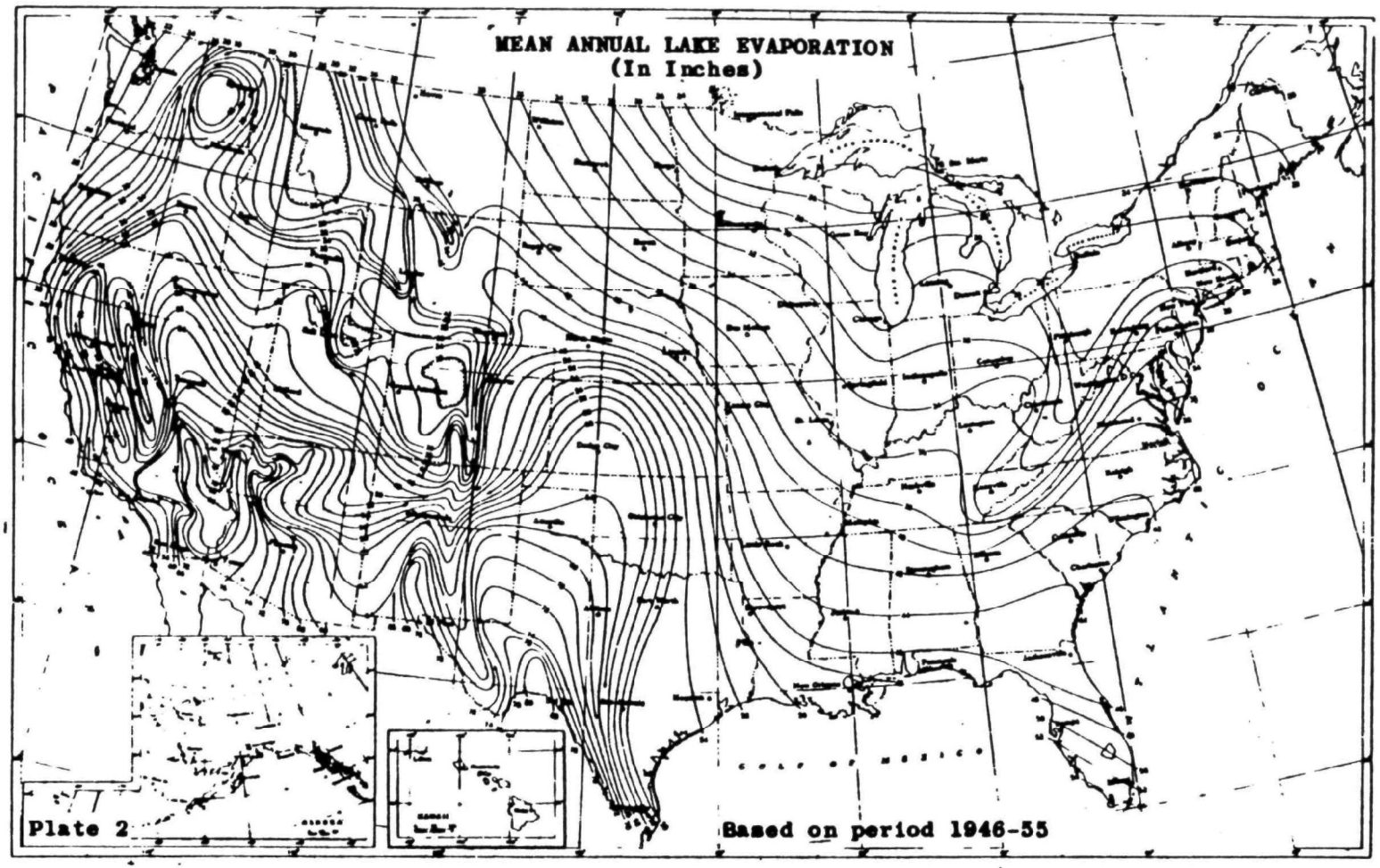
FIGURE 2
GROUND WATER ROUTE WORK SHEET



*Treat target and route characteristics factors consistently. For example, if the upper aquifer is the aquifer of concern, then the "depth to aquifer of concern" is 20 feet and the "population served" is 5 persons. If the lower aquifer is "of concern", the "depth" is 120 feet (assuming no known contamination below the indicated "hazardous substance") and the "population" is 5000 persons. If the upper aquifer is contaminated and the lower aquifer is "of concern", the "depth" would be 80 feet (vertical distance between hazardous substance and aquifer of concern) and the population would be 5000 persons.

FIGURE 3

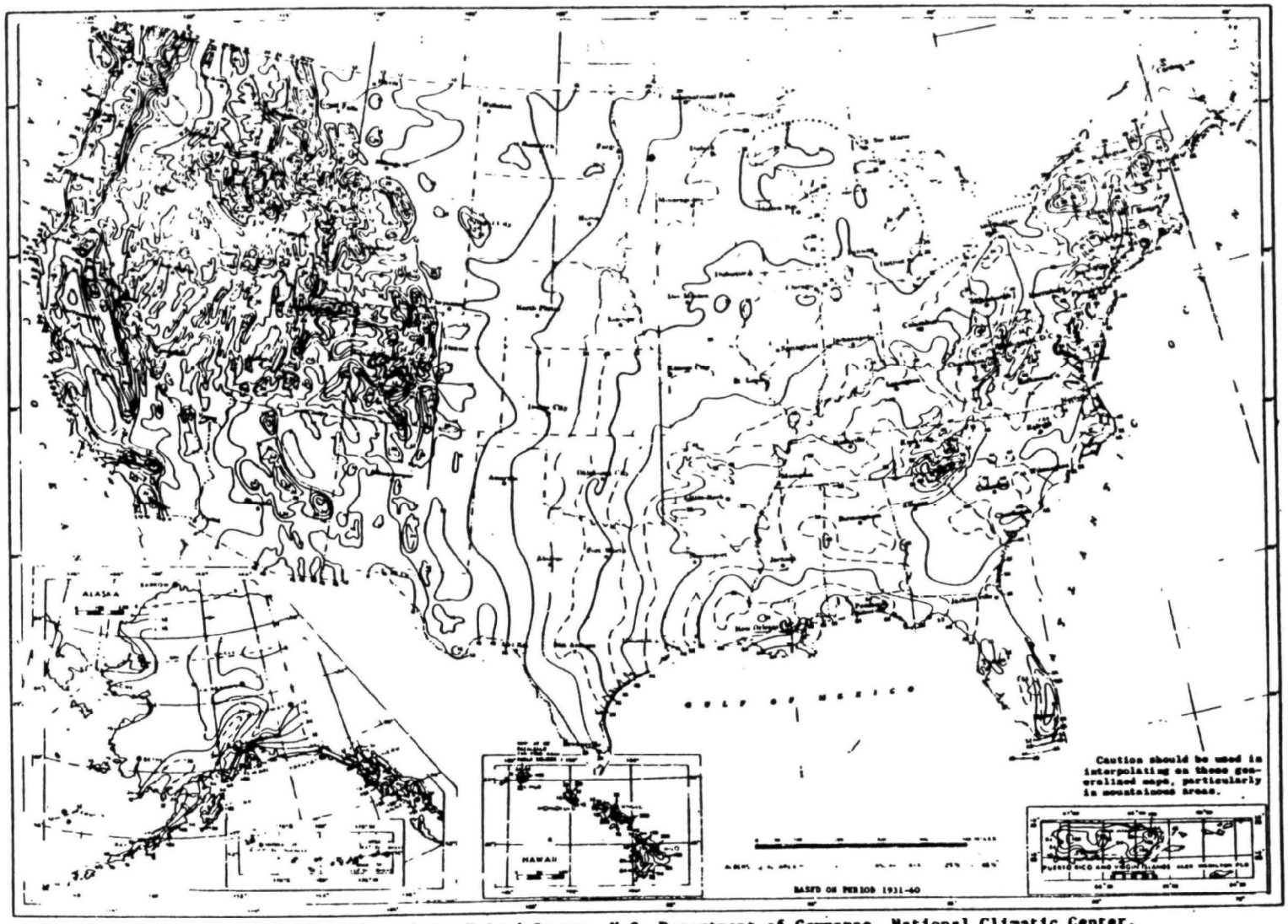
Depth to Aquifer of Concern



Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Ashville, N.C., 1979.

Figure 4

Mean Annual Lake Evaporation (In Inches)



Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Asheville, N.C., 1979.

Figure 5

Normal Annual Total Precipitation (inches)

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Physical state refers to the state of the hazardous substances at the time of disposal, except that gases generated by the hazardous substances in a disposal area should be considered in rating this factor. Each of the hazardous substances being evaluated is assigned a value as follows:

Physical state	Assigned value
Solid, consolidated or stabilized	0
Solid, unconsolidated or unstabilized	1
Powder or fine material	2
Liquid, sludge or gas	3

3.3 *Containment*

Containment is a measure of the natural or artificial means that have been used to minimize or prevent a contaminant from entering ground water. Examples include liners, leachate collection systems, and sealed containers. In assigning a value to this rating factor (Table 3), consider all ways in which hazardous substances are stored or disposed at the facility. If the facility involves more than one method of storage or disposal, assign the highest from among all applicable values (e.g., if a landfill has a containment value of 1, and, at the same location, a surface impoundment has a value of 2, assign containment a value of 2).

TABLE 3.—CONTAINMENT VALUE FOR GROUND WATER ROUTE

Assign containment a value of 0 if (1) all the hazardous substances at the facility are underlain by an essentially non permeable surface (natural or artificial) and adequate leachate collection systems and diversion systems are present; or (2) there is no ground water in the vicinity. The value "0" does not indicate no risk. Rather it indicates a significantly lower relative risk when compared with more serious sites on a national level. Otherwise, evaluate the containment for each of the different means of storage or disposal at the facility, using the following guidance.

	Assigned value
A. Surface Impoundment	
Sound run-on diversion structure, essentially non permeable liner (natural or artificial) compatible with the waste, and adequate leachate collection system	0
Essentially non permeable compatible liner with no leachate collection system; or inadequate freeboard	1
Potentially unsound run-on diversion structure; or moderately permeable compatible liner	2
Unsound run-on diversion structure; no liner; or incompatible liner	3
B Containers	
Containers sealed and in sound condition, adequate liner, and adequate leachate collection system	0
Containers sealed and in sound condition, no liner or moderately permeable liner	1
Containers leaking, moderately permeable liner	2
Containers leaking and no liner or incompatible liner	3
C. Piles	
Piles uncovered and waste stabilized; or piles covered, waste unstabilized, and essentially non permeable liner	0
Piles uncovered, waste unstabilized, moderately permeable liner, and leachate collection system	1
Piles uncovered, waste unstabilized, moderately permeable liner, and no leachate collection system	2
Piles uncovered, waste unstabilized, and no liner	3

TABLE 3.—CONTAINMENT VALUE FOR GROUND WATER ROUTE—Continued

Assign containment a value of 0 if (1) all the hazardous substances at the facility are underlain by an essentially non permeable surface (natural or artificial) and adequate leachate collection systems and diversion systems are present; or (2) there is no ground water in the vicinity. The value "0" does not indicate no risk. Rather, it indicates a significantly lower relative risk when compared with more serious sites on a national level. Otherwise, evaluate the containment for each of the different means of storage or disposal at the facility, using the following guidance.

	Assigned value
D Landfill	
Essentially non permeable liner, liner compatible with waste, and adequate leachate collection system	0
Essentially non permeable compatible liner, no leachate collection system, and landfill surface precludes ponding	1
Moderately permeable, compatible liner, and landfill surface precludes ponding	2
No liner or incompatible liner; moderately permeable compatible liner; landfill surface encourages ponding; no run-on control	3

3.4 *Waste Characteristics.* In determining a waste characteristics score, evaluate the most hazardous substances at the facility that could migrate (i.e., if scored, containment is not equal to zero) to ground water. Take the substance with the highest score as representative of the potential hazard due to waste characteristics. Note that the substance that may have been observed in the release category can differ from the substance used in rating waste characteristics. Where the total inventory of substances in a facility is known, only those present in amounts greater than the reportable quantity (see CERCLA Section 102 for definition) may be evaluated.

Toxicity and Persistance have been combined in the matrix below because of their important relationship. To determine the overall value for this combined factor, evaluate each factor individually as discussed below. Match the individual values assigned with the values in the matrix for the combined rating factor. Evaluate several of the most hazardous substances at the facility independently and enter only the highest score in the matrix on the work sheet.

Value for toxicity	Value for persistance			
	0	1	2	3
0	0	0	0	0
1	3	6	9	12
2	6	9	12	15
3	9	12	15	15

Persistance of each hazardous substance is evaluated on its biodegradability as follows:

Substance	Assigned value
Easily biodegradable compounds	0
Straight chain hydrocarbons	1
Substituted and other ring compounds	2
Metals, polycyclic compounds and halogenated hydrocarbons	3

More specific information is given in Tables 4 and 5.

Toxicity of each hazardous substance being evaluated is given a value using the rating scheme of Sax (Table 6) or the National Fire Protection Association (NFPA) (Table 7) and the following guidance.

Toxicity	Assigned value
Sax level 0 or NFPA level 0	0
Sax level 1 or NFPA level 1	1
Sax level 2 or NFPA level 2	2
Sax level 3 or NFPA level 3 or 4	3

Table 4 presents values for some common compounds.

Hazardous waste quantity includes all hazardous substances at a facility (as received) except that with a containment value of 0. Do not include amounts of contaminated soil or water; in such cases, the amount of contaminating hazardous substance may be estimated.

On occasion, it may be necessary to convert data to a common unit to combine them. In such cases, 1 ton = 1 cubic yard = 4 drums and for the purposes of converting bulk storage, 1 drum = 50 gallons. Assign a value as follows:

Tons in cubic yards	Number of drums	Assigned value
0	0	0
1–10	1–40	1
11–62	41–250	2
63–125	251–500	3
126–250	501–1,000	4
251–625	1 001–2,500	5
626–1,250	2,501–5 000	6
1,251–2,500	5 001–10 000	7
> 2,500	> 10,000	8

TABLE 4.—WASTE CHARACTERISTICS VALUES FOR SOME COMMON CHEMICALS

Chemical/Compound	Toxicity[1]	Persistence[2]	Ignitability[3]	Reactivity[3]
Acetaldehyde	3	0	3	2
Acetic Acid	3	0	2	1
Acetone	2	0	3	0
Aldrin	3	3	1	0
Ammonia, Anhydrous	3	0	1	0
Aniline	3	1	2	0
Benzene	3	1	3	0
Carbon Tetrachloride	3	3	0	0
Chlordane	3	3	*0	*0
Chlorobenzene	2	2	3	0
Chloroform	3	3	0	0
Cresol-O	3	1	2	0
Cresol-M&P	3	1	1	0
Cyclohexane	2	2	3	0
Endrin	3	3	1	0
Ethyl Benzene	2	1	3	0
Formaldehyde	3	0	2	0
Formic Acid	3	0	2	0
Hydrochloric Acid	3	0	0	0
Isopropyl Ether	3	1	3	1
Lindane	3	3	1	0
Methane	1	1	3	0
Methyl Ethyl Ketone	2	0	3	0
Methyl Parathion in Xylene Solution	3	30	3	2
Naphthalene	2	1	2	0
Nitric Acid	3	0	0	0
Parathion	3	30	1	2
PCB	3	3	30	30
Petroleum, Kerosene (Fuel Oil No. 1)	3	1	2	0
Phenol	3	1	2	0
Sulfuric Acid	3	0	0	2
Toluene	2	1	3	0

TABLE 4.—WASTE CHARACTERISTICS VALUES FOR SOME COMMON CHEMICALS—Continued

Chemical/Compound	Toxicity[1]	Persistence[2]	Ignitability[3]	Reactivity[4]
Trichlorobenzene	2	3	1	0
α-Trichloroethane	2	2	1	0
Xylene	2	1	3	0

[1] Sax, N. I., *Dangerous Properties of Industrial Materials*, Van Nostrand Rheinhold Co., New York, 4th ed., 1975. The highest rating listed under each chemical is used.
[2] JRB Associates, Inc., *Methodology for Rating the Hazard Potential of Waste Disposal Sites*, May 5, 1980.
[3] National Fire Protection Association, National Fire Codes, Vol 13, No. 49, 1977
[4] Professional judgment based on information contained in the U.S. Coast Guard CHRIS Hazardous Chemical Data, 1978
Δ Professional judgment based on existing literature.

TABLE 5.—PERSISTENCE (BIODEGRADABILITY) OF SOME ORGANIC COMPOUNDS*

Value = 3 Highly Persistent Compounds

aldrin	heptachlor
benzopyrene	heptachlor epoxide
benzothiazole	1,2,3,4,5,7,7-heptachloronorbornene
benzothiophene	hexachlorobenzene
benzyl butyl phthalate	hexachloro-1,3-butadiene
bromochlorobenzene	hexachlorocyclohexane
bromoform butanal	hexachloroethane
bromophenyl phyntyl ether	methyl benzothiazole
chlordane	pentachlorobiphenyl
chlorohydroxy benzophenone	pentachlorophenol
bis-chloroisopropyl ether	1,1,3,3-tetrachloroacetone
m-chloronitrobenzene	tetrachlorophenyl
DDE	thiomethylbenzothiazole
DDT	trichlorobenzene
dibromobenzene	trichlorobiphenyl
dibutyl phthalate	trichlorofluoromethane
1,4-dichlorobenzene	2,4,6-trichlorophenol
dichlorodifluoroethane	triphenyl phosphate
dieldrin	bromodichloromethane
diethyl phthalate	bromoform
di(2-ethylhexyl)phthalate	carbon tetrachluride
dihexyl phthalate	chloroform
di-isobutyl phthalate	chloromethylchloromethane
dimethyl phthalate	dibromodichloroethane
4,6-dinitro-2-aminophenol	tetrachloroethane
dipropyl phythalate	1,1,2-trichloroethane
endrin	

Value = 2 Persistent Compounds

acenaphthylene	cis-2-ethyl-4-methyl-1,3-dioxolane
atrazine	trans-2-ethyl-4-methyl-1,3-dioxolane
(diethyl) atrazine	guaiacol
barbital	2-hydroxyadiponitrile
borneol	isophorone
bromobenzene	indene
camphor	isoborneol
chlorobenzene	isopropenyl-α-isopropyl benzene
1,2-bis-chloroethoxy ethane	2-methoxy biphenyl
b-chloroethyl methyl ether	methyl biphenyl
chloromethyl ether	methyl chloride
chloromethyl ethyl ether	methylindene
3-chloropyridine	methylene chloride
di-t-butyl-p-benzoquinone	nitroanisole
dichloroethyl ether	nitrobenzene
dihyrocarvone	1,1,2-trichloroethylene
dimethyl sulfoxide	trimethyl-triaxo-hexahydro-triazine isomer
2,6-dinitrotoluene	

Value = 1 Somewhat Persistent Compounds

acetylene dichloride	1,2-dimethoxy benzene
behenic acid, methyl ester	1,3-dimethyl naphthalene
benzene	1,4-dimethyl phenol
benzene sulfonic acid	dioctyl adipate
butyl benzene	n-decane
butyl bromide	ethyl benzene
e-caprolactam	2-ethyl-n-hexane
carbon-disulfide	o-ethyltoluene
o-cresol	isodecane
decane	isopropyl benzene
1,2-dichloroethane	

TABLE 5.—PERSISTENCE (BIODEGRADABILITY) OF SOME ORGANIC COMPOUNDS*—Continued

limonene	octane
methyl ester of lignoceric acid	octyl chloride
methane	pentane
2-methyl-5-ethyl-pyridine	phenyl benzoate
methyl naphthalene	phthalic anhydride
methyl palmitate	propylbenzene
methyl phenyl carbinol	1-terpineol
methyl stearate	toluene
naphthalene	vinyl benzene
nonane	xylene

Value = 0 Nonpersistent Compounds

acetaldehyde	methyl benzoate
acetic acid	3-methyl butanol
acetone	methyl ethyl ketone
acetophenone	2-methylpropanol
benzoic acid	octadecane
di-isobutyl carbinol	pentadecane
docosane	pentanol
eicosane	propanol
ethanol	propylamine
ethylamine	tetradecane
hexadecane	n-tridecane
methanol	n-undecane

* JRB Associates, Inc., *Methodology for Rating the Hazard Potential for Waste Disposal Sites*, May 5, 1980.

TABLE 6.—SAX TOXICITY RATINGS

0 = No Toxicity* (None)**

This designation is given to materials which fall into one of the following categories:
(a) Materials which cause no harm under any conditions of normal use.
(b) Materials which produce toxic effects on humans only under the most unusual conditions or by overwhelming dosage.

1 = Slight Toxicity* (Low)**

(a) *Acute local.* Materials which on single exposures lasting seconds, minutes, or hours cause only slight effects on the skin or mucous membranes regardless of the extent of the exposure.
(b) *Acute systemic.* Materials which can be absorbed into the body by inhalation, ingestion, or through the skin and which produce only slight effects following single exposures lasting seconds, minutes, or hours, or following ingestion of a single dose regardless of the quantity absorbed or the extent of exposure.
(c) *Chronic local.* Materials which on continuous or repeated exposures extending over periods of days, months, or years cause only slight and usually reversible harm to the skin or mucous membranes. The extent of exposure may be great or small.
(d) *Chronic systemic.* Materials which can be absorbed into the body by inhalation, ingestion, or through the skin and which produce only slightly usually reversible effects extending over days, months, or years. The extent of the exposure may be great or small.
In general, those substances classified as having "slight toxicity" produce changes in the human body which are readily reversible and which will disappear following termination of exposure, either with or without medical treatment.

2 = Moderate Toxicity* (Med)**

(a) *Acute local.* Materials which on single exposure lasting seconds, minutes, or hours cause moderate effects on the skin or mucous membranes. These effects may be the result of intense exposure for a matter of seconds or moderate exposure for a matter of hours.
(b) *Acute systemic.* Materials which can be absorbed into the body by inhalation, ingestion, or through the skin and produce moderate effects following single exposures lasting seconds, minutes, or hours, or following ingestion of a single dose.

TABLE 6.—SAX TOXICITY RATINGS—Continued

(c) *Chronic local.* Materials which on continuous or repeated exposures extending over periods of days, months, or years cause moderate harm to the skin or mucous membranes.
(d) *Chronic systemic.* Materials which can be absorbed into the body by inhalation, ingestion, or through the skin and which produce moderate effects following continuous or repeated exposures extending over periods of days, months, or years.
Those substances classified as having "moderate toxicity" may produce irreversible as well as reversible changes in the human body. These changes are not of such severity as to threaten life or to produce serious physical impairment.

3 = Severe Toxicity* (High)**

(a) *Acute local.* Materials which on single exposure lasting seconds or minutes cause injury to skin or mucous membranes of sufficient severity to threaten life or to cause permanent physical impairment or disfigurement.
(b) *Acute systemic.* Materials which can be absorbed into the body by inhalation, ingestion, or through the skin and which can cause injury of sufficient severity to threaten life following a single exposure lasting seconds, minutes, or hours, or following ingestion of a single dose.
(c) *Chronic local.* Materials which on continuous or repeated exposures extending over periods of days, months, or years can cause injury to skin or mucous membranes of sufficient severity to threaten life or cause permanent impairment, which disfigurement, or irreversible change.
(d) *Chronic systemic.* Materials which can be absorbed into the body by inhalation, ingestion or through the skin and which can cause death or serious physical impairment following continuous or repeated exposures to small amounts extending over periods of days, months, or years.

*Sax, N. I, Dangerous Properties of Industrial Materials, Van Nostrand Rheinhold Co., New York, New York, 4th edition, 1975.
**Sax, N. I, Dangerous Properties of Industrial Materials, Van Nostrand Rheinhold Co., New York, New York, 5th edition, 1979.

TABLE 7.—NFPA TOXICITY RATINGS*

0 Materials which on exposure under fire conditions would offer no health hazard beyond that of ordinary combustible material.
1 Materials only slightly hazardous to health. It may be desirable to wear self-contained breathing apparatus.
2 Materials hazardous to health, but areas may be entered freely with self-contained breathing apparatus.
3 Materials extremely hazardous to health, but areas may be entered with extreme care. Full protective clothing, including self-contained breathing apparatus, rubber gloves, boots and bands around legs, arms and waist should be provided. No skin surface should be exposed.
4 A few whiffs of the gas or vapor could cause death, or the gas, vapor, or liquid could be fatal on penetrating the fire fighters' normal full protective clothing which is designed for resistance to heat. For most chemicals having a Health 4 rating, the normal full protective clothing available to the average fire department will not provide adequate protection against skin contact with these materials. Only special protective clothing designed to protect against the specific hazard should be worn.

*National Fire Protection Association. *National Fire Codes*, Vol. 13, No. 49, 1977.

3.5 *Targets. Ground water use* indicates the nature of the use made of ground water drawn from the aquifer of concern within 3 miles of the hazardous substance, including the geographical extent of the measurable concentration in the aquifer. Assign a value using the following guidance:

Ground water use	Assigned value
Unusable (e.g., extremely saline aquifer, extremely low yield, etc.)	0
Commercial, industrial or irrigation and another water source presently available; not used, but usable	1
Drinking water with municipal water from alternate unthreatened sources presently available (i.e., minimal hookup requirements); or commercial, industrial or irrigation with no other water source presently available	2
Drinking water; no municipal water from alternate unthreatened sources presently available	3

Distance to nearest well and population served have been combined in the matrix below to better reflect the important relationship between the distance of a population from hazardous substances and the size of the population served by ground water that might be contaminated by those substances. To determine the overall value for this combined factor, score each individually as discussed below. Match the individual values assigned with the values in the matrix for the total score.

Value for population served	Value for distance to nearest well				
	0	1	2	3	4
0	0	0	0	0	0
1	0	4	8	8	10
2	0	8	12	16	20
3	0	12	18	24	30
4	0	16	24	32	35
5	0	20	30	35	40

Distance to nearest well is measured from the hazardous substance (not the facility boundary) to the nearest well that draws water from the aquifer of concern. If the actual distance to the nearest well is unknown, use the distance between the hazardous substance and the nearest occupied building not served by a public water supply (e.g., a farmhouse). If a discontinuity in the aquifer occurs between the hazardous substance and all wells, give this factor a score of 0, except where it can be shown that the contaminant is likely to migrate beyond the discontinuity. Figure 6 illustrates how the distance should be measured. Assign a value using the following guidance:

Distance	Assigned value
>3 miles	0
2 to 3 miles	1
1 to 2 miles	2
2001 feet to 1 mile	3
<2000 feet	4

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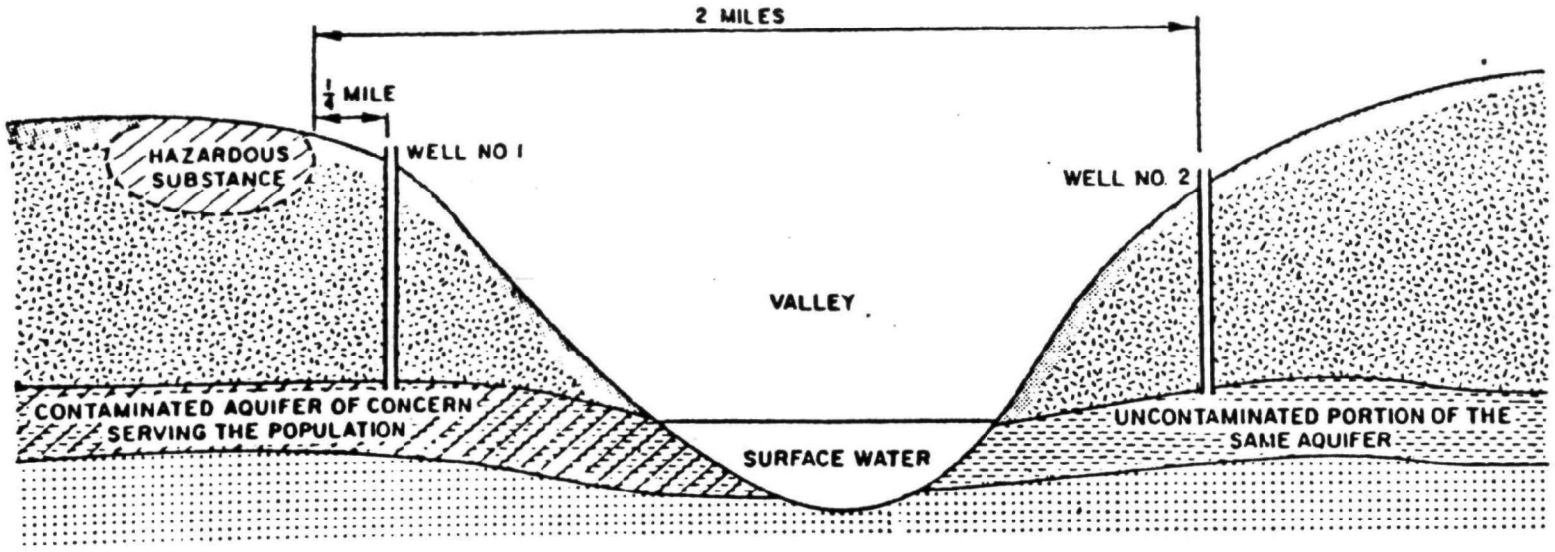

In the situation depicted above, the distance between the hazardous substance and the nearest well (No. 1) is ¼ mile. If well No. 1 did not exist, the distance to well No. 2 would be immaterial since there is a discontinuity in the aquifer (surface water) between it and the hazardous substance. Under such circumstances, the factor score would be "0". However, if it could be demonstrated that the contaminent had bridged the discontinuity, then the distance to the nearest well would be 2 miles (assuming well No. 1 does not exist).

FIGURE 6

Distance to Nearest Well

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Population served by ground water is an indicator of the population at risk, which includes residents as well as others who would regularly use the water such as workers in factories or offices and students. Include employees in restaurants, motels, or campgrounds but exclude customers and travelers passing through the area in autos, buses, or trains. If aerial photography is used, and residents are known to use ground water, assume each dwelling unit has 3.8 residents. Where ground water is used for irrigation, convert to population by assuming 1.5 persons per acre of irrigated land. The well or wells of concern must be within three miles of the hazardous substances, including the area of known aquifer contamination, but the "population served" need not be. Likewise, people within three miles who do not use water from the aquifer of concern are not to be counted. Assign a value as follows:

Population	Assigned value
0	0
1 to 100	1
101 to 1,000	2
1,001 to 3,000	3
3,001 to 10,000	4
>10,000	5

4.0 Surface Water Route

4.1 *Observed Release.* Direct evidence of release to surface water must be quantitative evidence that the facility is releasing contaminants into surface water. Quantitative evidence could be the measurement of levels of contaminants from a facility in surface water, either at the facility or downhill from it, that represents a significant (in terms of demonstrating that a release has occurred, not in terms of potential effects) increase over background levels. If direct evidence of release has been obtained (regardless of frequency), enter a value of 45 on line 1 of the work sheet (Figure 7) and omit the evaluation of the route characteristics and containment factors. If direct evidence of release is lacking, enter a value of 0 on line 1 and continue with the scoring procedure.

4.2. *Route Characteristics. Facility slope and intervening terrain* are indicators of the potential for contaminated runoff or spills at a facility to be transported to surface water. The facility slope is an indicator of the potential for runoff or spills to leave the facility. Intervening terrain refers to the average slope of the shortest path which would be followed by runoff between the facility boundary and the nearest downhill surface water. This rating factor can be assessed using topographic maps. Table 8 shows values assigned to various facility conditions.

One-year 24-hour rainfall (obtained from Figure 8) indicates the potential for area storms to cause surface water contamination as a result of runoff, erosion, or flow over dikes. Assign a value as follows:

Amount of rainfall (inches)	Assigned value
<1.0	0
1.0 to 2.0	1
2.1 to 3.0	2
>3.0	3

TABLE 8.—VALUES FOR FACILITY SLOPE AND INTERVENING TERRAIN

Facility slope	Intervening terrain				
	Terrain average slope				Site in surface water
	<3 pct [1]	3 to 5 pct	5 to 8 pct	> 8 pct	
Facility is closed basin	0	0	0	0	3
Facility has average slope (<3 pct)	0	1	1	2	3
Average slope (3 to 5 pct)	0	1	2	2	3
Average slope (5 to 8 pct)	0	2	2	3	3
Average slope (> 8 pct)	0	2	3	3	3

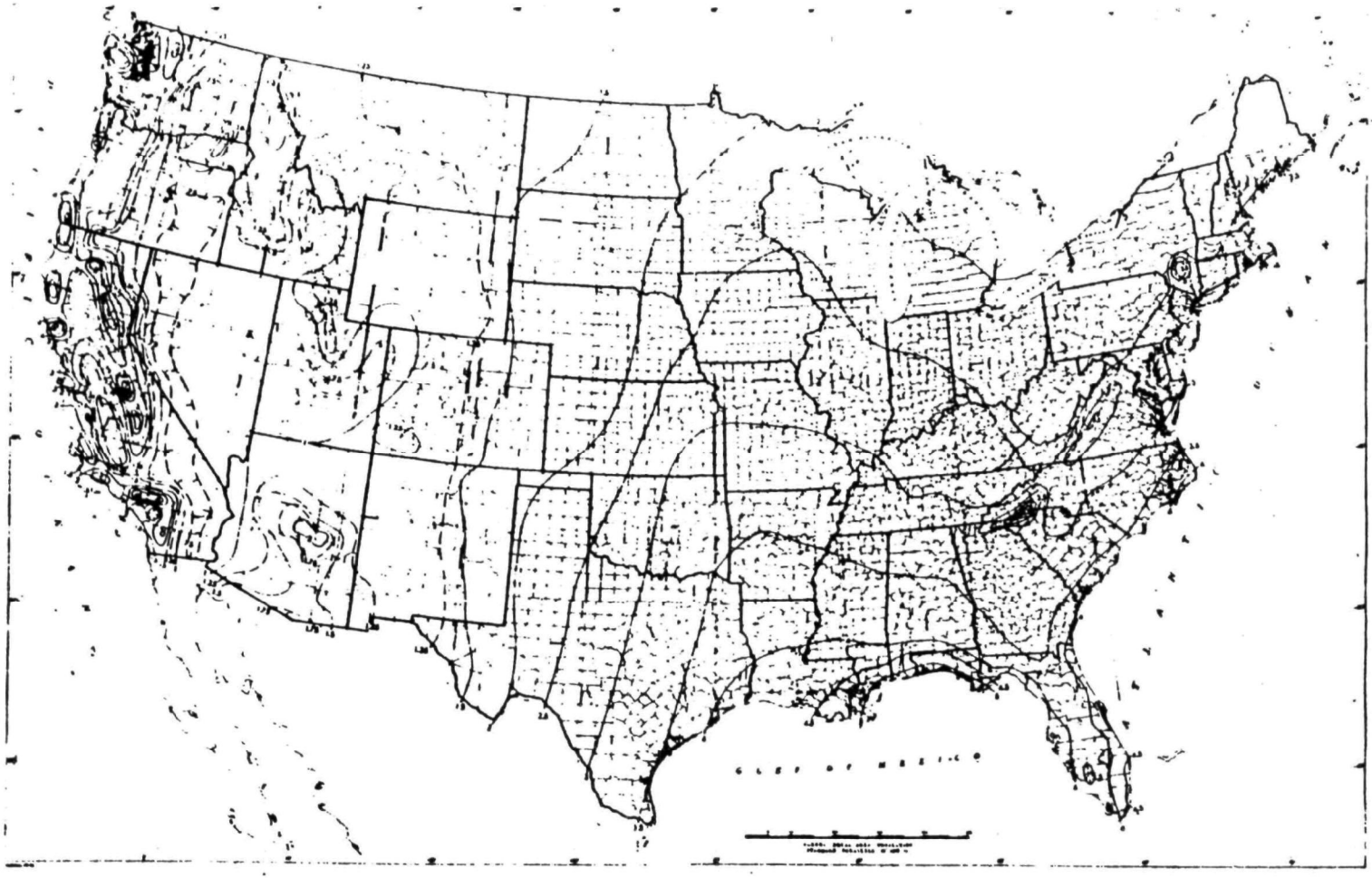
[1] Terrain average slope <3 pct; or site separated from water body by areas of higher elevation.

BILLING CODE 6560-46-M

Surface Water Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 45	1		45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	0 1 2 3	1		3	
1-yr. 24-hr Rainfall	0 1 2 3	1		3	
Distance to Nearest Surface Water	0 1 2 3	2		6	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
3 Containment	0 1 2 3	1		3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 18	1		18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				26	
5 Targets					4.5
Surface Water Use	0 1 2 3	3		9	
Distance to a Sensitive Environment	0 1 2 3	2		6	
Population Served/Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1		40	
Total Targets Score				55	
6 If line 1 is 45, multiply 1 x 4 x 5. If line 1 is 0, multiply 2 x 3 x 4 x 5				64,350	
7 Divide line 6 by 64,350 and multiply by 100	S_{sw} =				

FIGURE 7
SURFACE WATER ROUTE WORK SHEET



Source: Rainfall Frequency Atlas of the United States, Technical Paper No. 40, U.S. Department of Commerce, U.S. Government Printing Office, Washington, D.C., 1963.

Figure 8

1-Year 24-Hour Rainfall (Inches)

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Distance to the nearest surface water is the shortest distance from the hazardous substance, (not the facility or property boundary) to the nearest downhill body of surface water (e.g., lake or stream) that is on the course that runoff can be expected to follow and that at least occasionally contains water. Do not include man-made ditches which do not connect with other surface water bodies. In areas having less than 20 inches of normal annual precipitation (see Figure 5), consider intermittent streams. This factor indicates the potential for pollutants flowing overland and into surface water bodies. Assign a value as follows:

Distance	Assigned value
>2 miles	0
1 to 2 miles	1
1000 feet to 1 mile	2
≤ 1000 feet	3

Physical state is assigned a value using the procedures in Section 3.2.

4.3 *Containment. Containment* is a measure of the means that have been taken to minimize the likelihood of a contaminant entering surface water either at the facility or beyond the facility boundary. Examples of containment are diversion structures and the use of sealed containers. If more than one type of containment is used at a facility, evaluate each separately (Table 9) and assign the highest score.

TABLE 9.—CONTAINMENT VALUES FOR SURFACE WATER ROUTE

Assign containment a value of 0 if: (1) all the waste at the site is surrounded by diversion structures that are in sound condition and adequate to contain all runoff, spills, or leaks from the waste, or (2) intervening terrain precludes runoff from entering surface water. Otherwise, evaluate the containment for each of the different means of storage or disposal at the site and assign a value as follows:

	Assigned value
A. Surface Impoundment	
Sound dking or diversion structure, adequate freeboard, and no erosion evident	0
Sound dking or diversion structure, but inadequate freeboard	1
Dking not leaking, but potentially unsound	2
Dking unsound, leaking, or in danger of collapse	3
B. Containers	
Containers sealed, in sound condition, and surrounded by sound diversion or containment system	0
Containers sealed and in sound condition, but not surrounded by sound diversion or containment system	1
Containers leaking and diversion or containment structures potentially unsound	2
Containers leaking, and no diversion or containment structures or diversion structures leaking or in danger of collapse	3
C. Waste Piles	
Piles are covered and surrounded by sound diversion or containment system	0
Piles covered, wastes unconsolidated, diversion or containment system not adequate	1
Piles not covered, wastes unconsolidated, and diversion or containment system potentially unsound	2
Piles not covered, wastes unconsolidated, and no diversion or containment or diversion system leaking or in danger or collapse	3

TABLE 9.—CONTAINMENT VALUES FOR SURFACE WATER ROUTE—Continued

Assign containment a value of 0 if: (1) all the waste at the site is surrounded by diversion structures that are in sound condition and adequate to contain all runoff, spills, or leaks from the waste; or (2) intervening terrain precludes runoff from entering surface water. Otherwise, evaluate the containment for each of the different means of storage or disposal at the site and assign a value as follows:

	Assigned value
D. Landfill	
Landfill slope precludes runoff, landfill surrounded by sound diversion system, or landfill has adequate cover material	0
Landfill not adequately covered and diversion system sound	1
Landfill not covered and diversion system potentially unsound	2
Landfill not covered and no diversion system present, or diversion system unsound	3

4.4 *Waste Characteristics.* Evaluate waste characteristics for the surface water route with the procedures described in Section 3.4 for the ground water route.

4.5 *Targets. Surface water use* brings into the rating process the use being made of surface water downstream from the facility. The use or uses of interest are those associated with water taken from surface waters within a distance of three miles from the location of the hazardous substance. Assign a value as follows:

Surface water use (fresh or salt water)	Assigned value
Not currently used	0
Commercial or industrial	1
Irrigation, economically important resources (e.g., shellfish), commercial food preparation, or recreation (e.g., fishing, boating, swimming)	2
Drinking Water	3

Distance to a sensitive environment refers to the distance from the hazardous substance (not the facility boundary) to an area containing an important biological resource or to a fragile natural setting that could suffer an especially severe impact from pollution. Table 10 provides guidance on assigning a value to this rating factor.

TABLE 10—VALUES FOR SENSITIVE ENVIRONMENT (SURFACE WATER)

Assigned value—	0	1	2	3
Distance to Wetlands[1] (5 acre minimum)				
Coastal	>2 miles	1 to 2 miles	½ to 1 mile	<½ mile.
Fresh Water	>1 mile	½ to 1 mile	100 feet to ½ mile	<100 feet.
Distance to Critical Habitat (of endangered species)[2]	>1 mile	½ to 1 mile	¼ to ½ mile	<¼ mile.

[1] Wetland is defined by EPA in the Code of Federal Regulations 40 CFR Part 230, Appendix A, 1980
[2] Endangered species are designated by the U.S. Fish and Wildlife Service.

Population served by surface water with water intake within 3 miles downstream from facility (or 1 mile in static surface water such as a lake) is a rough indicator of the potential hazard exposure of the nearby population served by potentially contaminated surface water. Measure the distance from the probable point of entry to surface water following the surface water (stream miles). The population includes residents as well as others who would regularly use the water such as workers in factories or offices and students. Include employees in restaurants, motels, or campgrounds but exclude customers and travelers passing through the area in autos, buses and trains. The distance is measured from the hazardous substance, including observations in stream or sediment samples, regardless of facility boundaries. Where only residential houses can be counted (e.g., from an aerial photograph), and residents are known to be using surface water, assume 3.8 individuals per dwelling unit. Where surface water is used for irrigation, convert to population by assuming 1.5 persons per acre of land irrigated. Assign a value as follows:

Population	Distance to surface water				
	>3 miles	2-3 miles	1-2 miles	200'-1 mile	0-2,000 feet
0	0	0	0	0	0
1-100	0	4	8	8	10
101-1,000	0	8	12	16	20
1,001-3,000	0	12	18	24	30
3,001-10,000	0	16	24	32	35
>10,000	0	20	30	36	40

5.0 Air Route

5.1 *Observed Release.* The only acceptable evidence of release for the air route is data that show levels of a contaminant at or in the vicinity of the facility that significantly exceed background levels, regardless of the frequency of occurrence. If such evidence exists, enter a value of 45 on line 1 of the work sheet (Figure 9); if not, assign line 1 a 0 value and then $S_a = 0$. Record the date, location, and the sampling protocol for monitoring data on the work sheet. Data based on transitory conditions due to facility disturbance by investigative personnel are not acceptable.

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Air Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max Score	Ref. (Section)
1 Observed Release	0 45	1		45	5.1
Date and Location:					
Sampling Protocol:					
If line 1 is 0, the S_a = 0. Enter on line 5 If line 1 is 45, then proceed to line 2					
2 Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
3 Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
4 Multiply 1 x 2 x 3				35,100	
5 Divide line 4 by 35,100 and multiply by 100		S_a =			

FIGURE 9
AIR ROUTE WORK SHEET

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5.2 *Waste Characteristics.* The hazardous substance that was observed for scoring the release category may be different from the substance used to score waste characteristics.

Reactivity and incompatibility, measures of the potential for sudden releases of concentrated air pollutants, are evaluated independently, and the highest value for either is recorded on the work sheet.

Reactivity provides a measure of the fire/explosion threat at a facility. Assign a value based on the reactivity classification used by NFPA (see Table 11). Reactivity ratings for a number of common compounds are given in Table 4.

TABLE 11.—NFPA REACTIVITY RATINGS

NFPA level	Assigned value
0 Materials which are normally stable even under fire exposure conditions and which are not reactive with water	0
1 Materials which in themselves are normally stable but which may become unstable at elevated temperatures and pressures or which may react with water with some release of energy but not violently	1
2 Materials which in themselves are normally unstable and readily undergo violent chemical change but do not detonate. Includes materials which can undergo chemical change with rapid release of energy at normal temperatures and pressures or which can undergo violent chemical change at elevated temperatures and pressures. Also includes those materials which may react violently with water or which may form potentially explosive mixtures with water	2
3 Materials which in themselves are capable of detonation or of explosive decomposition or of explosive reaction but which requires a strong initiating source or which must be heated under confinement before initiation. Includes materials which are sensitive to thermal or mechanical shock at elevated temperatures and pressures or which react explosively with water without requiring heat or confinement	3
4 Materials which in themselves are readily capable of detonation or of explosive decomposition or explosive reaction at normal temperatures and pressures. Includes materials which are sensitive to mechanical or localized thermal shock	3

TABLE 12.—INCOMPATIBLE MATERIALS

In the lists below the mixing of a Group A material with a Group B material may have the potential consequence as noted

Group 1-A	Group 1-B
Acetylene sludge	Acid sludge.
Alkaline caustic liquids	Acid and water.
Alkaline cleaner	Battery acid.
Alkaline corrosive liquids	Chemical cleaners.
Alkaline corrosive battery fluid	Electrolyte acid.
Caustic wastewater	Etching acid liquid or solvent.
Lime sludge and other corrosive alkalies.	Pickling liquor and other corrosive acids.
Lime wastewater	Spent acid.
Lime and water	Spent mixed acid.
Spent caustic	Spent sulfuric acid.

Potential consequences: Heat generation; violent reaction.

Group 2-A	Group 2-B
Aluminum	Any waste in Group 1-A or 1-B.
Beryllium	
Calcium	
Lithium	
Potassium	

TABLE 12.—INCOMPATIBLE MATERIALS—Continued

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

Sodium	
Zinc powder	
Other reactive metals and metal hydrides.	

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

Group 3-A	Group 3-B
Alcohols	Any concentrated waste in Groups 1-A or 1-B.
Water	Calcium, Lithium, Metal hydrides, Potassium, SO_2Cl_2, $SOCl_2$, PCl_3, CH_3SiCl_3, Other water-reactive waste.

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

Group 4-A	Group 4-B
Alcohols	Concentrated Group 1-A or 1-B wastes.
Aldehydes	Group 2-A wastes
Halogenated hydrocarbons	
Nitrated hydrocarbons	
Unsaturated hydrocarbons	
Other reactive organic compounds and solvents.	

Potential consequences: Fire, explosion, or violent reaction.

Group 5-A	Group 5-B
Spent cyanide and sulfide solutions.	Group 1-B wastes.

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

Group 6-A	Group 6-B
Chlorates	Acetic acid and other organic acids.
Chlorine	Concentrated mineral acids.
Chlorites	Group 2-A wastes.
Chromic acid	Group 4-A wastes.
Hypochlorites	Other flammable and combustible wastes.
Nitrates	
Nitric acid, fuming	
Perchlorates	
Permanganates	
Peroxides	
Other strong oxidizers	

Potential consequences: Fire, explosion, or violent reaction.

Source: Hazardous Waste Management Law, Regulations, and Guidelines for the Handling of Hazardous Waste. California Department of Health, Sacramento, California, February 1975

Incompatibility provides a measure of the increased hazard when hazardous substances are mixed under uncontrolled conditions, leading to production of heat, pressure, fire, explosion, violent reaction, toxic dusts, mists, fumes or gases, or flammable fumes or gases. Table 12 provides examples of incompatible combinations of materials.

Land use indicates the nature and level of human activity in the vicinity of a facility. Assign highest applicable value from Table 13.

6.0 Computing the Migration Hazard Mode Score, S_M

To compute S_M, complete the work sheet (Figure 10) using the values of S_{GW}, S_{SW}, and S_A obtained from the previous sections.

7.0 Fire and Explosion

Compute a score for the fire and explosion hazard mode, S_{FE}, when either a state or local fire marshal has certified that the facility presents a significant fire or explosion threat to the public or to sensitive environments or there is a demonstrated fire and explosion threat based on field observations (e.g., combustible gas indicator readings). Document the threat.

7.1 *Containment. Containment* is an indicator of the measures that have been taken to minimize or prevent hazardous substances at the facility from catching fire or exploding. Normally it will be given a value of 3 on the work sheet (Figure 11). If no hazardous substances that are individually ignitable or explosive are present and those that may be hazardous in combination are segregated and isolated so that they cannot come together to form incompatible mixtures, assign this factor a value of 1.

7.2 *Waste Characteristics. Direct evidence* of ignitability or explosion potential may exist in the form of measurements with appropriate instruments. If so, assign this factor a value of 3; if not, assign a value of 0

Additional information can be obtained from *A Method for Determining the Compatibility of Hazardous Wastes,* H. K. Hatayama, *et al.,* EPA-600/2-80-076 (1980). Assign a value using the following guidance:

Incompatibility	Assigned value
No incompatible substances are present	0
Present but do not pose a hazard	1
Present and may pose a future hazard	2
Present and posing an immediate hazard	3

Toxicity should be rated for the most toxic of the substances that can reasonably be expected to be transported away from the facility via the air route. Using the information given in Tables 4, 6, and 7, assign values as follows:

Toxicity	Assigned value
See level 0 or NFPA level 0	0
See level 1 or NFPA level 1	1
See level 2 or NFPA level 2	2
See level 3 or NFPA levels 3 or 4	3

Hazardous Waste Quantity

Assign hazardous waste quantity a value as described in Section 3.4.

5.3 *Targets. Population within a four-mile radius* is an indicator of the population which may be harmed should hazardous substances be released to the air.

The distance is measured from the location of the hazardous substances, not from the facility boundary. The population to be counted includes persons residing within the

...ur-mile radius as well as transients such as ...orkers in factories, offices, restaurants, motels, or students. It excludes travelers passing through the area. If aerial photography is used in making the count, assume 3.5 individuals per dwelling unit. Select the highest value for this rating factor as follows:

DISTANCE TO POPULATION FROM HAZARDOUS SUBSTANCE

Population	0–¼ miles	0–½ mile	0–¾ mile	0–1 mile
0	0	0	0	0
1 to 100	9	12	15	18
101 to 1,000	12	15	18	21
1,001 to 3,000	15	18	21	24
3,001 to 10,000	18	21	24	27
More than 10,000	21	24	27	30

Distance to sensitive environment is an indicator of the likelihood that a region that contains important biological resources or that is a fragile natural setting would suffer serious damage if hazardous substances were to be released from the facility. Assign a value from Table 10.

Land use indicates the nature and level of human activity in the vicinity of a facility. Assign highest applicable value from Table 13.

6.0 Computing the Migration Hazard Mode Score, S_M

To compute S_M, complete the work sheet (Figure 10) using the values of S_{gw}, S_{sw} and S_a obtained from the previous sections.

7.0 Fire and Explosion

Compute a score for the fire and explosion hazard mode, S_{FE}, when either a state or local fire marshall has certified that the facility presents a significant fire or explosion threat to the public or to sensitive environments or there is a demonstrated fire and explosion threat based on field observations (e.g., combustible gas indicator readings). Document the threat.

7.1 Containment. Containment is an indicator of the measures that have been taken to minimize or prevent hazardous substances at the facility from catching fire or exploding. Normally it will be given a value of 3 on the work sheet (Figure 11). If no hazardous substances that are individually ignitable or explosive are present and those that may be hazardous in combination are segregated and isolated so that they cannot come together to form incompatible mixtures, assign this factor a value of 1.

7.2 Waste Characteristics. Direct evidence of ignitability or explosion potential may exist in the form of measurements with appropriate instruments. If so, assign this factor a value of 3; if not, assign a value of 0.

TABLE 13.—VALUES FOR LAND USE (AIR ROUTE)

Assigned value—	0	1	2	3
Distance to Commercial-Industrial	>1 mile	½ to 1 mile	¼ to ½ mile	<¼ mile
Distance to National/State Parks, Forests, Wildlife Reserves, and Residential Areas	>2 miles	1 to 2 miles	½ to 1 mile	<½ mile
Distance to Agricultural Lands (in Production within 5 years):				
Ag land	>1 mile	½ to 1 mile	¼ to ½ mile	<¼ mile
Prime Ag Land [1]	>2 miles	1 to 2 miles	½ to 1 mile	<½ mile
Distance to Historic/Landmark Sites (National Register of Historic Places and National Natural Landmarks)				Within view of site or if site is subject to significant impacts

[1] Defined in the Code of Federal Regulations, 7 CFR 657.5, 1981.

	S	S^2
Groundwater Route Score (S_{gw})		
Surface Water Route Score (S_{sw})		
Air Route Score (S_a)		
$S_{gw}^2 + S_{sw}^2 + S_a^2$		
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		

FIGURE 10
WORKSHEET FOR COMPUTING S_M

Fire and Explosion Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Containment	1 3	1		3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 4 by 1,440 and multiply by 100		S_{FE} =			

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

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Ignitability is an indicator of the threat of fire at a facility and the accompanying potential for release of air contaminants. Assign this rating factor a value based on the NFPA classification scheme (Table 14). Table 4 gives values for a number of common compounds. Assign values as follows:

Ignitability	Assigned value
Flashpoint > 200°F, or NFPA level 0	0
Flashpoint 140°F to 200°F or NFPA level 1	1
Flashpoint 80°F to 140°F or NFPA level 2	2
Flashpoint < 80°F or NFPA levels 3 or 4	3

Reactivity Assign values as in Section 5.2.

Incompatibility. Assign values as in Section 5.2.

Hazardous Waste Quantity. Assign values as in Section 3.4.

TABLE 14.—NFPA IGNITABILITY LEVELS AND ASSIGNED VALUES

NFPA level	Assigned value
4 Very flammable gases, very volatile flammable liquids, and materials that in the form of dusts or mists readily form explosive mixtures when dispersed in air	3
3 Liquids which can be ignited under all normal temperature conditions. Any materials that ignites spontaneously at normal temperatures in air	
2 Liquids which must be moderately heated before ignition will occur and solids that readily give off flammable vapors	2
1 Materials that must be preheated before ignition can occur. Most combustible solids have a flammability rating of 1	1
0 Materials that will not burn	0

7.3 *Targets. Distance to nearest population* is the distance from the hazardous substance to the nearest building or area in which one or more persons are likely to be located either for residential, educational, business, occupational, or recreational purposes. It is an indicator of the potential for harm to humans from fire and explosion. The building or area need not be off-site. Assign values as follows:

Distance	Assigned value
>2 miles	0
1 mile to 2 mile	1
¼ mile to 1 miles	2
201 feet to ¼ mile	3
51 feet to 200 feet	4
0 to 50 feet	5

Distance to nearest building is an indicator of the potential for property damage as a result of fire or explosion. Assign a value as follows:

Distance	Assigned value
>¼ mile	0
201 feet to ¼ mile	1
51 feet to 200 feet	2
0 to 50 feet	3

Distance to nearest sensitive environment is measured from the hazardous substances not from the facility boundary. It is an indicator of potential harm to a sensitive environment from fire or explosion at the facility. Select the highest value using the guidance provided in Table 15 *except* assign a value of 3 where fire could be expected to spread to a sensitive environment even though that environment is more than 100 feet from the hazardous substance.

TABLE 15.—VALUES FOR SENSITIVE ENVIRONMENTS (FIRE AND EXPLOSION)

Assigned value =	0	1	2	3
Distance to Wetlands[1]	>100 feet			<100 feet
Distance to Critical Habitat[2]	>¼ mile	1000 feet to ¼ mile	100 to 1000 feet	<100 feet

[1] Wetland is defined by EPA in the Code of Federal Regulations 40 CFR Part 230, Appendix A, 1980
[2] Designated by the U.S. Fish and Wildlife Service.

Land Use. Assign values as in Section 5.3.

Population within two-mile radius (measured from the location of the hazardous substance, not from the facility boundary) is a rough indicator of the population at risk in the event of fire or explosion at a facility. The population to be counted includes those residing within the two mile radius as well as people regularly in the vicinity such as workers in factories, offices, or students. It does not include travelers passing through the area. If aerial photography is used in making the count, assume 3.6 individuals per dwelling. Assign values as follows:

Population	Assigned value
0	0
1 to 100	1
101 to 1,000	2
1,001 to 3,000	3
3,001 to 10,000	4
>10,000	5

Number of buildings within two mile radius (measured from the hazardous substance, not from the facility boundary) is a rough indicator of the property damage that could result from fire and explosion at a facility. Assign values to this factor as follows:

Number of buildings	Assigned value
0	0
1 to 26	1
27 to 260	2
261 to 790	3
791 to 2600	4
>2600	5

8.0 *Direct Contact.* The direct contact hazard mode refers to the potential for injury by direct contact with hazardous substances at the facility.

8.1 *Observed Incident.* If there is a confirmed instance in which contact with hazardous substances at a facility has caused injury, illness, or death to humans or domestic or wild animals, enter a value of 45 on line 1 of the work sheet (Figure 12) and proceed to line 4 (toxicity). Document the incident giving the date, location and pertinent details. If no such instance is known, enter "0" on line 1 and proceed to line 2.

8.2 *Accessibility. Accessibility to hazardous substance* refers to the measures taken to limit access by humans or animals to hazardous substances. Assign a value using the following guidance:

Barrier	Assigned value
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility; or an artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry at all times, through the gates or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility)	0
Security guard, but no barrier	1
A barrier, but no separate means to control entry	2
Barriers do not completely surround the facility	3

BILLING CODE 6560-50-M

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Incident	0 45	1		45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 3	1		3	8.2
3 Containment	0 15	1		15	8.3
4 Waste Characteristics Toxicity	0 1 2 3	5		15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 2 3 4 5	4		20	
Distance to a Critical Habitat	0 1 2 3	4		12	
Total Targets Score				32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5				21,600	
7 Divide line 6 by 21,600 and multiply by 100		S_{DC} =			

FIGURE 12
DIRECT CONTACT WORK SHEET

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8.3 *Containment. Containment* indicates whether the hazardous substance itself is accessible to direct contact. For example, if the hazardous substance at the facility is in surface impoundments, containers (sealed or unsealed), piles, tanks, or landfills with a cover depth of less than 2 feet, or has been spilled on the ground or other surfaces easily contacted (e.g., the bottom of shallow pond or creek), assign this rating factor a value of 15. Otherwise, assign a value of 0.

8.4 *Waste Characteristics. Toxicity.* Assign a value as in Section 3.4.

8.5 *Targets. Population within one-mile radius* is a rough indicator of the population that could be involved in direct contact incidents at an uncontrolled facility. Assign a value as follows:

Population	Assigned value
0	0
1 to 100	1
101 to 1,000	2
1,001 to 3,000	3
3,001 to 10,000	4
>10,000	5

Distance to a critical habitat (of an endangered species) is a rough measure of the probability of harm to members of an endangered species by direct contact with hazardous substance. Assign a value as follows:

Distance	Assigned value
< 1 mile	0
½ to 1 mile	1
¼ to ½ mile	2
> ¼ mile	3

[FR Doc. 82-19141 Filed 7-15-82, 8:45 am]
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Federal Register

Thursday
December 30, 1982

Part IV

Environmental Protection Agency

National Oil and Hazardous Substance Contingency Plan; The National Priorities List; Amendment

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

[SWH-FRL 2274-3]

Amendment to National Oil and Hazardous Substance Contingency Plan; The National Priorities List

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency ("EPA") is proposing to amend the National Oil and Hazardous Substances Contingency Plan ("NCP"), which was promulgated on July 16, 1982, (47 FR 31180), pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA") and Executive Order 12316. The proposed amendment supplements the NCP with the National Priorities List ("NPL"), which will become Appendix B of the NCP. CERCLA requires that the NCP include a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, and contaminants throughout the United States, and the list be revised at least annually. The NPL identifies priority releases, based on the assessments of State governments and EPA, for Fund-financed remedial action and enforcement under CERCLA.

DATES: Comments must be submitted on or before February 28, 1983.

ADDRESSES: Comments may be mailed to Russel H. Wyer, Director, Hazardous Site Control Division, Office of Emergency and Remedial Response (WH-548-E), Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460. The public docket for the NCP will contain Hazard Ranking System score sheets for all sites on the NPL, as well as a "Documentation Record" for each site, listing the sources of information used to compute the scores. The docket is located in Room S-398, Environmental Protection Agency, 401 M Street, SW., Washington, D.C., and is available for viewing from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding holidays. Requests for copies of these documents should be directed to Headquarters, although the same documents will be available for viewing in the EPA Regional Offices. In addition, the sources of data used to compute the scores are retained in the Regional Offices and may be obtained upon request. Addresses for the Regional Office dockets are:

John Hackler, Region I (No library facility available), Waste Response and Compliance Branch, Superfund Program Office, Room 1903, Boston, MA 02205, 617/223-5709

John Frisco, Region II (No library facility available), Hazardous Waste Site Branch, Superfund Program Office, 26 Federal Plaza, Room 402, New York, NY 11278, 212/264-1573

Diane McCreary, Region III, U.S. EPA Library, Curtis Building, 6th & Walnut Streets, Philadelphia, PA 19106, 215/597-0580

Carolyn Mitchell, Region IV, U.S. EPA Library, 345 Countland Street, NE, Atlanta, GA 30365, 404/257-4716

Lou Tilly, Region V, U.S. EPA Library, 230 South Dearborn Street, Chicago, IL 60604, 512/253-2022

Martha Thompson, Region VI, U.S. EPA Library, First International Building, 1201 Elm Street, Dallas, TX 75270, 214/729-7341

Connie McKenzie, Region VII, U.S. EPA Library, 324 East 11th Street, Kansas City, MO 64106, 816/374-3497

Delores Eddy, Region VIII, U.S. EPA Library, 1860 Lincoln Street, Denver, CO 80295, 303/327-2560

Jean Circiello, Region IX, U.S. EPA Library, 215 Fremont Street, San Francisco, CA 94105

Julie Sears, Region X, U.S. EPA Library, 1200 6th Avenue, Seattle, WA 98101

FOR FURTHER INFORMATION CONTACT Stephen M. Caldwell, Hazardous Site Control Division, Office of Emergency and Remedial Response (WH-548-E), Environmental Protection Agency, 401 M Street SW, Washington, D.C. 20460, Phone (800) 424-9346 (or 382-3000 in the Washington, D.C., metropolitan area).

SUPPLEMENTARY INFORMATION:

Table of Contents:

I Introduction
II Contents of the NPL
III Development Process
IV Exclusions
V Current Status of Sites
VI Implementation
VII Deletion of Sites
VIII Changes from the Interim Lists
IX Request for Comments
X Promulgation and Revision
XI Regulatory Impact and Regulatory Flexibility Analyses

I. Introduction

Pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601-9657 ("CERCLA" or "the Act"), and Executive Order 12316 (46 FR 42237, Aug. 20, 1981), the Environmental Protection Agency ("EPA" or "the Agency") promulgated the revised National Contingency Plan ("NCP"), 40 CFR Part 300, on July 16, 1982 (47 FR 31180). Those amendments to the NCP implement the new responsibilities and powers created by CERCLA to respond to releases and threatened releases of hazardous substances, pollutants, and contaminants.

Section 105(8)(A) of CERCLA requires that the NCP include criteria for determining priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action and, to the extent practicable taking into account the potential urgency of such action, for the purpose of taking removal action. Removal action involves cleanup or other actions that are taken in response to emergency conditions or on a short-term or temporary basis (CERCLA section 101(23)). Remedial action tends to be long-term and involves response actions which are consistent with a permanent remedy for a release (CERCLA section 101(24)). Criteria for determining priorites are included in the Hazard Ranking System ("HRS"), which comprises Appendix A of the NCP (47 FR 31219, July 16, 1982).

Section 105(8)(B) requires that these criteria be used to prepare a list of national priorities among the known releases or threatened releases throughout the United States, and that to the extent practicable at least 400 sites be designated individually. EPA may include a release on the NPL if CERCLA authorizes Federal response to the release. Under Section 104(a) of CERCLA, this response authority is quite broad, extending to releases or threatened releases not only of designated hazardous substances, but of any "pollutant or contaminant." CERCLA requires that this National Priorities List ("NPL") be included as part of the NCP. Today, the Agency is proposing to amend the NCP by adding the NPL as Appendix B. The discussion below may refer to "releases or threatened releases" simply as "releases" or "sites" in referring to the NPL.

The primary purpose of the NPL is stated in the legislative history of CERCLA (Report of the Committee on Environment and Public Works, Senate Report No. 96-848, 96th Cong., 2d. Sess. 60 (1980)):

> The priority lists serve primarily informational purposes, identifying for the States and the public those facilities and sites or other releases which appear to warrant remedial actions. Inclusion of a facility or site on the list does not in itself reflect a judgment of the activities of its owner or operator, it does not require those persons to undertake any action, nor does it assign liability to any person. Subsequent government action in the form of remedial actions or enforcement actions will be necessary in order to do so.

and these actions will be attended by all appropriate procedural safeguards.

The entries on the proposed NPL are candidates for response action by the Agency under CERCLA, which can include remedial response, removal action, and enforcement. EPA also encourages voluntary cleanup by responsible parties. The information collected to develop HRS scores to choose sites for the NPL is not sufficient in itself to determine the appropriate remedy for a particular site. After a site is included on the NPL, more detailed studies will generally be necessary. Decisions on the type and extent of action to be taken at these sites will be made in accordance with the criteria contained in Subpart F of the NCP. EPA may conclude that no action is feasible for some sites on the NPL because of the need to efficiently use the limited resources of the Fund. EPA may also conclude that no action is needed because further investigation reveals that the site does not actually present a problem.

II. Contents of the NPL

As noted above, CERCLA requires that the NPL include, if practicable, at least 400 sites. EPA has determined that sites with a HRS score of 28.50 or higher will be included on the proposed NPL, resulting in a proposed NPL containing 418 individual entries. Each entry on the NPL contains the name of the facility, the State in which it is located, and the corresponding EPA Region. For purposes of information, each entry on the NPL is accompanied by a notation on the current status of response and enforcement activities at the site.

The entries on the proposed NPL are in groups of 50 sites. Within each group, the releases are presented in order of their HRS scores, except where EPA modified the order to reflect top priorities established by States. Section 105 (8) (B) of CERCLA requires that, to the extent practicable, the NPL include within the one hundred highest priorities at least one facility designated by each State as representing the greatest danger to public health, welfare, or the environment among known facilities in the State. Any site designated by a State as its top priority is therefore included within the one hundred highest priority sites. The States are not required to rely exclusively on the HRS in designating their top priority sites, and certain of the sites designated by States as their top priority were not among the one hundred highest sites according to HRS score. These lower scoring State priority sites are listed at the bottom of the group of one hundred highest priority sites. All top priority sites designated by States are indicated by asterisks.

III. Development Process

CERCLA requires each State to establish priorities for remedial action among known releases and potential releases in that State, based on the criteria developed pursuant to section 105 (8) (A), and to submit these priorities for consideration by EPA. EPA has worked with the States over the past year to identify candidate sites: investigate the sites through monitoring and sampling of groundwater, surface water, air, and soil; and apply the HRS criteria to the candidate sites.

After the sites were scored, the EPA Regional Offices conducted a quality control program to ensure that the sites were scored consistently and that scores were based upon adequate information. In some cases, the EPA Regional Offices added to the lists submitted by the States, taking into account State comments when available. The EPA Regional Offices then submitted the lists to EPA Headquarters.

After this Regional review, EPA conducted further quality assurance audits on a sample of the sites submitted for the NPL. Each site included in the sample was scored under the supervision of EPA Headquarters by a consultant trained in application of the HRS. The object of these audits was to ensure accuracy and consistency among the various EPA and State offices participating in the scoring. Based upon these results, several of the Regions reviewed their initial results and adjusted scores where necessary.

Sites were scored for inclusion in the NPL on the basis of the hazards that existed before any response actions were initiated. Public agencies might have been discouraged from taking early response if such actions could lower the HRS score and prevent a site from being included on the NPL. In addition, where response actions have already been initiated by private parties or another agency, listing such sites will enable EPA to evaluate the need for a more complete response. Inclusion on the NPL therefore does not reflect a judgment on any response action completed or underway. Some releases on the proposed NPL are currently being cleaned up by responsible parties or by the States and EPA.

Response actions already taken were considered in scoring the categories in the HRS involving direct human contact and fire and explosion. These categories are used only to evaluate the need for removal action in response to emergency conditions, and are not used to determine whether a site should be included on the NPL.

Section 104 (d) (4) of CERCLA authorizes the Federal government to treat two or more non-contiguous facilities as one for purposes of response, if such facilities are reasonably related on the basis of geography or on the basis of their potential threat to public health, welfare, or the environment. For purposes of the NPL, however, EPA has decided that where possible such sites should be scored and listed individually because the HRS scores more accurately reflect the hazards associated with a site if the site is scored individually. Listing facilities individually does not preclude EPA from consolidating response efforts at these sites or others where it is cost-effective to do so.

IV. Exclusions

CERCLA restricts EPA's authority to respond to certain categories of releases, and expressly excludes some substances from the definition of release. In addition, as a matter of policy, EPA may choose not to respond to certain types of releases because other Federal agencies have adequate authority to respond. This section discusses the inclusion of such releases on the NPL.

Releases of Radioactive Materials: Section 101(22) of CERCLA excludes several types of releases of radioactive materials from the statutory definition of "release." These releases are therefore not eligible for CERCLA response actions or inclusion on the NPL. The exclusions apply to: (1) Releases of source, by-product or special nuclear material from a nuclear incident, if these releases are subject to financial protection requirements under Section 170 of the Atomic Energy Act, and (2) any release of source, by-product or special nuclear material from any processing site designated under the Uranium Mill Tailings Radiation Control Act of 1978. In addition, other Federal or State authority may be adequate to remedy the threat to public health or the environment from other releases of radioactive materials. EPA therefore solicits comments on whether these releases should should be included on the NPL.

Releases from Federal Facilities: CERCLA section 111(e)(3) prohibits use of the Fund for remedial actions at Federally owned facilities. EPA will not list and does not intend to respond to any sites where the release come sole from the Federal facility, regardless o whether contamination remains on-si or has migrated off-site. The

'ponsibility for clelanup of these sites
s with the responsible Federal
.ency, pursuant to Executive Order 12316 (46 FR 42237, Aug. 20, 1981).

EPA may be authorized to respond where the source of off-site contamination is unclear or not verified, or where it is not exclusively the responsibility of the Federal Government. In these situations, the off-site contaminated area associated with this type or release is eligible for inclusion on the NPL. Sites that are not currently owned by the Federal Government are also eligible for the NPL, even if they were previously owned by the Federal Government. Finally, non-Federally owned sites where the Federal Government may have contributed to a release are also eligible for inclusion.

RCRA-Related Sites: Both CERCLA and RCRA (the Resource Conservation and Recovery Act) contain authorities applicable to hazardous waste facilities. These authorities overelap for certain sites. Accordingly, where a site is an active RCRA facility authorized by permit or interim status, it will not be included on the NPL, but will instead be addressed under RCRA. The NPL may include sites that are inactive units
'thin the boundaries of a RCRA facility
he units themselves are not
.thorized by permit or interim status.

Releases of Mining Wastes: CERCLA clearly authorizes Federal response to releases of mining wastes. Accordingly, mining waste releases were included on the Interim Priority List and the Expanded Eligibility List, and are now proposed for inclusion on the NPL. However, a number of persons have expressed the view that such releases are more appropriately addressed under other statutory authority. EPA therefore solicits comments on its policy of including mining waste sites on the NPL.

V. Current Status of Sites

For informational purposess, the proposed sites are accompanied by notations concerning the status of response and enforcement actions based on the most current facts available. It should be noted, however, that a site's status will in most cases change periodically, and the notations given here may become outdated. The releases willl be included in the following categories: Voluntary or Negotiated Response; Federal and State Response; Federal or State Enforcement; and Actions to be Determined. Each
tegory is explained below

Voluntary or Negotiated Response. 'elease are included in this category if .esponse actions are currently being taken by potentially responsible parties or private parties. This category includes response actions that are sanctioned under consent agreements, consent orders, or consent decrees to which the Federal Government is a party. Voluntary or negotiated cleanup may include actions taken pursuant to agreements reached after enforcement action had commenced. Currently, this category does not include sites undergoing response actions if the actions are not governed by such an arrangement with the Federal Government. The information currently available to EPA does not adequately reflect all private party cleanups. The Agency intends to identify ongoing corrective actions not defined by an agreement with the Federal Government in the final NPL, and solicits information from the public concerning these corrective actions.

This category does not include actions mandated under Federal and State regulatory programs to update operational pollution control systems or waste disposal operations (e.g., upgrading surface impoundments operated pursuant to an NPDES permit). This category of response may include remedial investigations, feasibility studies, and other preliminary work, as well as actual cleanup.

.Federal and State Response. The Federal and State response category includes sites where EPA or State agencies have commenced or completed removal or remedial actions under CERCLA. If the State is primarily responsible for managing the response action, the site is included in this category when EPA has obligated funds for response. If EPA is managing the response action, the release is included when the State has signed a contract to meet its responsibilities and EPA has obligated funds for response. For removal actions, response has begun when EPA has obligated funds.

Federal or State Enforcement. This category includes sites where the United States Government or the State has filed a civil or criminal complaint or issued an administrative order. It also includes sites where a Federal or State court has mandated some form of non-consensual remedial action following a judicial proceeding. A number of sites on the NPL are the subject of enforcement investigation or have been formally referred to the Department of Justice for enforcement action. EPA policy precludes premature release of information concerning possible enforcement actions, and accordingly these sites have not been included in this category, even though preliminary enforcement activities may in fact be underway.

Actions To Be Determined. The category of actions to be determined includes all sites not otherwise listed. A wide range of activities may be in progress for sites in this category. Remedial projects may be under consideration, although funds have not been formally obligated. Enforcement investigations may be underway. Referrals may have been made to the Department of Justice, prior to formal commencement of enforcement action. Investigations may be underway or needed to determine the source of a release in areas adjacent to or near a Federal facility. Responsible parties may be undertaking cleanup operations that are unknown to the Federal or State government, or corrective action may not be occurring yet.

VI. Implementation

Sites on the proposed NPL are high priority candidates for Fund-financed remedial action, enforcement action, and private-party cleanup. The NPL itself does not determine priorities for removal action, although EPA may take removal actions against any site, whether listed or not, that meets the criteria of sections 300.65–.67 of the NCP. EPA will begin considering various response and enforcement actions for the sites on the proposed NPL published today, prior to final promulgation of the NPL. This approach is necessary to address potentially dangerous sites during the period before the final NPL is promulgated. Use of the proposed NPL will enable EPA to consider response action on the basis of the most current information available. This continues the policy articulated in the preamble to the proposed NCP (47 FR 10977, March 12, 1982).

Absence from the NPL does not preclude enforcement actions under CERCLA or other authorities, because enforcement action may be appropriate in some situations for sites not included on the NPL. The HRS was designed to meet specific statutory requirements for the propose of identifying priorities for response action, and was not designed to account for every type of public health or environmental effect that might merit enforcement action.

It remains Agency policy to pursue enforcement actions as an alternative or complement to Fund-financed response activities. This will help assure that the limited resources of the Fund are used as efficiently as possible. (See "Guidelines for Using the Imminent Hazard, Enforcement, and Emergency Response Authorities of Superfund and Other Statutes," 47 FR 20684, (May 13, 1982). Consistent with this policy,

wherever possible EPA has provided potentially responsible parties with notice and an opportunity to confer with the Agency before the Agency commences Fund-financed response action, including remedial investigations and feasibility studies to help determine the appropriate remedy. CERCLA does not, however, mandate such notice to potentially responsible parties, nor require notice as a condition precedent to full cost recovery.

In many situations, it has been difficult to conduct productive discussions with potentially responsible parties in the absence of preliminary studies indicating what type of response action is appropriate. The Agency therefore believes that negotiations may be more fruitful where such studies have been completed, or at least commenced. Accordingly, potentially responsible parties may be notified after the remedial investigations and feasibility studies have begun or are completed. (See the NCP, 40 CFR 300.68, and the accompanying preamble, 47 FR 31180, July 16, 1982, for a fuller discussion of remedial investigations and feasibility studies.)

Funding of response actions for sites on the NPL will not necessarily take place in order of the sites' ranking on the NPL. Sites will receive the highest priority for response funding if the State has provided cost-sharing and the other assurances necessary under CERCLA section 104(c)(3), and it appears that enforcement actions will not quickly lead to private party cleanup. Priorities among these sites will be based on impacts on public health and the environment, as measured by the HRS scores and other available information, and on a case-by-case evaluation of economic, engineering, and environmental considerations.

VII. Deletion of Sites

Sites may be deleted from the NPL where one of the following criteria has been met:

(1) EPA in consultation with the State has determined that responsible parties have completed cleanup so that no Fund-financed response actions will be required.

(2) All appropriate Fund-financed cleanup action under CERCLA has been completed, and EPA has determined that no further cleanup by responsible parties is appropriate.

(3) EPA, in considering the nature and severity of the problems, the potential costs of cleanup, and available funds, has determined that no remedial actions should be undertaken at the site.

EPA will delete sites from the NPL by publishing notice in the Federal Register at the time of the next periodic update, naming the site and providing the reasons for its deletion. The process of updating the NPL is discussed more fully in Part X of this notice.

VIII. Changes from the Interim Lists

On October 23, 1981, EPA announced the selection of 115 sites for the Interim Priorities List (IPL) as candidates for response action under CERCLA. The sites were selected by applying the version of the HRS referenced in § 300.65 of the proposed NCP (47 FR 10991, March 12, 1982) and incorporating the States' designations of their top priorities. On July 23, 1982, EPA announced the selection of 45 additional sites (the "Expanded Eligibility List" or EEL), under the same criteria used to establish the IPL. EPA treated all sites on these lists as candidates for response or enforcement actions under CERCLA. The IPL and the EEL were informal lists used for internal administrative purposes in choosing initial response efforts, and are not part of the NCP.

In compiling the NPL, EPA rescored each site on the IPL and EEL to determine whether it should be included on the NPL. Scores for the IPL and EEL sites have changed because additional data are available and the HRS has been modified. However, most sites on the IPL and EEL are included on the proposed NPL, and are indicated by the symbol #. The exceptions are discussed below.

Additional Information Received. EPA has determined that incorrect information was used to calculate the HRS score for Allen Transformer of Arkansas, which was included on the IPL. More accurate information became available and EPA recalculated the score using the promulgated version of the HRS. The resulting scores do not warrant placing Allen Transformer on the proposed NPL.

Ineligible for Inclusion. The Fort Lincoln site was designated by the District of Columbia as its top priority. EPA determined that the source of the release is a Federal facility. Therefore, EPA will not include Fort Lincoln on the NPL.

Criteria for Deletion. The criteria for deletion discussed in Part VII have already been met at some sites on the IPL. These sites and the reasons for deletion are:

Responsible parties have completed cleanup: Walcotte Chemical (Mississippi);

All appropriate Fund-financed cleanup has been completed: Butler Tunnel (Pennsylvania); Chemical Metals, Inc. (Maryland); Chemical Minerals Industries, Inc. (Ohio); Lummous Processors (Georgia).

Noncontiguous Facilities. When EPA developed the IPL, several States requested that certain noncontiguous facilities be grouped together to be considered as single facilities. As discussed in Part III, these sites are now being listed singly wherever possible. Therefore, certain areas described as single sites on the IPL will be listed as two or more sites on the proposed National Priorities List, as set forth below:

IPL	NPL
Florida—Biscayne Aquifer	NW 58th Street Landfill. Varsol Spill. Miami Drum.
Washington—Commencement Bay.	Commencement Bay-South Tacoma Channel. Commencement Bay-Nearshore Tideflats.
Delaware Sand and Gravel	Delaware Sand and Gravel.
Llangollen Army Creek Landfills.	Army Creek.

IX. Request for Comments

EPA requests comments providing information on the sites listed on the proposed NPL. Information on the factors used to score the sites would be particularly useful in determining whether site scores are accurate. Documents explaining how the sites on the NPL were scored are available for inspection in the public docket at EPA. (See ADDRESSES, in this notice.) EPA will also continue collecting data independently to support development of the NPL.

EPA will review and consider comments received on the proposed NPL. EPA also invites comments and solicits information concerning sites that are not currently included on the proposed NPL that may be appropriate for inclusion in a later update of the NPL. EPA is not soliciting comments on the HRS, which was promulgated as part of the final NCP.

Commenters are requested to bear in mind the purposes of the NPL described in the Introduction to this preamble. The NPL indicates the releases that are likely to pose the greatest danger to the public, based on preliminary investigation. Inclusion on the NPL is a point of departure for further investigation. It does not establish that a particular response is appropriate, nor does it constitute a judgment concerning the responsibilities of owners or operators. The HRS used to score sites is designed to consider only the minimum quantity of data commonly available that will yield a meaningful estimate of the level of hazard posed by each site. (See the preamble explaining

the HRS, 47 FR 31187–88, July 16, 1982). In developing the NPL, EPA cannot consider additional data not encompassed by the factors in the HRS. EPA will consider such information in determining the response action, if any, that is appropriate for a particular site.

X. Promulgation and Revision

Once the comments and the results of additional investigations have been considered, the NPL will be promulgated. Scores used to support promulgation of the NPL will be based on the best information available at the time, including public comment and State and EPA investigatory data.

Following promulgation, the NPL will be revised on a quarterly basis. New sites may be added on the basis of HRS scores, or deleted on the basis of the criteria outlined in Part VII of this notice. EPA will inform the States of the closing dates for each revision of the NPL.

Congressional statements made during consideration of CERCLA indicate that, once the NPL is established, revisions can be made in a routine manner without the necessity of full notice and comment rulemaking. In discussing the process for revising the NPL, Senator Randolph stated:

"Accordingly, although this list must be published as part of the National Contingency Plan, it is not intended that the entire plan be republished each time the priority list is revised. Public notice of the revised list is sufficient. [126 Cong. Rec. S 14695 (daily ed. Nov. 24, 1980)]"

EPA intends to revise the NPL by publication in the **Federal Register**. The notice will name the sites and provide reasons for their inclusion or deletion. The Agency will consider any public comments concerning revision of the NPL, and make appropriate changes in a future revision if warranted.

XI. Regulatory Impact and Regulatory Flexibility Analyses

EPA prepared a Regulatory Impact Analysis pursuant to Executive Order 12291 (46 FR 13193, Feb. 19, 1981) and a Regulatory Flexibility Analysis pursuant to the Regulatory Flexibility Act (5 U.S.C. 601–612) for the revised NCP at the time that it was promulgated. Those analyses considered the impacts of a National Priorities List; consequently, no further analyses are needed for this amendment to the NCP. The analyses of the NCP are available for inspection at Room S–398, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460.

This action was reviewed and approved by the Office of Management and Budget under the requirements of Executive Order 12291.

Signed: December 20, 1982.

Anne M. Gorsuch,

Administrator

List of Subjects in 40 CFR Part 300

Air pollution control, Chemicals, Hazardous materials, Intergovernmental relations, Natural resources, Oil pollution, Reporting and recordkeeping requirements, Superfund, Waste treatment and disposal, Water pollution control, Water supply.

PART 300—[AMENDED]

It is proposed to amend 40 CFR Part 300 by adding a new Appendix B to the end to read as follows:

Appendix B—National Priorities List As Provided for in Section 105(8)(B) of CERCLA

BILLING CODE 6560-50-M

Group 1

EPA Region	State	City/County	Site Name	Response	Status †	
05	MN	PRIDLEY	PMC§			D
03	DE	NEW CASTLE COUNTY	TYBOUTS CORNER§ *		R	E
03	PA	BRUIN BORO	BRUIN LAGOON§		R	
01	MA	WOBURN	INDUSTRI-PLEX§	V	R	E
02	NJ	PITTMAN	LIPARI LANDFILL§	V	R	E
02	NY	WELLSVILLE	SINCLAIR REFINERY§			D
02	NJ	PLEASANTVILLE	PRICE LANDFILL§ *		R	E
02	NY	OSWEGO	POLLUTION ABATEMENT SERVICES§ *		R	E
07	IA	CHARLES CITY	LABOUNTY SITE	V		
02	NJ	MANTUA	HELEN KRAMER LANDFILL§			D
03	DE	NEW CASTLE	ARMY CREEK§			D
02	NJ	OLD BRIDGE TOWNSHIP	CPS/MADISON INDUSTRIES			E
01	MA	ASHLAND	NYANZA CHEMICAL§			E
02	NJ	GLOUCESTER TOWNSHIP	GEMS LANDFILL§			E
01	RI	COVENTRY	PICILLO COVENTRY§ *		R	E
05	MI	SWARTZ CREEK	BERLIN & FARRO§		R	E
07	KS	CHEROKEE COUNTY	TAR CREEK, CHER. CO.			D
01	MA	HOLBROOK	BAIRD & MCGUIRE			E
02	NJ	FREEHOLD	LONE PINE LANDFILL§		R	E
01	NH	SOMERSWORTH	SOMERSWORTH LANDFILL			D
03	PA	MCADOO	MCADOO§ *			D
01	NH	EPPING	KES - EPPING§		R	E
06	AR	JACKSONVILLE	VERTAC, INC.§	V		E
08	MT	SILVER BOW/DEER LODGE	SILVER BOW CREEK			D
06	TX	CROSBY	FRENCH, LTD.§		R	
05	MI	UTICA	LIQUID DISPOSAL INC.§		R	
01	NH	NASHUA	SYLVESTER,NASHUA§ *		R	E
06	TX	LA MARQUE	MOTCO§ *		R	
05	OH	ARCANUM	ARCANUM IRON & METAL			E
06	TX	CROSBY	SIKES DISPOSAL PITS§		R	
04	AL	LIMESTONE & MORGAN	TRIANA, TENNESSEE RIVER§			E
09	CA	GLEN AVON HEIGHTS	STRINGFELLOW§ *		R	
01	ME	GRAY	MCKIN COMPANY		R	E
06	TX	HOUSTON	CRYSTAL CHEMICAL§		R	E
02	NJ	BRIDGEPORT	BRIDGEPORT RENT.& OIL§	V	R	E
05	IN	GARY	MIDCO I	V	R	E
08	SD	WHITEWOOD	WHITEWOOD CREEK§ *	V		
01	MA	ACTON	W R GRACE			E
01	MA	EAST WOBURN	WELLS G&H			D
02	NJ	MARLBORO TOWNSHIP	BURNT FLY BOG§		R	E
04	FL	PLANT CITY	SCHUYLKILL METALS			D
05	MN	NEW BRIGHTON/ARDEN	NEW BRIGHTON§			D
05	MN	ST. LOUIS	REILLY TAR§ *		R	E
02	NY	OYSTER BAY	OLD BETHPAGE LANDFILL§			E
04	FL	JACKSONVILLE	PICKETTVILLE RD LANDFILL§			D
08	MT	ANACONDA	ANACONDA - ANACONDA	V		
03	PA	GROVE CITY	OSBORNE§			D
05	MN	BRAINERD/BAXTER	BURLINGTON NORTHERN§			D
02	NJ	FAIRFIELD	CALDWELL TRUCKING			D
06	OK	OTTAWA COUNTY	TAR CREEK§		R	

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Group 2

EPA Region	State	City/County	Site Name	Response	Status †		
05	IN	SEYMOUR	SEYMOUR§ *	V	R	E	
02	NJ	BRICK TOWNSHIP	BRICK TOWNSHIP LANDFILL			E	
05	MI	CADILLAC	NORTHERNAIRE PLATING§				D
10	WA	VANCOUVER	FRONTIER HARD CHROME			E	
04	FL	DAVIE	DAVIE LANDFILL§				D
04	FL	MIAMI	GOLD COAST OIL§				D
09	AZ	TUSCON	TUSCON INT'L AIRPORT§				D
02	NY	BRANT	WIDE BEACH DEVELOPMENT				D
09	CA	REDDING	IRON MOUNTAIN MINE§				D
02	NJ	CARLSTADT	SCIENTIFIC CHEMICAL PROCESSING				D
02	NJ	HAMILTON TOWNSHIP	D'IMPERIO PROPERTY§		R		
05	MN	OAKDALE	OAKDALE§				D
04	FL	GALLOWAY	ALPHA CHEMICAL§				D
05	IL	GREENUP	A & F MATERIALS§		R	E	
03	PA	DOUGLASVILLE	DOUGLASVILLE DISPOSAL				D
02	NJ	HILLSBOROUGH	KRYSOWATY FARM§				D
05	MN	ST. PAUL	KOPPER'S COKE§				D
01	MA	PLYMOUTH	PLYMOUTH HARBOR/CORDAGE			E	
10	ID	SMELTERVILLE	BUNKER HILL				D
10	WA	TACOMA	COM. BAY, S. TACOMA CHANNEL§		R	E	
02	NJ	EAST RUTHERFORD	UNIVERSAL OIL PRODUCTS			E	
09	CA	RANCHO CORDOVA	AEROJET§			E	
09	AZ	PHOENIX	19TH AVENUE LANDFILL			E	
05	MI	ST. LOUIS	GRATIOT COUNTY LANDFILL§ *	V	R	E	
01	MA	NEW BEDFORD	NEW BEDFORD§ *		R	E	
06	LA	DARROW	OLD INGERS§ *		R		
05	OH	HAMILTON	CHEM DYNE§ *	V	R	E	
04	SC	COLUMBIA	SCRDI BLUFF ROAD§ *	V	R	E	
01	CT	NAUGATUCK	LAUREL PARK INC.§ *			E	
05	IL	WAUKEGAN	OUTBOARD MARINE CORP.§ *		R	E	
08	CO	BOULDER	MARSHALL LANDFILL§ *				D
01	ME	WINTHROP	WINTHROP LANDFILL§ *		R		
01	VT	BURLINGTON	PINE STREET CANAL§ *				D
03	WV	POINT PLEASANT	WEST VA ORDNANCE§ *		R		
06	NM	ALBUQUERQUE	SOUTH VALLEY§ *				D
07	MO	ELLISVILLE	ELLISVILLE SITE§ *		R		
08	ND	SOUTHEASTERN	ARSENIC TRIOXIDE SITE § *		R		
09	TT	PACIFIC TRUST TERR.	PCB WASTE§ *		R		
03	VA	ROANOKE COUNTY	MATTHEWS§ *		R		
07	IA	COUNCIL BLUFFS	AIDEX CORP.§ *		R	E	
09	AS	AMERICAN SAMOA	TAPUTIMU FARMS§ *		R		
09	AZ	GLOBE	MT. VIEW MOBILE HOME§ *				D
04	KY	BROOKS	A. L. TAYLOR§ *		R		
04	TN	MEMPHIS	NORTH HOLLYWOOD DUMP§ *		R		
04	NC	210 MILES OF ROADS	PCB SPILLS§ *		R	E	
09	GU	GUAM	ORDOT LANDFILL§ *		R		
04	MS	GULFPORT	PLASTIFAX§ *		R		
08	UT	SALT LAKE CITY	ROSE PARK SLUDGE PIT§ *	V			
07	KS	ARKANSAS CITY	ARKANSAS CITY DUMP§ *		R		
09	CM	NORTH MARIANAS	PCB WAREHOUSE§ *		R		

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Group 3

EPA Region	State	City/County	Site Name	Response Status 1			
02	NY	OYSTER BAY	SYOSSET LANDFILL				D
04	AL	GREENVILLE	HOMBRAY ENGINEERING				D
05	MI	BRIGHTEN	SPIEGELBURG LANDFILL				D
04	FL	MIAMI	MIAMI DRUM*		R		
02	NJ	DOVER TOWNSHIP	REICH FARMS			E	
02	NJ	SOUTH BRUNSWICK	SOUTH BRUNSWICK LANDFILL	V			
04	FL	TAMPA	HASSAUF-KIMERLING*				D
05	IL	WAUCONDA	WAUCONDA SAND & GRAVEL*			E	
05	MI	MUSKEGON	OTT/STORY/CORDOVA*				D
01	NH	KINGSTON	OTTATI & GOSS*		R	E	
03	VA	SALTVILLE	SALTVILLE WASTE DISPOSAL				D
02	NJ	RINGWOOD	RINGWOOD MINES/LANDFILL				D
02	NY	NIAGARA FALLS	HOOKER - S AREA			E	
04	FL	WHITEHOUSE	WHITEHOUSE OIL PITS*		R		
05	OH	DEERFIELD	SUMMIT NATIONAL*	V		E	
02	NY	NIAGARA FALLS	LOVE CANAL*		R	E	
05	IN	KINGSBURY	FISHER CALO	V		E	
05	MI	PLEASANT PLAINS TWP	WASH KING LAUNDRY				D
04	FL	WARRINGTON	PIONEER SAND*			E	
04	FL	TAMPA	REEVES SE GALVANIZING*				D
05	MI	DAVISBURG	SPRINGFIELD TOWNSHIP DUMP				D
05	MI	FILER CITY	PACKAGING CORP. OF AMERICA				D
03	PA	BUFFALO	BRANICA*			E	
08	CO	LEADVILLE	CALIFORNIA GULCH				D
04	NC	CHARLOTTE	MARTIN MARIETTA,SODYECO				D
04	FL	ZELLWOOD	ZELLWOOD GROUNDWATER CONTAM*				D
05	OH	CIRCLEVILLE	BOWERS LANDFILL				D
05	OH	ASHTABULA	FIELDS BROOK*		R		
03	PA	HARRISON TOWNSHIP	LINDANE DUMP*			E	
04	FL	SEFFNER	TAYLOR ROAD LANDFILL*			E	
01	RI	BURRILLVILLE	WESTERN SAND & GRAVEL*		R	E	
02	NJ	MAYWOOD & ROCHELLE PK	MAYWOOD CHEMICAL SITES				D
06	OK	CRINER	CRINER/HARDAGE*			E	
05	MN	ST. LOUIS PARK	NATIONAL LEAD TARACORP*				D
05	MI	ROSE TOWNSHIP	ROSE TOWNSHIP DUMP*				D
05	MN	ANOKA COUNTY	WASTE DISPOSAL ENGINEERING*				D
02	NJ	EDISON	KIN-BUC LANDFILL*	V	R	E	
05	MN	LEHILLIER/MANKATO	LEHILLIER*				D
05	MI	GRAND RAPIDS	BUTTERWORTH #2 LANDFILL				D
02	NJ	BOUND BROOK	AMERICAN CYANAMID			E	
02	NY	SOUTH GLENS FALLS	GE MOREAU SITE			E	
02	NJ	PEDRICKTOWN	N.L. INDUSTRIES			E	
01	RI	NORTH SMITHFIELD	L & RR - N SMITHFIELD			E	
04	FL	HIALEAH	HW 58TH STREET*			E	
04	FL	TAMPA	62ND STREET DUMP				D
05	MI	UTICA	G&H LANDFILL*		R		
02	NJ	FRANKLIN TOWNSHIP	METALTEC/AEROSYSTEMS			E	
02	NJ	PEMBERTON TOWNSHIP	LANG PROPERTY				D
02	NJ	PARSIPPANY, TROY HLS	SHARKEY LANDFILL				D
06	LA	SORENTO	CLEVE REBER				D

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Group 4

EPA Region	State	City/County	Site Name	Response Status 1			
05	IL	MARSHALL	VELSICOL ILLINOIS				D
05	MI	ST. LOUIS	VELSICOL MICHIGAN*	V		E	
05	MI	MANCELONA	TAR LAKE				D
10	OR	ALBANY	TELEDYNE WAH CHANG				D
02	NY	SOUTH CAIRO	AMERICAN THERMOSTAT			E	
01	MA	DARTMOUTH	RE-SOLVE*		R	E	
02	NJ	PLUMSTEAD TOWNSHIP	GOOSE FARM*		R		
04	TN	TOONE	VELSICOL CHEMICAL CO.	V			
02	NY	MOIRA	YORK OIL COMPANY*		R		
04	FL	COTTONDALE	SAPP BATTERY*		R		
07	KS	HOLIDAY	DOEPKE DISPOSAL, HOLIDAY				D
01	RI	SMITHFIELD	DAVIS LIQUID*		R	E	
01	MA	TYNGSBORO	CHARLES-GEORGE*			E	
02	NJ	WINSLOW TOWNSHIP	KING OF PRUSSIA				D
03	VA	YORK COUNTY	CHISMAN*				D
05	OH	SALEM	NEASE CHEMICAL				D
02	NJ	ELIZABETH	CHEMICAL CONTROL*		R	E	
05	OH	IRONTON	ALLIED CHEMICAL				D
05	MI	PENNFIELD TOWNSHIP	VERONA WELL FIELD*				D
01	CT	BEACON FALLS	BEACON HEIGHTS			E	
03	PA	MALVERN	MALVERN TCE SITE				D
02	NY	ELMIRA HEIGHTS	PACET ENTERPRISES*				D
03	DE	NEW CASTLE	DELAWARE SAND & GRAVEL*				D
08	CO	IDAHO SPRINGS	CENTRAL CITY, CLEAR CREEK*				D
03	PA	PALMERTON	PALMERTON ZINC PILE				D
05	IN	BOONE COUNTY	ENVIROCHEM				D
04	TN	LAWRENCEBURG	MURRAY OHIO DUMP				D
04	FL	WHITEHOUSE	COLEMAN EVANS*			E	
04	FL	INDIANTOWN	FLORIDA STEEL				D
09	AZ	GOODYEAR	LITCHFIELD AIRPORT AREA				D
02	NJ	PLUMSTEAD	SPENCE FARM*		R		
02	NJ	DOVER TOWNSHIP	TOMS RIVER CHEMICAL				D
04	FL	LIVE OAK	BROWN WOOD				D
02	NY	PORT WASHINGTON	PORT WASHINGTON LANDFILL			E	
06	AR	MENA	MID-SOUTH*				D
02	NJ	CHESTER	COMBE FILL SOUTH LANDFILL				D
02	NJ	SOUTH BRUNSWICK TWP	JIS LANDFILL			E	
08	CO	COMMERCE CITY	WOODBURY CHEMICAL*				D
01	MA	WESTBOROUGH	HOCOMOCO POND				D
02	NY	RAMAPO	RAMAPO LANDFILL			E	
05	MI	ALBION	NCGRAW EDISON				D
02	NY	ALBANY	MERCURY REFINING				D
04	FL	FORT LAUDERDALE	HOLLINGSWORTH*				D
02	NJ	ROCKAWAY TOWNSHIP	ROCKAWAY TOWNSHIP WELLS				D
02	NY	OLEAN	OLEAN WELLFIELD*		R		
04	FL	MIAMI	VARSOL SPILL*				D
02	NY	BATAVIA	BATAVIA LANDFILL*				D
09	CA	ORIAH	COAST WOOD PRESERVING				D
08	CO	DENVER	DENVER RADIUM SITE*		R		
08	MT	MILLTOWN	MILLTOWN				D

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Group 6

EPA Region State	City/County	Site Name	Response	Status †	
07 MO	VERONA	SYNTEX FACILITY	V	E	
02 NJ	PLUMSTEAD	PIJAK FARM◊	R		
02 NJ	SOUTH KEARNY	SYNCON RESINS◊		E	
09 CA	RICHMOND	LIQUID GOLD			D
09 CA	FRESNO	PURITY OIL SALES, INC.			D
02 NJ	BOWELL TOWNSHIP	BOG CREEK FARM			D
05 IN	BLOOMINGTON	NEAL'S LANDFILL◊			D
01 MA	LOWELL	SILRESIN◊	R	E	
01 NH	LONDONDERRY	TINKHAM SITE			D
02 NJ	PISCATAWAY	CHEMSOL		E	
02 NJ	MARLBORO TOWNSHIP	IMPERIAL OIL		E	
02 NJ	FAIR LAWN	FAIR LAWN WELLFIELD			D
05 IN	ELKHART	MAIN STREET WELL FIELD			D
02 NJ	MT. OLIVE TOWNSHIP	COMBE FILL NORTH LANDFILL			D
02 PR	JUANA DIAZ	GE WIRING DEVICES			D
02 NJ	MONROE TOWNSHIP	MONROE TOWNSHIP LANDFILL		E	
02 NJ	ROCKAWAY BORO	ROCKAWAY BORO WELLFIELD			D
05 IN	COLUMBIA CITY	WAYNE WASTE OIL			D
06 NM	MILAN	HOMESTAKE◊			D
02 NJ	BERKLEY	BEACHWOOD/BERKLEY WELLS			D
02 NJ	DOVER	DOVER MUNICIPAL WELL 4			D
02 NY	VESTAL	VESTAL WATER SUPPLY		E	
10 WA	TACOMA	COM. BAY, NEAR SHORE TIDE FLAT◊			D
05 IL	PEMBROKE	CROSS BROS/PEMBROKE			D
10 ID	CALDWELL	FLYNN LUMBER CO.			D
03 PA	WEST ORMROD	KELEVA LANDFILL		E	
10 WA	SEATTLE	HARBOR ISLAND LEAD			D
09 CA	FULLERTON	MCCOLL	V		
10 WA	MEAD	KAISER MEAD	V		
02 PR	RIO ABAJO	FRONTERA CREEK			D
09 CA	FRESNO	SELMA PRESSURE TREATING			D
02 PR	FLORIDA AFUERA	BARCELONETA LANDFILL			D
03 MD	ELKTON	SAND, GRAVEL AND STONE		E	
05 MI	WYOMING	SPARTAN CHEMICAL COMPANY			D
02 NJ	FLORENCE	ROEBLING STEEL CO			D
05 MI	GREILICKVILLE	GRAND TRAVERSE OVERALL SUPPLY CO			D
02 NJ	VINELAND	VINELAND STATE SCHOOL			D
03 PA	PHILADELPHIA	ENTERPRISE AVENUE			D
07 MO	SPRINGFIELD	FOLBRIGHT LANDFILL◊			D
04 SC	CAYCE	SCRDI DIXIANA◊			D
02 NJ	SWAINTON	WILLIAMS PROPERTY	R		
02 NJ	EDISON	REMORA			D
04 FL	PENSACOLA	AMERICAN CREOSOTE◊		E	
05 OH	IRONTON	R.H. SCHILLING LANDFILL			D
02 NJ	BAYVILLE	DENZER & SCHAFER X-RAY		E	
02 NJ	GIBBSTOWN	HERCULES			D
05 IN	GARY	NINTH AVE. DUMP	V	E	
05 MI	ST. LOUIS	GRATIOT CO GOLF COURSE	V	E	
01 RI	CUMBERLAND	PETERSON/PURITAN			D
01 MA	GROVELAND	GROVELAND WELLS			D

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Group 6

EPA Region State	City/County	Site Name	Response	Status †	
10 WA	SPOKANE	COLBERT LANDFILL	R		
09 AZ	SCOTTSDALE	INDIAN BEND WASH AREA			D
09 AZ	KINGMAN	KINGMAN AIRPT INDUSTRIAL AREA			D
02 NY	WHEATFIELD	NIAGARA COUNTY REFUSE◊			D
04 FL	DELAND	SHERWOOD MEDICAL			D
05 MI	PARR TOWNSHIP	SOUTHWEST OTTAWA LANDFILL			D
02 NY	HORSEHEADS	KENTUCKY AVE. WELLFIELD◊			D
01 ME	WASHBURN	PINETTE'S SALVAGE YARD			D
02 NJ	MILLINGTON	ASBESTOS DUMP			D
04 KY	LOUISVILLE	LEE'S LANE LANDFILL◊			D
03 PA	STATE COLLEGE	CENTRE COUNTY KEPONE		E	
05 OH	BYESVILLE	FOLTZ LANDFILL			D
06 AR	WALNUT RIDGE	PRITT INDUSTRIES◊			D
05 OH	COSHOCTON	COSHOCTON CITY LANDFILL			D
03 PA	GIRARD TOWNSHIP	LORD SHOPE◊		E	
05 IL	WAUKEGAN	JOHNS-MANVILLE			D
01 MA	PALMER	PSC RESOURCES	R		
05 MI	OTISVILLE	FOREST WASTE PRODUCTS			D
04 FL	CLERMONT	TOWER CHEMICAL◊		E	
03 PA	LOCK HAVEN	DRAKE CHEMICAL INC.◊	R		
03 MD	ANNAPOLIS	MIDDLETOWN ROAD DUMP		E	
03 DE	NEW CASTLE	TRIS SPILL SITE			D
03 PA	HAVERFORD	HAVERTOWN PCP SITE		E	
05 IN	GARY	LAKE SANDY JO			D
05 MI	GRAND RAPIDS	CHEM CENTRAL			D
01 MA	BRIDGEWATER	CANNON ENGINEERING		E	
05 MI	TEMPERANCE	NOVACO INDUSTRIES			D
06 LA	BAYOU SORREL	BAYOU SORREL◊			D
02 NJ	JACKSON TOWNSHIP	JACKSON TOWNSHIP LANDFILL		E	
05 MI	KALAMAZOO	K & L AVE LANDFILL			D
06 AR	EDMONDSEN	GURLEY PIT			D
05 MI	WHITEHALL	WHITEHALL WELLS			D
05 MI	IONIA	IONIA CITY LANDFILL			D
02 NJ	MONTGOMERY TOWNSHIP	MONTGOMERY HOUSING DEV			D
02 NJ	ROCKY HILL	ROCKY HILL MUNICIPAL WELL			D
02 NY	BREWSTER	BREWSTER WELL FIELD			D
02 NJ	ORANGE	US RADIUM			D
08 MT	LIBBY	LIBBY GROUND WATER			D
03 PA	JEFFERSON	RESIN DISPOSAL		E	
06 TX	HIGHLANDS	HIGHLANDS ACID PIT◊	R		
04 KY	NEWPORT	NEWPORT DUMP			D
03 PA	LOWER PROVIDENCE TWP	MOYERS LANDFILL			D
04 KY	WEST POINT	DISTLER BRICKYARD	R		
01 CT	SOUTHINGTON	SOLVENTS RECOVERY SYSTEM		E	
03 PA	ERIE	PRESQUE ISLE			D
02 NJ	BAYREVILLE	BAYREVILLE LANDFILL			D
08 CO	COMMERCE CITY	SAND CREEK			D
08 WY	LARAMIE	BAXTER/UNION PACIFIC		E	
01 NH	DOVER	DOVER LANDFILL			D
06 AR	FT. SMITH	INDUSTRIAL WASTE CONTROL			D

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Group 7

EPA Region	State	City/County	Site Name	Response Status 1		
02	NY	CLAYVILLE	LUDLOW SAND & GRAVEL			D
07	MO	IMPERIAL	ARENA 2: FILLS 1 & 2			D
06	LA	SLIDELL	BAYOU BONFOUCA			D
03	WV	LEETOWN	LEETOWN PESTICIDE PILE			D
01	CT	CANTERBURY	YAWORSKI		E	
05	OH	DODGEVILLE	NEW LYME LANDFILL			D
02	NJ	OLD BRIDGE	EVOR PHILLIPS			D
03	PA	CHESTER	WADE (ABM)@	R	E	
03	PA	OLD FORGE	LACKAWANNA REFUSE			D
02	NJ	GALLOWAY TOWNSHIP	MANNHEIM AVENUE DUMP			D
02	NY	FULTON	FULTON TERMINALS			D
05	MI	MUSKEGON	SCA INDEPENDENT LANDFILL			D
01	NH	LONDONDERRY	AUBURN RD LANDFILL		E	
03	WV	NITRO	FIKE CHEMICAL	V		
10	WA	KENT	WESTERN PROCESSING@		E	
05	MI	PETOSKEY	PETOSKEY MUNICIPAL WELLS			D
05	OH	ROCK CREEK	ROCK CREEK/JACK WEBB	R		
05	OH	JEFFERSON	POPLAR OIL@	R	E	
07	KS	WICHITA	JOHN'S SLUDGE POND			D
02	NJ	PENNSAUKEN	SWOPE OIL AND CHEMICAL@			D
05	MI	KENTWOOD	KENTWOOD LANDFILL			D
05	MN	ANDOVER	SOUTH ANDOVER SITE@			D
06	AR	NEWPORT	CECIL LINDSEY			D
05	IN	MARION	MARION (BRAGG) DUMP			D
05	OH	READING	PRISTINE			D
04	KY	CALVERT CITY	AIRCO			D
05	OH	ST. CLAIRSVILLE	BUCKEYE RECLAMATION			D
06	TX	GRAND PRAIRIE	BIO-ECOLOGY@	R		
04	FL	MOUNT PLEASANT	FARRAMORE SURPLUS			D
01	VT	SPRINGFIELD	OLD SPRINGFIELD LANDFILL			D
02	NY	LINCKLAEN	SOLVENT SAVERS			D
03	VA	PINEY RIVER	OS TITANIUM		E	
05	IL	GALESBURG	GALESBURG/KOPPERS			D
05	OH	KINGSVILLE	BIG D CAMPGROUNDS			D
02	NY	NIAGARA FALLS	HOOKER - HYDE PARK	V		E
05	MI	MARQUETTE	CLIFF/DOW DUMP			D
05	MI	MUSKEGON	DUELL & GARDNER LANDFILL			D
02	NJ	EVESHAM	ELLIS PROPERTY			D
04	KY	JEFFERSON COUNTY	DISTLER FARM@			D
09	CA	CLOVERDALE	MGM BRAKES			D
05	MI	LUDINGTON	MASON COUNTY LANDFILL			D
05	MI	ROSE TOWNSHIP	CEMETARY DUMP SITE			D
01	RI	NORTH SMITHFIELD	FORESTDALE			D
06	TX	HOUSTON	HARRIS (FARLEY ST)@	R		
03	PA	SEVEN VALLEYS	OLD CITY OF YORK LANDFILL		E	
05	IL	OGLE COUNTY	BYRON SALVAGE YARD		E	
03	PA	KING OF PRUSSIA	STANLEY KESSLER		E	
02	NJ	FREEHOLD TOWNSHIP	FRIEDMAN PROPERTY@	R		
02	NJ	FRANKLIN TOWNSHIP	MYERS PROPERTY			D
02	NJ	BOONTON	PEPE FIELD			D

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Group 8

EPA Region	State	City/County	Site Name	Response Status 1		
05	MI	SOUTH OSSINEKE	OSSINEKE			D
05	MI	NILES	U.S. AVIEX			D
06	NM	CLOVIS	ATSF/CLOVIS@		E	
10	WA	YAKIMA	PESTICIDE PIT, YAKIMA			D
04	TN	LEWISBURG	LEWISBURG DUMP			D
01	ME	SACO	SACO TANNING			D
03	PA	PHILADELPHIA	METAL BANKS		E	
06	AR	MARION	CRITTENDEN CO. LANDFILL			D
05	MI	GRANDVILLE	ORGANIC CHEMICALS			D
10	OR	PORTLAND	GOULD, INC.			D
02	PR	JUNCOS	JUNCOS LANDFILL			D
04	FL	NORTH FLORIDA	MUNISPORT			D
05	MI	CLARE	CLARE WATER SUPPLY			D
02	NJ	ASBURY PARK	M&T DELISA LANDFILL			D
10	WA	YAKIMA	FMC YAKIMA			D
05	MI	ODEN	LITTLEFIELD TOWNSHIP DUMP			D
05	MI	KALAMAZOO	AUTO ION			D
04	SC	FORT LAWN	CAROLAWN, INC.	R	E	
05	MI	SPARTA	SPARTA LANDFILL			D
05	IL	WINNEBAGO	ACME SOLVENT/MORRISTOWN@			D
05	MI	CHARLEVOIX	CHARLEVOIX MUNICIPAL WELL			D
03	WV	FOLLANSBEE	FOLLANSBEE SLUDGE FILL			D
01	ME	AUGUSTA	O'CONNOR SITE			D
03	PA	WESTLINE	WESTLINE			D
05	MI	BRIGHTON	RASMUSSEN'S DUMP			D
05	MI	OSCODA	HEDBLOM INDUSTRIES			D
02	PR	BARCELONETA	RCA DEL CARIBE			D
05	IN	LEBANON	WEDZEB INC			D
04	KY	CALVERT CITY	B.F. GOODRICH			D
03	PA	STROUDSBURG	BRODHEAD CREEK	R	E	
05	MI	ADRIAN	ANDERSON DEVELOPMENT			D
05	MI	LIVINGSTON COUNTY	SHIAWASSEE RIVER		E	
05	IL	LA SALLE	LASALLE ELECTRIC UTILITIES		E	
04	TN	GALLOWAY	GALLOWAY PONDS			D
03	DE	KIRKWOOD	HARVEY KNOTT DRUM SITE@	R		
03	DE	DOVER	WILDCAT LANDFILL			D
03	PA	WEST CHESTER TWP	BLOSENSKI LANDFILL		E	
03	DE	DELAWARE CITY	DE CITY PVC PLANT@			D
03	MD	CUMBERLAND	LIMESTONE ROAD SITE		E	
02	NY	NIAGARA FALLS	HOOKER - 102ND STREET		E	
03	DE	NEW CASTLE	NEW CASTLE STEEL SITE			D
06	NM	CHURCHROCK	UNITED NUCLEAR CORP.@			D
09	CA	ROOPA	CELTOR CHEMICAL			D
04	AL	PERDIDO	PERDIDO GROWATER CONTAMINATION			D
02	NY	COLD SPRINGS	MARATHON BATTERY@			D
03	PA	OLD FORGE	LEHIGH ELECTRIC@	R	E	
04	TN	CHATTANOOGA	AMNICOLA DUMP			D
05	OH	WEST CHESTER	SKINNER LANDFILL			D
07	MO	MOSCOW MILLS	ARENA 1 (DIOXIN)			D
04	NC	SWANNANOA	CHEMTRONICS, INC.			D

1: V = Voluntary or Negotiated Response, R = Federal and State Response, E = Federal and State Enforcement, D = Actions to be Determined.
@ = IPL/EEL. * = States' Designated Top Priority Sites.

Group 9

EPA Region	State	City/County	Site Name	Response Status 1		
07	NE	BEATRICE	PHILLIPS CHEMICAL			D
05	MI	BUCHANAN	ELECTROVOICE			D
03	PA	KIMBERTON	KIMBERTON			D
05	IN	BLOOMINGTON	LEMON LANE LANDFILL			D
10	ID	RATHDRUM	ARRCOH (DREXLER ENTERPRISES)			D
03	PA	WARMINSTER	FISCHER & PORTER		E	
10	WA	LAKEWOOD	LAKEWOOD			D
05	OH	ZANESVILLE	ZANESVILLE WELL FIELD			D
09	CA	SACRAMENTO	JIBBOOM JUNKYARD			D
02	NJ	SPARTA	A. O. POLYMER	R		
07	IA	DES MOINES	DICO			D
06	TX	ORANGE COUNTY	TRIANGLE CHEMICAL	R	E	
02	NJ	JERSEY CITY	PJP LANDFILL			D
05	OH	MARIETTA	VAN DALE JUNKYARD			D
03	PA	PARKER	CRAIG FARM DRUM SITE			D
03	PA	UPPER SAUCON TWP	VOORTMAN			D
05	IL	BELVIDERE	BELVIDERE			D
05	IN	ALLEN COUNTY	PARROT ROAD			D

1 V = Voluntary or Negotiated Response, R = Federal and State Response, E = Federal and State Enforcement, D = Actions to be Determined.
= IPL/EEL. * = States' Designated Top Priority Sites.

[FR Doc 82-35370 Filed 12-29-82 8:45 am]
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1983

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(i) Must be an enlisted member of the Armed Forces,

(ii) Must be a participant

(iii) Must be training during the last 6 months of his or her first period of active duty, or any time thereafter, and

(5) If he or she originally enlisted after September 7, 1980, must have completed at least 24 months of his or her original enlistment (38 U.S.C. 1631(b), 10 U.S.C. 977).

2. Section 21.5065 is revised as follows:

§ 21.5065 Refunds without disenrollment.

(a) *Refunds made without disenrollment following a discharge or release under dishonorable conditions—* (1) *A discharge or release under dishonorable conditions may result in a partial refund of contributions.* If an individual who would have been eligible, but for the fact of his or her reenlistment, for the award of a discharge or release under conditions other than dishonorable at the time he or she completed an obligated period of service, later receives a discharge or release under dishonorable conditions, the Veterans Administration may refund a portion of his or her contribution (38 U.S.C. 101, 1623).

(2) *Amount of refund.* The Veterans Administration shall refund to the individual all of his or her remaining contributions made to the fund after the individual completed the obligated period of service (38 U.S.C. 101, 1623).

(3) *Date of refund.* The Veterans Administration shall refund all monies due the individual—

(i) On the date of the individual's discharge or release from active duty; or

(ii) Within 60 days of receipt by the Veterans Administration of notice of the individual's discharge or release, whichever is later (38 U.S.C. 101, 1623, 1632).

(b) *Refunds made without disenrollment following a short period of active duty.* (1) An individual who has contributed to the fund during more than one period of active duty may be required to receive a refund of those contributions made during the most recent period of active duty. When an individual who meets all the criteria in paragraph (b)(2) of this section is discharged, the Veterans Administration will refund all contributions he or she made during the most recent period of active duty unless the individual meets one or more of the criteria stated in either paragraph (b) (4) or (5) of this section. If he or she meets one of those criteria, the contributions will not be refunded unless the individual voluntarily disenrolls.

(2) Unless a compulsory refund is prohibited by paragraph (b) (4) or (5) of this section, the Veterans Administration will refund all contributions made by an individual during the most recent period of active duty when the individual—

(i) Completed at least one period of active duty before the most recent one during which he or she established entitlement to Post-Vietnam Era Veterans' Educational Assistance;

(ii) Reentered on his or her most recent period of active duty after October 16, 1981;

(iii) Contributed to the fund during his or her most recent period of active duty; and

(iv) Is discharged.

(3) The circumstances which prohibit an automatic refund of monies contributed during the individual's most recent period of active duty do not relate only to the most recent period of active duty which began after October 16, 1981, but also to the individual's prior periods of active duty regardless of whether they began before, after or on October 16, 1981.

(4) Meeting one or more of the following criteria concerning periods of active duty before the most recent one will be sufficient to prohibit a compulsory refund of contributions made during the most recent period of active duty. The individual—

(i) Before the most recent period of active duty began, completed at least one continuous period of active duty of at least 24 months, or

(ii) Was discharged or released under 10 U.S.C. 1171 (early-out discharge) from any period of active duty before the most recent one.

(5) Meeting one or more of the following criteria concerning the most recent period of active duty will be sufficient to prohibit a compulsory refund of contributions made during the most recent period of active duty. The individual—

(i) For the most recent period of active duty completes 24 months of continuous active duty, or the full period for which the individual was called or ordered to active duty, whichever is shorter; or

(ii) Is discharged or released from the most recent period of active duty under 10 U.S.C. 1171 (early-out discharge) or 11173 (hardship discharge); or

(iii) Is discharged or released from the most recent period of active duty for a disability incurred or aggravated in line of duty; or

(iv) Has a service-connected disability which give him or her basic entitlement to disability compensation as described in § 3.4(b) of this chapter

(6) In computing time served for the purpose of this paragraph, the individual is not entitled for credit for service as specified in § 3.15 of this chapter. However, those periods will be included in determining if the service was continuous.

(7) The Veterans Administration shall refund all monies due the individual—

(i) On the date of the individual's discharge or release from active duty; or

(ii) Within 60 days of receipt of notice by the Veterans Administration of the individual's discharge or release, whichever is later

(38 U.S.C. 1602, 1623, 1632, 3103A, Pub. L. 97-66, 95 Stat. 1026).

[FR Doc. 83-5516 Filed 3-3-83 8:45 am]
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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

[SWH-FRL-2314-6]

Proposed National Priorities List, Appendix B of the National Oil and Hazardous Substances Contingency Plan

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency ("EPA") proposes to add to the proposed National Priorities List (47 FR 58476) one additional site, Times Beach, Missouri. The National Priorities List ("NPL") was proposed on December 30, 1982, as an amendment to the National Oil and Hazardous Substances Contingency Plan ("NCP") (47 FR 31180). The NCP was promulgated as required by Section 105 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA") which also required that the NCP include a list of national priorities among the known or threatened releases of hazardous substances, pollutants or contaminants in the United States, and that the list be revised at least annually. The NPL identifies priority releases for Fund-financed remedial action and enforcement under CERCLA. EPA is taking this step pursuant to the requirement of CERCLA. Placement of Times Beach on the NPL at this time allows the Agency an opportunity to evaluate the widest range of long and short term responses to the release, taking into account the threat to public health and current dislocation of most residents and businesses.

DATE: Comments must be submitted on or before April 4, 1983.

ADDRESSES: Comments on this action may be mailed to Russell H. Wyer, Director, Hazardous Site Control Division, Office of Emergency and Remedial Response (WH-548-E), Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460. The public docket for the NPL will contain the applicable Hazard Ranking System score sheets for the Times Beach site as well as a Documentation Record.

FOR FURTHER INFORMATION CONTACT: Sylvia Lowrance 382-2203.

SUPPLEMENTARY INFORMATION: The NPL was proposed on December 30, 1982. Subsequent to its proposal, the Times Beach site came to the Agency's attention as a serious candidate for inclusion on the NPL.

The Time Beach, Missouri, site was one of over 100 sites in the State of Missouri at which dioxin contamination was suspected in November 1982. Extensive sampling by EPA in Times Beach in late November-early December 1982 confirmed the presence of dioxin along roadway areas. After the area was flooded in December, EPA returned to re-sample the area and again confirmed the presence of dioxin in residences and yards as well as the roadway areas.

The second round of sampling provided adequate data to assess the nature and extent of the release and to assist in determining its priority for Fund-financed response as required by § 300.66(b) of the National Contingency Plan. The results of the scoring indicated Times Beach should be placed on the NPL.

The decision to add Times Beach to the NPL immediately rather than waiting for the first update stems from the serious nature of the problem. Dioxin is one of the most toxic substances known to man; it is carcinogenic and suspected to have effects on reproductive systems. The area where the dioxin is located was completely flooded and most of the residents are in temporary housing awaiting a determination of the appropriate action necessary to deal with the release. Placement of Times Beach on the NPL at this time allows the Agency an opportunity to evaluate the widest range of long and short term responses to the release, taking into account the threat to public health and current dislocation of most residents and businesses.

List of Subjects in 40 CFR Part 300

Air pollution control, Chemicals, Hazardous material, Intergovernmental relations, Natural resources, Oil pollution, Reporting and recordkeeping requirements, Superfund, Waste treatment and disposal, Water pollution control, Water supply.

Dated: February 22, 1983.

Anne M. Burford,

Administrator.

PART 300—[AMENDED]

It is proposed to add an additional site on the National Priorities List which is Appendix B, a proposed amendment to 40 CFR Part 300. The site would appear as the next to last site in Group 5, as follows:

GROUP 5

EPA region	State	City/county	Site name	Response status*
07	MO	Times Beach	Times Beach	D

* V = Voluntary or Negotiated Response, F = Federal and State Responses, E = Federal and State Enforcement, D = Actions to be Determined.

[FR Doc. 83-5487 Filed 3-3-83 8:45 am]

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Wednesday
May 25, 1983

Part III

Environmental Protection Agency

Notification Requirements; Reportable Quantity Adjustments; Proposed Rule and Designation of Additional Hazardous Substances; Advanced Notice of Proposed Rulemaking

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 302

[SW H-FRL 2207-5]

Notification Requirements; Reportable Quantity Adjustments

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: Sections 103(a) and 103(b) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("Superfund," "CERCLA," or "the Act") require that persons in charge of vessels or facilities from which hazardous substances have been released in quantities that are equal to or greater than the reportable quantities ("RQs") immediately notify the National Response Center of the release. Section 102 sets a reportable quantity of one pound for hazardous substances, except those for which reportable quantities hav been established pursuant to Section 311(b)(4) of the Federal Water Pollution Control Act.

Section 102(b) authorizes the Environmental Protection Agency ("EPA" or "the Agency") to adjust reportable quantities. EPA is proposing in this notice to adjust many of the reportable quantities established under CERCLA. These RQ adjustments are intended to reduce the burdens of reporting on the regulated community, to allow EPA to focus its resources on the most serious releases, and to protect public health and welfare and the environment more effectively. To help implement these changes, the Agency is clarifying notification requirements for releases of hazardous substances under CERCLA.

The Agency is also proposing to revise reportable quantities established under Section 311(b)(4) of the Clean Water Act ("CWA") for discharges of hazardous substances into navigable waters, so that the CWA Section 311 reportable quantities will be identical to and therefore consistent with those ultimately promulgated under CERCLA.

DATES: Comments must be received on or before July 25, 1983.

ADDRESSES: *Comments:* Comments should be submitted in triplicate to: Emergency Response Division, Docket Clerk, Attention: Docket Number 102RQ, U.S. Environmental Protection Agency, 401 M Street, S.W., WH-548B, Washington, D.C. 20460.

Docket: Copies of materials relevant to this rulemaking are contained in Room S-396 at U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460. The docket is available for review between the hours of 8:00 a.m. and 4:00 p.m. Monday through Friday. As provided in 40 CFR Part 2, a reasonable fee may be charged for copying services.

FOR FURTHER INFORMATION CONTACT: Dr. K. Jack Kooyoomjian, Chief, Regulation Development Section, Emergency Response Division (WH-548 B), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460, or the RCRA/Superfund Hotline (800) 424-9346, in Washington, D.C., (202) 382-3000.

SUPPLEMENTARY INFORMATION: The contents of today's preamble are listed in the following outline:

INTRODUCTION

NOTIFICATION

I. Mechanics of Notification
II. Persons Covered by This Notice
III. Releases Covered by This Notice
  A. Hazardous Substances Subject to This Notice
  B. Definition of Releases Subject to This Notice
  C. Determination of When a Reportable Quantity Has Been Released
IV. Exemptions From the CERCLA Notification Requirements
  A. Federally Permitted Releases
    1. Releases From Point Sources With National Pollutant Discharge Elimination System (NPDES) Permits
    2. Releases Subject to CWA Section 404 Permits
    3. Releases From Facilities With Final RCRA Permits
    4. Releases Pursuant to Marine Protection, Research, and Sanctuaries Act Permits
    5. Underground Injections Authorized Pursuant to the Safe Drinking Water Act
    6. Emissions Subject to Clean Air Act Controls
    7. Injections of Materials Related to Development of Crude Oil or Natural Gas Supplies
    8. Introduction of Pollutants into Publicly Owned Treatment Works
    9. Releases of Source, Byproduct, or Special Nuclear Materials
  B. Pesticide Products
  C. Releases Reported Under RCRA
  D. Continuous Releases
V. Duplicate Reporting

Reportable Quantity Adjustments

I. Introduction
II. Summary of Methodology Underlying the Reportable Quantity Adjustments
III. Number of Reportable Quantity Levels and Their Values
IV. Use of Criteria To Adjust Reportable Quantities
  A. Primary Criteria
  B. Secondary Criteria
  C. Results of the Proposed Methodology
  D. Special Types of Substances
    1. Unlisted RCRA Wastes (ICF Wastes)
    2. Radionuclides
  E. Additional Criteria Considered But Not Currently Used for Adjusting Reportable Quantities
  F. Additional Criteria Considered but Rejected
V. Alternative Methodologies Considered

Reportable Quantity Adjustments under Section 311 of the Clean Water Act

Summary of Supporting Analyses

I. Classification and Regulatory Impact Analysis
II. Certification Why a Regulatory Flexibility Analysis Is Not Necessary
III. Information Impact Analysis

Introduction

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Pub. L. 96-510), 42 U.S.C. § 9601 *et seq.*, enacted on December 11, 1980, establishes broad federal authority to deal with releases or threats of releases of hazardous substances from vessels and facilities. The Act specifies an initial list of 696 hazardous substances (Section 101(14)). EPA may designate additional hazardous substances (Section 102).

The Act requires the person in charge of a vessel or facility to notify the National Response Center ("NRC") immediately when there is a release of designated hazardous substance in an amount equal to or greater than the reportable quantity for that substance (Sections 103 (a) and (b) [1]). Section 102(b) of CERCLA establishes RQs for releases of designated hazardous substances at one pound, unless other reportable quantities were assigned under Section 311 of the Clean Water Act. Section 102 authorizes EPA to adjust all of these reportable quantities.

A major purpose of the Sections 103 (a) and (b) notification requirements is to alert government officials to releases of hazardous substances that may require rapid response to protect public health and welfare and the environment. Under the Act, the federal government may respond whenever there is a

[1] Section 103(c) provides a separate and distinct notification requirement. Section 103(c) requires notification of the existence and location of facilities at which hazardous wastes have been stored, treated, or disposed of and which are not presently permitted or accorded interim status under Section 3005 of the Resource Conservation and Recovery Act of 1976, as amended ("RCRA"). EPA has published an interim interpretative notice and policy statement concerning this notification, as well as a form that persons may use to notify of such sites. Persons who have complied with Section 103(c) of CERCLA are still subject to notification provisions of Sections 103 (a) and (b), unless the release qualifies for the exemption provided by Section 103(f) (see 46 FR 22144 (April 16, 1981)).

release or a substantial threat of a release into the environment of a hazardous substance or of other pollutants or contaminants which may present an imminant and substantial danger to public health or welfare (Section 104). Response acuvities are to be taken. to the extent possible, in accordance with the National Contingency Plan developed under Section 105. which has been revised to reflect the responsibilities and powers created by CERCLA (47 FR 31180 (July 16, 1982)). Notification based on reportable quantities is merely a trigger for informing the government of a release so that the need for response can be evaluated and any necessary response undertaken in a timely fashion. The government will not necessarily respond to all reported releases.

Section 103(b) establishes penalties, including criminal sanctions, for persons in charge of vessels or facilities who fail to report releases of hazardous substances which equal or exceed reportable quantities. Any person who, as soon as he has knowledge of a reportable release, fails to report the release pursuant to Section 103 (a) or (b) shall, upon conviction, be fined no more than $10,000 or imprisoned for not more than one year, or both. Notifications received under Section 103(a) or information obtained by such notice cannot be used against any reporting person in any criminal case, except a prosecution for perjury or for giving a false statement.

The notification requirements for releases of hazardous substances are addressed in this rulemaking. The rule proposed today lists the CERCLA hazardous substances, proposes adjustments to the reportable quantities for 387 of the 696 hazardous substances, and discusses procedures for reporting releases. An Advance Notice of Proposed Rulemaking (ANPRM) covering the designation of hazardous substances in addition to those specified in Section 101(14) of the Act is also being published in today's Federal Register.

It should be noted that other provisions of the Act may be applicable even where notification is not required. Therefore, nothing in this proposal should be interpreted as reflecting Agency policy or the applicable law with respect to other provisions of the Act. For example, a party responsible for a release is liable for the costs of cleaning up that release and for any natural resource damages, even if the release is not subject to the notification requirements of Sections 103 (a) and (b). Similarly, proper reporting of a release in accordance with Sections 103 (a) and (b) does not preclude liability for cleanup costs. The fact that a release of a hazardous substance is properly reported or that it is not subject to the notification requirements of Sections 103 (a) and (b) will not prevent EPA or other governmental agencies from taking response actions under Section 104, seeking reimbursement from responsible parties under Section 107, or taking an enforcement action against responsible parties.

The section of this preamble entitled "Notification" addresses the CERCLA notification provisions, including the persons required to notify the NRC of a release, the substances for which notification is required, the types of releases subject to the notification requirements, and the exemptions from these requirements. The section entitled "Reportable Quantity Adjustments" discusses the proposed RQ adjustments and the methodology used in making these adjustments.

Notification

I. Mechanics of Notification

Notifications pursuant to Sections 103 (a) and (b) of CERCLA are to be made by telephone to the National Response Center. The toll-free number for notification is (800) 424–8802, except from the Washington, D.C. metropolitan area, Hawaii, and Alaska, where the telephone number for notification is (202) 426–2675. When a call is received by the National Response Center, the duty officer will ask for information including the name, address, and telephone number of the reporting individual; the identity, location, and nature of the release (e.g., the source, cause, quantity, and duration of the release); the identity of the transporter or owner of the facility or vessel; the nature of injuries or property damage; any other relevant circumstances such as weather conditions; and any corrective actions taken. The National Response Center relays release information directly to either an On-Scene Coordinator at the appropriate EPA regional office or an On-Scene Coordinator at the U.S. Coast Guard district office. The On-Scene Coordinator evaluates the situation, gives the information to appropriate state and local officials, and decides whether and how the federal government should respond to the release.

II. Persons Covered by This Notice

The Act defines broadly the key terms of the notification requirements. The word "person" includes not only individuals, but private, public, and governmental entities as well (see Section 101(21)). "Vessel" includes essentially anything "used or capable of being used, as a means of transportation on water" (see Section 101(28)). "Facility" is also defined broadly

> "facility" means (A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located, but does not include any consumer product in consumer use or any vessel (see Section 101(9), see also Sections 101(17) ("offshore facility") and 101(18) ("onshore facility")).

The definition of "facility" excludes consumer products in consumer use. Releases from consumer products by consumers, therefore, are not releases from a facility into the environment and, consequently, do not have to be reported. Although the Act does not define the term "consumer product," the Consumer Product Safety Act defines that term as, generally, any article sold to a consumer for the person's use, consumption or enjoyment in or around a household, residence, school, in recreation, or otherwise (15 U.S.C. 2052). This definition will apply for notification under CERCLA.

For notification purposes, EPA will consider the entire contiguous plant or installation and contiguous grounds under common ownership to be the reporting facility rather than each vent, pipe, or piece of equipment at such a plant. This will avoid unnecessary and burdensome multiple calls where such a plant is experiencing more than one reportable release. A single notification will suffice for multiple concurrent releases within a facility.

The "person in charge" of a particular vessel or facility will vary according to the nature of the incident. Examples of the "person in charge" of a facility, as the Act defines that term, include a truck driver, the shift supervisor of a treatment works, or a pipeline operator. The Agency does not intend to identify specific individuals within a business entity who are responsible for reporting releases. Persons in charge of private, public, and governmental entities are more familiar with their operations and, therefore, are better able to assign reporting responsibilities. When there has been a failure to notify, the government will decide on a case-by-case basis whether to seek appropriate

remedies from either the entity or particular employees.

III. Releases Covered by This Notice

A. Hazardous Substances Subject to This Notice

Congress incorporated six lists of hazardous substances developed under environmental statutes in the Act's definition of hazardous substances (Section 101(14)). These lists are:

(1) Substances designated pursuant to Section 311 of the Clean Water Act ("CWA");

(2) Hazardous wastes[1] under Section 3001 of the Solid Waste Disposal Act (commonly known as the Resource Conservation and Recovery Act, "RCRA"), but excluding wastes the regulation of which has been suspended by Congress;[2]

(3) Toxic pollutants listed under CWA Section 307(a);

(4) Hazardous air pollutants listed under Section 112 of the Clean Air Act;

(5) Imminently hazardous chemicals or mixtures for which EPA has taken action under Section 7 of the Toxic Substances Control Act; and

(6) Substances designated pursuant to Section 102 of CERCLA.

Table 302.4 lists the hazardous substances, their regulatory synonyms, and the isomers of these substances that are subject to the notification requirements of Sections 103(a) and 103(b). The substances listed are those designated pursuant to other environmental acts only; no substances have been designated pursuant to Section 102 of CERCLA. The designation of substances pursuant to Section 102 is discussed in the ANPRM on designation also published in today's Federal Register.

Table 302.4 will not be static. If substances are added to or deleted from the lists of substances developed under the statutes which are incorporated in CERCLA Section 101(14), the CERCLA list of hazardous substances will change. Federal Register Notices reflecting changes to the lists referenced in Section 101(14) of CERCLA and to Table 302.4 will be published simultaneously.

Pursuant to Section 101(14)(C) of CERCLA, hazardous substances include any hazardous waste having the characteristics identified or listed pursuant to Section 3001 of RCRA (but not including any waste the regulation of which has been suspended by Act of Congress). These characteristics are: ignitability, corrosivity, reactivity, or extraction procedure toxicity (ICRE) (see 40 CFR 261.20 *et seq.*).[3] A person generating a solid waste must determine, in accordance with 40 CFR 262.11(c) of the RCRA regulations, if a waste meets these characteristics. If a waste is hazardous under the RCRA regulations, it is a hazardous substance under CERCLA. These hazardous substances, hereinafter referred to as ICRE wastes, are not (and by their nature cannot be) specifically listed. Persons who release such unlisted hazardous wastes in quantities equal to or exceeding the reportable quantities delineated in Table 302.4 for those wastes will be required, unless specifically exempted, to notify the NRC.[4]

The Act excludes certain energy-related substances from the definition of hazardous substances, and these substances are thereby exempted from the notification requirements of Section 103. These substances are petroleum, including crude oil and any fraction thereof (unless otherwise listed in Table 302.4), natural gas, natural gas liquids, liquified natural gas, synthetic gas usable for fuel, or mixtures of natural gas and such usable synthetic gas (see Section 101(14)). The notification requirements as set forth in 33 CFR Part 153 and 40 CFR Part 110 for certain discharges of oil remain in effect.

Chemical substances are often known by several different names. The names are derived from different origins, which include systematically applied nomenclatures, such as the Chemical Abstracts Collective Index System (e.g., propanenitrile, 2-hydroxy-2-methyl-); trivial names (e.g., aldrin, DDT); common chemical names (e.g., lead acetate, nitrotoluene); and trade names (e.g., Diazinon, Kepone). The substances listed in Table 302.4 are indicated by the name(s) used to identify that substance under the environmental statutes and implementing regulations incorporated in the definition of hazardous substance (Section 101(14)). Because no single nomenclature is used consistently throughout these statutes and implementing regulations, the CERCLA substances are not listed pursuant to one nomenclature. Consequently, duplicate entries appear for hazardous substances which are listed by different names under the statutes (and their implementing regulations) incorporated into Section 101(14). For example, lindane, designated under CWA Section 311 and hexachlorocyclohexane gamma-BHC, designated under CWA Section 307(a), are different names for the same compound and both names appear in Table 302.4.

It is possible, because of the numerous names for some materials, that a substance listed is not identified by a name with which all persons who handle that substance are familiar. Such a material is considered to be a hazardous substance regardless of how it is named or identified. To facilitate identification of substances in Table 302.4, the Chemical Abstracts Service (CAS) Registry Numbers are also used in listing the CERCLA hazardous substances.

EPA is considering several alternatives for developing a nomenclature system for the promulgated list of CERCLA hazardous substances. The first alternative would be to adopt the method used in Table 302.4, i.e., to use those names which appear in the environmental statutes (and their implementing regulations) incorporated in the CERCLA definition of hazardous substances. Another option would be to use only one system of nomenclature, such as the Chemical Abstracts Collective Index System name (either the 8th or 9th Collective Index). A third option would be to list all the major synonyms for each substance, including the name under the Chemical Abstracts Collective Index System. EPA requests comments on these options.

Table 302.4 contains many broad, generic classes of organic and metallic compounds designated as toxic pollutants under CWA Section 307(a), such as "chlorinated phenols," "phthalate esters," and "zinc and compounds." Many of the broad, generic classes of compounds encompass hundreds of specific compounds. Consequently, it would be virtually impossible for the Agency to develop a reportable quantity for a generic class of compounds which would take into account the characteristics of all specific compounds, each with dif. characteristics. Therefore, in publishing Table 302.4, EPA has included the specific compounds developed in implementing Section 307(a) or Section

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[1] Substances listed under Appendix VIII to 40 CFR Part 261 that are not designated under any one of the statutes referenced in CERCLA Section 101(14) are not CERCLA hazardous substances because Appendix VIII substances are not hazardous wastes under RCRA. The Appendix VIII substances will be considered for designation pursuant to Section 102 at a later date.

[2] Even if a state properly delists, deletes, or exempts a RCRA hazardous waste pursuant to authority granted it by EPA, that waste will remain a hazardous substance for purposes of CERCLA.

[3] The ICRE characteristics apply only to hazardous substances which are RCRA wastes prior to their release. The release of a substance which exhibits one of the RCRA characteristics but is not a waste is not a reportable event, unless that substance is listed in 40 CFR Part 302 as a hazardous substance. Since the purpose of notification is to trigger considerations of a response, however, the reporting of a release of any material that may require action by the federal government is strongly encouraged.

311 of the Clean Water Act, but no adjusted RQ is proposed for these broad, generic classes. The notification requirements apply to those specific compounds for which RQs are listed in Table 302.4, rather than to the generic listings. This does not, however, preclude liability with respect to releases of specific compounds which are within one of these generic listings but which are not listed in Table 302.4 for reporting purposes.

The Agency is not requiring notification of releases of massive forms of the solid metals originally listed under CWA Section 307(a) when the diameter of the pieces of metal released equals or exceeds 100 micrometers (0.004 inches). Releases of these metals are excluded form CERCLA reporting requirements because they are large enough to be neither respirable nor to react rapidly with air or water. The substances to which this rule applies are indicated by a "†" in Table 302.4. They are antimony, arsenic, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium, and zinc. EPA requests comments on the notification requirements for metals, particularly on the appropriate cutoff size for massive forms of these solid metals.

B. Definition of Releases Subject to this Notice

Congress defined the term "release" to include within its scope virtually all ways that substances may enter the environment:

> "release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment * * * (Section 101(22)).

Four types of releases are specifically excluded from the definition of release in CERCLA Section 101(22). They are:

(1) Releases which result in exposures to persons solely within a workplace for which claims against the employer or other persons are available;

(2) Emissions from engine exhaust from a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station;

(3) Releases of source, byproduct, or special nuclear material from a nuclear incident subject to requirements of the Nuclear Regulatory Commission for financial responsibility under Section 170 of the Atomic Energy Act [*]; and

(4) The normal application of fertilizers.

A key element of the definition of "release" is the phrase "into the environment." Although the word "environment" is broadly defined in Section 101(8), some releases of hazardous substances may not enter the environment. For example, the spill of a hazardous substance onto the concrete floor of a manufacturing facility may not, for notification purposes, be "into the environment" if wholly contained in the facility. If part of the substance does enter the environment, e.g., seeps into the ground or volatilizes into the atmosphere, there would be a release into the environment and, if released in a quantity equal to or greater than the reportable quantity for that substance, the release would be subject to notification requirements of Sections 103 (a) and (b).

The legislative history of the Act indicates that the "workplace exposure" exclusion was apparently intended to limit the potential scope of third-party actions for personal injuries under the Act (see Sen. Rep. 96-848, 96th Cong., 2d Sess. 94 (1980)). The third-party action provision was subsequently deleted; however, the "workplace exposure" provision remained. Whether the release results in exposures to persons solely within a workplace does not appear to be relevant in determining whether notification is appropriate. For notification, the Agency believes that the distinction between "facility" (or "vessel") and "environment" is the determining factor; releases from a facility (or vessel) that enter the environment are reportable events. The Agency requests comments on this interpretation.

C. Determination of When a Reportable Quantity Has Been Released

Pursuant to Section 103(a) of the Act, notification must be given as soon as the person in charge of a vessel or facility has knowledge that a release of a hazardous substance equal to or greater than a reportable quantity has occurred. Under Section 311 of the CWA, EPA set 24 hours as the period to determine, for purposes of notification, whether a reportable quantity of hazardous substances had been released. Since the 24-hour period has been successfully used in the CWA Section 311 program and the regulated community is familiar with this time period, EPA proposes to use this 24-hour period under CERCLA to determine whether the reportable quantity of a substance has been released. When the amount of a substance released within a 24-hour period equals or exceeds its reportable quantity, the National Response Center must be notified immediately.

Under regulations implementing Section 311 of the CWA, EPA interpreted the application of RQs to mixtures and solutions containing hazardous substances: "[d]ischarges of mixtures and solutions are subject to these regulations only where a component hazardous substance of the mixture or solution is discharged in a quantity equal to or greater than its RQ." (44 FR 50787 (August 29, 1979)). This interpretation will apply to releases of hazardous substances under the Act as well. Thus, a release of 10 pounds of a solution which contains 1 pound of hazardous substance A and 9 pounds of non-hazardous substance B is not reportable if the RQ of hazardous substance A is 10 pounds. Similarly, a release of a mixture containing 70% of an RQ of hazardous substance A and 60% of an RQ of hazardous substance B is not subject to the notification requirements of Sections 103 (a) and (b).

An alternative approach is to apply the RQ to the mixture or solution as a whole. Under this approach, a release of 10 pounds of a solution which contains 1 pound of hazardous substance A and 9 pounds of non-hazardous substance B would be reportable if the RQ of hazardous substance A is 10 pounds or less. Similarly, the release of a mixture containing 70% of an RQ of hazardous substance A and 60% of an RQ of hazardous substance B would be reportable. This approach was not adopted because it would result in over-reporting. The Agency instead intends to focus its attention on those releases which are potentially most environmentally significant,[*] such as those releases in which the component hazardous substance is released in an amount that equals or exceeds the assigned RQ.

Any person in charge of a vessel or facility who is unsure as to whether any of the components in a released mixture exceed their RQs is strongly encouraged to report the release.

IV. Exemptions From the CERCLA Notification Requirements

There are four types of statutory exemptions from the notification requirements for releases of hazardous substances in reportable quantities:

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[*] A release of source, byproduct, or special nuclear material from a processing site designated under Sections 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act of 1978 is not a "release" for purposes of response actions under CERCLA but is subject to the notification requirements of Sections 103 (a) and (b) (Section 101(22)).

[*] As noted in the preamble to 40 CFR Part 117 of the CWA, it may not be valid to assume that the toxic properties of all different hazardous substances can be considered additive (44 FR 50787 (August 29, 1979)).

(1) Federally permitted releases as defined in Section 101(10)

(2) Applicaton of pesticide products registered under the Federal Insecticide. Fungicide. and Rodenticide Act ("FIFRA");

(3) certain releases of hazardous wastes which are required to be reported under the provisions of the Resource Conservation and Recovery Act and which are reported to the NRC. and

(4) certain releases which are determined to be "continuous" under the provisions of Section 103(f)(2)

This section discusses EPA's proposed interpretation of the scope of these statutory exemptions from the notification requirements of Sections 103(a) and (b).

A. Federally Permitted Releases

Congress did not intend for the notification requirements in Sections 103(a) and (b) of CERCLA to apply to the federally permitted releases defined in Section 101(10).

The laws authorizing the permit and regulations that control these releases provide for notification and such nonfication procedures should provide the same public benefits—especially regarding timely response—as would be provided in S. 1480. Notice is crucial to the removal and remedial operations which are central to the reported bill. The federally permitted release exceptions are not directed at avoiding notice. but rather to make it clear which provisions of law apply to discharging sources. (Sen. Rep 96–848. 96th Cong.. 2d Sess. 50 (1980)).

This section discusses the federally permitted releases.

1. Releases from Point Sources with National Pollutant Discharge Elimination System (NPDES) Permits. Section 101(10) identifies three types of releases from point sources with NPDES permits as federally permitted releases:

(A) discharges in compliance with a permit uder section 402 of the Federal Water Pollution Control Act. (B) discharges resulting from circumstances identified and reviewed and made part of the public record with respect to a permit issued or modified under section 402 of the Federal Water Pollution Control Act and subject to a condition of such permit. (C) continuous or anticipated intermittent discharges from a point source. identified in a permit or permit application under section 402 of the Federal Water Pollution Control Act. which are caused by events occuring within the scope of reveiant operating or treatment systems * * *

This language is identical to that used in Section 311(a)(2) of the CWA to exclude these releases from the term "discharge" with respect to EPA's hazardous substance spill response and prevention program. Under regulations implementing Section 311 of the CWA. EPA has interpreted this language to exclude basically all discharges of hazardous substances from an NPDES point source that are associated with manufacturing or treatment processes and that were identified and considered in the issuance of the permit This exemption also applies to discharges from NPDES point sources permitted by a state authorized to operate the NPDES permit program (40 CFR 117.12. 44 FR 58910 (October 12. 1979)) As Congress indicated. the interpretation of these provisions under Section 311 of the CWA and the implementing regulations will be contunued for federally permitted releases under CERCLA (see Sen Rep 96–848. 96th Cong.. 2d Sess 47 (1980))

2. Releases Subject to CWA Section 404 Permits. Discharges which comply with a legally enforceable permit for dredge or fill materials under Section 404 of the CWA are also federally permitted releases exempt from the notification requirements of CERCLA Sections 103(a) and (b). Before issuing these permits. the government reviews the substances to be discharged. The permits allowing the discharge of hazardous substances are issued only if no significant degradation of the aquatic environment will result. This exemption applies to discharges in compliance with the terms and conditions of either an individual or a general CWA Section 404 permit.

In regulations implementing Section 311 of the CWA. EPA exempted from the notification requirement not only those releases which were in compliance with Section 404 permits but also those which were not subject to permit requirements under Section 404 of the CWA (Sections 404(f) and 404(r)). These latter releases are not "federally permitted releases" for purposes of CERCLA: therefore. they must be reported. Releases in compliance with a legally enforceable permit under Section 404 of the CWA need not be reported.

3. Releases from Facilities with Final RCRA Permits. Releases from hazardous waste management facilities which have legally enforceable final permits under Section 3005 of RCRA are also exempted from notification if the permit specifically identifies the hazardous substances released and makes those substances subject to "a standard of practice. control procedure or bioassay limitation or condition. or other control on the hazardous substances in such releases" (Section 101 (10)(E)). Releases from hazardous waste management facilities with final RCRA permits issued by a state are also considered federally permitted releases for purposes of CERCLA.

EPA is presently in the process of promulgating regulations implementing the permit provisions of RCRA Final standards have been set for existing storage facilities and incinerators and land disposal facilities (46 FR 2802 (January 12. 1981). 46 FR 7666 (January 23. 1981). 46 FR 12414 (February 13. 1981); 47 FR 32274 (July 26. 1982)) This exemption does not apply to hazardous waste management facilities which are in "interim status" pursuant to Section 3005(e). "Sites or facilities which have interim status under Section 3005(e) do not adequately utilize acceptable levels of technology. and do not qualify for this exclusion" (see Sen Rep 96–848. 96th Cong. 2d Sess 48 (1980)) However. although Section 101(10)(E) does not exempt hazardous waste management facilities with interim status from the notification requirements if they release hazardous substances. such releases may fall within one of the limited exemptions to the notification requirements (e.g.. Section 103(f)(1)) discussed below.

4. Releases pursuant to Marine Protection. Research. and Sanctuaries Act Permits. Section 101(10)(F) of CERCLA includes. in the definition of a federally permitted release. releases in compliance with legally enforceable permits issued under Section 102 (ocean dumping permits) and Section (Corps of Engineers permits for ocean dumping of dredged materials) of the Marine Protection. Research. and Sanctuaries Act. Pursuant to EPA regulations. applicants for ocean dumping permits must identify the physical and chemical properties of the materials to be discharged. and the permit must identify the materials which may be discharged (see 40 CFR Parts 221. 223). Similar procedures and criteria apply to issuing ocean dredging permits (see 33 CFR Part 324). These ocean dumping and ocean dredging permits cover substances that can be lawfully discharged. Releases of hazardous substances not specifically permitted are subject to the notification requirements of CERCLA Sections 103 (a) and (b).

5. Underground Injections Authorized pursuant to the Safe Drinking Water Act. Also exempted from the notification requirements by the definition of "federally permitted release is "any injection of fluids" authorized under federal injection control programs or state programs submitted for federal approval pursuant to Part C of th Drinking Water Act (and not disapproved by EPA) (Section 101(10)(G)).

EPA has published regulations establishing technical standards and criteria (40 CFR Part 148) and regulations governing approval of state programs and permit procedures (40 CFR Parts 122–124). Under the Safe Drinking Water Act, the states are to take the primary role in implementing the underground injection control program. EPA is to administer the program only if the state fails to submit an approvable program within a specified time period. Any underground injection wells permitted under a state program approved by EPA or under an EPA-administered program are considered federally permitted for purposes of CERCLA notification.

6. Emissions Subject to Clean Air Act Controls Section 101(10)(H) of CERCLA includes in the definition of federally permitted release:

> any emission into the air subject to a permit or control regulation under section 111, section 112, title I part C, title I part D, or State implementation plans submitted in accordance with section 110 of the Clean Air Act (and not disapproved by the Administrator of the Environmental Protection Agency), including any schedule or waiver granted, promulgated, or approved under these sections * * *.

Air emissions permits or control requirements focus on a limited number of pollutants: criteria pollutants and, in certain cases, designated hazardous pollutants. Stationary sources may emit hazardous substances that are not subject to a permit or control regulation, and therefore must be reported under CERCLA.

These substances may be hazardous substances under CERCLA because they were designated under some other environmental statute, rather than the Clean Air Act. The Agency recognizes that reporting of such releases may be required, even though the releases have been reviewed and permitted by EPA or a state, and are very unlikely to warrant federal response.

Controls on air releases of hazardous substances under the Clean Air Act may vary from state to state, so that the application of the federally permitted release exemption for air releases from the CERCLA notification provisions may also vary from state to state. For example, site-specific controls under state implementation plans may not contain requirements for controlling emissions of certain specific organic compounds that are emitted during the normal operation of stationary sources.

The Senate committee that drafted this exemption acknowledged that the Clean Air Act allows control of air pollutants to be achieved in various ways:

> In the Clean Air Act, unlike some other Federal regulatory statutes, the control of hazardous air pollutant emissions can be achieved through a variety of means: express emissions limitations (such as control on the pounds of pollutant that may be discharged from a source during a given time); technology requirements (such as floating roof tanks on hydrocarbons in a certain vapor pressure range); operational requirements (such as start up or shut down procedures to control emissions during such operations); work practices (such as the application of water to suppress certain particulates); or other control practices. Whether control of hazardous substance emissions is achieved directly or indirectly, the means must be specifically designed to limit or eliminate emissions of a designated hazardous pollutant or a criteria pollutant. (Sen. Rep. 96–848, 96th Cong., 2d Sess. 49 (1980))

The exemption applies to releases subject to a permit or control regulation and, as noted by the Committee, control mechanisms can take a variety of forms. There is a suggestion at the end of the passage that the control must be "specifically designed to limit or eliminate emissions of a designated hazardous pollutant or a criteria pollutant." EPA solicits comments on the extent to which this exclusion should apply to pollutants limited or eliminated by these control practices, but not explicitly mentioned as part of any requirements.

More generally, EPA is uncertain of the extent to which emissions from permitted stationary souces, if they contain CERCLA-designated substances, qualify for the federally permitted release exemption. The Agency solicits comments on the appropriateness of exempting emissions from permitted stationary sources from CERCLA's notification requirements on the grounds that they are federally permitted releases.

The Agency intends to conduct a more detailed investigation of this issue prior to promulgation of final RQ adjustments, to identify the extent of problems and potential solutions. Potential areas of investigation include:

- The kinds and quantities of CERCLA-designated substances released by stationary sources, to determine the extent to which the adjusted RQs proposed today would require stationary sources to notify the NRC under CERCLA;
- Whether such releases can appropriately be considered federally permitted releases under CERCLA;
- The scope of the term "continuous release," to determine the degree to which air releases from stationary sources may qualify for reporting under the continuous release provisions of Section 103(f)(2); and
- Separate air-release RQs for stationary sources, to determine whether higher RQs for air releases from stationary sources may reduce reporting burdens, since EPA recognizes that the impact of releases from elevated sources (e.g., stacks) may be different than that from releases onto the ground or into water.

Air releases that are continuous and "stable in quantity and rate" may qualify for reporting under Section 103(f)(2). This section requires initial reporting "for a period sufficient to establish the continuity, quantity, and regularity of such release," and thereafter "annually, or at such time as there is any statistically significant increase in the quantity of any hazardous substance released." Among the types of releases the Agency is considering as falling within the scope of the term "continuous" are routine, anticipated, intermittent releases of hazardous substances that are incidental to the normal manufacturing or treatment processes or operations of facilities or vessels (see Section IV D. of the Notification section of this preamble for further discussion).

The Agency has proposed only one RQ for each hazardous substance, regardless of the medium into which the substance is released. The rationale for this approach is discussed in the Reportable Quantity Adjustments section of this preamble. EPA might consider different RQs for releases into air, if an RQ adjustment procedure that specifically addressed impacts from air releases can be developed, and if such a change will significantly reduce the reporting burden associated with the current proposed RQ adjustments without undue environmental impact. The Agency solicits information concerning specific hazardous substances for which these proposed RQs may be particularly burdensome and comments on approaches to make the notification requirements for air releases of hazardous substances more appropriate.

Pending implementation of Section 103(f)(2), EPA will focus its enforcement efforts on episodic releases that may present a serious risk of harm to public health or welfare or the environment, rather than on continuous releases.

7. Injections of Materials Related to Development of Crude Oil or Natural Gas Supplies. CERCLA also considers as a federally permitted release:

> any injection of fluids or other materials authorized under applicable state law (i) for the purpose of stimulating or treating wells for the production of crude oil, natural gas, or water, (ii) for the purpose of secondary, tertiary, or other enhanced recovery of crude oil or natural gas, or (iii) which are brought to the surface in conjuction with the production

of crude oil or natural gas and which are reinjected * * * (Section 101(10) (I))

EPA interprets this provision to include only those activities or materials which are specifically authorized by state law—rather than simply not prohibited—and to cover only those activities whose sole purpose is the production of crude oil, natural gas, or water, the recovery of crude oil or natural gas, or the reinjection of fluids brought to the surface from such production.

8. Introduction of Pollutants into Publicly Owned Treatment Works. Section 101(10) (J) of CERCLA exempts, as a federally permitted release, the introduction of pollutants into a publicly owned treatment work if two conditions are satisfied: (1) The pollutant is specified in pretreatment standards and is in compliance with the standards of Section 307 (b) and (c) of the CWA, and (2) the pollutant is specified in and is in compliance with enforceable requirements in a pretreatment program submitted by the state or local government for EPA approval.

Pretreatment standards under Section 307 (b) and (c) of the CWA are of two types: pollutant-specific standards for certain industrial categories and a generic prohibition against discharges which may inhibit or upset the continued safe operation of the municipal treatment system.

There are at present few industries with established pretreatment standards. Many industrial facilities would, therefore, be unable to qualify for this exemption, despite their compliance with the generic prohibitions and local pretreatment standards.

Under Section 311 of the CWA, EPA published regulations which narrowly define the manner in which mobile sources are authorized to discharge hazardous substances into publicly owned treatment works (40 CFR 117.13(b)). This regulation remains effective under this Act.

9. Releases of Source, Byproduct, or Special Nuclear Materials. Federally permitted releases also include any releases of source, byproducts, or special nuclear material, as defined by the Atomic Energy Act of 1954, which comply with a legally enforceable license, permit, regulation, or order issued pursuant to the authority of the Atomic Energy Act (see Section 101(10) (K)).

Radionuclides are generically listed as hazardous air pollutants under Section 112 of the Clean Air Act and therefore are hazardous substances under CERCLA. Radionuclides include source, special nuclear, and byproduct material. Releases of these materials in quantities equal to or greater than the RQ are generally subject to the notification requirements, unless they are federally permitted releases.[1]

The Nuclear Regulatory Commission and states in which federal authority has been discontinued pursuant to agreement with the Nuclear Regulatory Commission issue a variety of general and specific licenses which govern the handling, use, storage, and disposal of source, byproduct, and special nuclear material (see generally 10 CFR Parts 20, 30–35, 40, 50, 60, 61, 70, 71, and 150). These activities, if in compliance with legally enforceable state or federal licenses, are not subject to the notification requirements of Sections 103(a) and (b) of CERCLA.

The Nuclear Regulatory Commission regulations provide for reporting differences in inventories of these materials (see 10 CFR Part 70). To avoid duplicate reporting, EPA is not requiring notification of inventory differences to the National Response Center under CERCLA. The Nuclear Regulatory Commission also provides for reporting releases of radioactive material (10 CFR Part 20). As discussed below, EPA is currently reviewing these requirements to identify areas of duplicate reporting.

The regulations of the Nuclear Regulatory Commission contain several important exemptions from its provisions, based generally on the small quantities of materials involved or the low levels of radioactivity they emit. Persons handling these exempted materials are not subject to legally enforceable regulations and, therefore, releases of these materials into the environment are not "federally permitted" releases. Notification is therefore required under CERCLA; however, the Agency does not anticipate that such releases will frequently exceed the one-pound reportable quantity currently applicable to radionuclides under the statute.

B. Pesticide Products

Section 103(e) of CERCLA exempts from the notification provisions of the Act "the application of a pesticide product registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (and) the handling and storage of such a pesticide product by an agricultural producer." EPA interprets the application of pesticides to refer to the normal application of registered pesticides (and pesticides used in accordance with FIFRA Section 5 experimental use permits or FIFRA Section 18 emergency exemptions) in ways which are not inconsistent with the pesticides labeling. This interpretation is consistent with the existing regulations promulgated under the authority of Section 311 of the CWA (40 CFR 117.11(c)). Congress did not intend a broad exemption covering all possible uses, disposals or applications of pesticides—particularly since EPA and the states have found that pesticides are often found at uncontrolled hazardous waste sites. The Senate Committee on Environment and Public Works, for example, explained

> It should also be clear that the notice and penalty provisions do not apply to such routine field applications. Accidents or international disposals which result in the release of a pesticide in other than its intended field application would, of course, be subject to the notice provision of this bill. Only in this manner could the preventive response mechanisms of the bill operate to protect human health. (Sen. Rep. 96–848, 96th Cong., 2d Sess. 50 (1980)).

One of the environmental incidents repeatly mentioned in support of the bill involved contamination of drinking water supplies by waste pesticides (*see* 126 Cong. Rec. S14967 (daily ed. November 24, 1980) (remarks of Sen. Stafford)). Spills, improper application, and improper disposal of pesticides are within the scope of notification provisions if hazardous substances are released in reportable quantities.

Accidents which release pesticides into the environment are subject to the notification provisions of Sections 103 (a) and (b). In discussing federally permitted releases, Senator Randolph pointed out that "[a]ccidents—whatever their cause—which result in, or can reasonably be expected to result in releases of hazardous pollutants would not be exempt from the requirements and liabilities of this bill" (126 Cong. Rec. S14985 (daily ed., November 24, 1980)). This reasoning applies with equal force to the exemption for pesticides under Section 103(e).

C. Releases Reported Under RCRA

Section 103(f)(1) of CERCLA exempts from the notification requirements of Sections 103 (a) and (b) releases of hazardous substances which are subject to reporting requirements (or specifically exempted from such reporting) under Subtitle C of RCRA and have been reported to the NRC.

Congress recognized that regulations may be necessary to integrate fully the RCRA reporting provisions with the

[1] Releases of source, byproduct, or special nuclear material resulting from a nuclear incident subject to the financial protection requirements of Section 170 of the Atomic Energy Act are excluded from the Act's definition of release. (See Section 101 (22).)

notification requirements of CERCLA Section 103 (see 128 Cong. Rec S14965 (daily ed., November 24, 1980) (Remarks of Sen. Randolph)). The RCRA regulations create extensive reporting and recordkeeping requirements for persons handling hazardous waste (40 CFR Parts 260–267). For example, 40 CFR 265.56 requires owners and operators of hazardous waste facilities with interim status to report all releases which could threaten human health, or the environment, outside the facility, to either the NRC or the government official designated as the On-Scene Coordinator for that geographical area (pursuant to 40 CFR Part 300). When releases are reported to the NRC pursuant to this RCRA requirement, CERCLA notification requirements have been fulfilled. The Agency is examining RCRA reporting requirements in connection with CERCLA's notification requirements to determine whether adjustments to either RCRA's or CERCLA's notification requirements are appropriate. The Agency requests comments on the impact of the RCRA regulations on the CERCLA notification requirements.

D. Continuous Releases

Section 103(f)(2) of CERCLA exempts certain releases from the general notification requirements of Sections 103(a) and 103(b). Releases may be exempted if they are "continuous," "stable in quantity and rate," and notification has been given under Sections 103 (a) and (b) "for a period sufficient to establish the continuity, quantity, and regularity" of the release or under Section 103(c) (which relates to notification of the existence of certain facilities that are or have been used for storage, treatment, or disposal of hazardous wastes). Notification of continuous releases must be given "annually, or at such a time as there is any statistically significant increase" in the quantity of the hazardous substance being released.

The main function of CERCLA's notification requirements is to alert government officials to the existence of a situation that may require a government response to protect the public health or welfare or the environment. Since episodic releases are by definition "unanticipated," they must be reported as they occur. Continuous releases, on the other hand, may be predictable and can either be literally continuous or recurring. Congress recognized in Section 103(f)(2) that CERCLA's objectives would be satisfied—in the case of continuous releases—by less frequent notification. Thus, instead of reporting every release as it occurs, persons in charge are allowed to report certain continuous releases less often under Section 103(f)(2). The purpose of this section is to reduce unnecessary reports of releases. The rationale for this approach is that when a release is regular and of stable quantity, the Agency does not need to be notified each time such a release occurs in order to have the information necessary to decide whether a response to the release is necessary. Section 103(f)(2) provides, however, that notification must still be given (1) under Section 103(c) or "for a period sufficient to establish the continuity, quantity, and regularity of such release" and (2) "annually, or at such time as there is any statistically significant increase in the quantity of any hazardous substance or constituent thereof released, above that previously reported or occurring."

The Agency is considering development of a policy to identify:

- The types of releases that qualify for the limited exemption under Section 103(f)(2), and
- The Section 103(f)(2) notification scheme.

Pending implementation of Section 103(f), EPA will focus its enforcement efforts on episodic releases (e.g., accidental, one-time, non-routine releases) exceeding the RQs proposed today which may present a serious risk of harm to human health or welfare or the environment, rather than on continuous releases (e.g., routine, continuous, or anticipated intermittent releases which are incidental to normal manufacturing or treatment processes or operations of facilities or vessels).

1. Types of Releases. The Agency is considering defining releases that are "continuous" and "stable in quantity and rate" to include:

- Literally continuous releases that enter the environment 24 hours a day, 365 days a year. Examples include hazardous substances leaking from pipes or lagoons into surface water, leaching into the soil or groundwater, or evaporating.
- Releases continuous during operating hours, such as releases from some continuous industrial processes;
- Releases from batch operations, and
- Routine, anticipated, intermittent releases of hazardous substances that are incidental to the normal manufacturing or treatment processes or operations of facilities or vessels. Examples include releases from relief valves, the maintenance of pollution control equipment, charging of coke oven batteries, and tank cleaning operations.

In order for a continuous release which is stable in quantity and rate to be subject to Section 103(f)(2), notification must be given pursuant to Section 103(c), or under Sections 103 (a) and (b) for a "period sufficient to establish the continuity, quantity, and regularity" of the release. Reporting under Section 103(c) is addressed in 46 FR 22144 (April 15, 1981) and will not be discussed further here. The Agency is considering several approaches for defining the "period sufficient" including:

- Establishing a single period (such as a week, a month, six months, or a year) of reporting that will be required for all releases; or
- Specifying the number of reports (instead of a specific time period) to establish the "period sufficient."

EPA solicits comments on these or any other approaches for implementing the Section 103(f)(2) notification provisions.

2. Section 103(f) Notification Scheme. The Agency intends to develop a notification system for continuous releases. An approach under consideration involves an annual written notification identifying the hazardous substance being released, the quantity and rate of such release, and the environmental media affected. The Agency does not anticipate that this written notification would be necessarily costly or elaborate; it does not anticipate that sophisticated analysis to determine the constituents of a release or that special monitoring to determine the quantity or rate of a release will be needed. A new notification (either written or by telephone) would be required if there is a statistically significant increase in the amount, or statistically significant change in the type, of hazardous substance being released. EPA is also considering whether applications for federal permits containing information on the nature of these releases might suffice to show that a release qualifies for the continuous release exemption.

Three alternatives for defining "statistically significant increase" are under consideration:

- Requiring reporting whenever a release falls outside some expected range based on statistical tests, such as the "Student's t" test;
- Requiring reporting whenever the amount released exceeds the amount ordinarily released by some pre-established factor such as 2, 5, or 10 times the daily average; or
- Letting the releaser determine what is a statistically significant increase.

EPA requests comments specifically on the most feasible approach for continuous release notification, the information to be required, what the Agency should consider a statistically significant increase in the release, and

any other relevant issues. EPA hopes that such information will enable it to develop a system which imposes a minimal burden on both the regulated community and the government, while achieving the underlying statutory objectives.

V. Duplicate Reporting

CERCLA reporting requirements may duplicate or overlap with reporting requirements for some hazardous substance releases under other federal or state statutes. For example, a possible area of overlap exists between CERCLA and the Nuclear Regulatory Commission's requirements for reporting releases of certain radioactive substances. Another potential area of duplicative reporting is the overlap between CERCLA and the reporting requirements associated with the ground water monitoring requirements for facilities with interim status pursuant to RCRA (see 40 CFR 265.93). Overlaps may also exist with reporting systems established under state law.

Congress did not intend that the CERCLA reporting requirements duplicate existing notification procedures (see 126 Cong. Rec. S14965 (daily ed., November 24, 1980) (remarks of Sen. Randolph)). To ensure that the notification requirements established by CERCLA will be neither duplicative nor unduly burdensome, EPA is currently reviewing other relevant federal and state reporting requirements to identify areas where it may be possible, in the future, to eliminate redundancy and enhance the overall effectiveness of the notification procedures. For example, permit applications under other environmental statutes may supply sufficient information to show that a releaser qualifies for the alternative form of notification under Section 103(f)(2).

If reporting requirements under other statutes do not fully address the goals of CERCLA, the CERCLA notification provisions would be applicable. For example, a federal notification system for releases of hazardous materials as defined by the Department of Transportation (DOT) exists under the Hazardous Materials Transportation Act (see 49 CFR 171.15). Under the DOT regulations, immediate telephone notification to the NRC is triggered by severe accidents that cause death, injury, or serious property damage, or by release of etiologic and radiologic materials, poisons, and other agents (46 FR 17738 (March 19, 1981)). Written reports are required for all other releases. Because the DOT requirements do not cover all releases encompassed by CERCLA, the Sections 103 (a) and (b) reporting requirements currently apply and those releases must be reported to the National Response Center.

The Agency recognizes that shippers and carriers of hazardous substances, in order to comply with CERCLA notification requirements, will rely on the U.S. Department of Transportation's ("DOT's") regulatory mechanisms. The Agency intends to coordinate today's rulemaking with DOT regulations under the Hazardous Materials Transportation Act and DOT's regulatory responsibility under Section 306 of CERCLA. EPA will work with DOT to develop a cordinated and integrated set of regulations so that shippers and carriers of hazardous substances will be subject to only one set of regulations. The Agency requests comments on the proper manner of coordinating the various regulations governing releases of hazardous substances.

Reportable Quantity Adjustments

I. Introduction

Section 102(b) establishes a reportable quantity of one pound for all hazardous substances other than those with different RQs established under Section 311 of the Clean Water Act. Congress enacted this provision in part to ensure that reporting of releases would begin immediately upon enactment of CERCLA, because reporting is essential for response.

The statutory RQs were intended to be of temporary duration pending EPA review and adjustment of those RQs. To that effect, EPA committed to Congress in late 1980 to revise those reportable quantities (126 Cong. Rec. H11792 (December 3, 1980)). This rulemaking proposes adjustments to the statutory RQs based upon specific scientific and technical criteria which correlate with the possibility of hazard or harm upon the release of a substance in a reportable quantity. These revised RQs, therefore, enable the Agency to focus its resources on those releases which are most likely to pose potential threats to public health and welfare and the environment. Such RQ adjustments will also relieve the regulated community from the burden of making reports of releases which are unlikely to pose such threats.

Analysis is complete for 387 of the 696 hazardous substances designated under CERCLA. Of these 387 substances, today's rule proposes to raise 177 of the RQs established under CERCLA, to lower 28 of the RQs, and to leave the remaining 182 RQs unchanged. Eighty-nine of the 696 hazardous substances are hazardous waste streams under RCRA, rather than specific or generic substances. Analysis of 28 of these hazardous waste streams is complete. Today's rule proposes to raise the RQs of 15 of these waste streams and to leave the other 11 unchanged. These 28 are included in the 387 mentioned above. Adjustments to the statutory RQs for the other 309 substances will be proposed, if appropriate, when further analysis is complete.

The primary purpose of notification is to ensure that releasers notify the government so that the government can assess the need to respond to the release. The different RQ levels do not reflect a determination that a release of a substance will be hazardous at the RQ level and not hazardous below that level. EPA has not attempted to make such a determination because the actual hazard will vary with the unique circumstances of the release, and extensive scientific data and analysis would be necessary to determine the hazard presented by each substance in a number of plausible circumstances. Instead, the RQs reflect the Agency's judgment that the federal government should be notified of releases to which a response might be necessary. The reportable quantities, in themselves, do not represent any determination that releases of a particular size are actuall harmful to public health or welfare or the environment.

Many other considerations besides the quantity released affect the government's decision concerning whether and how it should respond to a particular release. The location of the release, its proximity to drinking water supplies or other valuable resources, the likelihood of exposure or injury to nearby populations, and other factors must be assessed on a case-by-case basis. The reporting requirement is, however, the trigger for assessments of these considerations to be made.

Because CERCLA's RQ adjustment methodology differs from that used pursuant to Section 311 of the Clean Water Act ("CWA"), some of the RQs being proposed today are not the same as those under the CWA. A person in charge need not report a release twice: one report to the NRC suffices. As discussed later in this preamble, EPA is also proposing today to adjust the CWA Section 311 RQs to be identical with those proposed under CERCLA.

II. Summary of Methodology Underl the Reportable Quantity Adjustmer

The Agency has wide discretion in adjusting the statutory RQs for hazardous substances under CERCLA:

In determining reportable quantities under this paragraph (Section 3(a)(2) of S. 1480), the President may consider any factors deemed relevant to administering the reporting requirements or the President's other responsibilities under this Act. Administrative feasibility and practicality should be primary factors. In addition, the President may revise such regulations from time to time if under-reporting or over-reporting is occurring under existing regulations (Sen. Rep 96-848, 96th Cong., 2d Sess 29 (1980))

The Agency found that it was practical to use portions of the RQ methodology established pursuant to Section 311 of the Clean Water Act in adjusting the CERCLA RQs because the regulated community and government response agencies are familiar with the CWA Section 311 reporting requirements. Section 311(b)(4) of the CWA requires reporting of discharges of certain hazardous substances into navigable waters (see 44 FR 50766 (August 29, 1979), 40 CFR Part 117). Pursuant to CWA Section 311, EPA determined reportable quantities for discharges by correlating aquatic animal toxicity ranges with five reporting categories, i.e., 1-, 10-, 100-, 1000-, and 5000-pound levels. The approach proposed today utilizes these five RQ levels but applies other criteria in addition to aquatic toxicity. The six "primary criteria" which are used to adjust RQs are:

- Aquatic Toxicity:[8]
- Mammalian Toxicity:[8]
- Ignitability;
- Reactivity;
- Other Toxic Effects,[9] and
- Carcinogenicity.

Certain of the Section 101(14) hazardous substances have been identified as potential carcinogens using the Monographs of the International Agency for Research on Cancer and the Annual Report on Carcinogens of the National Toxicology Program. Some of these are known human carcinogens. RQs are not currently being adjusted on the basis of carcinogenicity because the Agency has not completed collecting and analyzing data on carcinogenicity. When the analysis is completed, it will be published in a separate notice of proposed rulemaking. Until final promulgation of adjusted RQs for carcinogens, their RQs (like those for all other CERCLA hazardous substances) will be left at the statutory level.

In addition, the analysis of other toxic effects is not yet complete for all hazardous substances. For those substances for which this analysis is still underway, RQs are not being adjusted by today's rulemaking. Adjusted RQs will be proposed when this analysis is complete.

Each substance is evaluated according to the applicable "primary criteria" and an RQ value is determined for each applicable criterion (see Exhibits 1 through 5). The "primary criteria" RQ for each hazardous substance is the lowest value of all the applicable criteria. For example, if the Agency is able to evaluate hazardous substance A for aquatic toxicity and mammalian toxicity and sets an RQ of 100 pounds on the basis of aquatic toxicity and 1000 pounds on the basis of mammalian toxicity, the 100-pound value will be the applicable "primary criteria" RQ. This procedure is consistent with the purpose of the RQ as a trigger for notification.

The Agency then evaluates each substance according to the following "secondary criteria," which are natural dissipation processes:

- Biodegradability;
- Hydrolysis; and
- Photolysis.

The applicable "primary criteria" RQ is raised one level if an analysis of these "secondary criteria" indicates that the substance naturally dissipates when released into the environment.

The criteria selected to adjust RQs correlate with the potential harm to public health or welfare or the environment upon the release of a hazardous substance in a reportable quantity. The likelihood of harm presented by a release of these substances is a major consideration in EPA's adjustments of the RQs. No attempt has been made to correlate the RQ adjustments with actual harm or hazard. Actual harm will vary with the circumstances of the release.

Simply because two substances have the same proposed RQ does not mean that they may pose the same danger to the public health or welfare or the environment. A substance with a 100-pound RQ on the basis of mammalian toxicity may not pose the same potential hazard as a substance with a 100-pound RQ set on the basis of ignitability. The RQ only reflects the Agency's determination that the government needs to know about releases of substances which are equal to or exceed that RQ so that a decision can be made concerning the appropriate response action, if any.

Table 302.4 lists the CERCLA hazardous substances, the statutory RQs for those substances, and the proposed RQs for many of those substances. The Agency has not proposed adjusted RQs for known or suspected human carcinogens and radionuclides as well as for some substances undergoing evaluation for other toxic effects. The Agency is currently collecting and evaluating data on carcinogens, radionuclides, and substances which exhibit other toxic effects. Adjusted RQs for these substances will be proposed as appropriate, in a future rulemaking. Until final rules are promulgated, the statutory RQs apply, rather than the proposed RQs.

The method proposed to adjust RQs is discussed in greater detail below and in the Background Document to Support the Notice of Proposed Rulemaking Pursuant to CERCLA Section 102(b), available for inspection at Room S-398, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

III. Number of Reportable Quantity Levels and their Values

For purposes of RQ adjustments under CERCLA, EPA has adopted the five RQ levels of 1, 10, 100, 1000 and 5000 pounds originally established pursuant to CWA Section 311 (see 40 CFR Part 117). The Agency adopted the CWA five-level system primarily because (1) it has been successfully used pursuant to the CWA, (2) the regulated community is already familiar with these five levels, and (3) it distinguishes the broad range of potential harm posed by CERCLA hazardous substances.

The Agency considered adopting a notification system with either two or three RQ levels, because of the possibility that such a system would be easier to understand and to administer. EPA rejected these alternatives because it found that the data correlating the RQs with potential harm were so wide-ranging that a five-level ranking system was necessary. It would not be equitable to assign substances to only two or three RQ levels; a five-tier system more adequately reflects the relative differences in potential harm presented by the hazardous substances than would a two- or three-tier system.

EPA has decided to designate pounds (kilograms) as the unit of measurement for all RQs proposed today. RQs for hazardous substances were designated in pounds in CERCLA Section 102 and pursuant to CWA Section 311. Pounds provide a uniform measure not only for solids, but also for liquids and gases. EPA considered setting the RQs for hazardous substances in different units of measurement corresponding to the form of the substance released, i.e.,

[8] Toxicity is used here to refer to acute toxicity, specifically lethality.

[9] Other toxic effects considered here include toxicity due to single, repeated, or continuous exposure from a single release or multiple releases of a hazardous substance.

gallons for liquids, pounds for solids, or cubic feet for gaseous materials. This alternative was rejected because it would be much more confusing for a releaser to determine whether a reportable quantity had been released if different units were used for different forms of the same hazardous substance. The only exceptions to this approach are radionuclides, which are discussed elsewhere in this preamble.

Section 102(a) of CERCLA authorizes, and the legislative history encourages, the Administrator to set a single reportable quantity for any hazardous substance, regardless of the medium into which that substance is released. In order to develop simple and practical notification provisions, the Agency is establishing a single RQ for each hazardous substance. As the legislative history indicates:

> The provision intentionally omits from the requirement to determine "reporting" quantities any reference to harm or hazard. A single quantity is to be determined for each hazardous substance, and this single quantity requires notification upon release into any environmental medium. It would be virtually impossible to determine a single quantity applicable to all media while at the same time linking such quantity to any subjective concept of harm.
>
> It is essential that such quantities be relatively simple for those subject to notification requirements to understand and comply with. Since releases in such quantities trigger notification requirements, but do not, in and of themselves, give rise to other liabilities under this Act, the Presidents' broad discretion to select quantities will not unfairly burden those persons subject to the Act (Sen. Rep. 96-848, 96th Cong., 2d Sess. 29 (1980)).

If multiple RQs which vary in accordance with the environmental media into which the substance is released were established, it would be more difficult for the regulated community to comply with the reporting requirements. Since releases often occur into more than one medium, the releaser, under a multi-RQ format, would be uncertain which RQ would apply. Consequently, the multiple RQ approach is not being used by the Agency in this proposal. The Agency solicits comments concerning situations where different RQs may be appropriate for different media.

IV. Use of Criteria to Adjust Reportable Quantities

This section discusses the six primary criteria and the three secondary criteria used to propose adjusted RQs.

A. Primary Criteria

The proposed strategy consists of six primary criteria:

1. Aquatic Toxicity;
2. Mammalian Toxicity (including oral, dermal, and inhalation toxicities);
3. Ignitability;
4. Reactivity;
5. Other toxic effects; and
6. Carcinogenicity.

Originally, the Agency considered using only aquatic toxicity for RQ adjustments because aquatic toxicity had been used to establish RQs pursuant to the CWA. The Agency determined, however, that additional characteristics of potential hazard to human health or welfare or the environment should be taken into account. Consequently, in addition to aquatic toxicity, five other primary criteria and three secondary criteria are being applied.

1. Aquatic Toxicity. For aquatic toxicity, the categories established pursuant to Section 311 of the CWA are used (see Exhibit 1). Each of these categories is linked to one of the five RQ levels (1, 10, 100, 1000, or 5000 pounds). The RQ value based on aquatic toxicity is identical to the RQ promulgated under CWA Section 311 except where the use of updated aquatic toxicity data has resulted in different RQs. For 22 substances, the Agency has updated the aquatic toxicity data used to set the CWA Section 311 RQs. For 11 of these 22 substances, RQs are being proposed on the basis of this updated data. Four of these would have been lowered on the basis of other criteria even in the absence of revised aquatic toxicity data. For 10 other of these substances, adjusted RQs are not proposed because analysis is still underway for other toxic effects and/or carcinogenicity. One other RQ is not lowered because of the application of the secondary criteria.

A lower RQ is proposed for PCBs on the basis of revised aquatic toxicity data. Under CWA Section 311, the RQ for PCBs was originally set at 10 pounds; in today's proposed rulemaking, a 1-pound RQ is assigned. Because of the widespread use of PCBs, the Agency is concerned about the effect of this change on the number of release notifications made by the regulated community. Increased notification may result from reports of ruptures of transformers and capacitors containing PCBs in electrical transmission systems. The Agency requests data, information, and comments on the likely number of notifications and on the effect of these notifications on protection of public health and welfare and the environment.

EXHIBIT 1.—CATEGORIES FOR REPORTABLE QUANTITY ASSIGNMENTS PURSUANT TO CWA SECTION 311

RQ pounds	Aquatic toxicity	Category
1	LC_{50} < 0.1 mg/l	E
10	0.1 mg/l < LC_{50} < 1 mg/l	A
100	1 mg/l < LC_{50} < 10 mg/l	B
1 000	10 mg/l < LC_{50} < 100 mg/l	C
5 000	100 mg/l < LC_{50} < 500 mg/l	D

* "LC_{50}" refers to that concentration of material which is lethal to one-half of the test population of aquatic animals upon continuous exposure for 96 hours. (See 40 CFR 116.14.)

Source: 43 FR 10492 (March 13, 1978)

2. Mammalian Toxicity. Three types of mammalian toxicity were evaluated: oral, dermal, and inhalation toxicities. A five-level scale was devised for each. (see Exhibit 2). The RQ chosen for mammalian toxicity represents the lowest of the values derived from these three scales.

A substance was rated as toxic on the basis of its LC_{50} or LD_{50} value, which is the concentration or dose of a substance which causes the death of 50% of a defined experimental animal population. Upper-bound toxicity values were identified for each of the three scales. These values were correlated with a 5000-pound RQ value. The upper-bound toxicity limit of 200 mg/kg for dermal toxicity was adopted from toxicity screening criteria considered for designating hazardous substances under the Clean Water Act (40 FR 59966 (December 30, 1975)). The upper-bound toxicity limit of 2,000 ppm for inhalation toxicity was adopted from a study performed by the National Academy of Sciences for the U.S. Coast Guard (USCG-D-113-74, System for Evaluation of the Hazards of Bulk Water Transportation of Industrial Chemicals, February 1974). An upper-bound oral (ingestion) toxicity value of 500 mg/kg was adopted based on the assumption of a "standard man" (70 kg body weight, swallow volume of 21 cubic centimeters) being exposed to a situation which would allow him to take one swallow of a hazardous substance. (The one swallow assumption for a 15 kg child also yields a 500 mg/kg upper oral toxicity limit.)

Once the upper-bound toxicity levels were chosen, the toxicity ranges in Exhibit 2 for the 1-, 10-, 100-, 1000-, and 5000-pound reportable quantity categories were scaled for mammalian toxicity in the same ratios as the ranges for aquatic toxicity in Exhibit 1. High RQs (1000 or 5000 pounds) were assigned to substances with low toxicity, while low RQs (1 or 10 pounds) were assigned to substances with high toxicity.

EXHIBIT 2.—CATEGORIES FOR REPORTABLE QUANTITY ADJUSTMENTS BASED ON MAMMALIAN TOXICITY *

RQ (pounds)	Mammalian Toxicity (oral)	Mammalian Toxicity (dermal)	Mammalian Toxicity (inhalation)
1	LD_{50} * < 0.1 mg/kg	LD_{50} < 0.04 mg/kg	LC_{50} * < 0.4 ppm
10	0.1 mg/kg < LD_{50} < 1 mg/kg	0.04 mg/kg < LD_{50} < 0.4 mg/kg	0.4 ppm < LC_{50} < 4 ppm
100	1 mg/kg < LD_{50} < 10 mg/kg	0.4 mg/kg < LD_{50} < 4 mg/kg	4 ppm < LC_{50} < 40 ppm
1 000	10 mg/kg < LD_{50} < 100 mg/kg	4 mg/kg < LD_{50} < 40 mg/kg	40 ppm < LC_{50} < 270 ppm
5 000	100 mg/kg < LD_{50} < 500 mg/kg	40 mg/kg < LD_{50} < 200 mg/kg	400 ppm < LC_{50} < 2000 ppm

* For a detailed explanation of the derivation of these categories, see Background Document to Support the Notice of Proposed Rulemaking Pursuant to CERCLA Section 102(b)
* "LD_{50}" refers to that dose of a substance expected to cause the death of 50 percent of a defined experimental mammal population.
* "LC_{50}" refers to that concentration of a substance in the air that is expected to cause the death of 50 percent of a defined experimental mammal population.

Although the three mammalian toxicity scales and their respective RQ categories and poundage levels are included in Exhibit 2, this does not imply that the individual scales are equivalent to each other. Each scale is independent; the same ranking on different scales does not necessarily represent equivalent potential danger to public health or welfare or the environment.

3. Ignitability. A five-level scale was also developed for ignitability (see Exhibit 3). The Agency adopted, in large part, the ignitability scale developed by the National Academy of Sciences (NAS) for the U.S. Coast Guard (see USCG–D–113–74, System for Evaluation of the Hazards of Bulk Water Transportation of Industrial Chemicals, February 1974). The NAS ignitability scale provides the following five categories:

- Extremely Hazardous—Flash Point (FP) (cc) [10] < 100° F (37.8° C) and Boiling Point (BP) [10] < 100° F (37.8° C).
- Highly Hazardous—FP (cc) < 100° F (37.8° C) and BP > 100° F (37.8° C).
- Hazardous—100° F (37.8° C) < FP(cc) < 140° F (60° C).
- Slightly Hazardous—FP (cc) > 140° F (60° C).
- Insignificant Hazard—Noncombustible.

EXHIBIT 3.—CATEGORIES FOR REPORTABLE QUANTITY ADJUSTMENTS BASED ON IGNITABILITY *

RQ (pounds)	Ignitability (fire)
1	No 1-pound RQs on the basis of ignitability.
10	Pyrophoric or self-ignitable.
100	FP_a * < 100° F, BP_a < 100° F
1000	FP_a < 100° F, BP_a > 100° F.
5000	100° F < FP_a < 140° F.

* For a detailed explanation of the derivation of these categories, see Background Statement to Support the Notice of Proposed Rulemaking Pursuant to CERCLA Section 102(b)
* "FP_a" refers to the flash point, the temperature at which a substance forms an ignitable mixture with the air at the surface of the substance, measured using the closed cup test.
* "BP" refers to the boiling point, the temperature at which a liquid boils.

This scale does not correlate these categories with RQ levels; the Agency established the correlation between ignitability categories and RQ levels as described below.

[10] These terms are defined in Exhibit 3.

The Agency adjusted the NAS scale by adding a new category, "pyrophoric" substances (those substances capable of igniting spontaneously). The "pyrophoric" category was added because the Agency believes that spontaneous ignitability is an important potential hazard that should be considered in adjusting RQs. The Agency also modified the NAS scale by deleting the "non-combustible" and "slightly hazardous" categories. The Agency did not use the "non-combustible" category because releases of non-combustible materials do not warrant government response on the basis of ignitability. The "slightly hazardous" (flash point > 140° F) category was deleted because the RCRA regulations use 140° F as the cut-off point for regulating liquid hazardous wastes on the basis of ignitability. (See 40 CFR § 261.21.) Therefore, the Agency has determined that substances with a flash point above 140° F do not pose a sufficient potential hazard to warrant a 5000-pound RQ on the basis of ignitability.

The Agency decided to use four rather than five RQ levels for ignitability. The 1-pound RQ level was abandoned because small releases (less than 10 pounds) of flammable substances, if ignited, will generally be consumed so quickly that any federal government response action would be infeasible. Since notification of these releases would generally not trigger any federal government response activities, the Agency eliminated the 1-pound RQ level for the ignitiability criterion. The Agency then assigned RQ values of 10, 100, 1000 and 5000 pounds to the revised NAS ignitability scale.

4. Reactivity. Five-level scales were developed for reactivity (see Exhibit 4) based in large part upon NAS scales developed for the U.S. Coast Guard. The NAS established two scales for reactivity: reactivity with water and self-reaction. The NAS scales provide these categories:

	Water reaction *	Self-reaction
Extremely hazardous	e.g. SO_3	Self-reaction may cause explosion or detonation.
Highly hazardous	e.g. oleum, chlorosulfonic acid	May polymerize, requires stabilizer
Hazardous	e.g. NH_4Cl	Contamination may cause polymerization, no inhibitor required
Slightly hazardous	e.g. Cl	May polymerize with low heat evolution.
Insignificant hazard	No appreciable reaction.	No appreciable self-reaction.

The Agency established the correlation between these categories and RQ levels as described below.

The Agency adjusted the NAS reactivity with water scale by adding a new category, "inflames" with water. The "inflames" with water category was added because the Agency believes that the potential hazard caused by inflaming with water should be considered in adjusting RQ values. The Agency further modified the reactivity with water scale by deleting the "no appreciable reaction" and "slightly hazardous" categories. The "no appreciable reaction" category was deleted because the federal government need not be informed of releases on the basis of their reactivity with water if no appreciable reaction will occur. The "slightly hazardous" category was deleted because substances falling into this category, such as chlorine, do not pose a sufficient potential hazard to warrant a 5000-pound RQ on the basis of reactivity with water.

EXHIBIT 4.—CATEGORIES FOR REPORTABLE QUANTITY ADJUSTMENTS BASED ON REACTIVITY *

RQ (pounds)	Reactivity *	
	With water	Self-reaction
1	No 1 pound RQs on the basis of reactivity	
10	Inflames e.g., Na, CaC_2	Extreme self-reaction; may cause explosion or detonation.
100	Extreme reaction e.g., SO_3	High; may polymerize; requires stabilizer
1,000	High reaction e.g. oleum	Moderate; contamination may cause polymerization; no inhibitor required.

EXHIBIT 4.—CATEGORIES FOR REPORTABLE QUANTITY ADJUSTMENTS BASED ON REACTIVITY.—Continued

RQ (pounds)	Reactivity *	
	With water	Self-reaction
5,000	Moderate reaction e.g., NH_3	Slight; may commence with low heat release.

* For a detailed explanation of the derivation of these categories, see Background Document to Support the Notice of Proposed Rulemaking Pursuant to CERCLA Section 102(b).
* Based on heat release.

Similarly, the Agency adjusted the NAS self-reaction scale by deleting the "no appreciable reaction" category because the Agency believes that releases of substances would not warrant response on the basis of their self-reaction when no appreciable reaction will occur.

For both the reactivity with water and self-reaction scales, only four (rather than five) RQ levels were utilized by the Agency. The 1-pound RQ level was not used for adjusting RQs on the basis of reactivity because small releases (less than 10 pounds) of reactive substances will generally be consumed so quickly that any federal government response action would be infeasible and they are generally handled adequately by appropriate local or state response personnel. Therefore, the Agency has assigned RQ values of 10, 100, 1000 and 5000 pounds to both of the reactivity scales.

5. Other Toxic Effects. Data on other toxic effects have been used to adjust the statutory RQs for some of the hazardous substances, while for other hazardous substances, data on other toxic effects are still being evaluated by the Agency. RQ adjustments for the 221 hazardous substances which are still being analyzed for this criterion will be proposed, where appropriate, once the analysis is complete. Proposed RQs are not shown in Table 302.4 for these substances. The procedure for analyzing the other toxic effects of a substance is based upon the following data:

- The minimum effective dose (MED) levels for repeated exposures (mg/day for 70 kg man); and
- The type of effect (liver necrosis, birth defects, etc.) likely to be caused by repeated or continuous exposure.

Toxic effects, such as reproductive abnormalities, from single exposures will be considered in adjusting RQs when sufficient data are available.

The adjusted MED levels, the dose rating, range from 1 to 10, and are inversely proportional to the minimum effective dose (MED). Therefore, a substance which has an effect only when a very large dose is administered was assigned a rating of 1, and one which has an effect after a very small dose is administered was assigned a rating of 10. A logarithmic transformation has been employed to adjust the MED levels (which actually cover six orders of magnitude) to a scale of 1 to 10.

The type of effect likely to be caused by repeated or continuous exposure to each hazardous substance was also scored on a scale ranging from 1 to 10. A score of 1 was assigned to such minor effects as enzyme induction or other biochemical change with no pathological change or organ weight change, while scores of 9 and 10 were assigned for pronounced pathological changes, organ dysfunction, neuropathy with loss of motor control, behavior control, or sensory ability, reproductive dysfunction, teratogenic effects, pronounced life-shortening, or death.

Each substance is assigned a final composite score based on the product of the adjusted MED (dose rating) and effects score. The composite score can thus range from 1 to 100, and RQs are assigned by equating the 5000-pound level to low composite scores, the 1-pound level to high composite scores, and the other RQ levels to the intermediate ranges of composite scores as shown in Exhibit 5. In this manner, a substance that has a minor effect and requires a high dose for such an effect will be assigned a high RQ, while a substance that may present more danger because of major effects manifested at low dose levels will be assigned a low RQ.

Some commenters claimed that it was inappropriate for the Agency to use toxicity data from repeated or continuous exposures in developing RQs for hazardous substances because most one-time spill situations and/or episodic releases do not result in repeated or continuous exposures. EPA decided to use this criterion because episodic releases which are not totally cleaned up may indeed cause repeated or continuous exposures to a toxic substance. For example, a spill of a hazardous substance may contaminate an aquifer which could lead to repeated exposure through drinking water. Moreover, CERCLA covers both episodic and continuous releases. Continuous releases, by their very nature, may lead to repeated or continuous exposure to toxic substances.

The procedure for other toxic effects has not been applied to all hazardous substances. EPA limited its analysis to substances that might exhibit other toxic effects and did not evaluate substances already at the proposed 1-pound RQ level, the lowest RQ level.

EXHIBIT 5.—CATEGORIES FOR REPORTABLE QUANTITY ADJUSTMENTS BASED ON C[illegible] TOXIC EFFECTS *

RQ (pounds)	Composite score
1	81-100
10	41-80
100	21-40
1,000	6-20
5,000	1-5

* For a detailed explanation on the derivation of these categories see Background Document to Support the Notice of Proposed Rulemaking Pursuant to CERCLA Section 102(b).

6. Carcinogenicity. The Agency has identified carcinogenicity as one of the primary criteria to be used in setting RQs. The Agency is currently collecting and evaluating data on the carcinogenicity of the 192 CERCLA hazardous substances that have been identified as known or suspected human carcinogens using the International Agency for Research on Cancer (IARC) Monographs and the National Toxicology Program's Annual Report on Carcinogens (see the "Second Annual Report on Carcinogens," U.S. Department of Health and Human Services, December 1981). Of these 192 substances, 104 are also in the process of being analyzed for other toxic effects. EPA has developed a procedure for RQ adjustments for carcinogens. This assessment procedure utilizes a carcinogen hazard ranking based on a substance's strength as a carcinogen using potency factor estimates and the strength of evidence for carcinogenicity using the IARC criteria. It will be fine-tuned after the data collection and evaluation is completed and it will be discussed in detail in the forth coming proposal to adjust RQs for carcinogens. While a different approach will be used for carcinogenicity than for other toxic effects, it will be no less protective of public health and welfare and the environment.

7. Combining the Primary Criteria. Many substances may pose a threat to human health or welfare or the environment based upon several of the primary criteria listed above. If a substance poses a potential hazard based on more than one of the criteria, the "primary criteria" RQ selected is the lowest value identified for any of the applicable criteria. This procedure helps assure that the government will be notified of the most serious potential hazards to the public health or welfare or the environment. The use of the lowest value for the "primary crit[illegible] RQ is appropriate because the RQ is merely the trigger for alerting the government to a release; the government

will not necessarily respond to all reported releases.

The methodology used to develop an RQ for the hazardous substance crotonaldehyde (CAS Nos. 4170-30-3 and 123-73-9) demonstrates how the primary criteria are combined. Under today's proposal, crotonaldehyde's aquatic toxicity correlates with a 100-pound RQ while its mammalian toxicity would suggest an RQ of 5000 pounds. Its ignitability correlates with a 1000-pound RQ. It is not sufficiently reactive to assign it an RQ on the basis of the reactivity criterion. It does not exhibit other toxic effects nor has it been identified by the sources discussed above as a known or suspected human carcinogen. Pursuant to the strategy discussed above, the "primary criteria" RQ of crotonaldehyde is 100 pounds.

Some commenters have suggested that RQs should be selected on the basis of the criterion associated with the medium into which releases of a particular substance most frequently occur. For example, it has been suggested that ammonia [11] is usually released into the air, yet it is very toxic in water. Setting the RQ for ammonia based on aquatic toxicity, then, may result in an RQ lower than necessary for most releases of ammonia. EPA is not selecting this approach because (1) data are not generally available to identify the most prevalent release medium for most CERCLA hazardous substances; (2) even where data are available, it is difficult to determine the prevalent medium of release for substances that are released into more than one medium; and (3) setting RQs on the basis of the most prevalent release medium may prevent the government from learning of releases into other media that pose greater hazards.

B. Secondary Criteria

Certain of the primary criteria RQs have been further adjusted using factors, referred to here as secondary criteria, that reflect natural dissipation processes which may reduce the risk posed by the release of a hazardous substance.

Three processes—biodegradability, hydrolysis, and photolysis—have been used as secondary criteria for adjusting the proposed RQs:

- Biodegradability is the degree to which a substance is capable of being degraded into less complex chemicals by biological means (e.g., enzyme-catalyzed degradation of chemicals by microorganisms in aquatic and soil environments);
- Hydrolysis is a chemical reaction resulting from the addition of water that splits a bond between chemical units and that introduces a hydroxyl group (—OH) into the chemical structure (i.e., $RX + H_2O \rightarrow ROH + HX$); and
- Photolysis is a process that occurs when a chemical absorbs light and then undergoes an energy transformation by any one of several mechanisms (e.g., dissociation, rearrangement, or excitation).

If a hazardous substance is subject to transformation into a less hazardous form by one of these processes once it is released into the environment, the "primary criteria" RQ was raised one level (e.g., from 10 pounds to 100 pounds). A hazardous substance is considered to be subject to this transformation if either its biodegradation is demonstrated by standard biological oxygen demand tests or the substance is identified, in "Water Related Environmental Fate of 129 Priority Pollutants," EPA-440/4-79-029 a and b, as subject to hydrolysis or photolysis. If natural processes in the environment mitigate the effect of releases of certain hazardous substances, EPA believes that small releases of these substances would be less likely to merit notification to the NRC. The one-level increase in RQs reflects the Agency's judgment that the danger posed by the release of certain substances will be minimized due to these dissipation processes.

The application of the secondary criteria resulted in raising the RQs of 28 substances. The secondary criteria are not used in this proposal to raise RQs that are based on other toxic effects. The "primary criteria" RQ is the proposed RQ for these substances.

C. Results of the Proposed Methodology

Data were available to assign RQs on the basis of the primary criteria for most of the CERCLA hazardous substances. Six substances [12] on which little data were available on the primary criteria were assigned RQs based on the proposed RQs for hazardous substances similar in structure and substituents. The specific cases are detailed in the Background Document to Support the Notice of Proposed Rulemaking Pursuant to Section 102(b).

In addition, because releases of hazardous substances are often exposed to water, the RQs of a few substances were set based on the potential hazards posed by the products resulting from the substances' reaction with water. For example, ammonium fluoride dissolves in water to form hydrofluoric acid and, therefore, the proposed RQ for ammonium bifluoride is based on the application of the primary and secondary criteria to hydrofluoric acid. See the Background Document to Support the Notice of Proposed Rulemaking Pursuant to Section 102(b).

Table 302.4 lists all of the CERCLA hazardous substances, together with their statutory RQs and their proposed RQs where applicable. The first part lists the individual hazardous substances regulated under the statutes cited in CERCLA Section 101(14). The generic groups of chemicals designated under CWA Section 307(a), such as "SILVER AND COMPOUNDS," are printed in all capital letters and have no RQ assigned to them. [13] These generic groups of chemicals could potentially encompass hundreds of specific compounds with varying toxicities. Consequently, it is not appropriate to establish one RQ for each generic group.

The second part contains the 89 hazardous waste streams designated under 40 CFR 261.31 and 261.32 (RCRA F and K lists). The Agency designated many of these waste streams as hazardous under RCRA because of the presence of specific hazardous constituents in the waste streams as set forth in Appendix VII of 40 CFR Part 261. The Agency is proposing RQs for these waste streams based on these hazardous constituents. The primary and secondary criteria, discussed above, were applied to each hazardous constituent in order to derive an RQ value. If a waste stream in 40 CFR 261.31 and 261.32 has more than one hazardous constituent, the RQ assigned the particular waste stream represents the lowest RQ associated with the hazardous constituents present in that waste stream. To illustrate this process, assume that a hypothetical waste stream has three hazardous constituents—X, Y, and Z—and that the RQs associated with these hazardous constituents are: X = 10 pounds, Y = 1,000 pounds, and Z = 5000 pounds. The RQ for this hypothetical waste stream is, therefore, 10 pounds—the lowest RQ associated with any of its hazardous constituents.

EPA has proposed an RQ for each of the RCRA F001 through F005 waste streams. The Agency has also proposed individual adjusted RQs for many of the hazardous solvents listed under these

[11] An adjusted RQ for ammonia is not proposed in this rulemaking because it is being examined for other toxic effects.

[12] The substances are:
1. Methane, dibromo- (methylene bromide)
2. Nitrophenols
3. Dinitrophenol
4. Hexachlorocyclobutadiene (all isomers)
5. Diisopropanolamine
6. 4-Chlorophenyl phenyl ether

[13] The one exception to this approach is the RQ for PCBs. PCBs are assigned an RQ because they were previously designated under Section 311 of the CWA.

waste streams. Adjusted RQs are not proposed for certain solvents that are undergoing analysis for other toxic effects or carcinogenicity. The waste stream RQ is the lowest RQ assigned to any individual solvent listed under that waste stream. A releaser may use the RQ for the individual solvent, rather than the RQ for the waste stream, if he can establish the indentity of the specific solvents which have been released. When the releaser is unsure of the identity of the solvents that have been released, the RQ for the waste stream must be used. For example, assume that a hypothetical waste stream, FOOX, has three solvents listed under it in Table 302.4, Solvent A, Solvent B, and Solvent C. The RQs associated with these solvents are: A = 10 pounds, B = 100 pounds, and C = 1000 pounds. Therefore, the RQ for the waste stream FOOX is 10 pounds, the lowest RQ associated with any of the individual solvents identified under FOOX. This RQ must be used unless the releaser knows which specific solvents are being released.

D. Special Types of Substances

Several types of substances, notably unlisted ICRE wastes and radionuclides, pose special problems for RQ adjustment and require separate discussion.

1. Unlisted RCRA Wastes (ICRE Wastes). As noted previously, the CERCLA hazardous substances include hazardous wastes which exhibit the characteristics of ignitability, corrosivity, reactivity, and extraction procedure toxicity, but which are not specifically listed as hazardous wastes. These are commonly known as unlisted ICRE wastes (see 40 CFR 261.20 through 40 CFR 261.24). These wastes were all given a statutory RQ of one pound under CERCLA.

The Agency is proposing an RQ of 100 pounds for the unlisted hazardous wastes exhibiting the characteristics of ignitability, corrosivity, and reactivity (40 CFR 261.21, 261.22, and 261.23). Because the constituents of these unlisted wastes are generally unknown, it is impossible to apply the primary and secondary criteria to these wastes. The Agency has arrived at the 100-pound RQ by assuming that these wastes will, on the average, fall within the middle level of the five RQ levels, i.e., 100 pounds.

An alternative approach to setting RQs for unlisted ignitable, corrosive, and reactive wastes is to base the RQs on the RQs assigned to similar substances, namely listed hazardous wastes. The RQ proposed most often for hazardous wastes assigned on the basis of reactivity is 10 pounds while the RQ proposed most often for hazardous wastes on the basis of ignitability is 1000 pounds. Under this alternative approach, unlisted wastes that are reactive would be assigned an adjusted RQ of 10 pounds, while ignitable unlisted wastes would have a 1000-pound RQ. Corrosivity is not a primary or secondary criterion, so this approach could not be used to set an RQ for unlisted corrosive wastes. Another problem with this approach is that EPA has not determined that listed and unlisted hazardous wastes pose similar potential hazards. The Agency, therefore, has selected the 100-pound RQ for unlisted ignitable, corrosive, and reactive wastes. Comments on the proposed RQ for unlisted ignitable, corrosive, and reactive wastes are requested.

Although the primary and secondary criteria cannot be applied to the unlisted wastes exhibiting ignitability, corrosivity, or reactivity, they can be applied to the wastes exhibiting extraction procedure (EP) toxicity. Because EP toxicity is defined in 40 CFR 261.24 as the presence of certain minimum concentrations of 14 specific materials (contaminants) in the extract from the waste after performing a defined extraction procedure, the primary and secondary criteria have been applied to each contaminant. Thus, there are separately listed RQs for each of the 14 different EP toxic wastes. For wastes containing one of the 14 contaminants, the corresponding proposed RQ is found in Table 302.4 under the entry "Unlisted Wastes, Characteristic of EP Toxicity," unless RQ adjustment is being deferred for the contaminant because an analysis of other toxic effects or carcinogenicity must still be performed (i.e., arsenic, cadmium, chromium (VI), lead, and selenium).

If more than one contaminant is found in an EP toxic hazardous waste, the EP toxicity RQ is based on the lowest RQ for any EP toxic contaminant present. If an unlisted hazardous waste exhibits the characteristics of EP toxicity, as well as one of the other characteristics, it will be assigned the lowest applicable RQ.

Comments on the proposed RQs for unlisted ICRE wastes are requested.

2. Radionuclides. Radionuclides are hazardous substances under CERCLA because they were designated as hazardous air pollutants pursuant to Section 112 of the Clean Air Act. Today's proposed rule does not adjust the RQ for radionuclides. The Agency will adjust the RQ for radionuclides in a future rulemaking; until that time, the statutory 1-pound RQ is applicable.

The Agency is considering several issues for future adjustments to radionuclide RQs. Two major related issues are:

- The units the Agency should use to measure RQs; and
- Whether one RQ should be set for all radionuclides or whether different RQs for specific radionuclides should be used.

EPA recognizes that the pound is not a suitable unit in which to measure the RQ for radionuclides, because releases much smaller than one pound can seriously threaten public health or welfare or the environment. EPA is currently considering two alternative types of measurement units for radionuclide RQs, dose-equivalents and activity levels. Dose-equivalents (usually measured in rems) are used for comparing biological effects of radiation on tissue. The activity level of a radionuclide release (measured in becquerels or curies), on the other hand, is the actual number of disintegrations of radionuclide atoms per unit time.

The category of radionuclides includes over a hundred specific substances. The Agency is considering whether to set one RQ for all radionuclides, or different RQs for specific radionuclides. A generic RQ for all radionuclides might be established in the form of a dose-equivalent. If the Agency list RQs for specific radionuclides, then the RQs will be listed in the form of activity levels. The potential effects of a radionuclide release and subsequent exposure depend not only on the number of disintegrations, but also on the kinds of radiation (alpha, beta, or gamma) and the energies of each, as well as the unique circumstances of the release. Thus, different hazards are posed by individual radionuclides depending upon the different types of radiation emitted, and different RQs in activity levels are appropriate if individual radionuclides are listed.

In order to select an approach, EPA is considering its prior experience as well as the experiences of other federal, state, and international agencies. For a discussion of radionuclides, see Background Document to Support the Notice of Proposed Rulemaking Pursuant to CERCLA Section 102(b), Supplementary Report: Radionuclides, available for inspection at Room S- U.S. Environmental Protection Age 401 M Street, S.W., Washington, D.C. 20460.

E. Additional Criteria Considered But Not Currently Used for Adjusting Reportable Quantities.

As noted earlier, EPA has wide discretion in adjusting reportable quantities. The legislative history indicates that:

> In determining reportable quantities under this paragraph (Section 3(a)(2) of S 1480), the President may consider any factors deemed relevant to administering the reporting requirements or the President's other responsibilities under this Act. Administrative feasibility and practicality should be primary factors. In addition the President may revise such regulations from time to time if under-reporting or over-reporting is occurring under existing regulations (Sen. Rep. 96-848, 96th Cong., 2d Sess. 29 (1980)).

EPA is considering using the criteria discussed below to adjust RQs, but has not incorporated these criteria into the RQ adjustments proposed today. This criteria include:

- Release History
- Release Potential
- Corrosivity

The Agency solicits comments on whether and how to use these or other feasibility or practicality criteria in implementing a simple notification system. In particular, the Agency solicits comment on the purely administrative criteria discussed under release history and release potential and on any additional administrative criteria which may be used to adjust RQs. More generally, EPA is interested in soliciting comments from persons who are familiar with characteristics of hazardous substances and common industry practices for handling these substances, in order to identify additional factors not currently used by EPA that might be appropriate for adjusting RQs. The Agency will consider such criteria in promulgating final RQ adjustments, if appropriate.

1. Release History. As the Agency gains experience in handling reports of releases of CERCLA hazardous substances, it may find that some substances are frequently released in situations that require an emergency response. Such release history might be used to adjust RQs. For example, if EPA has in the past responded to 100-pound releases of hazardous substances, an RQ of 100 pounds may be appropriate.

In an analysis of release history, EPA would evaluate past releases to determine how often a response was necessary, and, if so, what type of response was required. This analysis would include consideration of the medium into which the releases take place, the frequency with which releases occur, the geographic location and circumstances of releases, the kind of equipment or techniques necessary to eliminate the hazard after releases have occurred, the cost of response, the type of terrain on which the releases of the substance occur, and estimates of the success of the responses. If analysis of these factors indicates that federal response has generally not occurred or is not necessary for reported releases of a particular substance, the RQ for that substance could be raised. The legislative history, which states that regulations may be revised if under-reporting or over-reporting occurs, encourages such an approach.

Although the National Response Center and EPA and Coast Guard districts have received hazardous substance spill notifications for several years, the data on release history are limited. The CWA Section 311 substances released into navigable waters and transportation-related releases provide a substantial history of release patterns, but not all the CERCLA hazardous substances have been subject to reporting requirements pursuant to CWA Section 311. Similarly, until passage of CERCLA, not all releases of CERCLA hazardous substances have been uniformly subject to DOT reporting requirements. Even in the absence of systematic and comprehensive records concerning release history, RQ adjustments might be based on the experience and and judgment of On-Scene Coordinators familiar with the type of response appropriate for releases of hazardous substances.

2. Release Potential. Several factors may be used to predict the likelihood that hazardous substances will be released into the environment. These include: (a) distribution mode, (b) transportation mode, and (c) packaging and containerization. The Agency might raise the proposed RQs for substances that are less likely to be released and lower the RQs for substances that are more likely to be released.

(a) *Distribution mode.* Some hazardous substances are produced exclusively as intermediates for use in the same plant location which produces the intermediates. Other hazardous substances may be produced at locations that are fairly close to the plants at which they are consumed and converted into other substances. Where only a few plants produce the hazardous substance or where the consuming plants are either at the same site or nearby, the RQ suggested on the basis of the primary and secondary criteria may be relaxed because of the relatively small risk of release from the limited distribution of the hazardous substance.

(b) *Transportation mode.* The mode of transportation, e.g., rail, truck, or barge, may have an influence on the likelihood of a release. If some hazardous substances are generally shipped by a transportation mode that exposes them to a particularly high risk of large releases, the RQ may be reduced. hazardous substances which are primarily shipped by safer modes of transportation might have their RQs increased.

(c) *Packaging and containerization.* The method of packaging a hazardous substance could be used to modify its RQ. Substances that are usually packaged in a fashion that substantially reduces the likelihood of release (such as very high-priced substances) may be assigned RQs on the basis of the smallest package size. There is also likely to be some correlation between the size of a container normally used for shipping and the amount of a hazardous substance that is likely to be released because a release from only one container is more likely than a release from a number of containers simultaneously. RQs might therefore be set on the basis of container sizes for some substances.

It is not clear that adjustment of RQs on the basis of release potential would result in a significant reduction in reporting burden. If a substance is rarely released because of special handling, packaging, or distribution, then reporting costs may be insignificant regardless of whether the RQ is low or high. Therefore, raising the RQs of substances that have a low release potential may not affect the reporting burden. Moreover, regardless of how likely or unlikely a release is, notification may be necessary for releases that may pose a significant threat to the public health or welfare or the environment.

EPA solicits comments on the appropriateness of using feasibility or practicality criteria for adjusting RQs, in light of EPA's authority to consider any factors deemed relevant to administering the CERCLA reporting requirements.

3. Corrosivity. Corrosivity is one of the four criteria RCRA uses as a basis for regulating unlisted hazardous wastes (ignitability, corrosivity, reactivity, and EP toxicity) and therefore was considered for setting RQs under CERCLA. Corrosivity may be important in determining the potential hazard of a release because corrosive substances can cause injury and property damge.

Corrosivity has not been used as a criterion for assigning RQs under CERCLA because EPA has not developed or identified an appropriate

scale for rating corrosivity. The RCRA regulations define the characteristic of corrosivity in terms of pH ranges and rate of attack on steel (40 CFR 261.22; 45 FR 33122 (May 19, 1980) and 46 FR 35247 (July 7, 1981)). The pH ranges apply only to aqueous wastes and the rate of attack on steel test applies only to liquids. If EPA used a corrosivity scale based on these tests, corrosivity could not be used to adjust RQs when the hazardous substances were neither in aqueous solutions nor were liquids, despite the fact that such substances might pose potential hazards due to corrosivity. The Agency attempted to apply other tests and existing data in developing a corrosivity scale, but was unable to establish a five-level scale that addressed the corrosivity of all of the CERCLA hazardous substances. Accordingly, corrosivity was not used as a criterion in adjusting RQs.

F. Additional Criteria Considered, But Rejected

EPA considered, but rejected, using the additional criteria discussed below to adjust RQs. The Agency solicits comment on whether these criteria should be used to adjust RQs.

1. Ease or Difficulty of Cleanup. When a substance is easy to clean up, the releaser may be more willing to take cleanup action. Notification might therefore be unnecessary since the government would not need to respond. If, however, a substance is particularly difficult to clean up or presents unique cleanup requirements, the releaser may be less likely to clean up even small releases of the substance unless required to do so and given assistance. One possible criterion for setting RQs, then, is to determine the ease or difficulty of cleanup and adjust RQs for certain substances so that easily-cleaned up substances receive higher RQs and substances with unique cleanup requirements receive lower RQs.

EPA has not included ease or difficulty of cleanup as a criterion because ease of cleanup does not guarantee that the releaser will actually take cleanup action nor do unique cleanup requirements necessarily mean that proper response will not taken by the releaser. Thus, it has not been possible to correlate the ease or difficulty of cleanup with the government's need to know of a release in order to determine what response action to take, if any.

2. Volatilization. RQs could be adjusted based upon a substance's tendency to volatilize, the process by which a substance vaporizes into the air. Volatilization is a transport process that could be used as a criterion for RQ adjustments along with biodegradability, hydrolysis, and photolysis.

EPA is not using this criterion in the RQ adjustment process because the hazard posed by a release of a hazardous substance does not necessarily decrease when the substance moves from soil or water into the air. Only the medium changes, not the hazardous characteristics of the substance.

V. Alternative Methodologies Considered

The Agency has considered several other methodologies for adjusting RQs but is not currently using them for the reasons given below. The Agency solicits comments on these methodologies, particularly any additional data that could facilitate a more complete evaluation of any of them.

A. Hazard Index

A hazard index (HI) can be used to assign to each hazardous substance a single number that represents the potential hazard of that substance when released to all media. Low RQs could be assigned to substances with high HI numbers, and high RQs to substances with low HI numbers. The HI number could be calculated by:

(1) Identifying the criteria that would be used to rate the potential hazards associated with each substance;

(2) Rating each substance on the basis of each criterion according to the potential hazard posed by the substance for that criterion; and

(3) Combining the ratings in an equation that reflects the weight to be given to each criterion.

The rating of the various criteria would be based on existing data and can take into consideration any or all of the primary and secondary criteria, as well as other criteria. The criteria can be grouped into five general categories, as outlined in Exhibit 6. The following are examples of different ways the ratings can be combined to form two unique hazard index equations:

HI = (Health Effects)x (Aggravating Characteristics) + (Welfare Effects)x (Mitigating Transformation Characteristics)

or

HI = (Health Effects) + (Welfare Effects) + (Aggravating Characteristics) + (Environmental Mobility).

Many other equations are possible. After the ratings are combined and a single numerical value obtained for each hazardous substance, reportable quantities would be assigned to groups of chemicals with similar hazard index scores.

EXHIBIT 6—POSSIBLE CATEGORIES OF CRITERIA FOR DEVELOPING A HAZARD INDEX

Health Effects

- Carcinogenicity
- Mutagenicity
- Teratogenicity
- Toxicity

Welfare Effects

- Ignitability
- Explosivity
- Corrosivity
- Reactivity
- Aquatic Toxicity

Aggravating Characteristics

- Persistence
- Bioaccumulation
- Toxic Combustion Products

Mitigating Transformation Characteristics

- Biodegradation
- Hydrolysis
- Photolysis
- Oxidation

Environmental Mobility

- Volatility
- Solubility

There are major differences between using a hazard index and using the methodology being proposed today. Under the proposed methodology, the primary criteria are evaluated independently and the proposed RQ is based on the primary criterion that yields the lowest RQ value identified for any of the applicable criteria. Under a hazard index, the same criteria could be independently evaluated, but the proposed RQ is based on all the criteria, not just the most sensitive one. The results of the two different approaches could be significantly different.

Under the proposed methodology, it is possible that the federal government may receive many reports that do not require a response, while under a hazard index, it is possible that the federal government will not receive reports concerning certain releases which might warrant a response. Notification is a trigger for determining whether a response may be necessary, and the legislative history, in discussing response authority, indicates that:

> Because delay will often exacerbate an already serious situation, the bill (S. 1480) authorizes the President to respond when a substantial threat of release may exist. This standard is intended to be a flexible one and holds that it is preferrable to err on the side of protecting public health, welfare, and environment in administering the response authority of the Fund. (Sen. Rep. 96-848, Cong., 2d Sess. 56 (1980)).

Advantages of the hazard index system are that the system can relate to

all media and that it can accommodate a wide variety of criteria which can provide a relative measure of a substance's potential harm or hazard.

EPA would face several problems in implementing a hazard index system. Under this strategy, each substance must be ranked for each criterion. Because the necessary data are not available for each substance with respect to each criterion, relative rankings would have to be based on default values used to replace necessary data. Conservative default values could be chosen, pending development of further data. Second, there is no general agreement as to how criteria are to be combined to form a scientifically-acceptable hazard index. Specific examples of different hazard index algorithms are included in the Background Document to Support the Notice of Proposed Rulemaking Pursuant to CERCLA Section 102(b). The report applied these algorithms to 27 sample substances and compared the results. Any number of plausible equations can be developed, yielding different hazard indices and different RQs for the substances examined. There is no single established method for determining how to weight different criteria, so an additional level of subjective judgment would be introduced into the RQ adjustment process.

B. Scenarios

Scenarios can be used to develop a model of the behavior of substances after they are released, based on specific sets of circumstances that describe the events likely to follow a release. For instance, data can be assembled to describe what would happen if a release to the soil led to contamination of underground sources of drinking water. On the basis of rough projections of potential harm under scenarios of differing probabilities, alternative RQs can be set.

This alternative was rejected because of its scientific complexity: scenarios which attempt to model the effects of hazardous substances in a comprehensive manner are by their nature highly complex, require extensive analysis, and can be subject to considerable controversy. Furthermore, developing RQs on a case-by-case basis using scenarios requires extensive data that are not generally available.

C. Fate and Effects Research

This strategy is based on the fate and effects of hazardous substances released into the environment. It involves obtaining a complete understanding of how each designated hazardous substance interacts with the environment, what products may be formed under various circumstances surrounding a release, and how the designated hazardous substance and its environmental products each result in a specific hazard to public health or welfare or the environment. This differs from scenario development in that it is more comprehensive and specific. It does not focus only on those events which are likely to follow a release, but instead attempts to describe all potential effects of a release. The available data and scientific techniques will not support the broad and uniform application of such an approach at this time, making the utility of this approach very limited.

RQ Adjustments Under Section 311 of the Clean Water Act

EPA is also proposing in this rulemaking to revise certain of the reportable quantities established under Section 311(b)(4) of the Clean Water Act (40 CFR Part 117) for discharges of hazardous substances into navigable waters, so that the CWA Section 311 RQs will be identical to those proposed under CERCLA. While CERCLA requires reporting of releases of hazardous substances into the environment, CWA Section 311 covers a smaller list of hazardous substances and applies only to discharges into navigable waters. Section 311(b)(5) of the CWA requires any person in charge of a vessel or an onshore or offshore facility to notify the appropriate agency of the United States government as soon as he knows of any discharge of a hazardous substance from that vessel or facility that equals or exceeds the applicable RQ. The hazardous substances which must be reported under the CWA are all listed as hazardous substances under CERCLA, and reporting under CERCLA is required for every type of release of a hazardous substance that is subject to reporting requirements under CWA Section 311. Thus, notification will be simplified considerably by making the requirements under both statutes the same.

Reportable quantities which have been promulgated under CWA Section 311 differ from the adjusted RQs proposed under CERCLA for several reasons. First, the CERCLA RQ adjustment methodology adjusts RQs on the basis of other primary criteria in addition to aquatic toxicity, which was the basis for establishing reportable quantities under CWA Section 311. Second, the proposed CERCLA RQs use some updated data on aquatic toxicity. Third, the CERCLA methodology provides for RQs to be raised one level on the basis of secondary criteria, which represent natural dissipation processes operating on substances released into the environment.

EPA believes that the CERCLA methodology meets the requirement of Section 311(b)(4) of the CWA that

> The President shall by regulation determine for the purposes of this section those quantities of [hazardous substances] the discharge of which may be harmful to the public health or welfare of the United States including but not limited to fish, shellfish, wildlife, and public and private property, shorelines, and beaches.

A single report to the National Response Center will satisfy the notification requirements of both statutes. If the CWA Section 311 RQs were not adjusted, certain releases would be subject to CERCLA and not CWA Section 311, and others subject to CWA Section 311 and not CERCLA. Notification requirements will be simpler for the regulated community to understand and for the federal government to administer when they are identical. Reportable quantities under both statutes are set forth in Table 302. 40 CFR Part 117 remains otherwise unchanged, because it contains provisions governing notification procedures, penalties, and jurisdiction. EPA solicits comments on the appropriateness of adjusting the CWA Section 311 RQs to be identical with the CERCLA RQs.

Summary of Supporting Analyses

I. Classification and Regulatory Impact Analysis

Rulemaking protocol under Executive Order 12291 requires that proposed regulations be classified as major or non-major for purposes of review by the Office of Management and Budget. According to the E.O. 12291, major rules are regulations that are likely to result in:

(1) An annual effect on the economy of $100 million or more; or

(2) A major increase in costs or prices for consumers, individual industries, federal, state, or local government agencies, or geographic regions; or

(3) Significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of the United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

The Regulatory Impact Analysis, available for inspection at Room S-69 U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460, shows that today's proposed regulation is non-major because it

results in a net cost savings of approximately $19.3 million [10]

II. Certification Why a Regulatory Flexibility Analysis Is Not Necessary

The Regulatory Flexibility Act of 1980 requires that a Regulatory Flexibility Analysis be performed for all rules that are likely to have "significant impact on a substantial number of small entities." EPA certifies that this regulation will not have a significant impact on a substantial number of small entities. See Chapter 7, Regulatory Impact Analysis.

III. Information Impact Analysis

EPA requires an Information Impact Analysis to be carried out for all rules that impose a paperwork burden on the public. This analysis estimates the burden imposed on parties outside EPA for activities such as recordkeeping or notification. It is anticipated that RQ adjustments will change the paperwork burden imposed on the regulated community for information collection associated with reporting releases. As estimated in the Regulatory Impact Analysis, the paperwork burden of notification and recordkeeping on private parties will be reduced by 57,000 hours by the rule proposed today.

In accordance with the Paperwork Reduction Act of 1980, 44 U.S.C. Section 3501 *et seq.*, the reporting or recordkeeping provisions that are included in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under Section 3504(h) of the Paperwork Reduction Act. Any final rule will include an explanation of how the reporting or recordkeeping provisions contained therein respond to any comments by OMB and the public.

List of Subjects in 40 CFR Part 302

Administrative practice and procedure, Air pollution control, Chemicals, Hazardous materials, Hazardous materials transportation, Hazardous substances, Hazardous wastes, Intergovernmental relations, Liabilities, Natural resources, Nuclear materials, Penalties, Pesticides and pests, Radioactive materials, Reporting and recordkeeping requirements, Superfund, Waste treatment and disposal, Water pollution control, Water supply.

1. It is proposed to amend 40 CFR by adding Part 302 as follows:

[10] *This figure does not include the costs or benefits associated with continuous releases*

PART 302—DESIGNATION, REPORTABLE QUANTITIES, AND NOTIFICATION

Sec
302.1 Applicability
302.2 Abbreviations
302.3 Definitions
302.4 Designation of hazardous substances
302.5 Determination of reportable quantities
302.6 Notification requirements
302.7 Penalties.

Authority: Sections 101 and 102 of the Comprehensive Environmental Response Compensation, and Liability Act of 1980 (42 U.S.C. 9601 *et seq.*), Sections 311 and 501(a) of the Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*).

§ 302.1 Applicability.

This regulation lists those substances designated as hazardous substances under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("the Act"), identifies reportable quantities for these substances, and sets forth the notification requirements for releases of these substances. This regulation also sets forth reportable quantities for hazardous substances designated under Section 311(b)(2)(A) of the Clean Water Act.

§ 302.2 Abbreviations.

CAS Registry No. = Chemical Abstracts Service Registry Number
RCRA = Resource Conservation and Recovery Act of 1976, as amended.
lb = pound.
Kg = kilogram.
RQ = reportable quantity.

§ 302.3 Definitions.

As used in this part, all terms shall have the meaning set forth below:

(a) "The Act", "CERCLA", or "Superfund" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Pub. L. 96-510);

(b) "Administrator" means the Administrator of the United States Environmental Protection Agency ("EPA");

(c) "Consumer product" shall have the meaning stated in 15 U.S.C. 2052;

(d) "Environment" means (1) the navigable waters, the waters of the contiguous zone, and the ocean waters of which the natural resoruces are under the exclusive management authority of the United States under the Fishery Conservation and Management Act of 1976, and (2) any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

(e) "Facility" means (1) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or (2) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel.

(f) "Federally permitted release" means (1) discharges in compliance with a permit under section 402 of the Federal Water Pollution Control Act, (2) discharges resulting from circumstances identified and reviewed and made part of the public record with respect to a permit issued or modified under section 402 of the Federal Water Pollution Control Act and subject to a condition of such permit, (3) continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the Federal Water Pollution Control Act, which are caused by events occurring within the scope of relevant operating treatment systems, (4) discharges in compliance with a legally enforceable permit under section 404 of the Federal Water Pollution Control Act, (5) releases in compliance with a legally enforceable final permit issued pursuant to section 3005(a) through (d) of the Solid Waste Disposal Act from a hazardous waste treatment, storage, or disposal facility when such permit specifically identifies the hazardous substances and makes such substances subject to a standard of practice, control procedure or bioassay limitation or condition, or other control on the hazardous substances in such releases, (6) any release in compliance with a legally enfoceable permit issued under section 102 or section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972, (7) any injection of fluids authorized under Federal underground injection control programs or state programs submitted for Federal approval (and not disapproved by the Administrator of the Environmental Protection Agency) pursuant to part C of the Safe Drinking Water Act, (8) any emission into the air subject to a permit or control regulation under section 111, section 112, title I part C, title I part D, or State implementation plans submitted in accordance section 110 of the Clean Air Act (and not disapproved by the Administrator of the Environmental Protection Agency), including any schedule or waiver

granted promulgated, or approved under these sections, (9) any injection of fluids or other materials authorized under applicable State law (i) for the purpose of stimulating or treating wells for the production of crude oil, natural gas, or water, (ii) for the purpose of secondary, tertiary, or other enhanced recovery of crude oil or natural gas or (iii) which are brought to the surface in conjunction with the production of crude oil or natural gas and which are reinjected, (10) the introduction of any pollutant into a publicly owned treatment works when such pollutant is specified in and in compliance with applicable pretreatment standards of section 307(b) or (c) of the Clean Water Act and enforceable requirements in a pretreatment program submitted by a State or municipality for Federal approval under section 402 of such Act, and (11) any release of source, special nuclear, or byproduct material, as those terms are defined in the Atomic Energy Act of 1954, in compliance with a legally enforceable license, permit, regulation, or order issued pursuant to the Atomic Energy Act of 1954;

(g) "Hazardous substance" means any substance designated pursuant to 40 CFR Part 302;

(h) "Hazardous waste" shall have the meaning provided in section 1004 of the Solid Waste Disposal Act;

(i) "Navigable waters" or "navigable waters of the United States" means waters of the United States, including the territorial seas;

(j) "Normal application of pesticides" means application pursuant to the label directions for application of a pesticide product registered under section 3 or section 24 of the Federal Insecticide, Fungicide, and Rodenticide Act as amended (7 U.S.C. 136 *et seq.*) (FIFRA), or pursuant to the terms and conditions of an experimental use permit issued under section 5 of FIFRA or pursuant to an exemption granted under section 18 of FIFRA;

(k) "Offshore facility" means any facility of any kind located in, on, or under, any of the navigable waters of the United States, and any facility of any kind which is subject to the jurisdiction of the United States and is located in, on or under any other waters, other than a vessel or a public vessel;

(l) "Onshore facility" means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under, any land or non-navigable waters within the United States;

(m) "Person" means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body;

(n) "Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, but excludes (1) any release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons, (2) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine, (3) release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954, if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of such Act or, for the purposes of section 104 of CERCLA or any other response action, any release of source byproduct, or special nuclear material from any processing site designated under section 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act of 1978, and (4) the normal application of fertilizer.

(o) "Reportable quantity" means the quantity, as set forth in this part, the release of which requires notification pursuant to this part.

(p) "United States" include the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Commonwealth of the Northern Marianas, and any other territory or possession over which the United States has jurisdiction; and

(q) "Vessel" means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water.

§ 302.4 Designation of hazardous substances.

(a) *Listed Hazardous Substances.* The elements and compounds and hazardous wastes appearing in Table 302.4 are designated as hazardous substances under Section 101(14) of the Act.

(b) *Unlisted Hazardous Substances.* A solid waste, as defined in 40 CFR 261.2, which is not excluded from regulation as a hazardous waste under 40 CFR 261.4(b), is a hazardous substance under Section 101(14) of the Act if it exhibits any of the characteristics identified in 40 CFR 261.20 through 261.24.

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES

Hazardous Substance	CAS No.	Regulatory Synonyms	Statutory			Proposed RQ	
			RQ	Code ††	RCRA Waste Number	Category	Pounds(kg)
Acenaphthene	83329		1*	2			1
Acenaphthylene	208968		1*	2			1
Acetaldehyde	75070	Ethanal	1000	1 4	U001	C	10000(4
Acetaldehyde, chloro-	107200	Chloroacetaldehyde	1*	4	P023	C	1000(4
Acetaldehyde, trichloro-	75878	Chloral	1*	4	U034		1
Acetamide, N-(aminothioxomethyl)-	591082	1-Acetyl-2-thiourea	1*	4	P002	C	1000(4
Acetamide, N-(4-ethoxyphenyl)-	62442	Phenacetin	1*	4	U187		1
Acetamide, N-9H-fluoren-2-yl-	53963	2-Acetylaminofluorene	1*	4	U005		1
Acetamide, 2-fluoro-	640197	Fluoroacetamide	1*	4	P057	B	100(45
Acetic acid	64197		1000	1		D	5000(22

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory			Proposed RQ	
			RQ	Code ††	RCRA Waste Number	Category	Pounds (kg)
Acetic acid, ethyl ester	141786	Ethyl acetate	1*	4	U112	D	5000(2270)
Acetic acid, fluoro-, sodium salt	62748	Fluoroacetic acid, sodium salt	1*	4	P058	A	10(4.54)
Acetic acid, lead salt	301042	Lead acetate	5000	1,4	U144	.	***
Acetic acid, thallium(I) salt	563688	Thallium(I) acetate	1*	4	U214	.	**
Acetic anhydride	108247		5000	1	.	D	5000(2270)
Acetimidic acid, N-[(methylcarbamoyl)oxy]-, methyl ester	16752775	Methomyl	1*	4	P066	C	1000(454)
Acetone	67641	2-Propanone	1*	4	U002	D	5000(2270)
Acetone cyanohydrin	75865	2-Methyllactonitrile; Propanenitrile, 2-hydroxy-2-methyl-	10	1,4	P069	A	10(4.54)
Acetonitrile	75058	Ethanenitrile	1*	4	U003	C	1000(454)
3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts	81812	Warfarin	1*	4	P001	B	100(45.4)
Acetophenone	98862	Ethanone, 1-phenyl-	1*	4	U004	D	5000(2270)
2-Acetylaminofluorene	53963	Acetamide, N-9H-fluoren-2-yl-	1*	4	U005	.	*
Acetyl bromide	506967		5000	1		D	5000(2270)
Acetyl chloride	75365	Ethanoyl chloride	5000	1,4	U006	D	5000(2270)
1-Acetyl-2-thiourea	591082	Acetamide, N-(aminothioxomethyl)-	1*	4	P002	C	1000(454)
Acrolein	107028	2-Propenal	1	1,2,4	P003	X	1(0.454)
Acrylamide	79061	2-Propenamide	1*	4	U007	D	5000(2270)
Acrylic acid	79107	2-Propenoic acid	1*	4	U008	D	**
Acrylonitrile	107131	2-Propenenitrile	100	1,2,4	U009		
Adipic acid	124049		5000	1		D	5000(2270)
Alanine, 3-[p-bis(2-chloroethyl)amino]phenyl-L-	148823	Melphalan	1*	4	U150		*
Aldicarb	116063	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime	1*	4	P070	A	10(4.54)
Aldrin	309002	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-endo,exo-dimethanonaphthalene	1	1,2,4	P004	X	1(0.454)
Allyl alcohol	107186	2-Propen-1-ol	100	1,4	P005	B	100(45.4)
Allyl chloride	107051		1000	1		D	5000(2270)
Aluminum phosphide	20859738		1*	4	P006	B	100(454)
Aluminum sulfate	10043013		5000	1		D	5000(2270)
5-(Aminomethyl)-3-isoxazolol	2763964	3(2H)-Isoxazolone, 5-(aminomethyl)-	1*	4	P007	C	1000(454)
4-Aminopyridine	504245	4-Pyridinamine	1*	4	P008	C	1000(454)
Amitrole	61825	1H-1,2,4-Triazol-3-amine	1*	4	U011		*
Ammonia	7664417		100	1			**
Ammonium acetate	631618		5000	1		D	5000(2270)
Ammonium benzoate	1863634		5000	1		D	5000(2270)
Ammonium bicarbonate	1066337		5000	1		D	5000(2270)
Ammonium bichromate	7789095		1000	1			***
Ammonium bifluoride	1341497		5000	1			**
Ammonium bisulfite	10192300		5000	1		D	5000(2270)
Ammonium carbamate	1111780		5000	1		D	5000(2270)
Ammonium carbonate	506876		5000	1		D	70)
Ammonium chloride	12125029		5000	1		D	5000(2270)
Ammonium chromate	7788989		1000	1			*
Ammonium citrate, dibasic	3012655		5000	1		D	5000(2270)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory synonyms	Statutory RQ	Code ††	RCRA Waste Number	Proposed RQ Category	Proposed RQ Pounds (Kg)
Ammonium fluoborate	13826830		5000	1		D	5000(22
Ammonium fluoride	12125018		5000	1		B	100(45
Ammonium hydroxide	1336216		1000	1		C	1000(45
Ammonium oxalate	6009707 5972736 14258492		5000	1		D	5000(22
Ammonium picrate	131748	Phenol 2,4,6-trinitro- ammonium salt	1*	4	P009	A	10(4.54
Ammonium silicofluoride	16919190		1000	1		C	1000(45
Ammonium sulfamate	7773060		5000	1		D	5000(22
Ammonium sulfide	12135761		6000	1		B	100(45
Ammonium sulfite	10196040		6000	1		D	6000(227
Ammonium tartrate	14307438 3164292		5000	1		D	5000(227
Ammonium thiocyanate	1762954		5000	1		D	5000(227
Ammonium thiosulfate	7783188		5000	1		D	5000(227
Ammonium vanadate	7803556	Vanadic acid, ammonium salt	1*	4	P119	C	1000(45
Amyl acetate iso- sec- tert-	628637 123922 626380 625161		1000	1		D	5000(227
Aniline	62533	Benzenamine	1000	1,4	U012	D	5000(227
Anthracene	120127		1*	2			**
Antimony †	7440360		1*	2			**
ANTIMONY AND COMPOUNDS			1*	2			**
Antimony pentachloride	7647189		1000	1		C	1000(45
Antimony potassium tartrate	28300745		1000	1		B	100(45
Antimony tribromide	7789619		1000	1		C	1000(45
Antimony trichloride	10025919		1000	1		C	1000(45
Antimony trifluoride	7783564		1000	1		C	1000(45
Antimony trioxide	1309644		5000	1		C	1000(45
Aroclor 1016	12674112		1*	2		X	1(0.454
Aroclor 1221	11104282		1*	2		X	1(0.454
Aroclor 1232	11141165		1*	2		X	1(0.454
Aroclor 1242	53469219		1*	2		X	1(0.454
Aroclor 1248	12672296		1*	2		X	1(0.454
Aroclor 1254	11097691		1*	2		X	1(0.454
Aroclor 1260	11096825		1*	2		X	1(0.454
Arsenic †	7440382		1*	2,3			***
Arsenic acid	1327522 7778394		1*	4	P010		***
ARSENIC AND COMPOUNDS			1*	2			**
Arsenic disulfide	1303328		5000	1			***
Arsenic(III) oxide	1327533	Arsenic trioxide	5000	1,4	P012		***
Arsenic(V) oxide	1303282	Arsenic pentoxide	5000	1,4	P011		***
Arsenic pentoxide	1303282	Arsenic(V) oxide	5000	1,4	P011		***
Arsenic trichloride	7784341		5000	1			***
Arsenic trioxide	1327533	Arsenic(III) oxide	5000	1,4	P012		***

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ			Final RQ	
			RQ	Code †	RCRA Waste Number	Category	Pounds (kg)
Arsenic trisulfide	1303339		5000	1	-	-	***
Arsine, diethyl-	692422	Diethylarsine	1*	4	P038	-	***
Asbestos	1332214		1*	2,3	-	-	***
Auramine	492808	Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-	1*	4	U014	-	*
Azaserine	115026	L-Serine, diazoacetate (ester)	1*	4	U015	-	*
Aziridine	151564	Ethylenimine	1*	4	P054	-	*
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-	50077	Mitomycin C	1*	4	U010	-	*
Barium cyanide	542621		10	1,4	P013	A	10(4.54)
Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	56496	3-Methylcholanthrene	1*	4	U157	-	*
Benz[c]acridine	225514	3,4-Benzacridine	1*	4	U016	-	*
3,4-Benzacridine	225514	Benz[c]acridine	1*	4	U016	-	*
Benzal chloride	98873	Benzene, dichloromethyl-	1*	4	U017	D	5000(2270)
Benz[a]anthracene	56553	1,2-Benzanthracene Benzo[a]anthracene	1*	2,4	U018	-	***
1,2-Benzanthracene	56553	Benz[a]anthracene Benzo[a]anthracene	1*	2,4	U018	-	***
1,2-Benzanthracene, 7,12-dimethyl-	57976	7,12-Dimethylbenz[a]anthracene	1*	4	U094	-	*
Benzenamine	62533	Aniline	1000	1,4	U012	D	5000(2270)
Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-	492808	Auramine	1*	4	U014	-	
Benzenamine, 4-chloro-	106478	p-Chloroaniline	1*	4	P024	C	10(
Benzenamine, 4-chloro-2-methyl-, hydrochloride	3165933	4-Chloro-o-toluidine, hydrochloride	1*	4	U049	-	*
Benzenamine, N,N-dimethyl-4-phenylazo-	60117	Dimethylaminoazobenzene	1*	4	U093	-	*
Benzenamine, 4,4'-methylenebis(2-chloro-	101144	4,4'-Methylenebis(2-chloroaniline)	1*	4	U158	-	*
Benzenamine, 2-methyl-, hydrochloride	636215	o-Toluidine hydrochloride	1*	4	U222	-	*
Benzenamine, 2-methyl-5-nitro-	99558	5-Nitro-o-toluidine	1*	4	U181	-	*
Benzenamine, 4-nitro-	100016	p-Nitroaniline	1*	4	P077	D	5000(2270)
Benzene	71432		1000	1,2,3,4	U019	-	***
Benzene, 1-bromo-4-phenoxy-	101553	4-Bromophenyl phenyl ether	1*	2,4	U030	A	10(4.54)
Benzene, chloro-	108907	Chlorobenzene	100	1,2,4	U037	B	100(45.4)
Benzene, chloromethyl-	100447	Benzyl chloride	100	1,4	P028	-	*
Benzene, 1,2-dichloro-	95501	1,2-Dichlorobenzene o-Dichlorobenzene	1*	2,4	U070	B	100(45.4)
Benzene, 1,3-dichloro-	541731	1,3-Dichlorobenzene m-Dichlorobenzene	1*	2,4	U071	B	100(45.4)
Benzene, 1,4-dichloro-	106467	1,4-Dichlorobenzene p-Dichlorobenzene	1*	2,4	U072	B	100(45.4)
Benzene, dichloromethyl-	98873	Benzal chloride	1*	4	U017	D	5000(2270)
Benzene, 2,4-diisocyanatomethyl-	584849	Toluene diisocyanate	1*	4	U223	B	100(45.4)
Benzene, dimethyl- m- o- p-	1330207 108383 95476 106423	Xylene m- o- p-	1000	1,4	U239	C	1000(454)
Benzene, hexachloro-	118741	Hexachlorobenzene	1*	2,4	U127	-	
Benzene, hexahydro-	110827	Cyclohexane	1000	1,4	U056	C	
Benzene, hydroxy-	108952	Phenol	1000	1,2,4	U188	-	**
Benzene, methyl-	108883	Toluene	1000	1,2,4	U220	C	1000(454)
Benzene, 1-methyl-2,4-dinitro-	121142	2,4-Dinitrotoluene	1*	2,4	U105	B	100(45.4)

TABLE 302 4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No.	Regulatory Synonyms	Statutory			Proposed RQ	
			RQ	Code † †	RCRA Waste Number	Category	Pounds (kg)
Benzene, 1-methyl-2,6-dinitro-	606202	2,6-Dinitrotoluene	1*	2,4	U106	B	100(45.4)
Benzene, 1,2-methylenedioxy-4-allyl-	94597	Safrole	1*	4	U203		0
Benzene, 1,2-methylenedioxy-4-propenyl-	120581	Isosafrole	1*	4	U141		0
Benzene, 1,2-methylenedioxy-4-propyl-	94586	Dihydrosafrole	1*	4	U090		0
Benzene, 1-methylethyl-	98828	Cumene	1*	4	U055	D	5000(2270)
Benzene, nitro-	98953	Nitrobenzene	1000	1,2,4	U169	C	1000(454)
Benzene, pentachloro-	608935	Pentachlorobenzene	1*	4	U183		00
Benzene, pentachloronitro-	82688	Pentachloronitrobenzene	1*	4	U185		000
Benzene, 1,2,4,5-tetrachloro-	95943	1,2,4,5-Tetrachlorobenzene	1*	4	U207	D	5000(2270)
Benzene, trichloromethyl-	98077	Benzotrichloride	1*	4	U023	C	1000(454)
Benzene, 1,3,5-trinitro-	99354	sym-Trinitrobenzene	1*	4	U234		00
Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester.	510156	Ethyl 4,4'-dichlorobenzilate	1*	4	U038		0
1,2-Benzenedicarboxylic acid anhydride	85449	Phthalic anhydride	1*	4	U190	D	5000(2270)
1,2-Benzenedicarboxylic acid, (bis(2-ethylhexyl)) ester	117817	Bis(2-ethylhexyl)phthalate	1*	2,4	U028	D	5000(2270)
1,2-Benzenedicarboxylic acid, dibutyl ester	84742	n-Butyl phthalate Dibutyl phthalate Di-n-butyl phthalate	100	1,2,4	U069	B	100(45.4)
1,2-Benzenedicarboxylic acid, diethyl ester	84662	Diethyl phthalate	1*	2,4	U088	B	100(45.4)
1,2-Benzenedicarboxylic acid, dimethyl ester	131113	Dimethyl phthalate	1*	2,4	U102	D	5000(2270)
1,2-Benzenedicarboxylic acid, di-n-octyl ester	117840	Di-n-octyl phthalate	1*	2,4	U107	D	5000(2270)
1,3-Benzenediol	108463	Resorcinol	1000	1,4	U201	D	5000(2270)
1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-	51434	Epinephrine	1*	4	P042	C	1000(454)
Benzenesulfonic acid chloride	98099	Benzenesulfonyl chloride	1*	4	U020	B	100(45.4)
Benzenesulfonyl chloride	98099	Benzenesulfonic acid chloride	1*	4	U020	B	100(45.4)
Benzenethiol	108985	Thiophenol	1*	4	P014	B	100(45.4)
Benzidine	92875	(1,1'-Biphenyl)-4,4'-diamine	1*	2,4	U021		000
1,2-Benzisothiazol-3-one, 1,1-dioxide, and salts	81072	Saccharin and salts	1*	4	U202		0
Benzo(a)anthracene	56553	Benz(a)anthracene 1,2-Benzanthracene	1*	2,4	U018		000
Benzo(b)fluoranthene	205992		1*	2			000
Benzo(k)fluoranthene	207089		1*	2			0
Benzo(j,k)fluorene	206440	Fluoranthene	1*	2,4	U120		0
Benzoic acid	65850		5000	1		D	5000
Benzonitrile	100470		1000	1		D	5000
Benzo(ghi)perylene	191242		1*	2			0
Benzo(a)pyrene	50328	3,4-Benzopyrene	1*	2,4	U022		000
3,4-Benzopyrene	50328	Benzo(a)pyrene	1*	2,4	U022		000
p-Benzoquinone	106514	1,4-Cyclohexadienedione	1*	4	U197		00
Benzotrichloride	98077	Benzene, trichloromethyl-	1*	4	U023	C	1000(45
Benzoyl chloride	98884		1000	1		C	1000(
1,2-Benzphenanthrene	218019	Chrysene	1*	2,4	U050		000
Benzyl chloride	100447	Benzene, (chloromethyl)-	100	1,4	P028		0
Beryllium †	7440417	Beryllium dust	1*	2,3,4	P015		000
BERYLLIUM AND COMPOUNDS			1*	2			--
Beryllium chloride	7787475		5000	1			000

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ	Statutory Code ††	RCRA Waste Number	Proposed RQ Category	Proposed RQ Pounds(kg)
Beryllium dust	7440417	Beryllium	1*	2,3,4	P015		***
Beryllium fluoride	7787497		5000	1		-	***
Beryllium nitrate	13597994 7787555		5000	1	-	-	***
alpha BHC	319846	-	1*	2		X	1(0.454)
beta BHC	319857	-	1*	2	-	X	1(0.454)
gamma - BHC	58899	Hexachlorocyclohexane (gamma isomer) Lindane	1	1,2,4	U129	X	1(0.454)
delta BHC	319868		1*	2		X	1(0.454)
2,2'-Bioxirane	1464535	1,2,3,4-Diepoxybutane	1*	4	U085	-	*
(1,1'-Biphenyl)-4,4'-diamine	92875	Benzidine	1*	2,4	U021	-	***
(1,1'-Biphenyl)-4,4'-diamine,3,3'-dichloro-	91941	3,3'-Dichlorobenzidine	1*	2,4	U073	-	***
(1,1'-Biphenyl)-4,4'-diamine,3,3'-dimethoxy-	119904	3,3'-Dimethoxybenzidine	1*	4	U091	-	*
(1,1'-Biphenyl)-4,4'-diamine,3,3'-dimethyl-	119937	3,3'-Dimethylbenzidine	1*	4	U095		*
Bis(2-chloroethoxy) methane	111911	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-	1*	2,4	U024	C	1000(454)
Bis(2-chloroethyl) ether	111444	Dichloroethyl ether Ethane, 1,1'-oxybis[2-chloro-	1*	2,4	U025	-	*
Bis(2-chloroisopropyl) ether	108601	Propane, 2,2'-oxybis[2-chloro-	1*	2,4	U027	C	1000(454)
Bis(chloromethyl) ether	542881	Methane, oxybis[chloro-	1*	4	P016	-	***
Bis(dimethylthiocarbamoyl) disulfide	137268	Thiram	1*	4	U244	A	1(0.454)
Bis(2-ethylhexyl)phthalate	117817	1,2-Benzenedicarboxylic acid,bis(2-ethylhexyl) ester	1*	2,4	U028	D	*
Bromine cyanide	506683	Cyanogen bromide	1*	4	U246	C	10(4.54)
Bromoacetone	598312	2-Propanone, 1-bromo-	1*	4	P017	C	1000(454)
Bromoform	75252	Methane, tribromo-	1*	2,4	U225	B	100(45.4)
4-Bromophenyl phenyl ether	101553	Benzene, 1-bromo-4-phenoxy-	1*	2,4	U030	A	10(4.54)
Brucine	357573	Strychnidin-10-one, 2,3-dimethoxy-	1*	4	P018	A	10(4.54)
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	87683	Hexachlorobutadiene	1*	2,4	U128	-	***
1-Butanamine, N-butyl-N-nitroso-	924163	N-Nitrosodi-n-butylamine	1*	4	U172	-	*
Butanoic acid, 4-[bis(2-chloroethyl)amino]benzene-	305033	Chlorambucil	1*	4	U035	-	*
1-Butanol	71363	n-Butyl alcohol	1*	4	U031	D	5000(2270)
2-Butanone	78933	Methyl ethyl ketone	1*	4	U159	C	1000(454)
2-Butanone peroxide	1338234	Methyl ethyl ketone peroxide	1*	4	U160	A	10(4.54)
2-Butenal	123739 4170303	Crotonaldehyde	100	1,4	U053	B	100(45.4)
2-Butene-1,4-dichloro-	764410	1,4-Dichloro-2-butene	1*	4	U074	X	1(0.454)
Butyl acetate n- sec- tert-	123864 110190 105464 540885		5000	1	-	D	5000(2270)
n-Butyl alcohol	71363	1-Butanol	1*	4	U031	D	5000(2270)
Butylamine n- sec- sec- tert-	109739 78819 513495 13952846 75649		1000	1	-	D	5000(2270)
Butyl benzyl phthalate	85687		1*	2	-	D	1(0.454)
n-Butyl phthalate	84742	1,2-Benzenedicarboxylic acid,dibutyl ester Dibutyl phthalate Di-n-butyl phthalate	100	1,2,4	U069	B	100(45.4)
Butyric acid n-	107926 79312		5000	1	-	D	5000(2270)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No.	Regulatory Synonyms	Statutory			Final RQ	
			RQ	Code ††	RCRA Waste Number	Category	Pounds (kg)
Cacodylic acid	75605	Hydroxydimethylarsine oxide	1*	4	U136		1
Cadmium *	7440439		1*	2			100
Cadmium acetate	543908		100	1			100
CADMIUM AND COMPOUNDS			1*	2			**
Cadmium bromide	7789426		100	1			100
Cadmium chloride	10108642		100	1			100
Calcium arsenate	7778441		1000	1			100
Calcium arsenite	52740166		1000	1			100
Calcium carbide	75207		5000	1		A	10(4 54)
Calcium chromate	13765190	Chromic acid, calcium salt	1000	1,4	U032		100
Calcium cyanide	592018		10	1 4	P021	A	10(4 54)
Calcium dodecylbenzene sulfonate	26264062		1000	1		C	1000(454
Calcium hypochlorite	7778543		100	1		A	10(4 54)
Camphene, octachloro-	8001352	Toxaphene	1	1 2,4	P123	X	1(0 454)
Captan	133062		10	1			10
Carbamic acid, ethyl ester	51796	Ethyl carbamate (Urethan)	1*	4	U238		1
Carbamic acid, methylnitroso-, ethyl ester	615532	N-Nitroso-N-methylurethane	1*	4	U178		1
Carbamide, N-ethyl-N-nitroso-	759739	N-Nitroso-N-ethylurea	1*	4	U176		1
Carbamide, N-methyl-N-nitroso-	684935	N-Nitroso-N-methylurea	1*	4	U177		1
Carbamide, thio-	62566	Thiourea	1*	4	U219		1
Carbamimidoselenoic acid	630104	Selenourea	1*	4	P103		10
Carbamoyl chloride, dimethyl-	79447	Dimethylcarbamoyl chloride	1*	4	U097		1
Carbaryl	63252		100	1		B	100(45
Carbofuran	1563662		10	1		A	10(4 5
Carbon bisulfide	75150	Carbon disulfide	5000	1,4	P022		10
Carbon disulfide	75150	Carbon bisulfide	5000	1 4	P022		10
Carbonic acid, dithallium (I) salt	6533739	Thallium(I) carbonate	1*	4	U215		10
Carbonochloridic acid, methyl ester	79221	Methyl chlorocarbonate	1*	4	U156	C	1000(4
Carbon oxyfluoride	353504	Carbonyl fluoride	1*	4	U033	C	1000(4
Carbon tetrachloride	56235	Methane, tetrachloro-	5000	1,2,4	U211		100
Carbonyl chloride	75445	Phosgene	5000	1,4	P095	C	1000(4
Carbonyl fluoride	353504	Carbon oxyfluoride	1*	4	U033	C	1000(4
Chloral	75878	Acetaldehyde, trichloro-	1*	4	U034		1
Chlorambucil	305033	Butanoic acid, 4-[bis(2-chloroethyl)amino]benzene-	1*	4	U035		1
CHLORDANE (TECHNICAL MIXTURE AND METABOLITES)			1*	2			**
Chlordane	57749	Chlordane technical 4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-	1	1,2,4	U036	X	1(0 4
Chlordane, technical	57749	Chlordane 4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-	1	1,2,4	U036	X	1(0 4
4-Chloro-m-cresol	59507	p-Chloro-m-cresol Phenol, 4-chloro-3-methyl-	1*	2,4	U039	D	5000(
p-Chloro-m-cresol	59507	4-Chloro-m-cresol Phenol 4-chloro-3-methyl-	1*	2,4	U039	D	5000(
CHLORINATED BENZENES			1*	2			**

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ	Statutory Code **	RCRA Waste Number	Proposed RQ Category	Proposed RQ Pounds (kg)
CHLORINATED ETHANES			1*	2			**
CHLORINATED NAPHTHALENE			1*	2			*
CHLORINATED PHENOLS			1*	2			**
Chlorine	7782505		10	1		A	10(4.54)
Chlorine cyanide	506774	Cyanogen chloride	10	1.4	P033	A	10(4.54)
Chlornaphazine	494031	2-Naphthylamine, N,N-bis(2-chloroethyl)-	1*	4	U026		#
Chloroacetaldehyde	107200	Acetaldehyde, chloro-	1*	4	P023	C	1000(454)
CHLOROALKYL ETHERS			1*	2			**
p-Chloroaniline	106478	Benzenamine, 4-chloro-	1*	4	P024	C	1000(454)
Chlorobenzene	108907	Benzene, chloro-	100	1,2,4	U037	B	100(45.4)
Chlorodibromomethane	124481		1*	2		B	100(45.4)
1-Chloro-2,3-epoxypropane	106898	Epichlorohydrin Oxirane, 2-(chloromethyl)-	1000	1,4	U041		***
Chloroethane	75003		1*	2			**
2-Chloroethyl vinyl ether	110758	Ethene, 2-chloroethoxy-	1*	2,4	U042	C	1000(454)
Chloroform	67663	Methane, trichloro-	5000	1,2,4	U044		#
Chloromethyl methyl ether	107302	Methane, chloromethoxy-	1*	4	U046		***
beta-Chloronaphthalene	91587	2-Chloronaphthalene Naphthalene, 2-chloro-	1*	2,4	U047	D	5000(2270)
2-Chloronaphthalene	91587	beta-Chloronaphthalene Naphthalene, 2-chloro-	1*	2,4	U047	D	5000(2270)
2-Chlorophenol	95578	o-Chlorophenol Phenol, 2-chloro-	1*	2,4	U048	B	100(45.4)
o-Chlorophenol	95578	2-Chlorophenol Phenol, 2-chloro-	1*	2,4	U048	B	100(45.4)
4-Chlorophenyl phenyl ether	7005723		1*	2		D	5000(2270)
1-(o-Chlorophenyl)thiourea	5344821	Thiourea, (2-chlorophenyl)-	1*	4	P026	B	100(45.4)
3-Chloropropionitrile	542767	Propanenitrile, 3-chloro-	1*	4	P027	C	1000(454)
Chlorosulfonic acid	7790945		1000	1		C	1000(454)
4-Chloro-o-toluidine, hydrochloride	3165933	Benzenamine, 4-chloro-2-methyl-, hydrochloride	1*	4	U049		#
Chlorpyrifos	2921882		1	1		X	1(0.454)
Chromic acetate	1066304		1000	1			**
Chromic acid	11115745		1000	1			***
Chromic acid, calcium salt	13765190	Calcium chromate	1000	1,4	U032		***
Chromic sulfate	10101538		1000	1			**
Chromium ?	7440473		1*	2			**
CHROMIUM AND COMPOUNDS			1*	2			**
Chromous chloride	10049055		1000	1			**
Chrysene	218019	1,2-Benzophenanthrene	1*	2,4	U050		***
Cobaltous bromide	7789437		1000	1		C	1000(454)
Cobaltous formate	544183		1000	1		C	1000(454)
Cobaltous sulfamate	14017415		1000	1		C	1000(454)
Copper ?	7440508		1*	2		C	5(4)
COPPER AND COMPOUNDS	—		1*	2			
Copper cyanides	544923		1*	4	P029	A	10(4.54)
Coumaphos	56724		10	1		A	10(4.54)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ	Statutory Code † †	RCRA Waste Number	Proposed RQ Category	Proposed RQ Pounds
Creosote	8001589		1*	4	U051		
Cresols	1319773 108394 m- 95487 o- 106445 p-	Cresylic acid	1000	1 4	U052		
Cresylic acid	1319773 108394 m- 95487 o- 106445 p-	Cresols	1000	1 4	U052		
Crotonaldehyde	123739 4170303	2 Butenal	100	1 4	U053	B	100
Cumene	98828	Benzene 1-methylethyl-	1*	4	U055	D	5000
Cupric acetate	142712		100	1		B	100
Cupric acetoarsenite	12002038		100	1			1
Cupric chloride	7447394		10	1			1
Cupric nitrate	3251238		100	1		B	100
Cupric oxalate	5893663		100	1		B	100
Cupric sulfate	7758987		10	1			
Cupric sulfate ammoniated	10380297		100	1		B	100
Cupric tartrate	815827		100	1			
CYANIDES			1*	2			
Cyanides (soluble cyanide salts), not elsewhere specified.	57125		1*	4	P030	A	10
Cyanogen	460195		1*	4	P031	B	100
Cyanogen bromide	506683	Bromine cyanide	1*	4	U246	C	100
Cyanogen chloride	506774	Chlorine cyanide	10	1 4	P033	A	10
1,4-Cyclohexadienedione	106514	p-Benzoquinone	1*	4	U197		
Cyclohexane	110827	Benzene, hexahydro-	1000	1 4	U056	C	100
Cyclohexanone	108941		1*	4	U057	D	500
1,3-Cyclopentadiene 1 2 3 4 5 5-hexachloro-	77474	Hexachlorocyclopentadiene	1	1 2 4	U130	X	1
Cyclophosphamide	50180	2H-1 3 2-Oxazaphosphorine 2 [bis(2-chloroethyl)amino] tetrahydro-2-oxide	1*	4	U058		
2,4-D Acid	94757	2 4-D salts and esters 2,4-Dichlorophenoxyacetic acid, salts and esters	100	1,4	U240	B	1
2,4-D Esters	94111 94791 94804 1320189 1928387 1928616 1929733 2971382 25168267 53467111		100	1		B	1
2 4-D, salts and esters	94757	2 4-D Acid 2 4-Dichlorophenoxyacetic acid, salts and esters	100	1,4	U240	B	1
Daunomycin	20830813	5 12 Naphthacenedione, (8s-cis)-8-acetyl-10-[3-amino-2 3 6-trideoxy-alpha-L lyxo-hexopyranosyl)oxy]-7 8 9,10 tetrahydro-6 8 11 trihydroxy-1 methoxy-	1*	4	U059		
DDD	72548	4 4 DDD Dichlorodiphenyl dichloroethane TDE	1	1 2 4	U060	X	
4 4 DDD	72548	DDD Dichlorodiphenyl dichloroethane TDE	1	1 2 4	U060	X	
DDE	72559	4 4 DDE	1*	2		X	
4 4 DDE	72559	DDE	1*	2		X	

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No.	Regulatory Synonyms	Statutory			Proposed	
			RQ	Code ††	RCRA Waste Number	Category	Footnotes
DDT	50293	4,4' DDT 1,1,1-Trichloro-2,2-bis(p-chlorophenyl)ethane	1	1,2,4	U061	X	1,3,4,5,
4,4' DDT	50293	DDT Dichlorodiphenyl trichloroethane	1	1,2,4	U061	X	1,3,4,5
DDT AND METABOLITES			1*	2	-	-	-
Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[cd]-pentalen-2-one	143500	Kepone	1	1,4	U142	X	1,3,4,5
Diallate	2303164	S-(2,3-Dichloroallyl) diisopropylthiocarbamate	1*	4	U062	-	4
Diamine	302012	Hydrazine	1*	4	U133	-	4
Diaminotoluene	95807	Toluenediamine	1*	4	U221	-	4
Diazinon	333415		1	1	-	A	1,3,4,5
Dibenz[a,h]anthracene	53703	1,2,5,6-Dibenzanthracene Dibenzo[a,h]anthracene	1*	2,4	U063	-	4,6,8
1,2,5,6-Dibenzanthracene	53703	Dibenz[a,h]anthracene Dibenzo[a,h]anthracene	1*	2,4	U063	-	4,6,8
Dibenzo[a,h]anthracene	53703	Dibenz[a,h]anthracene 1,2,5,6-Dibenzanthracene	1*	2,4	U063	-	4,6,8
1,2,7,8-Dibenzopyrene	189559	Dibenz[a,i]pyrene	1*	4	U064	-	4
Dibenz[a,i]pyrene	189559	1,2,7,8-Dibenzopyrene	1*	4	U064	-	4
1,2-Dibromo-3-chloropropane	96128	Propane, 1,2-dibromo-3-chloro-	1*	4	U066	-	4
Dibutyl phthalate	84742	1,2-Benzenedicarboxylic acid,dibutyl ester Di-n-butyl phthalate n-Butyl phthalate	100	1,2,4	U069	B	100(45.4)
Di-n-butyl phthalate	847-2	1,2-Benzenedicarboxylic acid dibutyl ester n-Butyl phthalate Dibutyl phthalate	100	1,2,4	U069	B	100(45.4)
Dicamba	1918009		1000	1	-	C	1000(454)
Dichlobenil	1194656		1000	1	-	C	1000(454)
Dichlone	117806		1	1	-	X	1(0.454)
S-(2,3-Dichloroallyl) diisopropylthiocarbamate	2303164	Diallate	1*	4	U062	-	4
3,5-Dichloro-N-(1,1-dimethyl-2-propynyl)benzamide	23950585	Pronamide	1*	4	U192	D	5000(2270)
1,4-Dichloro-2-butene	764410	2-Butene, 1,4-dichloro-	1*	4	U074	X	1(0.454)
Dichloro diphenyl dichloroethane	72548	DDD 4,4' DDD TDE	1	1,2,4	U060	X	1(0.454)
Dichlorobenzene (mixed)	25321226		100	1	-	B	100(45.4)
1,2-Dichlorobenzene	95501	Benzene, 1,2-dichloro- o-Dichlorobenzene	1*	2,4	U070	B	100(45.4)
1,3-Dichlorobenzene	541731	Benzene, 1,3-dichloro- m-Dichlorobenzene	1*	2,4	U071	B	100(45.4)
1,4-Dichlorobenzene	106467	Benzene, 1,4-dichloro- p-Dichlorobenzene	1*	2,4	U072	B	100(45.4)
m-Dichlorobenzene	541731	Benzene, 1,3-dichloro- 1,3-Dichlorobenzene	1*	2,4	U071	B	100(45.4)
o-Dichlorobenzene	95501	Benzene, 1,2-dichloro- 1,2-Dichlorobenzene	1*	2,4	U070	B	100(45.4)
p-Dichlorobenzene	106467	Benzene, 1,4-dichloro- 1,4-Dichlorobenzene	1*	2,4	U072	B	100(45.4)
DICHLOROPHENIDINE	-		1*	2	-	-	-
3,3'-Dichlorobenzidine	91941	[1,1'-Biphenyl]-4,4'-diamine,3,3'-dichloro-	1*	2,4	U073	-	4,6,8
Dichlorobromomethane	75274		1*	2	-	D	5000(2270)
Dichlorodifluoromethane	75718	Methane, dichlorodifluoro-	1*	4	U075	D	5000(2270)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No.	Regulatory Synonyms	Statutory RQ	Statutory Code †	RCRA Waste Number	Proposed Category	Proposed RQ
Dichlorodiphenyl[trichloroethane]	50293	DDT 4,4'-DDT	1	1,2,4	U061	B	1
1,1-Dichloroethane	75343	Ethane, 1,1-dichloro- Ethylidene dichloride	1*	2,4	U076	C	10
1,2-Dichloroethane	107062	Ethane, 1,2-dichloro- Ethylene dichloride	5000	1,2,4	U077	-	-
1,1-Dichloroethylene	75354	Ethene, 1,1-dichloro- Vinylidene chloride	5000	1,2,4	U078	-	-
1,2-trans-Dichloroethylene	156605	1,2-trans-Dichloroethylene Ethene, trans-1,2-dichloro-	1*	2,4	U079	C	10
Dichloroethyl ether	111444	Bis(2-chloroethyl) ether Ethane, 1,1'-oxybis(2-chloro-	1*	2,4	U025	-	-
2,4-Dichlorophenol	120832	Phenol, 2,4-dichloro-	1*	2,4	U081	B	10
2,6-Dichlorophenol	87650	Phenol, 2,6-dichloro-	1*	4	U082	B	10
2,4-Dichlorophenoxyacetic acid, salts and esters	94757	2,4-D Acid 2,4-D salts and esters	100	1,4	U240	B	10
Dichlorophenylarsine	696286	Phenyl dichloroarsine	1*	4	P036	-	-
Dichloropropane	26638197	-	5000	1	-	C	10
1,2-Dichloropropane	78875	Propylene dichloride	1*	2,4	U083	C	10
Dichloropropene - Dichloropropane mixture	8003198	-	5000	1	-	B	1
1,3-Dichloropropene	542756	Propene, 1,3-dichloro-	1*	2,4	U084	B	1
Dichloropropene	26952238	-	5000	1	-	B	1
2,2-Dichloropropionic acid	75990	-	5000	1	-	D	50
Dichlorvos	62737	-	10	1	-	A	1
Dieldrin	60571	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	1	1,2,4	P037	B	1
1,2,3,4-Diepoxybutane	1464535	2,2'-Bioxirane	1*	4	U085	-	-
Diethylamine	109897	-	1000	1	-	C	10
Diethylarsine	692422	Arsine, diethyl-	1*	4	P038	-	-
1,4-Diethylene dioxide	123911	1,4-Dioxane	1*	4	U108	-	-
N,N'-Diethylhydrazine	1615801	Hydrazine, 1,2-diethyl-	1*	4	U086	-	-
O,O-Diethyl S-[2-(ethylthio)ethyl]phosphorodithioate	298044	Disulfoton	1	1,4	P039	B	1
O,O-Diethyl S-Methyl Dithiophosphate	3288582	Phosphorodithioic acid, O,O-diethyl S-methylester	1*	4	U087	D	50
Diethyl-p-nitrophenyl phosphate	311456	Phosphoric acid,diethyl p-nitrophenyl ester	1*	4	P041	B	10
Diethyl phthalate	84662	1,2 Benzenedicarboxylic acid diethyl ester	1*	2,4	U088	B	10
O,O-Diethyl O-pyrazinyl phosphorothioate	297972	Phosphorothioic acid, O,O-diethyl-O-pyrazinyl ester	1*	4	P040	B	10
Diethylstilbestrol	56531	4,4'-Stilbenediol, alpha,alpha'-diethyl-	1*	4	U089	-	-
1,2-Dihydro-3,6-pyridazinedione	123331	Maleic hydrazide	1*	4	U148	D	50
Dihydrosafrole	94586	Benzene, 1,2-methylenedioxy-4-propyl-	1*	4	U090	-	-
Diisopropyl fluorophosphate	55914	Phosphorofluoridic acid,bis(1-methylethyl) ester	1*	4	P043	B	10
Dimetoate	60515	Phosphorodithioic acid,O,O-dimethyl S-[2(methylamino)-2-oxoethyl] ester	1*	4	P044	A	1
3,3'-Dimethoxybenzidine	119904	[1,1'-Biphenyl]-4,4'-diamine,3,3'-dimethoxy-	1*	4	U091	-	-
Dimethylamine	124403	Methanamine,N-methyl-	1000	1,4	U092	-	-
Dimethylaminoazobenzene	60117	Benzenamine,N,N-dimethyl-4-phenylazo-	1*	4	U093	-	-
7,12-Dimethylbenz[a]anthracene	57976	1,2-Benzanthracene,7,12-dimethyl-	1*	4	U094	-	-
3,3'-Dimethylbenzidine	119937	[1,1'-Biphenyl]-4,4'-diamine,3,3'-dimethyl-	1*	4	U095	-	-
alpha,alpha-Dimethylbenzylhydroperoxide	80159	Hydroperoxide,1-methyl-1-phenylethyl-	1*	4	U096	A	1

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory			Proposed RQ	
			RQ	Code [1]	RCRA (40 CFR Part 261) Number	Category	[illegible]
3,3-Dimethyl-1-(methylthio)-2-butanone-O-[(methylamino)carbonyl] oxime	39196-18-4	Thiofanox	1*	4	P045	B	100(45.4)
Dimethylcarbamoyl chloride	79447	Carbamoyl chloride, dimethyl-	1*	4	U097		*
1,1-Dimethylhydrazine	57147	Hydrazine, 1,1-dimethyl-	1*	4	U098		*
1,2-Dimethylhydrazine	540738	Hydrazine, 1,2-dimethyl-	1*	4	U099		*
O,O-Dimethyl O-(p-nitrophenyl)phosphorothioate	298000	Methyl parathion	100	1,4	P071		**
Dimethylnitrosamine	62759	N-Nitrosodimethylamine	1*	2,4	P082		*
alpha,alpha-Dimethylphenethylamine	122098	Ethanamine, 1,1-dimethyl-2-phenyl-	1*	4	P046	D	5000(2270)
2,4-Dimethylphenol	105679	Phenol, 2,4-dimethyl-	1*	2,4	U101	B	100(45.4)
Dimethyl phthalate	131113	1,2-Benzenedicarboxylic acid,dimethyl ester	1*	2,4	U102	D	5000(2270)
Dimethyl sulfate	77781	Sulfuric acid, dimethyl ester	1*	4	U103		*
Dinitrobenzene (mixed)	25154545		1000	1		B	100(45.4)
m-	99650						
o-	528290						
p-	100254						
4,6-Dinitro-o-cresol and salts	534521	Phenol, 2,4-dinitro-6-methyl- and salts	1*	2,4	P047	B	100(45.4)
4,6-Dinitro-o-cyclohexylphenol	131895	Phenol, 2-cyclohexyl-4,6-dinitro-	1*	4	P034	B	100(45.4)
Dinitrophenol	25550587		1000	1		B	100(45.4)
2,5-	329715						
2,6-	573568						
2,4-Dinitrophenol	51285	Phenol, 2,4-dinitro-	1*	2,4	P048	B	100(45.4)
Dinitrotoluene	25321146		1000	1,2		B	100(45.4)
2,4-Dinitrotoluene	121142	Benzene, 1-methyl-2,4-dinitro-	1*	2,4	U105	B	100(45.4)
2,6-Dinitrotoluene	606202	Benzene, 1-methyl-2,6-dinitro-	1*	2,4	U106	B	100(45.4)
Dinoseb	88857	Phenol, 2,4-dinitro-6-(1-methylpropyl)-	1*	4	P020	C	1000(454)
Di-n-octyl phthalate	117840	1,2-Benzenedicarboxylic acid,di-n-octyl ester	1*	2,4	U107	D	5000(2270)
1,4-Dioxane	123911	1,4-Diethylene dioxide	1*	4	U108		*
DIPHENYLHYDRAZINE			1*	2			**
1,2-Diphenylhydrazine	122667	Hydrazine, 1,2-diphenyl-	1*	2,4	U109		***
Diphosphoramide, octamethyl-	152169	Octamethylpyrophosphoramide	1*	4	P085	B	100(45.4)
Dipropylamine	142847	1-Propanamine, N-propyl-	1*	4	U110	D	5000(2270)
Di-n-propylnitrosamine	621647	N-Nitroso-n-propylamine	1*	2,4	U111		*
Diquat	85007		1000	1		C	1000(454)
	2764729						
Disulfoton	298044	O,O-Diethyl S-[2-(ethylthio)ethyl]phosphorodithioate	1	1,4	P039	X	1(0.454)
2,4-Dithiobiuret	541537	Thioimidodicarbonic diamide	1*	4	P049	B	100(45.4)
Dithiopyrophosphonic acid,tetraethyl ester	3689245	Tetraethyldithiopyrophosphate	1*	4	P109	B	100(45.4)
Diuron	330541		100	1		B	100(45.4)
Dodecylbenzenesulfonic acid	27176870		1000	1		C	1000(454)
Endosulfan	115297	5-Norbornene-2,3-dimethanol,1,4,5,6,7,7-hexachloro cyclic sulfite	1	1,2,4	P050	X	1(0.454)
alpha - Endosulfan	959988		1*	2		X	1(0.45[illegible]
beta - Endosulfan	33213659		1*	2		X	1(0.4
ENDOSULFAN AND METABOLITES			1*	2			**
Endosulfan sulfate	1031078		1*	2		X	1(0.454)
Endothall	145733	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	1*	4	P088	C	1000(454)
Endrin	72208	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	1	1,2,4	P051	X	1(0.454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ	Statutory Code †	RCRA Waste Number	Proposed RQ Category	Proposed RQ Pounds
Endrin aldehyde	7421934		1*	2		1	1(lb) e
ENDRIN AND METABOLITES			1*	2		1	—
Epichlorohydrin	106898	1-Chloro-2,3-epoxypropane Oxirane, 2-(chloromethyl)-	1000	1,4	U041	—	100
Epinephrine	51434	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]	1*	4	P042	C	1000
Ethanal	75070	Acetaldehyde	1000	1,4	U001	C	1000
Ethanamine, 1,1-dimethyl-2-phenyl-	122098	alpha,alpha-Dimethylphenethylamine	1*	4	P046	D	5000
Ethanamine, N-ethyl-N-nitroso-	55185	N-Nitrosodiethylamine	1*	4	U174	—	1
Ethane, 1,2-dibromo-	106934	Ethylene dibromide	1000	1,4	U067	—	1
Ethane, 1,1-dichloro-	75343	1,1-Dichloroethane Ethylidene dichloride	1*	2,4	U076	C	1000
Ethane, 1,2-dichloro-	107062	1,2-Dichloroethane Ethylene dichloride	5000	1,2,4	U077	—	100
Ethane, 1,1,1,2,2,2-hexachloro-	67721	Hexachloroethane	1*	2,4	U131	—	100
Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-	111911	Bis(2-chloroethoxy) methane	1*	2,4	U024	C	1000
Ethane, 1,1'-oxybis-	60297	Ethyl ether	1*	4	U117	B	100
Ethane, 1,1'-oxybis[2-chloro-	111444	Bis (2-chloroethyl) ether Dichloroethyl ether	1*	2,4	U025	—	1
Ethane, pentachloro-	76017	Pentachloroethane	1*	4	U184	—	1
Ethane, 1,1,1,2-tetrachloro-	630206	1,1,1,2-Tetrachloroethane	1*	4	U208	—	1
Ethane, 1,1,2,2-tetrachloro-	79345	1,1,2,2-Tetrachloroethane	1*	2,4	U209	—	1
Ethane, 1,1,2-trichloro-	79005	1,1,2-Trichloroethane	1*	2,4	U227	—	1
Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)-	72435	Methoxychlor	1	1,4	U247	B	1(lb)
1,2-Ethanediylbiscarbamodithioic acid	111546	Ethylenebis(dithiocarbamic acid)	1*	4	U114	D	5000
Ethanenitrile	75058	Acetonitrile	1*	4	U003	C	1000
Ethanethioamide	62555	Thioacetamide	1*	4	U218	—	1
Ethanol, 2,2'-(nitrosoimino)bis-	1116547	N-Nitrosodiethanolamine	1*	4	U173	—	—
Ethanone, 1-phenyl-	98862	Acetophenone	1*	4	U004	D	5000
Ethanoyl chloride	75365	Acetyl chloride	5000	1,4	U008	D	5000
Ethanamine, N-methyl-N-nitroso-	4549400	N-Nitrosomethylvinylamine	1*	4	P084	—	—
Ethene, chloro-	75014	Vinyl chloride	1*	2,3,4	U043	—	1
Ethene, 2-chloroethoxy-	110758	2-Chloroethyl vinyl ether	1*	2,4	U042	C	100
Ethene, 1,1-dichloro-	75354	1,1-Dichloroethylene Vinylidene chloride	5000	1,2,4	U078	—	1
Ethene, 1,1,2,2-tetrachloro-	127184	Tetrachloroethylene	1*	2,4	U210	—	1
Ethene, trans-1,2-dichloro-	156605	1,2-trans-Dichloroethylene	1*	2,4	U079	C	100
Ether	60297	—	100	1	—	—	—
Ethyl acetate	141786	Acetic acid, ethyl ester	1*	4	U112	D	5000
Ethyl acrylate	140885	2-Propenoic acid, ethyl ester	1*	4	U113	D	5000
Ethylbenzene	100414	—	1000	1,2	—	C	100
Ethyl carbamate (Urethan)	51796	Carbamic acid, ethyl ester	1*	4	U238	—	—
Ethyl cyanide	107120	Propanenitrile	1*	4	P101	A	10
Ethyl 4,4-dichlorobenzilate	510156	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester	1*	4	U038	—	—
Ethylene dibromide	106934	Ethane, 1,2-dibromo-	1000	1,4	U067	—	—
Ethylene dichloride	107062	1,2-Dichloroethane Ethane, 1,2-dichloro-	5000	1,2,4	U077	—	—

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ	Code ††	RCRA Waste Number	Proposed RQ Category	Proposed RQ Pounds(Kg)
Ethylene oxide	75218	Oxirane	1*	4	U115	B	100(45.4)
Ethylenebisdithiocarbamic acid	111546	1,2-Ethanediylbiscarbamodithioic acid	1*	4	U114	D	5000(2270)
Ethylenediamine	107153		1000	1		D	5000(2270)
Ethylenediamine tetraacetic acid (EDTA)	60004		5000	1		D	5000(2270)
Ethylenethiourea	96457	2-Imidazolidinethione	1*	4	U116		*
Ethylenimine	151564	Aziridine	1*	4	P054		*
Ethyl ether	60297	Ethane, 1,1'-oxybis-	1*	4	U117	B	100(45.4)
Ethylidene dichloride	75343	1,1-Dichloroethane Ethane, 1,1-dichloro-	1*	2,4	U076	C	1000(454)
Ethyl methacrylate	97632	2-Propenoic acid, 2-methyl-, ethyl ester	1*	4	U118	C	1000(454)
Ethyl methanesulfonate	62500	Methanesulfonic acid, ethyl ester	1*	4	U119		*
Famphur	52857	Phosphorothioic acid, O-[4-[(dimethylamino) sulfonyl]phenyl] O,O-dimethyl ester	1*	4	P097	C	1000(454)
Ferric ammonium citrate	1185575		1000	1		C	1000(454)
Ferric ammonium oxalate	2944674 55488874		1000	1		C	1000(454)
Ferric chloride	7705080		1000	1		C	1000(454)
Ferric dextran	9004664	Iron dextran	1*	4	U139		*
Ferric fluoride	7783508		100	1		B	100(45.4)
Ferric nitrate	10421484		1000	1		C	1000(454)
Ferric sulfate	10028225		1000	1		C	1000
Ferrous ammonium sulfate	10045893		1000	1		C	1000(
Ferrous chloride	7758943		100	1		B	100(45.4)
Ferrous sulfate	7720787 7782630		1000	1		C	1000(454)
Fluoroacetic acid, sodium salt	62748	Acetic acid, fluoro-, sodium salt	1*	4	P058	A	10(4.54)
Fluoranthene	206440	Benzo[j,k]fluorene	1*	2,4	U120		*
Fluorene	86737		1*	2			*
Fluorine	7782414		1*	4	P056	A	10(4.54)
Fluoroacetamide	640197	Acetamide, 2-fluoro-	1*	4	P057	B	100(45.4)
Formaldehyde	50000	Methylene oxide	1000	1,4	U122		**
Formic acid	64186	Methanoic acid	5000	1,4	U123	D	5000(2270)
Fulminic acid, mercury(II) salt	628864	Mercury fulminate	1*	4	P065		**
Fumaric acid	110178		5000	1		D	5000(2270)
Furan	110009	Furfuran	1*	4	U124	B	100(45.4)
Furan, tetrahydro-	109999	Tetrahydrofuran	1*	4	U213	C	1000(454)
2-Furancarboxaldehyde	98011	Furfural	1000	1,4	U125	C	1000(454)
2,5-Furandione	108316	Maleic anhydride	5000	1,4	U147	D	5000(2270)
Furfural	98011	2-Furancarboxaldehyde	1000	1,4	U125	C	1000(454)
Furfuran	110009	Furan	1*	4	U124	B	100(45.4)
D-Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-	18883664	Streptozotocin	1*	4	U206		*
Glycidylaldehyde	765344	1-Propanal, 2,3-epoxy-	1*	4	U126		*
Guanidine, N-nitroso-N-methyl-N'-nitro-	70257	N-Methyl-N'-nitro-N-nitrosoguanidine	1*	4	U163		
Guthion	86500		1	1		X	1(0
HALOETHERS			1*	2			**
HALOMETHANES			1*	2			**

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ	Code ††	RCRA Waste Number	Final RQ Category	Final RQ Pounds
Heptachlor	76448	4,7-Methano-1H-indene,1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	1	1,2,4	P059	X	1(0.45)
HEPTACHLOR AND METABOLITES	------	------	1*	2	--	--	**
Heptachlor epoxide	1024573	------	1*	2	----	X	1(0.45)
Hexachlorobenzene	118741	Benzene, hexachloro-	1*	2,4	U127	----	**
Hexachlorobutadiene	87683	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	1*	2,4	U128	----	**
HEXACHLOROCYCLOHEXANE (all isomers)	(N.A.)	------	1*	2	----	----	--
Hexachlorocyclohexane (gamma isomer)	58899	gamma BHC; Lindane	1	1,2,4	U129	X	1(0.45)
Hexachlorocyclopentadiene	77474	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	1	1,2,4	U130	X	1(0.45)
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	72208	Endrin	1	1,2,4	P051	X	1(0.45)
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	60571	Dieldrin	1	1,2,4	P037	X	1(0.45)
Hexachloroethane	67721	Ethane, 1,1,1,2,2,2-hexachloro-	1*	2,4	U131	----	**
Hexachlorohexahydro-endo,endo-dimethanonaphthalene	465736	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-endo,endo-dimethanonaphthalene	1*	4	P060	X	1(0.45)
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-endo,endo-dimethanonaphthalene	465736	Hexachlorohexahydro-endo,endo-dimethanonaphthalene	1*	4	P060	X	1(0.45)
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-endo,exo-dimethanonaphthalene	309002	Aldrin	1	1,2,4	P004	X	1(0)
Hexachlorophene	70304	2,2' Methylenebis(3,4,6-trichlorophenol)	1*	4	U132	----	**
Hexachloropropene	1888717	1-Propene, 1,1,2,3,3,3-hexachloro-	1*	4	U243	C	1000
Hexaethyl tetraphosphate	757584	Tetraphosphonic acid, hexaethyl ester	1*	4	P062	B	100(
Hydrazine	302012	Diamine	1*	4	U133	----	
Hydrazine, 1,2-diethyl-	1615801	N,N'-Diethylhydrazine	1*	4	U086	----	
Hydrazine, 1,1-dimethyl-	57147	1,1-Dimethylhydrazine	1*	4	U098	----	
Hydrazine, 1,2-dimethyl-	540738	1,2-Dimethylhydrazine	1*	4	U099	----	
Hydrazine, 1,2-diphenyl-	122667	1,2-Diphenylhydrazine	1*	2,4	U109	----	**
Hydrazine, methyl-	60344	Methyl hydrazine	1*	4	P068	A	10
Hydrazinecarbothioamide	79196	Thiosemicarbazide	1*	4	P116	B	100
Hydrochloric acid	7647010	----	5000	1	----	D	5000
Hydrocyanic acid	74908	Hydrogen cyanide	10	1,4	P063	A	10
Hydrofluoric acid	7664393	Hydrogen fluoride	5000	1,4	U134	B	100
Hydrogen cyanide	74908	Hydrocyanic acid	10	1,4	P063	A	10
Hydrogen fluoride	7664393	Hydrofluoric acid	5000	1,4	U134	B	100
Hydrogen phosphide	7803512	Phosphine	1*	4	P096	B	100
Hydrogen sulfide	7783064	Sulfur hydride	100	1,4	U135	----	
Hydroperoxide, 1-methyl-1-phenylethyl-	80159	alpha,alpha-Dimethylbenzyl hydroperoxide	1*	4	U096	A	10
Hydroxydimethylarsine oxide	75605	Cacodylic acid	1*	4	U136	----	
2-Imidazolidinethione	96457	Ethylenethiourea	1*	4	U116	----	
Indeno(1,2,3-cd)pyrene	193395	1,10-(1,2-Phenylene)pyrene	1*	2,4	U137	----	
Iron dextran	9004664	Ferric dextran	1*	4	U139	----	
Isobutyl alcohol	78831	1-Propanol, 2-methyl-	1*	4	U140	D	50
Isocyanic acid, methyl ester	624839	Methyl isocyanate	1*	4	P064	B	1(
Isophorone	78591	----	1*	2	----	D	50
Isoprene	78795	----	1000	1	----	----	

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ	Statutory Code ††	RCRA Waste Number	Final RQ Category	Final RQ Pounds (kg)
Isopropanolamine dodecylbenzenesulfonate	42504461		1000	1		C	1000(454)
Isosafrole	120581	Benzene, 1,2-methylenedioxy-4-propenyl-	1*	4	U141		*
3(2H)-Isoxazolone, 5-(aminomethyl)-	2763964	5-(Aminomethyl)-3-isoxazolol	1*	4	P007	C	1000(454)
Kelthane	115322		5000	1		D	5000(2270)
Kepone	143500	Decachlorooctahydro-1,3,4-methano-2H-cyclobuta[c,d]-pentalen-2-one,	1	1,4	U142	X	1(0.454)
Lasiocarpine	303344		1*	4	U143		*
Lead †	7439921		1*	2			**
Lead acetate	301042	Acetic acid, lead salt	5000	1,4	U144		***
LEAD AND COMPOUNDS			1*	2			**
Lead arsenate	7784409 7645252 10102484		5000	1			***
Lead chloride	7758954		5000	1			**
Lead fluoborate	13814965		5000	1			**
Lead fluoride	7783462		1000	1			**
Lead iodide	10101630		5000	1			**
Lead nitrate	10099748		5000	1			**
Lead phosphate	7446277	Phosphoric acid, lead salt	1*	4	U145		***
Lead stearate	7428480 1072351 56189094		5000	1			**
Lead subacetate	1335326		1*	4	U146		***
Lead sulfate	15739807 7446142		5000	1			**
Lead sulfide	1314870		5000	1			**
Lead thiocyanate	592870		5000	1			**
Lindane	58899	gamma - BHC Hexachlorocyclohexane (gamma isomer)	1	1,2,4	U129	X	1(0.454)
Lithium chromate	14307358		1000	1			***
Malathion	121755		10	1		B	100(45.4)
Maleic acid	110167		5000	1		D	5000(2270)
Maleic anhydride	108316	2,5-Furandione	5000	1,4	U147	D	5000(2270)
Maleic hydrazide	123331	1,2-Dihydro-3,6-pyridazinedione	1*	4	U148	D	5000(2270)
Malononitrile	109773	Propanedinitrile	1*	4	U149	C	1000(454)
Melphalan	148823	Alanine, 3-[p-bis(2-chloroethyl)amino]phenyl-,L-	1*	4	U150		*
Mercaptodimethur	2032657		100	1		A	10(4.54)
Mercuric cyanide	592041		1	1		X	1(0.454)
Mercuric nitrate	10045940		10	1			**
Mercuric sulfate	7783359		10	1			**
Mercuric thiocyanate	592858		10	1			**
Mercurous nitrate	10415755 7782867		10	1			**
Mercury	7439976		1*	2,3,4	U151	X	1(0.454)
MERCURY AND COMPOUNDS			1*	2			*
Mercury, (acetato-O)phenyl-	62384	Phenylmercuric acetate	1*	4	P092		*
Mercury fulminate	628864	Fulminic acid, mercury(II) salt	1*	4	P065		**
Methacrylonitrile	126987	2-Propenenitrile, 2-methyl-	1*	4	U152	C	1000(454)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No.	Regulatory Synonyms	Statutory			Proposed RQ	
			RQ	Code [illegible]	RCRA [illegible] No.	Category	RQ
Methanamine, N-methyl-	124403	Dimethylamine	1000	1,4	U092	—	—
Methane, bromo-	74839	Methyl bromide	1*	2,4	U029	C	100
Methane, chloro-	74873	Methyl chloride	1*	2,4	U045	—	—
Methane, chloromethoxy-	107302	Chloromethyl methyl ether	1*	4	U046	—	—
Methane, dibromo-	74953	Methylene bromide	1*	4	U068	C	100
Methane, dichloro-	75092	Methylene chloride	1*	2,4	U080	C	100
Methane, dichlorodifluoro-	75718	Dichlorodifluoromethane	1*	4	U075	D	5000
Methane, iodo-	74884	Methyl iodide	1*	4	U138	—	—
Methane, oxybis[chloro-	542881	Bis(chloromethyl) ether	1*	4	P016	—	—
Methane, tetrachloro-	56235	Carbon tetrachloride	5000	1,2,4	U211	—	—
Methane, tetranitro-	509148	Tetranitromethane	1*	4	P112	A	10
Methane, tribromo-	75252	Bromoform	1*	2,4	U225	B	100
Methane, trichloro-	67663	Chloroform	5000	1,2,4	U044	—	—
Methane, trichlorofluoro-	75694	Trichloromonofluoromethane	1*	4	U121	D	5000
Methanesulfonic acid, ethyl ester	62500	Ethyl methanesulfonate	1*	4	U119	—	—
Methanethiol	74931	Methylmercaptan Thiomethanol	100	1,4	U153	B	100
Methanesulfonyl chloride, trichloro-	594423	Trichloromethanesulfonyl chloride	1*	4	P118	B	100
4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	76448	Heptachlor	1	1,2,4	P059	X	1
Methanoic acid	64186	Formic acid	5000	1,4	U123	D	5000
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-	57749	Chlordane Chlordane technical	1	1,2,4	U036	X	1
Methanol	67561	Methyl alcohol	1*	4	U154	D	5000
Methapyrilene	91805	Pyridine, 2-[(2-(dimethylamino)ethyl)-2-thienylamino]-	1*	4	U155	D	5000
Methomyl	16752775	Acetimidic acid, N-[(methylcarbamoyl)oxy]thio-, methyl ester	1*	4	P066	C	100
Methoxychlor	72435	Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)-	1	1,4	U247	X	1
Methyl alcohol	67561	Methanol	1*	4	U154	D	500
2-Methylaziridine	75558	1,2-Propylenimine	1*	4	P067	—	—
Methyl bromide	74839	Methane, bromo-	1*	2,4	U029	C	10
1-Methylbutadiene	504609	1,3-Pentadiene	1*	4	U186	B	10
Methyl chloride	74873	Methane, chloro-	1*	2,4	U045	—	—
Methyl chlorocarbonate	79221	Carbonochloridic acid, methyl ester	1*	4	U156	C	10
Methyl chloroform	71556	1,1,1-Trichloroethane	1*	2,4	U226	C	10
4,4'-Methylenebis(2-chloroaniline)	101144	Benzenamine, 4,4'-methylenebis(2-chloro-	1*	4	U158	—	—
2,2'-Methylenebis(3,4,6-trichlorophenol)	70304	Hexachlorophene	1*	4	U132	—	—
3-Methylcholanthrene	56495	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	1*	4	U157	—	—
Methylene bromide	74953	Methane, dibromo-	1*	4	U068	C	10
Methylene chloride	75092	Methane, dichloro-	1*	2,4	U080	C	10
Methylene oxide	50000	Formaldehyde	1000	1,4,	U122	—	—
Methyl ethyl ketone	78933	2-Butanone	1*	4	U159	C	10
Methyl ethyl ketone peroxide	1338234	2-Butanone peroxide	1*	4	U160	A	1
Methyl hydrazine	60344	Hydrazine, methyl-	1*	4	P068	A	1
Methyl iodide	74884	Methane, iodo-	1*	4	U138	—	—

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ	Statutory Code ††	RCRA Waste Number	Proposed RQ Category	Proposed RQ
Methyl isobutyl ketone	108101	4-Methyl-2-pentanone	1*	4	U161	D	5000 (2270)
Methyl isocyanate	624839	Isocyanic acid, methyl ester	1*	4	P064	B	100 (45.4)
2-Methyllactonitrile	75865	Acetone cyanohydrin Propanenitrile, 2-hydroxy-2-methyl-	10	1,4	P069	A	10 (4.54)
Methylmercaptan	74931	Methanethiol Thiomethanol	100	1,4	U153	B	100 (45.4)
Methyl methacrylate	80626	2-Propenoic acid, 2-methyl-, methyl ester	5000	1,4	U162	C	1000 (454)
N-Methyl-N'-nitro-N-nitrosoguanidine	70257	Guanidine, N-methyl-N'-nitro-N-nitroso-	1*	4	U163		1
Methyl parathion	298000	O,O-Dimethyl O-p-nitrophenylphosphorothioate	100	1,4	P071		100
4-Methyl-2-pentanone	108101	Methyl isobutyl ketone	1*	4	U161	D	5000 (2270)
Methylthiouracil	56042	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-	1*	4	U164		1
Mevinphos	7786347		1	1		A	10 (4.54)
Mexacarbate	315184		1000	1		C	1000 (454)
Mitomycin C	50077	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-	1*	4	U010		1
Monoethylamine	75047		1000	1			1
Monomethylamine	74895		1000	1		B	100 (45.4)
Naled	300765		10	1		A	10 (4.54)
5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-	20830813	Daunomycin	1*	4	U059		1
Naphthalene	91203		5000	1,2,4	U165	B	100 (45
Naphthalene, 2-chloro-	91587	beta-Chloronaphthalene 2-Chloronaphthalene	1*	2,4	U047	D	5000 (2270)
1,4-Naphthalenedione	130154	1,4-Naphthoquinone	1*	4	U166	D	5000 (2270)
2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(azo)]bis(5-amino-4-hydroxy)-, tetrasodium salt	72571	Trypan blue	1*	4	U236		1
Naphthenic acid	1338245		100	1		B	100 (45.4)
1,4-Naphthoquinone	130154	1,4-Naphthalenedione	1*	4	U166	D	5000 (2270)
1-Naphthylamine	134327	alpha-Naphthylamine	1*	4	U167		1
2-Naphthylamine	91598	beta-Naphthylamine	1*	4	U168		1
alpha-Naphthylamine	134327	1-Naphthylamine	1*	4	U167		1
beta-Naphthylamine	91598	2-Naphthylamine	1*	4	U168		1
2-Naphthylamine, N,N-bis(2-chloroethyl)-	494031	Chlornaphazine	1*	4	U026		1
alpha-Naphthylthiourea	86884	Thiourea, 1-naphthalenyl-	1*	4	P072	B	100 (45.4)
Nickel †	7440020		1*	2			1
NICKEL AND COMPOUNDS			1*	2			1
Nickel ammonium sulfate	15699180		5000	1			1
Nickel carbonyl	13463393	Nickel tetracarbonyl	1*	4	P073		1
Nickel chloride	7718549 37211055		5000	1			1
Nickel cyanide	557197	Nickel(II) cyanide	1*	4	P074	A	10 (4.54)
Nickel(II) cyanide	557197	Nickel cyanide	1*	4	P074	A	10 (4.54)
Nickel hydroxide	12054487		1000	1			1
Nickel nitrate	14216752		5000	1			1
Nickel sulfate	7786814		5000	1			1
Nickel tetracarbonyl	13463393	Nickel carbonyl	1*	4	P073		1

TABLE 302.4 LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ	Statutory Code ††	RCRA Waste Number	Proposed RQ Category	Proposed RQ Pounds
Nicotine and salts	54115	Pyridine (S)-3-(1-methyl-2-pyrrolidinyl)-and salts	1*	4	P075	B	100(45
Nitric acid	7697372		1000	1		C	1000(4
Nitric oxide	10102439	Nitrogen(II) oxide	1*	4	P076	A	10(4 5
p-Nitroaniline	100016	Benzenamine, 4-nitro-	1*	4	P077	D	5000(2
Nitrobenzene	98953	Benzene, nitro-	1000	1,2,4	U169	C	1000(4
Nitrogen dioxide	10102440	Nitrogen(IV) oxide	1000	1,4	P078	A	10(4 5
Nitrogen(III) oxide	10102439	Nitric oxide	1*	4	P076	A	10(4 5
Nitrogen(IV) oxide	10102440	Nitrogen dioxide	1000	1,4	P078	A	10(4 5
Nitroglycerine	55630	1,2,3-Propanetriol, trinitrate-	1*	4	P081	A	10(4 5
Nitrophenol (mixed)	25154556		1000	1		B	100(45
m-	554847						
o-	88755						
p-	100027						
p-Nitrophenol	100027	4-Nitrophenol Phenol, 4-nitro-	1*	2,4	U170	B	100(45
2-Nitrophenol	88755		1*	2		B	100(4
4-Nitrophenol	100027	p-Nitrophenol Phenol, 4-nitro-	1*	2,4	U170	B	100(4
NITROPHENOLS			1*	2			**
2-Nitropropane	79469	Propane, 2-nitro-	1*	4	U171	C	1000
NITROSAMINES			1*	2			**
N-Nitrosodi-n-butylamine	924163	1-Butanamine, N-butyl-N-nitroso-	1*	4	U172		0
N-Nitrosodiethanolamine	1116547	Ethanol, 2,2'-(nitrosoimino)bis-	1*	4	U173		0
N-Nitrosodiethylamine	55185	Ethanamine, N-ethyl-N-nitroso-	1*	4	U174		0
N-Nitrosodimethylamine	62759	Dimethylnitrosamine	1*	2,4	P082		0
N-Nitrosodiphenylamine	86306		1*	2		B	100(4
N-Nitrosodi-n-propylamine	621647	Di-n-propylnitrosamine	1*	2,4	U111		0
N-Nitroso-N-ethylurea	759739	Carbamide, N-ethyl-N-nitroso-	1*	4	U176		0
N-Nitroso-N-methylurea	684935	Carbamide, N-methyl-N-nitroso-	1*	4	U177		0
N-Nitroso-N-methylurethane	615532	Carbamic acid, methylnitroso-, ethyl ester	1*	4	U178		
N-Nitrosomethylvinylamine	4549400	Ethenamine, N-methyl-N-nitroso-	1*	4	P084		
N-Nitrosopiperidine	100754	Pyridine, hexahydro-N-nitroso-	1*	4	U179		
N-Nitrosopyrrolidine	930552	Pyrrole, tetrahydro-N-nitroso-	1*	4	U180		
Nitrotoluene	1321126		1000	1		C	100
5-Nitro-o-toluidine	99558	Benzenamine, 2-methyl-5-nitro-	1*	4	U181		
5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro-,cyclic sulfite	115297	Endosulfan	1	1,2,4	P050	X	1(0
Octamethylpyrophosphoramide	152169	Diphosphoramide, octamethyl-	1*	4	P085	B	100
Osmium oxide	20816120	Osmium tetroxide	1*	4	P087	C	100
Osmium tetroxide	20816120	Osmium oxide	1*	4	P087	C	100
7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	145733	Endothall	1*	4	P088	C	100
1,2-Oxathiolane, 2,2-dioxide	1120714	1,3-Propane sultone	1*	4	U193		
2H-1,3,2-Oxazaphosphorine-2-[bis(2-chloroethyl)amino]tetrahydro-2-oxide	50180	Cyclophosphamide	1*	4	U058		
Oxirane	75218	Ethylene oxide	1*	4	U115	B	10
Oxirane, 2-(chloromethyl)-	106898	1-Chloro-2,3-epoxypropane Epichlorohydrin	1000	1,4	U041		
Paraformaldehyde	30525894		1000	1		C	1

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory			Proposed RQ	
			RQ	Code ††	RCRA Waste Number	Category	Pounds (kg)
Paraldehyde	123637	1,3,5-Trioxane, 2,4,6-trimethyl-	1*	4	U182	C	1000(454)
Parathion	56382	Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester	1	1,4	P089	X	1.0 (0.454)
Pentachlorobenzene	608935	Benzene, pentachloro-	1*	4	U183		**
Pentachloroethane	76017	Ethane, pentachloro-	1*	4	U184		**
Pentachloronitrobenzene	82688	Benzene, pentachloronitro-	1*	4	U185		***
Pentachlorophenol	87865	Phenol, pentachloro-	10	1,2,4	U242	X	1(0.454)
1,3-Pentadiene	504609	1,3-Methylbutadiene	1*	4	U186	B	100(45.4)
Phenacetin	62442	Acetamide, N-(4-ethoxyphenyl)-	1*	4	U187		*
Phenanthrene	85018		1*	2	-	D	5000(2270)
Phenol	108952	Benzene, hydroxy-	1000	1,2,4	U188		**
Phenol, 2-chloro-	95578	2-Chlorophenol o-Chlorophenol	1*	2,4	U048	B	100(45.4)
Phenol, 4-chloro-3-methyl-	59507	4-Chloro-m-cresol p-Chloro-m-cresol	1*	2,4	U039	D	5000(2270)
Phenol, 2-cyclohexyl-4,6-dinitro-	131895	4,6-Dinitro-o-cyclohexylphenol	1*	4	P034	B	100(45.4)
Phenol, 2,4-dichloro-	120832	2,4-Dichlorophenol	1*	2,4	U081	B	100(45.4)
Phenol, 2,6-dichloro-	87650	2,6-Dichlorophenol	1*	4	U082	B	100(45.4)
Phenol, 2,4-dimethyl-	105679	2,4-Dimethylphenol	1*	2,4	U101	B	100(45.4)
Phenol, 2,4-dinitro-	51285	2,4-Dinitrophenol	1*	2,4	P048	B	100(45.4)
Phenol, 2,4-dinitro-6-(1-methylpropyl)-	88857	Dinoseb	1*	4	P020	C	1000(45
Phenol, 2,4-dinitro-6-methyl- and salts	534521	4,6-Dinitro-o-cresol and salts	1*	2,4	P047	B	100(45
Phenol, 4-nitro-	100027	p-Nitrophenol 4-Nitrophenol	1*	2,4	U170	B	100(45.4)
Phenol, pentachloro-	87865	Pentachlorophenol	10	1,2,4	U242	X	1.0 (0.454)
Phenol, 2,3,4,6-tetrachloro-	58902	2,3,4,6-Tetrachlorophenol	1*	4	U212	A	10(4.54)
Phenol, 2,4,5-trichloro-	95954	2,4,5-Trichlorophenol	1*	4	U230		**
Phenol, 2,4,6-trichloro-	88062	2,4,6-Trichlorophenol	1*	2,4	U231		***
Phenol, 2,4,6-trinitro-, ammonium salt	131748	Ammonium picrate	1*	4	P009	A	10(4.54)
Phenyl dichloroarsine	696286	Dichlorophenylarsine	1*	4	P036		***
1,10-(1,2-Phenylene)pyrene	193395	Indeno(1,2,3-cd)pyrene	1*	2,4	U137		***
Phenylmercuric acetate	62384	Mercury, (acetato-O)phenyl-	1*	4	P092		**
N-Phenylthiourea	103855	Thiourea, phenyl-	1*	4	P093	B	100(45.4)
Phorate	298022	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	1*	4	P094		**
Phosgene	75445	Carbonyl chloride	5000	1,4	P095	C	1000(454)
Phosphine	7803512	Hydrogen phosphide	1*	4	P096	B	100(45.4)
Phosphoric acid	7664382		5000	1		D	5000(2270)
Phosphoric acid, diethyl p-nitrophenyl ester	311455	Diethyl-p-nitrophenyl phosphate	1*	4	P041	B	100(45.4)
Phosphoric acid, lead salt	7446277	Lead phosphate	1*	4	U145		***
Phosphorodithioic acid, O,O-diethyl S-methylester	3288582	O,O-Diethyl S-Methyl-Dithiophosphate	1*	4	U087	D	5000(2270)
Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	298022	Phorate	1*	4	P094		**
Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester	60515	Dimethoate	1*	4	P044	A	10(4.54)
Phosphorofluoridic acid, bis(1-methylethyl) ester	55914	Diisopropyl fluorophosphate	1*	4	P043	B	100(45.4)
Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester	56382	Parathion	1	1,4	P089	X	1(0.454)
Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	297972	O,O-Diethyl O-pyrazinyl phosphorothioate	1*	4	P040	B	100(45.4)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ	Code †	RCRA Waste Number	Proposed RQ Category	Proposed RQ Pounds
Phosphorothioic acid, O,O-dimethyl O-[p-(dimethyl sulfamoyl)phenyl] ester	[illegible]	[illegible]	*	4	[illegible]	C	1000
Phosphorus	7723140		1	1		K	1(0
Phosphorus oxychloride	10025873		5000	1		C	1000
Phosphorus pentasulfide	1314803	Phosphorus sulfide Sulfur phosphide	100	1,4	U189	B	100
Phosphorus sulfide	1314803	Phosphorus pentasulfide Sulfur phosphide	100	1,4	U189	B	100
Phosphorus trichloride	7719122		5000	1		C	1000
PHTHALATE ESTERS	—		1*	2	—		*
Phthalic anhydride	85449	1,2-Benzenedicarboxylic acid anhydride	1*	4	U190	D	5000
2-Picoline	109068	Pyridine, 2-methyl-	1*	4	U191	D	5000
Plumbane, tetraethyl-	78002	Tetraethyl lead	100	1,4	P110		1
POLYCHLORINATED BIPHENYLS (PCBs)	1336363		10	1,2		K	1(0
POLYNUCLEAR AROMATIC HYDROCARBONS			1*	2			
Potassium arsenate	7784410		1000	1			1
Potassium arsenite	10124502		1000	1			1
Potassium bichromate	7778509		1000	1			1
Potassium chromate	7789006		1000	1			1
Potassium cyanide	151508		10	1,4	P098	A	10
Potassium hydroxide	1310583		1000	1		C	100
Potassium permanganate	7722647		100	1	—	B	100
Potassium silver cyanide	506616		1*	4	P099	K	1(0
Pronamide	23950585	3,5-Dichloro-N-(1,1-dimethyl-2 propynyl)benzamide	1*	4	U192	D	5000
1-Propanal, 2,3-epoxy-	765344	Glycidylaldehyde	1*	4	U126		
Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino) carbonyl]oxime	116063	Aldicarb	1*	4	P070	A	10
1-Propanamine	107108	n-Propylamine	1*	4	U194	D	500
1-Propanamine, N-propyl-	142847	Dipropylamine	1*	4	U110	D	500
Propane, 1,2-dibromo-3-chloro-	96128	1,2-Dibromo-3-chloropropane	1*	4	U066		
Propane, 2-nitro-	79469	2-Nitropropane	1*	4	U171	C	100
Propane, 2,2'-oxybis[2-chloro-	108601	Bis(2-chloroisopropyl) ether	1*	2,4	U027	C	100
1,3-Propane sultone	1120714	1,2-Oxathiolane, 2,2-dioxide	1*	4	U193		
Propanedinitrile	109773	Malononitrile	1*	4	U149	C	100
Propanenitrile	107120	Ethyl cyanide	1*	4	P101	A	10
Propanenitrile, 3-chloro-	542767	3-Chloropropionitrile	1*	4	P027	C	100
Propanenitrile, 2-hydroxy-2-methyl-	75865	Acetone cyanohydrin 2-Methyllactonitrile	10	1,4	P069	A	10
1,2,3-Propanetriol, trinitrate-	55630	Nitroglycerine	1*	4	P081	A	10
1-Propanol, 2,3-dibromo-, phosphate (3:1)	126727	Tris(2,3-dibromopropyl) phosphate	1*	4	U235		
1-Propanol, 2-methyl-	78831	Isobutyl alcohol	1*	4	U140	D	500
2-Propanone	67641	Acetone	1*	4	U002	D	500
2-Propanone, 1-bromo-	598312	Bromoacetone	1*	4	P017	C	10
Propargite	2312358		10	1		A	1(
Propargyl alcohol	107197	2-Propyn-1-ol	1*	4	P102	C	10
2-Propenal	107028	Acrolein	1	1,2,4	P003	K	1

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory			Proposed RQ	
			RQ	Code ††	RCRA Waste Number	Category	Pounds (kg)
2-Propenamide	79061	Acrylamide	1*	4	U007	D	5000(2270)
Propene, 1,3-dichloro-	542756	1,3-Dichloropropene	1*	2,4	U084	B	100(45.4)
1-Propene, 1,1,2,3,3,3-hexachloro-	1888717	Hexachloropropylene	1*	4	U243	C	1000(454)
2-Propenenitrile	107131	Acrylonitrile	100	1,2,4	U009		100
2-Propenenitrile, 2-methyl-	126987	Methacrylonitrile	1*	4	U152	C	1000(454)
2-Propenoic acid	79107	Acrylic acid	1*	4	U008	D	5000(2270)
2-Propenoic acid, ethyl ester	140885	Ethyl acrylate	1*	4	U113	D	5000(2270)
2-Propenoic acid, 2-methyl-, ethyl ester	97632	Ethyl methacrylate	1*	4	U118	C	1000(454)
2-Propenoic acid, 2-methyl-, methyl ester	80626	Methyl methacrylate	5000	1,4	U162	C	1000(454)
2-Propen-1-ol	107186	Allyl alcohol	100	1,4	P005	B	100(45.4)
Propionic acid	79094		5000	1		D	5000(2270)
Propionic acid, 2-(2,4,5-trichlorophenoxy)-	93721	Silvex 2,4,5-TP acid	100	1,4	U233	B	100(45.4)
Propionic anhydride	123626		5000	1		D	5000(2270)
n-Propylamine	107108	1-Propanamine	1*	4	U194	D	5000(2270)
Propylene dichloride	78875	1,2-Dichloropropane	1*	2,4	U083	C	1000(454)
Propylene oxide	75569		5000	1		B	100(45.4)
1,2-Propylenimine	75558	2-Methylaziridine	1*	4	P067		1
2-Propyn-1-ol	107197	Propargyl alcohol	1*	4	P102	C	1000(45
Pyrene	129000		1*	2		D	5000(22
Pyrethrins	121299 121211		1000	1		C	1000(454)
4-Pyridinamine	504245	4-Aminopyridine	1*	4	P008	C	1000(454)
Pyridine	110861		1*	4	U196		1000
Pyridine, 2-((2-(dimethylamino)ethyl)-2-thienylamino-	91805	Methapyrilene	1*	4	U155	D	5000(2270)
Pyridine, hexahydro-N-nitroso-	100754	N-Nitrosopiperidine	1*	4	U179		1
Pyridine, 2-methyl-	109068	2-Picoline	1*	4	U191	D	5000(2270)
Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)- and salts	54116	Nicotine and salts	1*	4	P075	B	100(45.4)
4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-	56042	Methylthiouracil	1*	4	U164		1
Pyrophosphoric acid, tetraethyl ester	107493	Tetraethyl pyrophosphate	100	1,4	P111		100
Pyrrole, tetrahydro-N-nitroso-	930552	N-Nitrosopyrrolidine	1*	4	U180		1
Quinoline	91225		1000	1		D	5000(2270)
RADIONUCLIDES			1*	3			1000
Reserpine	50555	Yohimban-16-carboxylic acid,11,17-dimethoxy-18-((3,4,5-trimethoxybenzoyl)oxy)-, methyl ester.	1*	4	U200	D	5000(2270)
Resorcinol	108463	1,3-Benzenediol	1000	1,4	U201	D	5000(2270)
Saccharin and salts	81072	1,2-Benzisothiazolin-3-one,1,1-dioxide, and salts	1*	4	U202		1
Safrole	94597	Benzene, 1,2-methylenedioxy-4-allyl-	1*	4	U203		1
Selenious acid	7783008		1*	4	U204		10
Selenium †	7782492		1*	2			10
SELENIUM AND COMPOUNDS			1*	2			--
Selenium dioxide	7446084	Selenium oxide	1000	1,4	U204		01
Selenium disulfide	7488564	Sulfur selenide	1*	4	U205		10
Selenium oxide	7446084	Selenium dioxide	1000	1,4	U204		10
Selenourea	630104	Carbamimidoselenoic acid	1*	4	P103		10

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory			Proposed RQ	
			RQ	Code ††	RCRA waste Number	Category	Pound
L-Serine, diazoacetate (ester)	115026	Azaserine	1*	4	U015		
Silver †	7440224		1*	2		C	1000
SILVER AND COMPOUNDS			1*	2			
Silver cyanide	506649		1*	4	P104	X	1(0
Silver nitrate	7761888		1	1		X	1(0
Silvex	93721	Propionic acid, 2 (2 4 5-trichlorophenoxy)- 2,4 5-TP acid	100	1,4	U233	B	100
Sodium	7440235		1000	1		A	10(4
Sodium arsenate	7631892		1000	1			0 4
Sodium arsenite	7784465		1000	1			0 4
Sodium azide	26628228		1*	4	P105	C	1000
Sodium bichromate	10588019		1000	1			0 4
Sodium bifluoride	1333831		5000	1			0
Sodium bisulfite	7631905		5000	1		D	5000
Sodium chromate	7775113		1000	1			0 4
Sodium cyanide	143339		10	1,4	P106	A	10(4
Sodium dodecylbenzene sulfonate	25155300		1000	1		C	1000
Sodium fluoride	7681494		5000	1		C	1000
Sodium hydrosulfide	16721805		5000	1		D	5000
Sodium hydroxide	1310732		1000	1		C	1000
Sodium hypochlorite	7681529 10022705		100	1		B	100
Sodium methylate	124414		1000	1		C	1000
Sodium nitrite	7632000		100	1			0
Sodium phosphate, dibasic	7558794 10039324 10028247 10140655		5000	1		D	5000
Sodium phosphate, tribasic	7601549 7785844 10101890 10361894 7758294 10124568		5000	1		D	5000
Sodium selenite	10102188 7782823		1000	1			0
4,4'-Sulfonedial, alpha,alpha'-diethyl-	56531	Diethylstilbestrol	1*	4	U089		
Streptozotocin	18883664	D-Glucopyranose, 2-deoxy-2-(3-methyl-3 nitrosoureido)-	1*	4	U206		
Strontium chromate	7789062		1000	1			
Strontium sulfide	1314981		1*	4	P107	B	100
Strychnidin-10-one, and salts	57249	Strychnine and salts	10	1,4	P108	A	10(4
Strychnidin-10-one, 2,3-dimethoxy-	357573	Brucine	1*	4	P018	A	10(4
Strychnine and salts	57249	Strychnidin-10-one, and salts	10	1,4	P108	A	10(4
Styrene	100425		1000	1		C	1000
Sulfur hydride	7783064	Hydrogen sulfide	100	1,4	U135		0
Sulfur monochloride	12771083		1000	1		C	1000
Sulfur phosphide	1314803	Phosphorus pentasulfide Phosphorus sulfide	100	1,4	U189	B	100
Sulfur selenide	7488564	Selenium disulfide	1*	4	U205		0
Sulfuric acid	7664939		1000	1		C	1

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No.	Regulatory Synonyms	Statutory			Proposed [1]	
			RQ	Code [2]	RCRA Waste Number	Category	Pounds (kg)
Sulfuric acid, dimethyl ester	77781	Dimethyl sulfate	1*	4	U103		0
Sulfuric acid, thallium(I) salt	[illegible]	Thallium(I) [illegible]	1000	1,4	P115		0.0
2,4,5-T	93765	2,4,5-T acid 2,4,5-Trichlorophenoxyacetic acid	100	1,4	U232	B	100(45.4)
2,4,5-T acid	93765	2,4,5-T 2,4,5-Trichlorophenoxyacetic acid	100	1,4	U232	B	100(45.4)
2,4,5-T amines	2008460		100	1		B	100(45.4)
2,4,5-T esters	93798 2545597 61792072 1928478 25168154		100	1		B	100(45.4)
2,4,5-T salts	13560991		100	1		B	100(45.4)
TDE	72548	DDD 4,4' DDD Dichloro diphenyl dichloroethane	1	1,2,4	U060	X	1(0.454)
1,2,4,5-Tetrachlorobenzene	95943	Benzene, 1,2,4,5-tetrachloro-	1*	4	U207	D	5000(2270)
2,3,7,8-Tetrachlorodibenzo-p-dioxin(TCDD)	1746016		1*	2		X	1(0.454)
1,1,1,2-Tetrachloroethane	630206	Ethane, 1,1,1,2 tetrachloro-	1*	4	U208		000
1,1,2,2-Tetrachloroethane	79345	Ethane, 1,1,2,2 tetrachloro-	1*	2,4	U209		000
Tetrachloroethylene	127184	Ethene, 1,1,2,2 tetrachloro-	1*	2,4	U210		000
2,3,4,6-Tetrachlorophenol	58902	Phenol, 2,3,4,6-tetrachloro-	1*	4	U212	A	10(4.54)
Tetraethyldithiopyrophosphate	3689245	Dithiopyrophosphoric acid,tetraethyl ester	1*	4	P109	B	100(45.4
Tetraethyl lead	78002	Plumbane, tetraethyl-	100	1,4	P110		00
Tetraethyl pyrophosphate	107493	Pyrophosphoric acid, tetraethyl ester	100	1,4	P111		00
Tetrahydrofuran	109999	Furan, tetrahydro-	1*	4	U213	C	1000(454)
Tetranitromethane	509148	Methane, tetranitro-	1*	4	P112	A	10(4.54)
Tetraphosphoric acid, hexaethyl ester	757584	Hexaethyl tetraphosphate	1*	4	P062	B	100(45.4)
Thallic oxide	1314325	Thallium(III) oxide	1*	4	P113		00
Thallium ?	7440280		1*	2			00
THALLIUM AND COMPOUNDS			1*	2			**
Thallium(I) acetate	563688	Acetic acid, thallium(I) salt	1*	4	U214		00
Thallium(I) carbonate	6533739	Carbonic acid, dithallium (I) salt	1*	4	U215		00
Thallium(I) chloride	7791120		1*	4	U216		00
Thallium(I) nitrate	10102451		1*	4	U217		00
Thallium(III) oxide	1314325	Thallic oxide	1*	4	P113		00
Thallium(I) selenide	12039520		1*	4	P114		00
Thallium(I) sulfate	7446186	Sulfuric acid, thallium(I) salt	1000	1,4	P115		00
Thioacetamide	62555	Ethanethioamide	1*	4	U218		0
Thiofanox	39196184	3,3-Dimethyl-1-(methylthio)-2-butanone,O-[(methylamino)carbonyl] oxime	1*	4	P045	B	100(46.4)
Thiomidodicarbonic diamide	541537	2,4-Dithiobiuret	1*	4	P049	B	100(45.4)
Thiomethanol	74931	Methanethiol Methylmercaptan	100	1,4	U153	B	100(45.4)
Thiophenol	108985	Benzenethiol	1*	4	P014	B	100(46.4)
Thiosemicarbazide	79196	Hydrazinecarbothioamide	1*	4	P116	B	100
Thiourea	62566	Carbamide thio-	1*	4	U219		b
Thiourea, (2-chlorophenyl)-	5344821	1 (o-Chlorophenyl)thiourea	1*	4	P026	B	100(45.4)
Thiourea, 1-naphthalenyl-	86884	alpha-Naphthylthiourea	1*	4	P072	B	100(46.4)

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ	Statutory Code †	Statutory RCRA Waste Number	Proposed RQ Category	Proposed RQ Pounds
Thiourea, phenyl-	103853	N-Phenylthiourea	*	4	P093	B	100(4)
Thiram	137268	Bis(dimethylthiocarbamoyl) disulfide	1*	4	U244	A	10(4)
Toluene	108883	Benzene, methyl-	1000	1,2,4	U220	C	1000
Toluenediamine	95807	2,4-diaminotoluene	1*	4	U221		*
Toluene diisocyanate	584849	Benzene, 2,4-diisocyanato-1-methyl-	1*	4	U223	B	100(4)
o-Toluidine hydrochloride	636215	Benzenamine, 2-methyl-, hydrochloride	1*	4	U222		*
Toxaphene	8001352	Camphene, octachloro-	1	1,2,4	P123	X	1(10,4)
2,4,5-TP acid	93721	Propionic acid, 2-(2,4,5-trichlorophenoxy)- Silvex	100	1,4	U233	B	100(4)
2,4,5-TP acid esters	32534955		100	1		B	100(4)
1H-1,2,4-Triazol-3-amine	61825	Amitrole	1*	4	U011		*
Trichlorfon	52686		1000	1			*
1,2,4-Trichlorobenzene	120821		1*	2		B	100(4)
1,1,1-Trichloroethane	71556	Methyl chloroform	1*	2,4	U226	C	1000
1,1,2-Trichloroethane	79005	Ethane, 1,1,2-trichloro-	1*	2,4	U227		*(4)
Trichloroethane	79016	Trichloroethylene	1000	1,2,4	U228		*(4)
Trichloroethylene	79016	Trichloroethene	1000	1,2,4	U228		*(4)
Trichloromethanesulfenyl chloride	594423	Methanesulfenyl chloride, trichloro-	1*	4	P118	B	100(4)
Trichloromonofluoromethane	75694	Methane, trichlorofluoro-	1*	4	U121	D	5000
Trichlorophenol	25167822		10	1			
2,4,5-Trichlorophenol	95954	Phenol, 2,4,5-trichloro-	1*	4	U230		*(4)
2,4,6-Trichlorophenol	88062	Phenol, 2,4,6-trichloro-	1*	2,4	U231		*(4)
2,4,5-Trichlorophenoxyacetic acid	93765	2,4,5-T 2,4,5-T acid	100	1,4	U232	B	100
Triethanolamine dodecylbenzene sulfonate	27323417		1000	1		C	100
Triethylamine	121448		5000	1		D	5000
Trimethylamine	75503		1000	1			
sym-Trinitrobenzene	99354	Benzene, 1,3,5-trinitro-	1*	4	U234		
1,3,5-Trioxane, 2,4,6-trimethyl-	123637	Paraldehyde	1*	4	U182	C	10(4)
Tris(2,3-dibromopropyl) phosphate	126727	1-Propanol, 2,3-dibromo-, phosphate (3:1)	1*	4	U235		
Trypan blue	72571	2,7-Naphthalenedisulfonic acid,3,3'-[(3,3'-dimethyl-4,1'-biphenyl)-4,4'-diyl)-bis(azo)]bis(5-amino-4-hydroxy)-tetrasodium salt.	1*	4	U236		
Unlisted Hazardous Wastes	(N.A.)		1*	4			
Characteristic of Ignitability			1*	4		B	1
Characteristic of Corrosivity			1*	4		B	1
Characteristic of Reactivity			1*	4		B	1
Characteristic of EP Toxicity			1*	4			
Arsenic D004			1*	4			
Barium D005			1*	4		C	1
Cadmium D006			1*	4			
Chromium(VI) D007			1*	4			
Lead D008			1*	4			
Mercury D009			1*	4		X	1
Selenium D010			1*	4			
Silver D011			1*	4		X	

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No.	Regulatory Synonyms	Statutory			Proposed RQ	
			RQ	Code ††	RCRA Waste Number	Category	Pounds(Kg)
Endrin.....D012			1	1,4	P051	X	1(0.454)
Lindane.....D013			1	1,4	U129	X	1(0.454)
Methoxychlor.....D014			1	1,4	U247	X	1(0.454)
Toxaphene.....D015			1	1,4	P123	X	1(0.454)
2,4-D.....D016			100	1,4	U240	B	100(45.4)
2,4,5-TP.....D017			100	1,4	U233	B	100(45.4)
Uracil, 5-[bis(2-chloroethyl)amino]-	66751	Uracil mustard	1*	4	U237		0
Uracil mustard	66751	Uracil, 5 [bis(2-chloroethyl)amino]-	1*	4	U237		0
Uranyl acetate	541093		5000	1			00
Uranyl nitrate	10102064 36478769		5000	1			00
Vanadic acid, ammonium salt	7803556	Ammonium vanadate	1*	4	P119	C	1000(454)
Vanadium(V) oxide	1314621	Vanadium pentoxide	1000	1,4	P120		00
Vanadium pentoxide	1314621	Vanadium(V) oxide	1000	1,4	P120		00
Vanadyl sulfate	27774136		1000	1			00
Vinyl acetate	108054		1000	1		D	5000(2270)
Vinyl chloride	75014	Ethene, chloro-	1*	2,3,4	U043		000
Vinylidene chloride	75354	1,1-Dichloroethylene Ethene, 1,1-dichloro-	5000	1,2,4	U078		000
Warfarin	81812	3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts	1*	4	P001	B	100(45
Xylene	1330207 m-108383 o-95476 p-106423	Benzene, dimethyl m- o- p-	1000	1,4	U239	C	1000(45
Xylenol	1300716		1000	1		C	1000(454)
Yohimban-16-carboxylic acid,11,17-dimethoxy-18-((3,4,5-trimethoxybenzoyl)oxy)-,methyl ester,	50555	Reserpine	1*	4	U200	D	5000(2270)
Zinc 1	7440666		1*	2			00
ZINC AND COMPOUNDS			1*	2			**
Zinc acetate	557346		1000	1			00
Zinc ammonium chloride	52628258 14639975 14639986		5000	1			00
Zinc borate	1332076		1000	1			00
Zinc bromide	7699458		5000	1			00
Zinc carbonate	3486359		1000	1			00
Zinc chloride	7646857		5000	1			00
Zinc cyanide	557211		10	1,4	P121		00
Zinc fluoride	7783496		1000	1			00
Zinc formate	557415		1000	1			00
Zinc hydrosulfite	7779864		1000	1			00
Zinc nitrate	7779886		5000	1			00
Zinc phenolsulfonate	127822		5000	1			00
Zinc phosphide	1314847		1000	1,4	P122		00
Zinc silicofluoride	16871719		5000	1			00
Zinc sulfate	7733020		1000	1			00
Zirconium nitrate	13746899		5000	1		D	5000(2270)
Zirconium potassium fluoride	16923958		5000	1		C	1000(454)

TABLE 302.4 LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No.	Regulatory Synonyms	Statutory			Proposed RQ	
			RQ	Code ††	RCRA Waste Number	Category	Pounds(Kg)
Zirconium sulfate	14644612		5000	1		D	5000(2270)
Zirconium tetrachloride	10026116		5000	1		D	5000(2270)
F001			1*	4			***
The following spent halogenated solvents used in degreasing and sludges from the recovery of these solvents in degreasing operations:							
(a) Tetrachloroethylene	127184						***
(b) Trichloroethylene	79016						***
(c) Methylene chloride	75092					C	1000(454)
(d) 1,1,1-Trichloroethane	71556					C	1000(454)
(e) Carbon tetrachloride	56235						***
(f) Chlorinated fluorocarbons	(N.A.)					D	5000(2270)
F002			1*	4			***
The following spent halogenated solvents and the still bottoms from the recovery of these solvents:							
(a) Tetrachloroethylene	127184						***
(b) Methylene Chloride	75092					C	1000(454)
(c) Trichloroethylene	79016						***
(d) 1,1,1-Trichloroethane	71556					C	1000(454)
(e) Chlorobenzene	108907					B	100(45.4)
(f) 1,1,2-Trichloro-1,2,2-trifluoroethane	76131					D	5000(2270)
(g) o-Dichlorobenzene	106467					B	100(45.4)
(h) Trichlorofluoromethane	75694					D	5000(2270)
F003			1*	4		B	100(45.4)
The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents:							
(a) Xylene	1330207					C	1000(454)
(b) Acetone	67641					D	5000(2270)
(c) Ethyl acetate	141786					D	5000(2270)
(d) Ethylbenzene	100414					C	1000(454)
(e) Ethyl ether	60297					B	100(45.4)
(f) Methyl isobutyl ketone	108101					D	5000(2270)
(g) n-Butyl alcohol	71363					D	5000(2270)
(h) Cyclohexanone	108941					D	5000(2270)
(i) Methanol	67561					D	5000(2270)
F004			1*	4			**
The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents:							
(a) Cresols/Cresylic acid	1319773						**
(b) Nitrobenzene	98953						**
F005			1*	4			**
The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents:							
(a) Toluene	108883					C	1000(45
(b) Methyl ethyl ketone	78933					C	1000(45
(c) Carbon disulfide	75150						**
(d) Isobutanol	78831					D	5000(227
(e) Pyridine	110861						**
F006		Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc and plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum	1*	4			***
F007		Spent cyanide plating bath solutions from electroplating operations (except for precious metals electroplating spent cyanide plating bath solutions)	1*	4		A	10(4.5
F008		Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process (except for precious metals electroplating plating bath sludges)	1*	4		A	10(4
F009		Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process (except for precious metals electroplating spent stripping and cleaning bath solutions)	1*	4		A	10(4

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory			Proposed RQ	
			RQ	Code 11	RCRA Waste Number	Category	Pounds (kg)
F010 — Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process (except for precious metals heat-treating quenching bath sludges)			1*	4		A	10(4.54)
F011 — Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations (except for precious metals heat treating spent cyanide solutions from salt bath pot cleaning)			1*	4		A	10(4.54)
F012 — Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching wastewater treatment sludges)			1*	4		A	10(4.54)
F019* — Wastewater treatment sludges from the chemical conversion coating of aluminum			1*	4			**
K001 — Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol			1*	4		X	1(0.454)
K002 — Wastewater treatment sludge from the production of chrome yellow and orange pigments			1*	4			**
K003 — Wastewater treatment sludge from the production of molybdate orange pigments			1*	4			**
K004 — Wastewater treatment sludge from the production of zinc yellow pigments			1*	4			**
K005 — Wastewater treatment sludge from the production of chrome green pigments			1*	4			**
K006 — Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated)			1*	4			**
K007 — Wastewater treatment sludge from the production of iron blue pigments			1*	4			**
K008 — Oven residue from the production of chrome oxide green pigments			1*	4			**
K009 — Distillation bottoms from the production of acetaldehyde from ethylene			1*	4			***
K010 — Distillation side cuts from the production of acetaldehyde from ethylene			1*	4			***
K011 — Bottom stream from the wastewater stripper in the production of acrylonitrile			1*	4			***
K013 — Bottom stream from the acetonitrile column in the production of acrylonitrile			1*	4			***
K014 — Bottoms from the acetonitrile purification column in the production of acrylonitrile			1*	4			**
K015 — Still bottoms from the distillation of benzyl chloride			1*	4			*
K016 — Heavy ends or distillation residues from the production of carbon tetrachloride			1*	4			/
K017 — Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin			1*	4			***

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No	Regulatory Synonyms	Statutory RQ	Statutory Code ††	RCRA Waste Number	Proposed RQ Category	Proposed RQ Pounds (kg)
K019 Heavy ends from the fractionation column in ethyl chloride production			1*	4			***
K019 Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production			1*	4			***
K020 Heavy ends from the dehydrination of vinyl chloride in vinyl chloride monomer production			1*	4			***
K021 Aqueous spent antimony catalyst waste from fluoromethanes production			1*	4			***
K022 Distillation bottom tars from the production of phenol/acetone from cumene			1*	4			***
K023 Distillation light ends from the production of phthalic anhydride from naphthalene			1*	4		D	5000(22
K024 Distillation bottoms from the production of phthalic anhydride from naphthalene			1*	4		D	5000(227
K025 Distillation bottoms from the production of nitrobenzene by the nitration of benzene			1*	4		B	100(45.
K026 Stripping still tars from the production of methyl ethyl pyridines			1*	4			**
K027 Centrifuge and distillation residues from toluene diisocyanate production			1*	4			*
K028 Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane			1*	4			***
K029 Waste from the product steam stripper in the production of 1,1,1 trichloroethane			1*	4			***
K030 Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene			1*	4			***
K031 By-product salts generated in the production of MSMA and cacodylic acid			1*	4			**
K032 Wastewater treatment sludge from the production of chlordane			1*	4		X	1(0.4
K033 Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane			1*	4		X	1(0.4
K034 Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane			1*	4		X	1(0
K035 Wastewater treatment sludges generated in the production of creosote			1*	4			**
K036 Still bottoms from toluene reclamation distillation in the production of disulfoton			1*	4		X	1(0
K037 Wastewater treatment sludges from the production of disulfoton			1*	4		X	1(0.
K038 Wastewater from the washing and stripping of phorate production			1*	4			*
K039			1*	4			*

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No.	Regulatory Synonyms	Statutory			Proposed RQ	
			RQ	Code [1]	RCRA Waste Number	Category	Pounds (kg)
Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate							
K040 Wastewater treatment sludge from the production of phorate			1*	4			**
K041 Wastewater treatment sludge from the production of toxaphene			1*	4		X	10(4.54)
K042 Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T			1*	4			***
K043 2,6-Dichlorophenol waste from the production of 2,4-D			1*	4			***
K044 Wastewater treatment sludges from the manufacturing and processing of explosives			1*	4		A	10(4.54)
K045 Spent carbon from the treatment of wastewater containing explosives			1*	4		A	10(4.54)
K046 Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds			1*	4			**
K047 Pink/red water from TNT operations			1*	4		A	10(4.54)
K048 Dissolved air flotation (DAF) float from the petroleum refining industry			1*	4			**
K049 Slop oil emulsion solids from the petroleum refining industry			1*	4			**
K050 Heat exchanger bundle cleaning sludge from the petroleum refining industry			1*	4			**
K051 API separator sludge from the petroleum refining industry			1*	4			**
K052 Tank bottoms (leaded) from the petroleum refining industry			1*	4			**
K060 Ammonia still lime sludge from coking operations			1*	4			***
K061 Emission control dust/sludge from the primary production of steel in electric furnaces			1*	4			***
K062 Spent pickle liquor from steel finishing operations			1*	4			**
K069 Emission control dust/sludge from secondary lead smelting			1*	4			***
K071 Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used			1*	4		X	10(4.54)
K073 Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production			1*	4			***
K083 Distillation bottoms from aniline extraction			1*	4			**
K084 Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds			1*	4			***

TABLE 302.4 - LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

Hazardous Substance	CAS No.	Regulatory Synonyms	Statutory RQ	Statutory Code ††	RCRA Waste Number	Category	Final RQ Pounds (Kilograms)
K085 Distillation or fractionation column bottoms from the production of chlorobenzenes			1*	4			1
K086 Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead			1*	4			1
K087 Decanter tank tar sludge from coking operations			1	4			1
K093 Distillation light ends from the production of phthalic anhydride from ortho-xylene			1*	4		D	5000 (2270)
K094 Distillation bottoms from the production of phthalic anhydride from ortho-xylene			1*	4		D	5000 (2270)
K095 Distillation bottoms from the production of 1,1,1-trichloroethane			1*	4			1
K096 Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane			1*	4			1
K097 Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane			1*	4		X	10
K098 Untreated process wastewater from the production of toxaphene			1*	4		X	10
K099 Untreated wastewater from the production of 2,4-D			1*	4			1
K100 Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting. (Components of the waste are identical with those of K069)			1*	4			1
K101 Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds			1*	4			1
K102 Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds			1*	4			1
K103 Process residues from aniline extraction from the production of aniline			1*	4			1
K104 Combined wastewater streams generated from nitrobenzene/aniline chlorobenzenes			1*	4			1
K105 Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes			1*	4			1
K106 Wastewater treatment sludge from the mercury cell process in chlorine production			1*	4		X	1

# indicates the substance is being assessed for carcinogenicity, statutory RQ applies
indicates the substance is being assessed for other toxic effects, statutory RQ applies
indicates the substance is being assessed for both carcinogenicity and other toxic effects, statutory RQ applies
the Agency will adjust the RQ for radionuclides in a future rulemaking, until that time the statutory 1 pound RQ is applicable
1* indicates the CERCLA statutory 1 pound RQ for all hazardous substances designated under any of the statutory sources other than CWA Section 311 (including all hazardous wastes) and is not to be confused with a 1 pound RQ assigned under CWA Section 311
** - indicates no RQ is being assigned to the generic or broad class
† no reporting of releases of massive forms of these substances is required if the diameter of the pieces of the substance released is equal to or exceeds 100 micrometers (0.00
†† indicates the statutory source as defined by 1, 2, 3 or 4 below
1 indicates the statutory source for designation of this substance under CERCLA is CWA Section 311(b)(4)
2 indicates the statutory source for designation of this substance under CERCLA is CWA Section 307(a)
3 indicates the statutory source for designation of this substance under CERCLA is CAA Section 112
4 indicates the statutory source for designation of this substance under CERCLA is RCRA Section 3001

§ 302.5 Determination of reportable quantities.

(a) *Listed Hazardous Substances.* The quantity in the column "Proposed RQ" for each substance in Table 302.4 is the reportable quantity for that substance.

(b) *Unlisted Hazardous Substances.* Unlisted hazardous wastes designated by 40 CFR § 302.4(b) have the reportable quantity of 100 pounds, except for those unlisted hazardous wastes exhibiting the characteristic of EP toxicity identified in 40 CFR § 261.24. Unlisted hazardous wastes which exhibit EP toxicity have the reportable quantities listed in Table 302.4 for the contaminant on which the characteristic of EP toxicity is based. If an unlisted hazardous waste exhibits EP toxicity on the basis of more than one contaminant, the reportable quantity for that waste shall be the lowest of the reportable quantities listed in Table 302.4 for those contaminants. If an unlisted hazardous waste exhibits the characteristic of EP toxicity and one or more of the other characteristics referenced in 40 CFR § 302.4(b), the reportable quantity for that waste shall be the lowest of the applicable reportable quantities.

§ 302.6 Notification requirements.

Any person in charge of a vessel or an offshore or an onshore facility shall, as soon as he has knowledge of any release (other than a federally permitted release or normal application of a pesticide) of a hazardous substance from such vessel or facility in a quantity equal to or exceeding the reportable quantity determined by this part in any 24-hour period, immediately notify the National Response Center ((800) 424-8802; in Hawaii, Alaska, and the Washington, D.C. metropolitan areas (202) 426-2675).

§ 302.7 Penalties.

(a) Any person

(1) In charge of a vessel from which a hazardous substance is released, other than a federally permitted release, into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of a contiguous zone,

(2) In charge of a vessel from which a hazardous substance is released, other than a federally permitted release, which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976), and who is otherwise subject to the jurisdiction of the United States at the time of the release, or

(3) In charge of a facility from which a hazardous substance is released, other than a federally permitted release, in a quantity equal to or greater than that reportable quantity determined under this part who fails to notify immediately the National Response Center as soon as he has knowledge of such release shall, upon conviction, be fined not more than $10,000 or imprisoned for not than one year, or both.

(b) Notification received pursuant to this paragraph or information obtained by the exploitation of such notification shall not be used against any such person in any criminal case, except a prosecution for perjury or for giving a false statement.

(c) This section shall not apply to the application of a pesticide product registered under the Federal Insecticide, Fungicide, and Rodenticide Act or to the handling and storage of such a pesticide product by an agricultural producer.

2. It is proposed to revise 40 CFR 117.3 as follows:

§ 117.3 Determination of reportable quantities.

The quantity listed with each substance in Table 302.4, in 40 CFR 302.4 is determined to be reportable quantity for that substance.

Dated: April 26, 1983.

Lee L. Verstandig,

Administrator.

[FR Doc. 83-13088 Filed 5-24-83; 8:45 am]

BILLING CODE 6560-50-M

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40 CFR Part 302

[SWH-FRL 2207-5a]

Designation of Additional Hazardous Substances

AGENCY: Environmental Protection Agency.

ACTION: Advance Notice of Proposed Rulemaking.

SUMMARY: Under Section 102(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA" or "Superfund"), the Environmental Protection Agency ("EPA" or "the Agency") is considering proposal of regulations to designate hazardous substances in addition to those already designated under Section 101(14) of CERCLA. Section 102(a) requires the Administrator to promulgate regulations designating as hazardous substances those substances that, when released into the environment, may present substantial danger to public health or welfare or the environment. This Advance Notice of Proposed Rulemaking ("ANPRM") discusses and solicits comments on various approaches that the Agency may use to determine what additional substances, if any, should be proposed for designation as hazardous.

DATES: To be considered, written comments must be submitted in triplicate on or before July 25, 1983.

ADDRESS: Send written comments to: Emergency Response Division, Docket Clerk, Attn. Docket No. 102 ADD, U.S. Environmental Protection Agency, 401 M Street, S.W., WH-548B, Washington, D.C. 20460.

FOR FURTHER INFORMATION CONTACT:

For general information contact: RCRA/Superfund Hotline, (800) 424-9346 ((202) 382-3000 in Washington, D.C.).

For specific information contact: Dr. K. Jack Kooyoomjiam, Chief, Regulation Development Section, Emergency Response Division (WH-548B), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460, or the RCRA/Superfund Hotline (800) 424-9346, in Washington, D.C. (202) 382-3000.

SUPPLEMENTARY INFORMATION:

1. Background Information

Substances are designated as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, CERCLA (Pub. L. 96-510), 42 U.S.C. Section 9601 *et seq.*, in two ways. Section 101(14) defines "hazardous substance" to include substances designated under certain provisions of other environmental statutes: Sections 307(a) and 311(b)(2)(A) of the Federal Water Pollution Control Act (Clean Water Act), Section 112 of the Clean Air Act, Section 3001 of the Solid Waste Disposal Act (commonly known as the Resource Conservation and Recovery Act, "RCRA"), and Section 7 of the Toxic Substances Control Act. In addition, Section 102(a) requires the EPA Administrator to promulgate regulations to designate as hazardous substances other elements, compounds, mixtures, solutions, and substances that may present substantial danger to public health or welfare or the environment when released into the environment.

The consequences of designation can be substantial. First, Section 103(a) of CERCLA requires that releases of designated hazardous substances that equal or exceed reportable quantities ("RQs") be reported to the National Response Center unless the release is federally permitted or otherwise exempted. (For a further discussion o. reportable quantities and release

notification see the Notice of Proposed Rulemaking ("NPRM") on Superfund Notification Requirements and Reportable Quantity Adjustments published elsewere in today's Federal Register.) This notification allows the federal government to determine whether a response is necessary. In addition. Section 103(b) establishes penalties. including criminal sanctions. for persons in charge of vessels or facilities who fail to report releases of hazardous substances which equal or exceed reportable quantities. Any such person who. as soon as he has knowledge of a reportable release. fails to report the release pursuant to Section 103 (a) or (b) shall. upon conviction. be fined no more than $10.000 or imprisoned for not more than one year. or both.

Regardless of whether a reportable quantity of the hazardous substance is released and proper notification is given. any person responsible for a release of hazardous substances may be liable for:

(A) All costs of removal or remedial action incurred by the United States Government or a State not inconsistent with the national contingency plan:

(B) Any other necessary costs of response incurred by any other person consistent with the national contingency plan and

(C) damages for injury to. destruction of. or loss of natual resources. including the reasonable costs of assessing such injury. destruction. or loss resulting from such a release (see Section 107 of CERCLA).

Finally. substances designated as hazardous under CERCLA must also be listed as hazardous materials under the Hazardous Materials Transportation Act (see Section 306(a) of CERCLA).

EPA intends to consider carefully these economic impacts in developing its designation strategy.

II. Major Alternatives Under Consideration and Requests for Public Comment

EPA contemplates that the designation process will involve two distinct steps. First. the Agency will identify a candidate list or lists of substances to be considered for designation. Second. the Agency will identify the criteria to be applied to determine which substances on the candidate list or lists will be designated as hazardous substances. EPA is considering several alternatives for both of these steps. The first section below discusses the potential candidate lists and the second section discusses possible criteria for designating substances from these candidate lists.

The Agency has conducted several preliminary economic and technical analyses in support of this ANPRM These analyses are part of the rulemaking record. Analysis of the Economic Effects of Regulatory Strategies for Sections 102 and 103 of the Comprehensive Environmental Response. Compensation. and Liability Act." November 2. 1981. and "Strategies for Designation of Additional Hazardous Substances pursuant to CERCLA Section 102(a)." September 17. 1982

Public comment is solicited on the alternatives discussed below and on other alternatives that commentors may want the Agency to consider

A. Candidate Lists

EPA has identified a number of candidate lists that might be considered for designating hazardous substances These lists are briefly described below They are divided into two groups: specific lists developed under other environmental statutes or programs. and general data bases which include broader lists of potential hazardous substances. EPA is soliciting comments on which lists are appropriate for EPA to review in designating hazardous substances. particularly information on the scope of coverage of these candidate lists and the availability of data for substances on these lists. EPA may also decide to designate hazardous substances in several phases. rather than complete the designation process in one rulemaking. EPA solicits comments on which of the candidate lists should be given highest priority and solicits information concerning other candidate lists not mentioned below that should be considered.

The presence of a substance on a candidate list does not in itself determine whether the substance will be designated as a hazardous substance under CERCLA. Part II(B) of this notice discusses the types of criteria that might be applied to determine whether substances on these candidate lists are sufficiently hazardous to warrant designation. The Agency anticipates that substances on the candidate lists will be ranked on the basis of factors such as production volume. potential for release. and the availability of data in conjunction with the application of the criteria discussed in part II(B).

Specific Lists:

(1) Certain pesticide or pesticide active ingredients identified under the Federal Insecticide. Fungicide. and Rodenticide Act ("FIFRA"). One potential candidate list is the list of about 600 pesticide active ingredients identified by EPA after a review of about 40 000 pesticide formulations ("Pesticide Active Ingredient and Ranking Scheme Results" published by the EPA Office of Pesticide Programs see 47 FR 3770–3771. January 27 1982 These ingredients will be evaluated by EPA to determine their possible effects on man and the environment. It may be possible for EPA to analyze all of these pesticides and pesticide active ingredients to determine whether they should be designated as hazardous substances under CERCLA. EPA solicits comments on methods for setting priorities for analysis of these substances.

(2) Chemicals listed under RCRA. CFR Part 261. Appendix VIII. excluding those already listed under Section 101(14). These substances are hazardous constituents of RCRA wastes (45 FR 33132–33133. May 19. 1980).

(3) Materials listed under the Department of Transportation ("DOT") regulations issued under the Hazardous Materials Transportation Act. excluding those already listed under Section 101(14) These lists designate materials considered hazardous for the purpose of transportation (49 CFR 172.101. 172.

(4) Substances determined by the International Agency for Research on Cancer ("IARC") to demonstrate carcinogenic characteristics. excluding those already listed under Section 101(14). IARC has assessed the evidence for carcinogenicity of substances from experimental animal studies and classified these substances into five groups according to the extent of evidence of carcinogenicity: (1) sufficient evidence. (2) limited evidence. (3) inadequate evidence. (4) negative evidence. and (5) no data. Substances might be included on the candidate list if the IARC has determined that there is sufficient or limited evidence of carcinogenicity. Sufficient evidence indicates a causal association between exposure and human cancer. while limited evidence indicates a possible carcinogenic effect in humans. although the data are not sufficient to demonstrate a causal association (see 1. International Agency for Research on Cancer. monograph supplement. September 1979).

(5) The 1982 list of explosive materials subject to regulation under 18 USC Chapter 40. 47 FR 40974–40976 (September 16. 1982). This list of explosive materials is designated by Director of the Bureau of Alcohol. Tobacco and Firearms.

(6) The Toxic Substances Control Act (TSCA) Section 4(e) list. This list of chemical substances and mixtures recommended for priority consider

in regard to testing requirements under TSCA Section 4(a) (see the TSCA Chemicals in Progress Bulletin, Volume 3, Number 1, April 1982).

General Lists

(1) *Chemical Activities Status Report ("CASR").* This data base identifies substances that the Agency has already regulated, that it is proposing for regulation, or that it otherwise is considering. CASR covers other substances in addition to those already regulated or proposed for rulemaking; it also includes those substances for which the Agency has demonstrated some concern, even if no rulemaking has begun. CASR is limited to EPA activities and does not reflect the activities of other agencies or departments (e.g., DOT, Coast Guard). CASR has been issued as a two-volume Agency report, EPA 560/13-80-040a&b, but the candidate list would be the actual CASR data base, which is constantly updated and may differ slightly from this report.

(2) *The Suspect Chemicals Sourcebook.* This list already includes chemical substances derived from regulatory lists or other publications that have been issued not only by EPA but also by DOT, the Department of Health and Human Services, the Occupational Safety and Health Administration, and IARC. It does not go beyond substances that have already been regulated, considered for regulation, or listed for testing. This list was prepared by Executive Enterprise Publications Company, Inc., in cooperation with the Synthetic Organic Chemical Manufacturers Association.

(3) *Toxic Substances Control Act Chemical Substance Inventory.* This list includes approximately 55,000 chemicals. It is likely that most known potentially hazardous chemicals would be included and considered for designation if this list is used. The Agency, however, could have difficulty in establishing priorities and applying designation criteria in a timely fashion to this list, and data on these substances may be insufficient.

B. Criteria for Designation

The Agency has identified four alternative sets of criteria for designating candidate substances as hazardous for purposes of CERCLA. Comment is specifically solicited on these alternatives, and on combinations of them.

Designation Alternative 1: Critical Value Strategy. This approach resembles the primary and secondary criteria used to adjust RQs. (See today's NPRM on Superfund Notification Requirements and Reportable Quantity Adjustments, published elsewhere in today's Federal Register, for a more detailed explanation of this process.) To assign RQs to designated hazardous substances, the Agency would evaluate whether substances exhibit any of the following characteristics: aquatic toxicity, mammalian (oral, dermal or inhalation) toxicity, ignitability, reactivity, other toxic effects, carcinogenicity, and a tendency to dissipate into the environment. These characteristics or criteria are used to adjust reportable quantities in the accompanying NPRM. In applying this approach to designation, the Agency would establish a critical value for each of the above criteria. Substances would be designated if the rating of the substances were above the critical value for any criterion. If there were insufficient evidence to judge, the substance could be retained as a candidate pending the collection of further data. The data gathered in the designation process would also be used to establish RQs for substances once they have been designated.

EPA specifically solicits comments on the following issues:

(1) Are the critical values developed to adjust reportable quantities also appropriate for designation of hazardous substances? (These critical values are discussed in the accompanying Notice of Proposed Rulemaking on Superfund Reportable Quantity Adjustments, Part IV.)

(2) Are other critical values more appropriate for designation of hazardous substances?

Designation Alternative 2: A Combination of Production Level and Critical Value Strategy. This alternative would identify substances on the candidate list for further analysis if their annual production level exceeded some specified amount. The critical value methodology would then be applied to these substances to determine whether they should actually be designated. This method treats production volume as an indication of release potential. It assumes that there is less chance of a release if a substance is produced in relatively small quantities. For imported substances, the amount imported would be added to the domestic production level.

Section 311 of the Clean Water Act screened substances by production level. The Clean Water Act's final promulgated list of hazardous substances includes those hazardous substances produced at a level of 10 million pounds per year or more. The Agency has found that the materials most commonly encountered (i.e., spilled most frequently) in Section 311 spill situations are those produced in high volumes. Screening by production level results in fewer candidate substances than Alternative 1, which means that the Agency may be able to analyze for possible designation the substances most likely to be released. If this approach is taken, however, certain potentially hazardous substances that may be released will not be considered for possible designation because they are no longer produced or they are produced in low volumes.

The Agency specifically requests comments on the following points: (1) if production level is used to screen substances for analysis, what production level should be selected as the cutoff point, and (2) what problems could occur when substances with low production volumes that might otherwise be considered hazardous are not designated.

Designation Alternative 3: Hazard Index. This approach involves a scoring system to evaluate the relative potential threat posed to public health or welfare or the environment when candidate substances are released to the air, ground water, surface water, or soil. A variety of rating factors (e.g., toxicity, reactivity, bioaccumulation, persistence, carcinogenicity) would be used to determine the kinds of hazards that would result and, insofar as possible, the degree of hazard posed. EPA solicits comments concerning the appropriate rating factors. An equation would be used to combine these several factors into a single number. A substance's hazard index value derived in this fashion could be compared to the values determined for other substances, and a ranking of substances would be possible. A cutoff point for designation could then be determined.

A hazard index approach provides a quantative ranking of hazard that facilitates setting a cutoff point, and it uses all available data. It is possible, however, that (1) data gaps may make a substance appear less hazardous than it is and may make relauve ranking difficult to develop, (2) a cutoff point could not be easily determined, (3) there would be no general agreement in the scientific community on how rating factors are to be combined to form an acceptable hazard index for a broad listing of chemicals, and (4) different but equally defensible equations would result in different rankings for the same subtance.

Designation Alternative 4: Combination of Release History and Critical Value Strategy. This approa. would identify all candidate substances with a history of release problems. For

example. substances would be considered for designation if their release had required frequent or extraordinary response (e g., rapid evacuation) in the past, or if they had frequently been identified at sites undergoing remedial action under CERCLA. The critical value strategy would then be applied to determine which substances pose a threat to public health or welfare or the environment.

This approach identifies for CERCLA designation those substances that pose a threat to public health or welfare or the environment and that have a proven history of release problems. Designation of substances that have not historically been a problem is avoided. It may be appropriate, however, to designate substances that are rarely, if ever, released because of the potential hazard they pose. In addition, non-regulated substances are not usually monitored when releases of hazardous substances occur, so that there may be no release record of a substance that is released in potentially significant amounts.

III. Other Issues

Several issues will arise regardless of the alternatives selected. The issues include designation under other statutes and the use of categorical designation.

A. Effects of Designation Under Other Statutes

Substances may be added to or deleted from the lists identified under Section 101(14) of CERCLA: Sections 307(a) and 311(b)(2)(A) of the Clean Water Act, Section 112 of the Clean Air Act, Section 3001 of RCRA, and Section 7 of TSCA. Substances added to these lists will be added to the CERCLA list and substances deleted from these lists will be deleted from the CERCLA list (unless they are also designated under some other provisions). In proposing any additions to these other lists, EPA will reference the fact that these substances will automatically be designated under CERCLA. EPA anticipates proposing RQs for these substances at that time. EPA solicits comments on any other arrangements that might be helpful to inform the public concerning additions to or deletions from these lists.

B. Categorical Versus Individual Designation

Hazardous substances could be designated as categories of substances (e.g., acids) or as individual substances (e.g., sulfuric acid). If designation is by category, however, the designation may be too broad. Although such an approach guarantees that all truly hazardous substances in that category are designated, it could impose an unnecessary burden on the regulated community and might prevent EPA from focusing on the most serious releases. In addition, RQ assignment might be complicated if individual substances covered by a single categorical designation required different RQs. Individual designation, on the other hand, is a time-consuming process, and designation of particular substances as hazardous under CERCLA may take longer than if the categorical designation approach had been used. A delay or a failure to designate substances as hazardous may adversely affect public health or welfare or the environment.

The Agency requests public comment on the relative merits of categorical versus individual designation.

IV. Public Comment

To summarize the previous discussion, public comment is specifically requested on the following:

(1) The alternatives presented for developing a list of candidate substances;

(2) The alternatives presented for selecting substances from the candidate list for designation as hazardous for purposes of CERCLA;

(3) The option of designating no new hazardous substances;

(4) The relative merits of designating substances categorically or individually;

(5) Data bases or techniques that could be used by the Agency to fill data gaps about substances being considered for designation.

List of Subjects in 40 CFR Part 302

Administrative practice and procedure, Air pollution control, Chemicals, Hazardous materials, Hazardous materials transportation, Hazardous substances, Hazardous wastes, Intergovernmental relations, Liabilities, Natural resources, Nuclear materials, Penalties, Pesticides and pests, Radioactive materials, Reporting and recordkeeping requirements, Superfund, Waste treatment and disposal, Water pollution control, Water supply.

Dated: April 28, 1983.

Lee L. Verstandig

Acting Administrator.

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BILLING CODE 6560-50-M

federal register

Thursday
September 8, 1983

Part VII

Environmental Protection Agency

Final and Proposed Amendments to National Oil and Hazardous Substances Contingency Plan; National Priorities List

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

[SWER-FRL 2421-1]

Amendment to National Oil and Hazardous Substance Contingency Plan; National Priorities List

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency ("EPA") is amending the National Oil and Hazardous Substances Contingency Plan ("NCP"), which was promulgated on July 16, 1982, pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA") and Executive Order 12316. This amendment supplements the NCP with the National Priorities List ("NPL"), which will become Appendix B of the NCP. CERCLA requires that the NCP include a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, and contaminants throughout the United States, and that the list be revised at least annually. The NPL constitutes this list.

DATES: The promulgation date for this amendment to the NCP shall be September 8, 1983. Under section 305 of CERCLA, amendments to the NCP cannot take effect until Congress has had at least 60 "calendar days of continuous session" from the date of promulgation in which to review the amended Plan. Since the actual length of this review period may be affected by Congressional action, it is not possible at this time to specify a date on which the NPL will become effective. Therefore, EPA will publish a Federal Register notice at the end of the review period announcing the effective date of this NPL. EPA notes, however, that the legal effect of a Congressional veto pursuant to section 305 has been placed in question by the recent decision, *Immigration and Naturalization Service v. Chadha*, —— U.S. ——, (Docket No. 80-1832, decided June 23, 1983) Nonetheless, the Agency has decided, as a matter of policy, to submit the NPL for Congressional review.

ADDRESSES: The public docket for the NCP will contain Hazard Ranking System (HRS) score sheets for all sites on the NPL as well as a "Documentation Record" for each site describing the information used to compute the scores. The main docket is located in Room S-125 of Waterside Mall, 401 M Street, S.W., Washington D.C. 20460 and is available for viewing from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding holidays. Requests for copies of these documents should be directed to EPA at the above address. The EPA Regional Offices maintain dockets concerning the sites located in their Regions. Addresses for the Regional Office dockets are:

Jennifer Arms, Region I, U.S. EPA Library, John F. Kennedy Federal Bldg., Boston, MA 02203, 617/223-5781
Audrey Thomas, Region II, U.S. EPA Library, 26 Federal Plaza, 10th Floor, New York, NY 10278, 212/264-2881
Diane McCreary, Region III, U.S. EPA Library, Curtis Building, 6th & Walnut Streets, Philadelphia, PA 19106, 215/597-0580
Carolyn Mitchell, Region IV, U.S. EPA Library, 345 Courtland Street NE, Atlanta, GA 30365, 404/257-4216
Lou Tilly, Region V, U.S. EPA Library, 230 South Dearborn Street, Chicago, IL 60604, 512/353-2022
Nita House, Region VI, U.S. EPA Library, First International Building, 1201 Elm Street, Dallas, TX 75270, 214/767-7341
Connie McKenzie, Region VII, U.S. EPA Library, 324 East 11th Street, Kansas City, MO 64106, 816/374-3497
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SUPPLEMENTARY INFORMATION:

Table of Contents

I Introduction
II Purpose of the NPL
III Implementation
IV. Process for Establishing and Updating the List
V Contents of the NPL
VI Eligibility of Sites
VII Changes from the Proposed NPL
VIII Updates and Deletions
IX Regulatory Impact Analysis
X Regulatory Flexibility Act Analysis

I. Introduction

Pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601-9657 ("CERCLA" or "the Act"), and Executive Order 12316 (46 FR 42237, August 20, 1981), the Environmental Protection Agency ("EPA" or "the Agency") promulgated the revised National Contingency Plan ("NCP"), 40 CFR Part 300, on July 16, 1982 (47 FR 31180). Those amendments to the NCP implement the new responsibilities and authorities created by CERCLA to respond to releases and threatened releases of hazardous substances, pollutants, and contaminants.

Section 105(8)(A) of CERCLA requires that the NCP include criteria for determining priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action and, to the extent practicable taking into account the potential urgency of such action, for the purpose of taking removal action. Removal action involves cleanup or other actions that are taken in response to emergency conditions or on a short-term or temporary basis (CERCLA Section 101(23)). Remedial action tends to be long-term in nature and involves response actions which are consistent with permanent remedy for a release (CERCLA Section 101(24)). Criteria for determining priorities are included in the Hazard Ranking System ("HRS"), which EPA promulgated as Appendix A of the NCP (47 FR 31219, July 16, 1982).

Section 105(8)(B) of CERCLA requires that these criteria be used to prepare a list of national priorities among the known releases or threatened releases throughout the United States, and that to the extent practicable at least 400 sites be designated individually. EPA has included releases on the NPL where CERCLA authorizes Federal response to the release. Under section 104(a) of CERCLA, this response authority is quite broad and extends to releases or threatened releases not only of designated hazardous substances, but of any "pollutant or contaminant" which presents an imminent and substantial danger to the public health or welfare. CERCLA requires that this National Priorities List ("NPL") be included as part of the NCP. Today, the Agency is amending the NCP by adding the NPL as Appendix B. The discussion below may refer to "releases or threatened releases" simply as "releases," "facilities," or "sites."

II. Purpose of the NPL

The primary purpose of the NPL is stated in the legislative history of CERCLA (Report of the Committee on Environment and Public Works, Senate

Report No. 96-848, 96th Cong., 2d. Sess. 60 (1980)):

The priority lists serve primarily informational purposes, identifying for the States and the public those facilities and sites or other releases which appear to warrant remedial actions. Inclusion of a facility or site on the list does not in itself reflect a judgment of the activities of its owner or operator. It does not require those persons to undertake any action, nor does it assign liability to any person. Subsequent government action in the form of remedial actions or enforcement actions will be necessary in order to do so, and these actions will be attended by all appropriate procedural safeguards.

The purpose of the NPL, therefore, is primarily to serve as an informational tool for use by EPA in identifying sites that appear to present a significant risk to public health or the environment. The initial identification of a site in the NPL is intended primarily to guide EPA in determining which sites warrant further investigation designed to assess the nature and extent of the public health and environmental risks associated with the site and to determine what response action, if any, may be appropriate. Inclusion of a site on the NPL does not establish that EPA necessarily will undertake response actions. Moreover, listing does not require any action of any private party, nor does it determine the liability of any party for the cost of cleanup at the site.

In addition, although the HRS scores used to place sites on the NPL may be helpful to the Agency in determining priorities for cleanup and other response activities among sites on the NPL, EPA does not rely on the scores as the sole means of determining such priorities, as discussed below. Neither can the HRS itself determine the appropriate remedy for a site. The information collected to develop HRS scores to choose sites for the NPL is not sufficient in itself to determine the appropriate remedy for a particular site. After a site has been included on the NPL, EPA generally will rely on further, more detailed studies conducted at the site to determine what response, if any, is appropriate. Decisions on the type and extent of action to be taken at these sites are made in accordance with the criteria contained in Subpart F of the NCP. After conducting these additional studies EPA may conclude that it is not feasible to conduct response action at some sites on the NPL because of more pressing needs at other sites. Given the limited resources available in the Hazardous Substance Response Fund, the Agency must carefully balance the relative needs for response at the numerous sites it has studied. It is also possible that EPA will conclude after further analysis that no action is needed at the site because the site does not present a problem.

III. Implementation

EPA's policy is to pursue cleanup of hazardous waste sites using all appropriate response and/or enforcement actions which are available to the Agency. Publication of sites on the final NPL will serve as notice to any potentially responsible party that the Agency may initiate Fund-financed response action. The Agency will decide on a site-by-site basis whether to take enforcement action or to proceed directly with Fund-financed response actions and seek recovery of response costs after cleanup. To the extent feasible, once sites are listed on the NPL EPA will determine high priority candidates for Fund-financed response action and enforcement action through a State or Federal initiative. The determinations will take into account consideration of which approach is more likely to accomplish cleanup of the site while using the Fund's limited resources as efficiently as possible.

In many situations, it is difficult to determine whether private party response through enforcement measures or Fund-financed response and cost recovery will be the more effective approach in securing site cleanup until studies have been completed indicating the extent of the problem and alternative response actions. Accordingly, the Agency plans to proceed with remedial investigations and feasibility studies at sites as quickly as possible. (See the NCP, 40 CFR 300.68, and the preamble, 47 FR 31180, July 16, 1982, for a more detailed discussion of remedial investigations and feasibility studies.)

Funding of response actions for sites will not necessarily take place in order of the sites' ranking on the NPL. EPA does intend in most cases to set priorities for remedial investigations and feasibility studies largely on the basis of HRS scores and the States' priorities simply because at this early stage these may be the only sources of information regarding the risk presented by a site. Funding for the design and construction of remedial measures is less likely, however, to occur in order of HRS score. State assurance that cost sharing and other State responsibilities will be met are prerequisites for construction of remedial measures. Taking those factors into account, priorities for design and construction will be based on impacts on public health and the environment, as indicated by the HRS scores and other available information, and on a case-by-case evaluation of economic, engineering, and environmental considerations.

The NPL does not determine priorities for removal actions. EPA may take removal actions at any site, whether listed or not, that meets the criteria of sections 300.65-67 of the NCP. Likewise, EPA may take enforcement actions under applicable statutes against responsible parties regardless of whether the site is listed on the NPL.

IV. Process for Establishing the NPL

Section 105(8) of CERCLA contemplates that the bulk of the initial identification of sites for the NPL will be done by the States according to EPA criteria, although EPA also has independent authority to consider sites for listing. For that reason, most of the sites on the NPL were evaluated by the States in accordance with the HRS and submitted to EPA. In some cases, however, EPA Regional Offices also scored sites using the HRS. For all sites considered, EPA reviewed the HRS evaluations and conducted quality assurance audits on a sample of the sites submitted for the NPL. The purpose of these audits was to ensure accuracy and consistency in HRS scoring among the various EPA and States offices.

On December 30, 1982, the proposed list of 418 sites was published in the **Federal Register**. The 418 sites consisted of any site specifically designated by a State as its top priority, and all sites receiving HRS scores of 28.50 or higher. This cutoff score was selected because it would yield an initial NPL of at least 400 sites as suggested by CERCLA, not because of any determination that it represented a threshold in the significance of the risks presented by sites. On March 4, 1983, the Agency also proposed to include the Times Beach, Missouri, site on the NPL and has considered comments on that site along with those for the other 418 sites. Based on the comments received on the proposed sites, as well as further investigation by EPA and the States, EPA recalculated the HRS scores for individual sites where appropriate. EPA's response to public comments, and an explanation of any score changes made as a result of such comments, are addressed on the NPL in the "Support Document for the National Priorities List." This document is available in the EPA dockets in Washington, D.C. and the Regional Offices.

Some commenters stated that certain specific sites that EPA did not consider in developing the proposed NPL met the criteria for inclusion on the NPL. In most such cases EPA did not have sufficient data to score the sites using the HRS. EPA and

the States are in the process of investigating and evaluating those sites, and will propose to include any sites that meet EPA's criteria for listing on the NPL in future updates. In addition, some commenters submitted comments or information supporting the inclusion of sites that EPA had evaluated according to the HRS but had not proposed because the sites scored too low. The Agency is considering those comments, and where new information results in raising the HRS score of a site over 28.50, will propose to include the site on the NPL in a future update.

The Agency considered accepting further comment on the final NPL sites for a second 60 day period following proposal of the first NPL update. This option was considered in order to be as responsive as possible to the concerns of a few commenters who had requested extensions of the original comment period. In fact, in an exercise of its discretion, EPA was able to consider practically all late comments, and believes that this more than adequately accommodated the concerns of the few commenters who had requested more time. Accordingly, EPA has determined that the NPL can now be published in final form and that a second opportunity for comment is not necessary.

V. Contents of the NPL

As noted above, CERCLA requires that the NPL include, if practicable, at least 400 sites. The NPL established today contains 408 individual entries. The December proposal was based on a minimum HRS score of 28.50, and EPA is continuing to use the same minimum score as the basis for including sites on the final NPL. Each entry on the NPL contains the name of the facility, the State and city or county in which it is located, and the corresponding EPA Region. For informational purposes, each entry on the NPL is accompanied by a notation on the current status of response and enforcement activities at the site, as described more fully below.

The sites on the NPL are listed in order of their HRS scores (except where EPA modified the order to reflect top priorities designated by States, as discussed in the following paragraph) The list is presented in groups of 50 sites. EPA has grouped the sites in this manner to emphasize the fact that minor differences in HRS scores do not necessarily represent significantly different levels of risk. Within these groups EPA will consider the sites to have approximately the same priority for response actions.

Section 105(8)(B) of CERCLA requires that, to the extent practicable, the NPL include within the 100 highest priorities at least one facility designated by each State as representing the greatest danger to public health, welfare, or the environment among known facilities in the State. For that reason, EPA included within the 100 highest priority sites each site designated by a State as its top priority. The Agency did not require States to rely exclusively on the HRS in designating their top priority sites, and certain of the sites designated by the States as their top priority were not among the one hundred highest sites accordingly to HRS score. These lower scoring State priority sites are listed at the bottom of the group of 100 highest priority sites. All top priority sites designated by States are indicated by asterisks.

One commenter said that the HRS scores do not represent levels of risk with sufficient precision to allow the Agency to array sites on the NPL sequentially by score. The commenter contended that EPA could not properly distinguish on the basis of score between the risks posed by two sites whose HRS scores differed only slightly. This commenter recommended, therefore, that EPA list sites on the NPL in two groups: The first group would consist of the top 100 sites, while the second would be comprised of all the remaining sites. Both groups would be organized alphabetically by EPA Region.

EPA has decided to list sites sequentially by score because it wants the presentation of the NPL to be simple and easily understood, and because it believes that, at a minimum, large differences in HRS scores between sites can be a meaningful indicator of different levels of risk. Based on its experience with the Interim Priorities List, which was prepared before the formal NPL process began, as well as with the proposed NPL, EPA has found that the public wants to know the relative HRS scores of sites. As EPA discovered with the Interim Priorities List, when sites are listed alphabetically or by some other non-sequential manner the public is still likely to assume that the sites presented high on the list are those presenting the greatest risk to public health. Thus, listing sites other than by scores could result in confusion.

Even if the Agency were to list sites on the NPL on a non-sequential basis, public concern about the relative scores could soon cause the media or members of the public to obtain the HRS scores and compile a list presented sequentially by score. A large number of people requesting copies of the proposed NPL list preferred to receive the list presented sequentially by score.

While EPA agrees that the HRS scoring system is not so precise as to accurately distinguish between the risks presented by two sites whose scores are very close, it was not designed to do so and the Agency has not relied upon it on that basis. The HRS had to be designed for application to a wide variety of sites and to sites where expensive, detailed data on all relevant characteristics are not available; consequently, the HRS can only roughly approximate the risk presented by the various sites. For that reason, presenting the NPL sites sequentially by score simply reports the numerical results of applying this system for approximating risk and does not represent a determination by EPA that any particular site on the NPL necessarily presents a greater risk than all sites listed below or a lesser risk than all sites listed above. EPA is confident, however, that the HRS is an effective tool for approximating risk and that differences of more than a few points in score generally are meaningful in discriminating between sites. For this reason also, therefore, EPA has chosen to list sites sequentially by score to avoid the misapprehension that all sites on the list present an equivalent level of risk even when separated by twenty or thirty points in score.

EPA will continue, whenever possible to accompany the presentation of the NPL with the caveat that minor differences in score may not be meaningful, and that therefore a given site may not necessarily be "worse" than the site or sites immediately following.

Another commenter recommended establishing a dual list, so that the second list could indicate those sites at which substantial progress in cleanup is being made. The Agency believes that the effort involved in establishing a second list would not be justified. In order to develop a dual list the Agency would have to determine what constitutes "substantial progress" and develop the criteria for making such a determination. This would also require EPA to conduct extensive engineering and evironmental studies of all sites at which cleanup is being done before each publication or update of the NPL. In addition, such a list could result in undue emphasis on partial solutions being implemented at a site rather than on the completion of cleanup to minimize the risks to the public and the environment. Rather than taking the resource-intensive approach suggested, EPA has included in the NPL a notation for each site that summarizes the status of action at the site, based on simple, easily verifiable criteria. Where private parties are taking response actions pursuant to a formal agreement with

EPA, the status of the site is described by notation as "Voluntary or Negotiated Response." EPA also intends to delete sites from the NPL when cleanup has been completed.

The Agency has included in the NPL for informational purposes several such categories of notation reflecting the current status of response and enforcement actions at sites. It should be noted that these notations are based on the Agency's most current information. Because a site's status may change periodically, these notations may become outdated. Site status will be noted in the following categories: Voluntary or Negotiated Response (V); Federal and State Response (R); Federal or State Enforcement (E); and Actions to be Determined (D). Each category is explained below.

Voluntary or Negotiated Response. Sites are included in this category if private parties are taking response actions pursuant to a consent order or agreement to which EPA is a party. Voluntary or negotiated cleanup may include actions taken pursuant to consent orders reached after EPA has commenced an enforcement action. This category of response may include remedial investigations, feasibility studies, and other preliminary work, as well as actual cleanup.

Several commenters were concerned that this category did not adequately reflect voluntary response efforts undertaken without formal agreements with EPA. However, EPA studies have shown that many of the response actions undertaken by private parties outside the sanction of EPA consent agreements have not been successful. Furthermore, some private parties have represented routine maintenance or waste management activities as response actions, thereby leading to the conclusion that only after a thorough technical review can the Agency describe actions by private parties as "responses". Thus, EPA believes that to describe actions taken outside consent orders as "response" would in many instances be misleading to the public as EPA cannot assure the public that the actions are appropriate, adequate, consistent with the NCP, and are being fully implemented. Therefore, the Agency encourages any responsible parties who are undertaking voluntary response actions at NPL sites to contact the Agency to negotiate consent agreements.

This is not intended to preclude responsible parties from taking voluntary response actions outside of a consent agreement. However, in order for the site to be deleted or to be noted in the voluntary or negotiated response category, EPA must still sanction the completed cleanup. If the remedial action is not fully implemented or is not consistent with the NCP, the responsible party may be subject to an enforcement action. Therefore, most responsible parties may find it in their best interest to negotiate a consent agreement.

Federal and State Response. The Federal and State Response category includes sites at which EPA or State agencies have commenced or completed removal or remedial actions under CERCLA, including remedial investigations and feasibility studies (see NCP, § 300.68 (f)–(i), 47 FR 31217, July 16, 1982). For purposes of this categorization, EPA considers the response action to have commenced when EPA has obligated funds. For some of the sites in this category EPA may follow remedial investigations and feasibility studies with enforcement actions, at which time the site status would change to "Federal or State Enforcement."

Federal or State Enforcement. This category includes sites where the United States or the State has filed a civil complaint or issued an administrative order. It also includes sites at which a Federal or State court has mandated some form of non-consensual response action following a judicial proceeding. It may not, however, include all sites at which preliminary enforcement activities are underway. A number of sites on the NPL are the subject of enforcement investigation or have been formally referred to the Department of Justice for enforcement action. EPA's policy is not to release information concerning a possible enforcement action until a lawsuit has been filed. Accordingly, these sites have not been included in the enforcement category.

Actions To Be Determined. This category includes all sites not listed in any other category. A wide range of activities may be in progress for sites in this category. The Agency may be considering whether to undertake response action, or may be conducting an enforcement investigation. EPA may have referred a case involving the site to the Department of Justice, prior to formal commencement of enforcement action. Investigations may be underway or needed to determine the source of a release in areas adjacent to or near a Federal facility. Responsible parties may be undertaking cleanup operations that are not covered by consent orders, or corrective action may not be occurring yet.

VI. Eligibility

CERCLA restricts EPA's authority to respond to the release of certain substances into the environment explicitly excludes some substances from the definition of release. In addition, as a matter of policy, EPA may choose not to respond to certain types of releases under CERCLA because existing regulatory or other authority under other Federal statutes provides for an appropriate response. Where these other authorities exist, and the Federal government can undertake or enforce cleanup pursuant to a particular, proven program, listing on the NPL to determine the priority or need for response under CERCLA does not appear to be appropriate. EPA has therefore chosen not to consider certain types of sites for inclusion on the NPL even though authority to respond to them may exist under CERCLA. If, however, the Agency later determines that sites which it has not listed as a matter of policy are not being properly responded to, the Agency will consider listing those sites on the NPL.

This section discusses the comments received on these categories of releases and the Agency's decision on how to address them on the NPL.

Releases of Radioactive Materials

Section 101(22) of CERCLA [illegible] several types of releases of ra[illegible]ive materials from the statutory definition of "release." These releases are therefore not eligible for CERCLA response actions or inclusion on the NPL. The exclusions apply to 1) releases of source, by-product or special nuclear material from a nuclear incident if these releases are subject to financial protection requirements under section 170 of the Atomic Energy Act, and 2) any release of source, by-product or special nuclear material from any processing site designated under the Uranium Mill Tailings Radiation Contro Act of 1978. Accordingly such radioactive releases have not been considered eligible for inclusion on the NPL. As a policy matter, EPA has also chosen not to list releases of source, by product, or special nuclear material fro any facility with a current license issue by the Nuclear Regulatory Commission (NRC), on the grounds that the NRC ha full authority to require cleanup of releases from such facilities. (Formerly licensed facilities whose licenses no longer are in effect will however be considered for listing.) Comments generally supported the position.

Some commenters said that EPA should also not list facilities [illegible]old current license issued by a S[illegible] pursuant to a delegation of authority from the NRC pursuant to section 274 [illegible] the Atomic Energy Act (42 U.S.C. 2021

EPA has decided, however, that its policy of excluding licensed facilities from the list should extend only to those facilities over which the Federal agency, the NRC, has direct control. When a facility is licensed by a State pursuant to an NRC delegation, the NRC has no authority, short of withdrawing the delegation itself, to enforce conditions of the license or determine that new conditions are necessary. EPA recognizes that the licensing State may be able to ensure cleanup of any release through the license, but has decided to list such sites on the NPL to provide potential Federal authorities if necessary. Since listing on the NPL in no way determines whether actual cleanup actions will be taken, EPA will be able to defer to the licensing State whenever the Agency determines that State efforts are adequate to address the problem.

Some commenters stated that no sites of radioactive releases should be included on the NPL for several reasons. One point made was that other Federal authorities, such as the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), provide adequate authority to control releases from such sites. With the exception of certain specified sites (which EPA has not considered for listing on the NPL), however, UMTRCA addresses the problem only by inclusion of conditions in facility licenses and does not authorize any direct response actions. While UMTRCA may prove adequate in some cases, EPA believes that CERCLA provides sufficiently broader authorities to warrant listing in anticipation of the possibility that action under CERCLA may prove necessary or appropriate at some of these sites.

Another point made was that the HRS does not accurately reflect the real hazard presented by radioactive sites because the HRS scores releases of radioactive material even when those releases are within radiation limits established by the Nuclear Regulatory Commission and by EPA pursuant to the Atomic Energy Act. As explained above in discussing the HRS approach to scoring observed releases, this factor is designed to reflect the likelihood that substances can migrate from the site, not that the particular release observed is itself a hazard. In addition, EPA's experience has been that some radioactive releases do exceed these standards, confirming the premise of the HRS that a current observed release in low concentrations may be followed by greater releases leading to higher concentrations.

Releases From Federal Facilities

CERCLA section 111(e)(3) prohibits use of the Fund for remedial actions at Federally owned facilities. In the proposed NPL, EPA did not list any sites where the release resulted solely from a Federal facility, regardless of whether contamination remained onsite or has migrated offsite. EPA did, however, consider eligible for inclusion on the NPL sites where it was unclear whether the Federal facility was the sole source of contamination, on the grounds that if it turned out that some other source were also responsible EPA might be authorized to respond. In these situations, the offsite contaminated area associated with this type of release was considered eligible for inclusion. Sites that are not currently owned by the Federal Government were also considered eligible for the NPL, even if they were previously owned by the Federal Government. Finally, non-Federally owned sites where the Federal Government may have contributed to a release were also eligible for inclusion.

EPA chose not to list releases coming solely from Federal facilities because of the lack of EPA response authority, and because the responsibility for cleanup of these sites rests with the responsible Federal agency, pursuant to Executive Order 12316 (46 FR 42237, Aug. 20, 1981). EPA incorporated this position into the NCP, at section 300.66(e)(2), 47 FR 31215 (July 16, 1982). However, a number of commenters believed that Federal facilities should be listed on the NPL when the HRS score was sufficiently high in order to focus public attention and appropriate resources on the most serious sites even though they are not eligible for Fund-financed remedial action. After consideration of this comment, the Agency believes that it may be appropriate to include Federal facility sites on the NPL when they meet the criteria for inclusion, and has decided to propose a future amendment to the NCP which would permit it to do so. While it was not feasible to consider Federal facilities for inclusion in this final NPL or in the first update, EPA intends to begin considering Federal facilities for inclusion on the NPL and expects to include qualifying sites in the next feasible NPL update proposal.

EPA will develop working relationships with Federal agencies on the implementation of corrective actions at Federal sites, whether on a future version of the NPL or not. If the sites are owned by the Department of Defense, they will take the appropriate action, as they have response authority under Executive Order 12316. For sites owned by other agencies, EPA will conduct the remedial action with funding provided by the agency that owns the site. In both of these instances, the response action must be in conformity with the NCP, just as all response action performed by private parties must be.

RCRA-Related Sites

Both CERCLA and the Resource Conservation and Recovery Act (RCRA) contain authorities applicable to hazardous waste facilities. These authorities overlap for certain sites. Accordingly, where a site consists of regulated units of a RCRA facility operating pursuant to a permit or interim status, it will not be included on the NPL but will instead be addressed under the authorities of RCRA. The Land Disposal Regulations under RCRA (40 CFR Parts 122, 260, 264, and 265) give EPA and the States authority to control active sites through a broad program which includes monitoring, compliance inspections, penalties for violations, and requirements for post closure plans and financial responsibility. RCRA regulations require a contingency plan for each facility. The regulations also contain Groundwater Protection Standards (40 CFR Part 264 Subpart F) that cover detection monitoring, compliance monitoring (if ground water impacts are identified) and corrective action.

These monitoring and corrective action standards apply to all "regulated units" of RCRA facilities, i.e., any part of the waste treatment, storage, or disposal operation within the boundaries of the facility that accepted waste after January 26, 1983, the effective date of the Land Disposal Regulations (47 FR 32349, July 26, 1982). Even if the unit ceases operation after this time, the unit is still required to be covered by a permit and the monitoring and corrective action requirements will be enforced. Given this alternative authority to ensure cleanup, regulated units of RCRA facilities generally are not included on the NPL. This is true not only of sites subject to EPA-administered hazardous waste programs but also to sites in States that administer programs approved by EPA. Even in the latter instance, close Federal control is ensured by the comprehensiveness of the program elements required of all State programs coupled with EPA's authority to enforce State program requirements directly if the State fails to do so. Only if the facility is abandoned and the RCRA corrective action requirements cannot be enforced will EPA consider listing the site on the NPL for possible response under CERCLA. EPA does, however

consider eligible for listing on the NPL those RCRA facilities at which a significant portion of the release appears to come from "non-regulated units" of the facility, that is, portions of the facility that ceased operation prior to January 26, 1983.

Releases of Mining Wastes

Some commenters presented the view that CERCLA does not authorize EPA to respond to releases of mining wastes, and that sites involving mining wastes should not be included on the NPL. This view is based on the interpretation that mining wastes are not considered hazardous substances under CERCLA. CERCLA includes in its definition of hazardous substances materials that constitute hazardous wastes under the Resource Conservation and Recovery Act (RCRA). In the 1980 amendments to RCRA, the regulation of mining wastes under Subtitle C of RCRA was temporarily suspended and that suspension is presently in effect. For that reason, the commenters believe that mining wastes should not be considered hazardous substances under CERCLA.

EPA disagrees with the commenters' interpretation. The Agency believes that mining wastes can be considered hazardous substances under CERCLA if it meets any of the other statutory criteria (e.g., if the material is also a hazardous air pollutant listed under section 112 of the Clean Air Act). More importantly, however, EPA's authority to respond to mining waste releases, and the Agency's ability to list mining waste sites on the NPL does not depend on whether mining wastes are hazardous substances. Section 104(a)(1) of CERCLA authorizes EPA to respond to releases of not only "hazardous substances," but also "any pollutant or contaminant." "Pollutant or contaminant" is defined very broadly in section 104(a)(2) to include essentially any substance that may cause an adverse effect on human health. EPA is convinced that mining wastes can satisfy these minimal criteria, that the Agency therefore has the authority to respond to releases of mining wastes, and that listing of mining waste sites on the NPL is appropriate.

Commenters also presented the view that it is unclear whether CERCLA was intended to address the type of waste problem, characterized by low concentrations and large volumes, associated with mining waste. They argued that the approach taken under RCRA, of preparing a study of mining wastes before determining whether regulation of such wastes is appropriate, should be adopted in the CERCLA program as well. Commenters suggested that as a policy matter, long term permanent remedial actions could be postponed and only removal actions taken at such sites when emergency conditions warrant.

As described above, however, the response authorities of CERCLA are very broad. As long as EPA has the authority to respond, and no other Federal statute provides authority comparable to CERCLA, the Agency has the obligation at least to evaluate the precise extent of the risk and the possible response actions at all sites that upon preliminary investigation appear to present a significant risk. EPA should also remain free at least to consider all types of response actions at all sites in order to determine which is the most appropriate and cost-effective, and should not limit itself to considering only removal actions at a particular class of facilities. Inclusion of the NPL is appropriate in order to begin the process of determining how to address such sites. Since inclusion on the NPL does not determine whether response actions will be taken or what response is appropriate, EPA is free to develop an approach for responding to mining waste sites that takes into account any unique features of such sites.

Comments also presented the view that the HRS is not an appropriate tool to estimate the risk to health and the environment presented by mining waste sites.

They pointed out that the HRS does not consider concentration levels at the point of impact, but rather the mere presence of the substance in the environment. As explained in Part VII below, however, the purpose of scoring for an observed release without taking level of concentration into account is simply to reflect the likelihood that the subject substances will migrate into the environment, which in the case of an observed release is 100 percent. Future releases, or even current releases for which concentration data do not exist, may raise the level of concentration to the point that it presents a greater risk than the release first observed. While releases from mining waste sites may be somewhat less likely than releases of man-made chemical substances to ever reach extremely high concentrations, harmful concentrations can occur from mining waste sites and the distinction is not sufficient to invalidate the HRS as an appropriate model for scoring mining waste sites.

Another comment was that the locations of mining waste sites are generally rural, so that the only sizable target population are far downstream. The comment alleged that these populations are considered in the HRS scoring but in reality may never be affected. This assumption, however, is false. The HRS considers only those persons living within a three mile radius of the site as constituting the target population. If a mining waste site has a high score for this factor, it indicates that despite the fact that the locations of such sites typically are rural, this particular site has a significant number of people within three miles.

Indian Lands

EPA has always considered sites on Indian lands to be eligible for inclusion on the NPL. However, one commenter was concerned that some sites on Indian lands may not have been included in the State evaluation of NPL candidate sites because Indian lands are not subject to State jurisdiction. The Agency recognizes that this may happen. However, EPA Regional Offices may also evaluate sites for inclusion on the NPL. The Agency urges commenters to submit information on any sites which they feel may not have been evaluated during preparation of the NPL for consideration in subsequent updates.

Non-Contiguous Facilities

Section 104(d)(4) of CERCLA authorizes the Federal Government to treat two or more non-contiguous facilities as one for purposes of response, if such facilities are reasonably related on the basis of geography or on the basis of their potential threat to public health, welfare, or the environment. For purposes of the NPL, however, EPA has decided that in most cases such sites should be scored and listed individually because the HRS scores more accurately reflect the hazards associated with a site if the site is scored individually. In other cases, however, the nature of the operation that created the sites and the nature of the probable appropriate response may indicate that two non-contiguous sites should be treated as one for purposes of listing and EPA has done so for some sites on the final NPL.

Factors relevant to such a determination include whether the two sites were part of the same operation. If so, the substances deposited and the means of disposal are likely to be similar, which may imply that a single strategy for cleanup is appropriate. In addition, potentially responsible parties would generally be the same for both sites, indicating that enforcement or cost recovery efforts could be very similar for both sites. Another factor is whether contamination from the two sites are threatening the same ground water or

surface water resource. Finally, EPA will also consider the distance between the non-contiguous sites and whether the target population is essentially the same or substantially overlapping for both sites, bearing in mind that the HRS uses the distance of three miles from the site as the relevant distance for determining target population.

Where the combination of these factors indicates that two non-contiguous locations should be addressed as a single site, the locations will be listed as a single site for purposes of the NPL. While the nature of the listing may be a guide to prospective response actions, it is not determinative: EPA may decide that response efforts, after all, should be distinct and separate for the two locations. Also, EPA may decide to coordinate the response to several sites listed separately on the NPL into a single response action when it appears more cost-effective to do so.

VII. Changes From the Proposed NPL

The Agency received a total of 343 comments on 217 of the sites listed on the proposed NPL. General comments on the NPL are addressed throughout this preamble. Significant comments regarding specific sites are addressed in the Support Document for the National Priorities List, previously cited. A number of the site-specific comments addressed similar issues, and EPA's approaches to those common issues are presented in this section.

A total of 144 HRS score changes have resulted from the Agency's reviews of comments and other information, and these are summarized in Table 1. EPA determined that a total of five sites that had been proposed have HRS scores below 28.50 and should not be included on the NPL. For seven sites, the Agency is still considering the comments received concerning those sites and was unable to reach a final decision on listing in time for this publication. EPA will continue to evaluate these sites and make a final decision on them in a future update to the NPL. In one instance, where cleanup actions have adequately addressed the problems, EPA determined that a site should be deleted from the proposal and not included on the final NPL. In addition, two States have revised their designations of top priorities. These items are addressed below.

Waste Quantity. A number of commenters said that the waste quantity values assigned under the HRS were too high because EPA had included the non-hazardous constituents of the hazardous substances in calculating the quantity of waste located at the facility. This issue was raised and resolved when the Agency adopted the HRS. In the preamble to that publication (47 FR 31190, July 16, 1982), EPA addressed the rationale for including all constituents, including the non-hazardous portions of the materials, in the calculation of the quantity of hazardous waste at a site. Briefly stated, the rationale for the Agency's approach is that detailed information of the portion of the total substances at a site that consist of hazardous constituents is expensive to determine, and therefore, because of the need to use a consistent method of evaluation of this factor at many sites nationwide, cannot be required as an element necessary for HRS scoring. EPA recognizes that most hazardous wastes contain some fractions of non-hazardous substances, and this fact was taken into account when the rating scales for waste quantity were established. In most instances a very small amount of the hazardous substances can have a significant impact on public health, welfare, or the environment. The Agency did not revise waste quantity values in response to comments presenting calculations that excluded the non-hazardous constituents.

Consideration of Flow Gradients. In some instances commenters maintained that, based upon their conclusions regarding prospective movement of contaminants in ground waters, the values assigned by EPA to population served by ground water are too high. The HRS, however, specifies that all the population using the aquifer of concern within a three mile radius of the facility should be included in the calculations of population served by ground water. The Agency's approach is based on the difficulty of predicting precisely the movements of ground water; furthermore, in establishing the rating scales, the Agency took into account the fact that most wells within the three mile radius would not be affected. As was the case with the waste quantity issue, this issue was addressed and resolved in adopting the HRS in July 1982. The rationale for the Agency's approach is further addressed in the preamble to the NCP (47 FR 31190–91, July 16, 1982) and is equally applicable now.

Scoring on the Basis of Current Conditions. Some commenters felt that EPA should take current conditions into account when scoring sites where response actions have reduced the hazards posed by the site. EPA scored sites for inclusion in the NPL based on the hazards that existed before any response actions were initiated. This policy was explained in the preamble to the final revisions to the NCP (47 FR 31187, July 16, 1982). The Agency explained that public agencies might have been discouraged from taking early response if such actions could lower the HRS score and prevent a site from being included on the NPL. This has turned out to be the case, as at least one State and some EPA Regional Offices have actually sought reassurances prior to taking emergency action at sites that a site's HRS score would not be lowered as a result of the response action. Alternatively, some private parties might have only taken action sufficient to lower the score to the point that it would not be listed on the NPL but would not be completely cleaned up. Those types of score manipulations could be accomplished by such actions as temporarily removing wells from service to lower target scores, or removing wastes from a site to lower waste quantity scores while failing to address contaminated ground waters, or by remedying only air discharges where ground or surface water contamination also present a problem. Therefore, EPA was and is concerned that scoring on the basis of the latest conditions at a site could encourage incomplete solutions that might leave significant health threats unaddressed.

Even where the response actions occurred before the listing process began, EPA believes that these actions should not be considered when scoring the site for the NPL. The ability of the HRS to approximate risk at a given site is based on a number of presumed relationships between the various factors considered in calculating the HRS scores. When partial response actions are conducted, the validity of these relationships for the purpose of approximating the risk posed by a site may be affected. For this reason, if the site is rescored taking the response actions into account, the drop in score that may result might not reflect a commensurate reduction in the level of risk presented by a site.

For example, the factor of hazardous waste quantity, when considered with other factors that predict the toxicity of the substances and the likelihood of release, helps predict how extensive the harm from a release can be. For a site that has been in existence for some time, however, hazardous substances may already have begun migration toward ground water or surface water. If the hazardous materials on the surface are then removed, and the site is scored according to conditions existing after removal, the site would be assigned a negligible value for waste quantity, even though substantial amounts of the material may still be under the site and a potential threat to the public health.

Another example is where some of the original population at risk has been provided with alternative drinking water supplies. In such a case, the population at risk factor might be rescored quite low, even where the alternative supplies are temporary, costly, or limited in supply. In addition, rescoring in this situation could penalize residents for securing alternative supplies by lowering the priority of the site or deleting it from the list and thereby precluding completion of proper remedial actions. A final reason is that response action at sites is an ongoing process, and it may become unduly burdensome to continually recalculate scores to reflect such actions.

Where response actions have already been initiated by private parties or another agency, listing such sites will enable EPA to evaluate the need for a more complete response. Inclusion on the NPL therefore does not reflect a judgment that responsible parties are failing to address the problems. The Agency believes, therefore, that this approach is appropriate, and consistent with the purpose of the NPL as stated in the legislative history of CERCLA.

Small Observed Release. Some commenters maintained that EPA incorrectly assigned values for observed releases to ground waters because the measured concentrations of the substances involved were below the regulatory limits specified under the Safe Drinking Water Act. The HRS states:

> If a contaminant is measured (regardless of frequency) in ground water or in a well in the vicinity of a facility at a significantly (in terms of demonstrating that a release has occurred, not in terms of potential effects) higher level than the background level, then . . . a release has been observed (NCP, Appendix A, ¶ 3.1, 47 FR 31224, July 16, 1982).

This scoring instruction is based on the fact that the observed release factor is considered for purpose of estimating the likelihood that substances can migrate from the site. When a release is observed in any quantity, as long as the concentration is above background level, that likelihood is 100 percent, and this factor receives the maximum score of 45. The observed release factor is not intended to reflect the level of hazard presented by the particular release observed. The hazard presented is, rather, approximated by the total score, incorporating the observed release factor indicating the likelihood of migration with other factors such as waste quantity, toxicity, and the persistence of the substance. These combined factors are indicative of the possibility of future releases of much higher amounts. Furthermore, concentrations of substances migrating in the environment tend to show extreme variation through time and space. Given that only periodic sampling is feasible in most instances, requiring contaminants to exceed certain levels before assigning an observed release could exclude many sites from the NPL which may be endangering the public. The rationale for this approach is further discussed in the preamble to the NCP (47 FR 31188 (July 16, 1982)).

Summary of Score Changes. A summary of the 144 sites where EPA's review of comments and new data resulted in a final score that changed from the score as originally proposed is shown in the table below:

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NATIONAL PRIORITIES LIST HRS SCORE CHANGES

State	City/County	Site Name	HRS Score Original	HRS Score Revised
EPA Region I				
CT	Southington	Solvents Recovery Systems	37.28	44.93
CT	Canterbury	Yaworski Waste Lagoon	36.70	36.72
MA	Bridgewater	Cannon Engineering	38.19	39.89
MA	Groveland	Groveland Wells	40.06	40.74
MA	East Woburn	Wells G&H	59.20	62.71
MA	Acton	WR Grace Co. (Acton Plant)	59.30	59.31
ME	Washburn	Pinette's Salvage Yard	39.61	33.98
ME	Saco	Saco Tannery Waste Pits	33.40	43.19
ME	Winthrop	Winthrop Landfill	40.47	35.62
NH	Dover	Dover Municipal Landfill	36.90	36.98
NH	Kingston	Ottati and Gross/Kingston Steel Drum	53.40	53.41
NH	Somersworth	Somersworth Sanitary Landfill	65.57	65.56
NH	Nashua	Sylvester	63.26	63.28
NH	Londonderry	Tinkham Garage Site	42.70	43.24
RI	Coventry	Picillo Coventry	67.70	93.63
VT	Burlington	Pine Street Canal	40.40	40.42
EPA Region II				
NJ	Mount Olive Twp.	Combe Fill North Landfill	42.44	47.79
NJ	Dover	Dover Municipal Well 4	42.24	28.90
NJ	Gloucester Township	Gems Landfill	68.88	68.53
NJ	Mantua	Helen Kramer Landfill	70.06	72.66
NJ	Marlboro Township	Imperial Oil/Champion Chem.	42.69	33.87
NJ	Pittman	Lipari Landfill	72.12	75.60
NJ	Pedricktown	N.L. Industries	49.74	52.96
NJ	Rockaway Township	Rockaway Township Wells	44.46	28.90
NJ	Dover Township	Toms River Chemical	45.87	50.33
NY	South Cairo	American Thermostat Co.	48.01	33.61
NY	Batavia	Batavia Landfill	44.16	50.18
NY	South Glens Falls	G.E. Moreau Site	49.83	58.21
NY	Niagara Falls	Hooker-S Area	52.58	51.62
NY	Wellsville	Sinclair Refinery	72.01	53.90
NY	Vestal	Vestal Water Supply	42.24	
		Vestal Water Supply 1-1		37.93
		Vestal Water Supply 4-2		42.24
PR	Juana Diaz	G.E. Wiring Devices	42.40	31.24
PR	Barceloneta	RCA, del Caribe	31.28	31.14

State	City/County	Site Name	HRS Score Original	HRS Score Revised
EPA Region III				
DE	New Castle County	Army Creek Landfill	69.96	69.92
DE	New Castle County	New Castle Spill	38.43	38.33
MD	Annapolis	Middletown Road Dump	38.51	29.36
PA	State College Bor.	Centre County Repone	39.44	45.09
PA	Parker	Craig Farm Drum Site	28.71	28.72
PA	North Whitehall Twp.	Heleva Landfill	41.79	50.23
PA	Kimberton Borough	Kimberton	29.42	29.44
PA	Harrison Township	Lindane Dump	51.50	51.62
PA	McAdoo Borough	McAdoo Associates	65.32	63.03
PA	Grove City	Osborne	58.41	54.60
PA	Palmerton	Palmerton Zinc Pile	46.44	42.93
PA	Erie	Presque Isle	37.20	40.59
PA	Westline	Westline	31.85	31.71
VA	Saltville	Saltville Waste Disposal Ponds	53.23	29.52
WV	Follansbee	Follansbee Sludge Fill	31.89	33.77
EPA Region IV				
FL	Galloway	Alpha Chemical Corporation	55.66	43.24
FL	Pensacola	American Creosote	40.44	58.41
FL	Hialeah	Northwest 58th Street LF	49.27	49.43
FL	Mount Pleasant	Perramore Surplus	34.85	37.61
FL	Jacksonville	Pickettville Road Landfill	58.75	42.94
FL	Tampa	Reeves SE Galvanizing Corp.	51.97	58.75
FL	Clermont	Tower Chemical	38.53	44.03
KY	Calvert City	B. F. Goodrich	31.14	31.01
KY	West Point	Distler Brickyard	37.62	44.77
NC	Swannanoa	Chemtronics, Inc.	30.01	30.16
SC	Cayce	SCRDI Dixiana	40.46	40.70
TN	Chattanooga	Annicola Dump	30.24	40.91
TN	Gallaway	Gallaway Ponds	30.78	30.77
TN	Lawrenceburg	Murray Ohio Dump	46.43	46.44
TN	Memphis	North Hollywood Dump	6.58	19.46
EPA Region V				
IL	Waukegan	Johns-Manville Corp.	38.82	38.20
IL	LaSalle	LaSalle Electric Utilities	30.98	42.06
IN	Gary	Lake Sandy Jo (M&M Landfill)	38.31	38.21
IN	Gary	Midco I	60.43	46.44
MI	Grand Rapids	Butterworth #2 Landfill	50.30	50.31
MI	Charlevoix	Charlevoix Municipal Well	31.95	37.94
MI	Marquette	Cliff/Dow Dump	34.66	34.50
MI	Dalton Twp.	Duell and Gardner Landfill	34.66	34 68

State	City/County	Site Name	HRS Score Original	HRS Score Revised
EPA Region V (concluded)				
MI	Grellickville	Grand Traverse Overall Supply Co.	40.86	35.53
MI	St. Louis	Gratiot County Landfill Supply	53.60	53.65
MI	Oscoda	Medblum Industries	31.70	37.29
MI	Ionia	Ionia City Landfill	38.02	31.31
MI	Kentwood	Kentwood Landfill	35.43	35.39
MI	Albion	McGraw Edison Corp.	44.63	33.42
MI	Temperance	Novaco Industries	38.16	38.20
MI	Filer City	Packaging Corp. of America	51.95	51.91
MI	Petoskey	Petoskey Municipal Well Field	35.97	43.68
MI	Muskegon Heights	SCA Indpendent Landfill	36.36	34.75
MI	Mancelona Twp.	Tar Lake	48.50	48.55
MI	St. Louis	Velsicol Michigan	48.78	52.29
MI	Pleasant Plains Twp.	Wash Ring Laundry	52.05	40.03
MN	Brainerd/Baxton	Burlington Northern	58.41	46.17
MN	Fridley	FMC Corp.	74.16	65.50
MN	Lehillier	Lehillier/Mankato	50.49	42.49
MN	St. Louis Park	NL Industries/Taracorp/Globe	50.95	39.97
OH	Kingsville	Big D Campground	34.78	30.77
OH	Circleville	Bowers Landfill	51.80	50.49
OH	Ironton	E.H. Schilling Landfill	40.27	34.56
OH	Ashtabula	Fields Brook	51.62	44.95
OH	New Lyme	New Lyme Landfill	37.70	31.19
OH	Zanesville	Zanesville	28.98	35.59
EPA Region VI				
AR	Newport	Cecil Lindsey	35.40	35.60
AR	Walnut Ridge	Frit Industries	39.60	39.47
AR	Edmondson	Gurley Pit	38.10	40.13
AR	Ft. Smith	Industrial Waste Control	36.90	30.31
AR	Mena	Mid-South Wood Products	45.43	45.87
AR	Jacksonville	Vertac, Inc.	64.96	65.46
LA	Slidell	Bayou Bonfouca	36.75	29.78
NM	Milan	Homestake Mining Co.	42.29	34.21
NM	Albuquerque	South Valley	35.57	42.24
OK	Ottawa County	Tar Creek	58.20	58.15
TX	Grand Prairie	Bio-Ecology Systems, Inc.	35.10	35.06
TX	Crosby	French; Ltd.	61.30	61.33
TX	Highlands	Highlands Acid Pit	37.66	37.77
TX	LaMarque	Petco	62.70	62.66
TX	Crosby	Sikes Disposal Pits	61.60	61.62
TX	Bridge City	Triangle Chemical Co.	28.74	28.75

State	City/County	Site Name	HRS Score Original	HRS Score Revised
EPA Region VII				
IA	Des Moines	Des Moines TCE	28.91	42.28
KS	Arkansas City	Arkansas City Dump	4.23	5.49
KS	Cherokee County	Tar Creek	66.74	58.15
MO	Verona	Syntex Facility	43.77	43.78
EPA Region VIII				
CO	Leadville	California Gulch	51.94	55.84
CO	Idaho Springs	Central City, Clear Creek	46.50	51.39
CO	Denver	Denver Radium Site	44.00	44.11
CO	Boulder County	Marshall Landfill	41.00	46.52
CO	Commerce City	Sand Creek	33.00	39.65
CO	Commerce City	Woodbury Chemical Co.	45.00	44.87
MT	Anaconda	Anaconda Smelter-Anaconda	58.70	58.71
MT	Libby	Libby Ground Water Contam.	37.70	37.67
MT	Milltown	Milltown Reservoir Sediments	43.80	43.78
MT	Silver Bow/ Deer Lodge	Silver Bow Creek	63.80	63.76
ND	Southeastern	Arsenic Trioxide Site	34.00	34.07
SD	Whitewood	Whitewood Creek	59.50	63.76
UT	Salt Lake City	Rose Park Sludge Pit	7.50	7.46
WY	Laramie	Baxter/Union Pacific Tie Treating	37 00	37.24
EPA Region IX				
AZ	Scottsdale	Indian Bend Wash Area	40.02	42.24
AZ	Globe	Mountain View Mobile Homes Estates	26.46	30.24
CA	Ukiah	Coast Wood Preserving	42.02	44.73
CA	Cloverdale	MGM Brakes	34.52	34.70
CA	Selma	Selma Treating Co.	41.17	48.83
EPA Region X				
OR	Portland	Gould, Inc.	32.84	32.12
OR	Albany	Teledyne Wah Chang	48.15	54.27
WA	Spokane	Colbert Landfill	40.05	41.59
WA	Yakima	FMC Corp. (Yakima)	32.18	38.40
WA	Vancouver	Frontier Hard Chrome	57.92	57.93
WA	Seattle	Harbor Island Lead	41.79	34.60
WA	Mead	Kaiser Mead	41.26	38.07
WA	Lakewood	Lakewood	29.07	42.49
WA	Yakima	Pesticide Lab	33.50	29.33
WA	Kent	Western Processing Co., Inc.	36.30	58.63

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Proposed NPL Sites with Scores which Fall Below 28.50. The following sites will not be included on the NPL because EPA has determined that the HRS scores are below 28.50:

State	Site name
Arkansas	Crittenden County Landfill
Idaho	Flynn Lumber
Indiana	Parrot Road
Nebraska	Phelps Chemical
Ohio	Van Dale Junkyard

Sites Still Under Consideration. In the case of the following sites, EPA was unable to reach a final decision on whether to include them on the final NPL in time for this publication.

State	Site name
Arizona	Kingman Airport Industrial Area.
Kentucky	Airco.
Louisiana	Bayou Sorrel
Michigan	Clare Water Supply
Michigan	Electrovoice.
Michigan	Littlefield Township Dump
Michigan	Whitehall Wells.

EPA will announce its decisions regarding these sites in subsequent NPL updates.

Deletion. The criteria for deletion, which are discussed in Part VIII below, have already been met at the Gratiot County Golf Course site which was included on the proposed NPL. EPA has consulted with the State of Michigan and has determined that the responsible parties have completed cleanup of the site such that no Fund-financed response will be required.

Name Revisions. In some instances EPA has determined that the names of sites should be revised to more accurately reflect the location or nature of the problem. Those name revisions are listed below:

State	Site name for proposed NPL	New site name
MA	Plymouth Harbor/ Cordage	Plymouth Harbor/Cannon Engineering
NH	Ottis & Goss	Ottis & Goss/Kingston Steel Drum.
RI	Forestdale	Stamina Mills.
NJ	Imperial Oil	Imperial Oil Co., Inc./Champion Chemicals.
IN	Lake Sandy Jo	Lake Sandy Jo (M&M Landfill).
MN	National Lead Tarsco	NL Industries/Tarsco/ Golden Auto
	New Brighton	New Brighton/Arden Hills
OH	Allied Chemical	Allied Chemicals & Ironton Coke
	Poplar Oil	Lassen/Poplar Oil
	Rock Creek/Jack Webb	Oil Mill
OK	Criner/Hardage	Hardage/Criner

In addition, in the case of one site proposed for the NPL, the Vestal Water Supply, the Agency has determined that there are two distinct sites rather than one as was previously believed. Geohydrologic studies have indicated that the ground water contamination is present in two distinct plumes, apparently from two different sources. Thus, the site name has been revised to Vestal Water Supply Well No. 1-1 and Vestal Water Supply Well No. 4-2.

States' Top Priority Sites. The State of Mississippi has informed EPA that the Plastifax site, previously designated as their top priority site, is not the State's highest priority. Since the site does not otherwise meet the criteria for inclusion on the NPL, the Plastifax site has not been listed. Mississippi has designated another site as its top priority, which EPA has proposed for inclusion on the NPL in the proposed update immediately following this final NPL promulgation in today's Federal Register. Likewise, the State of Maine has informed EPA that the Winthrop Landfill is no longer considered their top priority site. However, that site has a sufficiently high HRS score to warrant inclusion on the list and has been included. Maine has not yet designated an alternative top priority site.

VIII. Updates and Deletions to the NPL

CERCLA requires that the NPL be revised at least once per year. EPA believes that more frequent revision may be appropriate. Thus, the Agency may revise the NPL more often than is specified in CERCLA. NPL revisions, or "updates," may add new sites to the NPL and may delete sites from the list. EPA anticipates that each update publication will present proposed additions, proposed deletions, and the current NPL consisting of all sites previously established as part of the list as well as the final listing of sites that were proposed in the preceding update publication. EPA's first NPL update is proposed in today's Federal Register immediately following this publication of the final NPL.

In addition to the periodic updates described above, EPA believes it may be appropriate in rare instances to add sites to the NPL individually as the Agency did in the case of the Times Beach site in Missouri.

The Agency plans to identify and consider additional sites for inclusion on NPL updates in the same manner as for sites on the initial NPL. States have the primary responsibility for identifying sites, computing HRS scores, and nominating them for inclusion on the NPL, although EPA Regional Offices may assist in investigation, sampling, monitoring, and scoring, and may in some cases consider candidate sites on their own initiative. EPA will notify the States in advance of each update publication of the closing dates for submission of proposed additions (or deletions, as discussed below) to EPA. EPA will exercise quality control and quality assurance to verify the accuracy and consistency of scoring. The Agency will then publish a proposal of all sites that appear to meet the criteria for listing, and solicit public comment on the proposal. Based on comments, and any further review by EPA, the Agency will determine final scores, and in the next update publication will include on the final NPL any sites that score high enough for listing. For the proposed update immediately following this rulemaking in today's Federal Register, the Agency has continued to use the same minimum HRS score of 28.50 that was used to establish eligibility for this final rule.

There is no specific statutory requirement that the NPL be revised to delete sites. However, EPA has decided to consier deleting sites in order to provide incentives for cleanup to private parties and public agencies. Furthermore, establishing a system of deleting sites affords the Agency the opportunity to give notice that the sites have been cleaned up and gives the public an opportunity to comment on those actions. On June 28, 1982, the Agency developed a guidance document which addressed how sites may be deleted from the NPL. This guidance suggested that a site meeting any of the following criteria could be deleted from the NPL:

(1) EPA in consultation with the Sta has determined that responsible parties have completed cleanup so that no Fund-financed response actions will be required.

(2) All appropriate Fund-financed cleanup action under CERCLA has been completed, and EPA has determined that no further cleanup by responsible parties is appropriate.

(3) EPA, in considering the nature and severity of the problems, the potential costs of cleanup, and available funds, has determined that no remedial actions should be undertaken at the site.

EPA does not consider this guidance to be binding, and may revise it to provide for deletion of sites based on other factors in appropriate cases. EPA will delete sites from the NPL by publishing notices in the Federal Register at the time of the updates, naming the sites and providing the reasons for deletion.

EPA expects that updates to the NPL will be solely for the purposes of adding sites to or deleting sites from the NPL. The current EPA position, which will serve as guidance for individual listing and deletion decisions, is that updates will not present any HRS score change for sites that might alter a site's relat ranking, nor will they delete any sites the basis of score changes. Once a final HRS score has been calculated for a site, and the site has been included on the NPL, EPA does not plan to conduct any recalculations of HRS scores to affect any site's listing.

Several commenters presented suggestions to the contrary. Some recommended that EPA revise HRS scores periodically to reflect the results of cleanup activities, and suggested deleting any site whose HRS score dropped below the cutoff. Other commenters addressed the possibility that new data gathered on a site might alter previous assumptions in scoring, and suggested continual rescoring to reflect any new data for purposes of adjusting a site's position on the list or deleting the site if the score fell below the cutoff.

While it is not necessary to resolve these issues now, as they will be considered as part of each future update determination, EPA believes that a number of important factors support its current position that sites on the final NPL should not be rescored for future updates. With respect to sites where response actions have been taken, the HRS was not designed to reflect completeness of cleanup, and therefore should not be used as a tool for deleting sites from the list or altering their relative ranking. As discussed in Part VII of this preamble, in explanation of EPA's policy to score sites on the basis of original conditions rather than take cleanup actions into account, the HRS approximates risk on the basis of the original conditions at the site. If response actions are taken into account in scoring, the lower HRS score that results might not reflect a commensurate reduction in the level of risk presented by the site.

Another reason discussed in Part VII is that revision of scores simply because cleanup has been partially completed might encourage partial solutions to potentially serious risks of public health and welfare and environmental harm. Removing a site from the list based on score changes resulting from partial cleanup might give private parties an incentive to design response actions to effect such changes rather than completely remedying the situation at the site.

In addition to the foregoing reasons, other considerations justify the current position not to rescore sites after final listing. These considerations apply not only to cleanup situations but also to situations where a score might be affected by new information about a site or by detection of an error in the original calculations.

The process established by EPA for establishing the NPL is comprehensive, involving initial scoring, public proposal, consideration of public comment, re-examination of data and scores, final score calculation, and inclusion on the final NPL. Given this level of scrutiny and the time and expense involved in scoring sites, EPA believes it appropriate to consider inclusion of a site on the final NPL to end the scoring process.

Furthermore, as described in Part II of this preamble, the purpose of the NPL is primarily informational, to serve as a tool for EPA to identify sites that appear to present a significant risk to public health or the environment, for purposes of deciding which sites to investigate fully and determine what response, if any, is appropriate. EPA believes that it is most consistent with that statutory purpose to cease the costly and time-consuming efforts of site scoring once the NPL development process on a site is complete. Rather than spend the limited resources of the fund on rescoring efforts, the Agency wants to use all available resources to clean up sites. In addition, because the NPL serves as guidance for possible future action and does not determine liability or whether response actions will be taken, a decision not to recalculate scores will not prejudice any potentially responsible parties. This is especially true since any additional information can be considered at other stages of EPA's investigation and response process.

EPA recognizes that the NPL process cannot be perfect, and it is possible that errors exist or that new data will alter previous assumptions. Once the initial scoring effort is complete, however, the focus of EPA activity must be on investigating sites in detail and determining the appropriate response. New data or errors can be considered in that process. Since HRS scores do not alone determine the priorities for actual response actions, any new data or revealed error that indicate that a site is either more or less a problem than reflected in the HRS score will be taken into account and the priority for response adjusted accordingly. If the new information indicates that the site does not present any significant threat to health or the environment, the site will meet one of the EPA criteria for deletion regardless of any original or revised HRS score.

In conclusion, because the HRS was not designed to reflect reductions in hazard resulting from cleanup, because of the desire not to create the incentive for incomplete cleanup actions, because of the need to conserve resources and focus on further investigation and cleanup, because the NPL serves as guidance to EPA and is not determinative of liability or the need for response; and because any new information can be considered for adjustment of a site response priority or for deletion without recalculating the HRS score, EPA does not currently plan to rescore sites once they have been included on the final NPL. Actual decisions on the appropriate treatment of individual sites, however will be made on a case-by-case basis with consideration of this policy and any

IX. Regulatory Impact

EPA prepared a Regulatory Impact Analysis pursuant to Executive Order 12291 (46 FR 13193, Feb. 19, 1981) for the revised NCP at the time that it was promulgated. That analysis considered regulatory and economic impact that would result from this amendment to the NCP. The analyses of the NCP are available for inspection at Room S-325 U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

X. Regulatory Flexibility Act Analysis

EPA prepared a Regulatory Flexibility Analysis pursuant to the Regulatory Flexibility Act (5 U.S.C. 601-612) for the revised NCP at the time that it was promulgated. The Agency reviewed the impact of the revised NCP on small entities, which are small businesses and small municipalities.

While there could be a substantial effect on a few small disposer firms, it is unlikely that a high percentage of these small firms is at risk from potential enforcement actions, because they probably tend to produce much smaller quantities of waste compared to the large firms in the industry. It may, of course, be the case that a small disposer's hazardous waste site has resulted in serious problems (such as ground water contamination). However, again, to the extent that small disposers operate one or two sites on a small amount of acreage, they run a reduced risk of being responsible for serious hazardous waste site problems.

It remains at EPA's discretion whether or not to proceed with enforcement actions against small entities. Thus, any potentially adverse effects are not automatic results of the NCP revisions, including the NPL, and implementation of the Superfund program. On the basis of this analysis, the Agency has concluded that the final NPL will not result in a significant impact on a substantial number of small entities.

The analyses of the NCP are available for inspection at Room S-325, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460.

List of Subjects in 40 CFR Part 300

Air pollution control, Chemicals, Hazardous materials, Intergovernmental relations, Natural resources, Oil pollution, Reporting and recordkeeping requirements, Superfund, Waste treatment and disposal, Water pollution control, Water supply.

PART 300—[AMENDED]

Part 300, Title 40 of the Code of Federal Regulations is hereby amended by adding a new Appendix B to read as follows:

Appendix B—National Priorities List

Group 1

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS §		
02	NJ	LIPARI LANDFILL	PITMAN	V	R	E
03	DE	TYBOUTS CORNER LANDFILL *	NEW CASTLE COUNTY		R	E
03	PA	BRODIE LAGOON	BRODIE BOROUGH		R	
02	NJ	HELEN KRAMER LANDFILL	MANTUA TOWNSHIP		R	
01	MA	INDUSTRI-PLEX	WOBURN	V	R	E
02	NJ	PRICE LANDFILL *	PLEASANTVILLE		R	E
02	NY	POLLUTION ABATEMENT SERVICES *	OSWEGO		R	E
07	IA	LABOUNTY SITE	CHARLES CITY	V		E
03	DE	ARMY CREEK LANDFILL	NEW CASTLE COUNTY			E
02	NJ	CPS/MADISON INDUSTRIES	OLD BRIDGE TOWNSHIP			E
01	MA	NYANZA CHEMICAL WASTE DUMP	ASHLAND		R	
02	NJ	GEMS LANDFILL	GLOUCESTER TOWNSHIP		R	E
05	MI	BERLIN & FARRO	MARTY CREEK		R	
01	MA	BAIRD & MCGUIRE	HOLBROOK		R	E
02	NJ	LOMA PINE LANDFILL	FREEHOLD TOWNSHIP		R	E
01	NH	SCHERVOUTE SANITARY LANDFILL	SCHERVOUTE			D
05	MN	FMC CORP.	FRIDLEY	V		E
06	AR	VERTAC, INC.	JACKSONVILLE	V		E
01	NH	KEE - SPRING	SPRING		R	E
08	SD	WHITEWOOD CREEK *	WHITEWOOD	V		
08	MT	SILVER BOW/DEER LODGE	SILVER BOW CREEK			D
06	TX	FRENCH, LTD.	CROSBY		R	
01	NH	SYLVESTER *	NASHUA		R	E
05	NI	LIQUID DISPOSAL INC.	UTICA		R	
03	PA	MCADOO ASSOCIATES *	MCADOO BOROUGH		R	E
06	TX	MOSCO *	LA MARQUE		R	
05	OH	ARCANUM IRON & METAL	DARKE COUNTY			E
06	TX	SIKES DISPOSAL PITS	CROSBY		R	
04	AL	TRIANA TENNESSEE RIVER	LIMESTONE/MORGAN			E
09	CA	STRINGFELLOW *	GLEN AVON HEIGHTS		R	E
01	ME	MCKIN CO.	GRAY		R	
06	TX	CRYSTAL CHEMICAL CO.	HOUSTON		R	E
02	NJ	BRIDGEPORT RENTAL & OIL	BRIDGEPORT	V	R	E
08	CO	SAND CREEK	COMMERCE CITY			D
01	MA	W R GRACE CO. (ACTON PLANT)	ACTON	V		E
05	MN	REILLY TAR *	ST. LOUIS PARK		R	E
02	NJ	BURNT FLY BOG	MARLBORO TOWNSHIP		R	E
04	FL	SCHUYLKILL METALS CORP.	PLANT CITY			D
05	NH	NEW BRIGHTON/ARDEN HILLS	NEW BRIGHTON		R	E
02	NY	OLD BETHPAGE LANDFILL	OYSTER BAY			E
04	FL	REEVES SE GALVANIZING CORP.	TAMPA			D
08	MT	ANACONDA SMELTER - ANACONDA	ANACONDA	V		
10	WA	WESTERN PROCESSING CO., INC.	KENT			E
04	FL	AMERICAN CREOSOTE WORKS	PENSACOLA			D
02	NJ	CALDWELL TRUCKING CO.	FAIRFIELD			E
02	NY	GE MOREAU	SOUTH GLENS FALLS			E
05	IN	SEYMOUR RECYCLING CORP. *	SEYMOUR	V	R	E
06	OK	TAR CREEK	OTTAWA COUNTY		R	
07	KS	CHEROKEE COUNTY	CHEROKEE COUNTY			D
02	NJ	BRICK TOWNSHIP LANDFILL	BRICK			E

§: V = VOLUNTARY OR NEGOTIATED RESPONSE; R = FEDERAL AND STATE RESPONSE; E = FEDERAL AND STATE ENFORCEMENT; D = ACTIONS TO BE DETERMINED.
* = STATES' DESIGNATED TOP PRIORITY SITES.

Group 2

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS §		
05	MI	NORTHERNAIRE PLATING	CADILLAC		R	
10	WA	FRONTIER HARD CHROME	VANCOUVER		R	E
04	FL	DAVIE LANDFILL	DAVIE			D
04	FL	GOLD COAST OIL CORP.	MIAMI	V		
09	AZ	TUCSON INT'L AIRPORT	TUCSON	V	R	
02	NY	WIDE BEACH DEVELOPMENT	BRANT			D
09	CA	IRON MOUNTAIN MINE	REDDING		R	
02	NJ	SCIENTIFIC CHEMICAL PROCESSING	CARLSTADT			E
08	CO	CALIFORNIA GULCH	LEADVILLE		R	
02	NJ	D'IMPERIO PROPERTY	HAMILTON TOWNSHIP		R	
08	NM	GALLEGOS CORP	GALLEGOS	V		E
05	IL	A & F MATERIALS	GREENUP		R	E
03	VA	DOUGLASVILLE DISPOSAL	DOUGLASVILLE			D
02	NJ	HEYBOTT FARM	BILLERBOROUGH		R	
05	MN	KOPPERS COKE	ST. PAUL			D
01	MA	PLYMOUTH HARBOR/CANNON ENG	PLYMOUTH		R	E
10	ID	BUNKER HILL MINING	SMELTERVILLE			E
02	NJ	UNIVERSAL OIL PRODUCTS(CHEM DIV)	EAST RUTHERFORD			E
09	CA	AEROJET GENERAL CORP.	RANCHO CORDOVA			E
10	WA	COM. BAY, S. TACOMA CHANNEL	TACOMA		R	E
03	PA	OSBORNE LANDFILL	GROVE CITY			D
02	NY	STOSSEL LANDFILL	OYSTER BAY			D
09	AZ	EIGHTEENTH AVENUE LANDFILL	PHOENIX			E
10	OR	TIMBERTOWN WAR CHANG	ALBANY			D
05	MI	GRATIOT COUNTY LANDFILL *	ST. LOUIS	V		E
01	RI	PICILLO FARM *	COVENTRY		R	E
01	MA	NEW BEDFORD *	NEW BEDFORD	V	R	E
06	LA	OLD INGRE OIL REFINERY *	BARROW		R	
05	OH	CHEM-DYNE *	HAMILTON	V	R	E
04	SC	SCHDI SLUDY ROAD *	COLUMBIA	V	R	E
01	CT	LAUREL PARK, INC. *	NAUGATUCK BOROUGH			E
08	CO	MARSHALL LANDFILL *	BOULDER COUNTY			D
05	IL	OUTBOARD MARINE CORP. *	WAUKEGAN		R	E
06	NM	SOUTH VALLEY *	ALBUQUERQUE			D
01	VT	PINE STREET CANAL *	BURLINGTON			D
03	WV	WEST VIRGINIA CHROMANCE *	POINT PLEASANT		R	
07	MO	ELLISVILLE SITE *	ELLISVILLE		R	
08	ND	ARSENIC TRIOXIDE SITE *	SOUTHEASTERN		R	
09	TT	PCB WASTES *	PACIFIC TRUST TERR.		R	
03	VA	MATTHEWS ELECTROPLATING *	ROANOKE COUNTY		R	
07	IA	AIDEX CORP. *	COUNCIL BLUFFS		R	E
09	AS	MOUNTAIN VIEW MOBILE HOMES *	GLOBE		R	E
09	AS	TAPUTIMU FARM *	AMERICAN SAMOA			D
04	TN	NORTH HOLLYWOOD DUMP *	MEMPHIS		R	
04	KY	A. L. TAYLOR(VALLEY OF THE DRUMS)	BROOKS		R	E
04	NC	PCB SPILLS *	210 MILES OF ROADS		R	E
09	GU	ORDOT LANDFILL *	GUAM		R	
08	UT	ROSE PARK SLUDGE PIT *	SALT LAKE CITY	V		
07	KS	ARKANSAS CITY DUMP *	ARKANSAS CITY		R	
09	CN	PCB WAREHOUSE *	NORTH MARIANAS		R	

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Group 3

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS †		
02	NY	SINCLAIR REFINERY	WELLSVILLE	R		
04	AL	MONBRAY ENGINEERING CO.	GREENVILLE			D
05	MI	SPIEGELBERG LANDFILL	GREEN OAK TOWNSHIP	R		
04	FL	MIAMI DRUM SERVICES	MIAMI	R	E	
02	NJ	REICH FARMS	PLEASANT PLAINS		E	
02	NJ	SOUTH BRUNSWICK LANDFILL	SOUTH BRUNSWICK	V		
04	FL	SASSAUF-ZIMERLING BATTERY DISP.	TAMPA		E	
05	IL	ANACONDA SAND & GRAVEL	ANACONDA	R		
01	RI	OTTATI & GOSS/KINGSTON STEEL DRUM	KINGSTON	R	E	
05	MI	OTT/STORY/CORDOVA	DALTON TOWNSHIP	R		
02	NJ	KL INDUSTRIES	PEDRICKTOWN	*	E	
02	NJ	KINGWOOD MINES/LANDFILL	KINGWOOD BOROUGH			D
04	FL	WHITEHOUSE OIL PITS	WHITEHOUSE	R		
05	MI	VELSICOL MICHIGAN	ST. LOUIS	V	E	
05	OH	SUMMIT NATIONAL	DEERFIELD TOWNSHIP	V	E	
02	NY	LOVE CANAL	NIAGARA FALLS	R	E	
05	IN	FISHER CALO	LA PORTE	V	E	
04	FL	PIONEER SAND CO.	HARRINGTON		E	
05	MI	SPRINGFIELD TOWNSHIP DUMP	DAVISBURG	R		
03	PA	KRANICA LANDFILL	BUFFALO TOWNSHIP			D
04	NC	MARTIN MARIETTA,SOUTHCO	CHARLOTTE			D
04	FL	SELLWOOD GROUNDWATER CONTAM	SELLWOOD			D
05	WI	PACKAGING CORP. OF AMERICA	FILER CITY			D
02	NY	HOOKER - S AREA	NIAGARA FALLS		E	
03	PA	LIBDAME DUMP	HARRISON TOWNSHIP		E	
08	CO	CENTRAL CITY, CLEAR CREEK	IDAHO SPRINGS	R		
04	FL	TAYLOR ROAD LANDFILL	GEYSER		E	
01	RI	WESTERN SAND & GRAVEL	BURRILLVILLE	R	E	
02	NJ	MAYWOOD CHEMICAL CO.	MAYWOOD/ROCHELLE PK		E	
06	OK	HARDAGE/CRINER	CRINER	R	E	
05	MI	ROSE TOWNSHIP DUMP	ROSE TOWNSHIP	R		
05	MN	WASTE DISPOSAL ENGINEERING	ANDOVER			D
02	NJ	RIN-BUC LANDFILL	EDISON TOWNSHIP	V	R	E
05	OH	BOWERS LANDFILL	CIRCLEVILLE			D
02	NJ	TOMS RIVER CHEMICAL	TOMS RIVER			D
05	MI	BUTTERWORTH #2 LANDFILL	GRAND RAPIDS		E	
02	NJ	AMERICAN CYANAMID CO.	BOUND BROOK		E	
03	PA	RELEVA LANDFILL	NORTH WHITEHALL TWP			D
02	NY	BATAVIA LANDFILL	BATAVIA			D
01	RI	L & BR, INC.	NORTH SMITHFIELD		E	
04	FL	NW 58TH STREET LANDFILL	MIAMAN		E	
04	FL	SIXTY-SECOND STREET DUMP	TAMPA			D
05	MI	CAM LANDFILL	UTICA,	R		
02	NJ	METALTEC/AEROSYSTEMS	FRANKLIN BOROUGH		E	
02	NJ	LANG PROPERTY	PEMBERTON TOWNSHIP			D
02	NJ	SHARKEY LANDFILL	PARSIPPANY, TROY HLS			D
09	CA	SELMA TREATING CO.	SELMA		E	
06	LA	CLEVE REBLR	SORRENTO			D
05	IL	VELSICOL ILLINOIS	MARSHALL	V		
05	MI	TAR LAKE	MANCELONA TOWNSHIP	R		

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* = STATES' DESIGNATED TOP PRIORITY SITES.

Group 4

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS †		
02	NJ	COMBE FILL NORTH LANDFILL	MOUNT OLIVE TWP			D
01	MA	RE-SOLVE, INC.	DARTMOUTH	R	E	
02	NJ	GOOSE FARM	PLUMSTEAD TOWNSHIP	R		
04	TN	VELSICOL (HARDEMAN COUNTY)	TOONE	V		
02	NY	YORK OIL CO.	MOIRA	R		
04	FL	SAPP BATTERY SALVAGE	COTTONDALE	R		
07	KS	DOEPKE DISPOSAL, HOLLIDAY	JOHNSON COUNTY			D
01	RI	DAVIS LIQUID WASTE	SMITHFIELD	R	E	
01	MA	CHARLES-GEORGE RECLAMATION	TYNGSBOROUGH		E	
02	NJ	KING OF PRUSSIA	UPPER MERION TOWNSHIP			D
03	VA	CHISMAN CREEK	YORK COUNTY			D
05	OH	REASE CHEMICAL	SALEM			D
02	NJ	CHEMICAL CONTROL	ELIZABETH	R	E	
05	OH	ALLIED CHEMICAL & IRONTON COKE	IRONTON			D
05	MI	VERONA WELL FIELD	BATTLE CREEK	R		
01	CT	BEACON HEIGHTS LANDFILL	BEACON FALLS			D
05	WI	BURLINGTON NORTHERN	BRAINERD/BAXTER			D
03	PA	MALVERN TCE	MALVERN	R		
02	NY	FACET ENTERPRISES, INC.	ELMIRA	V		
03	DE	DELAWARE SAND & GRAVEL LANDFILL	NEW CASTLE COUNTY			D
04	TN	MURRAY OHIO DUMP	LAWRENCEBURG			D
05	IN	ENVIROCHEM	ZIONSVILLE	R		
05	IN	MIDCO I	GARY	R	E	
04	FL	COLEMAN EVANS WOOD PRESERVING CO.	WHITEHOUSE		E	
04	FL	FLORIDA STEEL CORP.	INDIANTOWN			D
09	AZ	LITCHFIELD AIRPORT AREA	GOODYEAR/AVONDALE			D
02	NJ	SPENCE FARM	PLUMSTEAD TOWNSHIP	R		
06	AR	MID-SOUTH WOOD PRODUCTS	KERR		E	
04	FL	BROWN WOOD PRESERVING	LIVE OAK			D
02	NY	PORT WASHINGTON LANDFILL	PORT WASHINGTON		E	
02	NJ	COMBE FILL SOUTH LANDFILL	CHESTER TOWNSHIP			D
02	NJ	JIS LANDFILL	JAMESBURG/S.BRUNSWIC		E	
03	PA	CENTRE COUNTY RESOUR	STATE COLLEGE BOROUG		E	
05	OH	FIELDS BROOK	ASHTABULA	R		
01	CT	SOLVENTS RECOVERY SERVICE	SOUTHINGTON	V	E	
08	CO	WOODBURY CHEMICAL CO.	COMMERCE CITY	R		
01	MA	HOCOMOCO POND	WESTBOROUGH	R		
04	KY	DISTLER BRICKYARD	WEST POINT	R		
02	NY	RAMAPO LANDFILL	RAMAPO		E	
09	CA	COAST WOOD PRESERVING	ORIAN		E	
02	NY	MERCURY REFINING, INC.	COLONIE		E	
04	FL	HOLLINGSWORTH SOLDERLESS TERMINAL	FORT LAUDERDALE			D
02	NY	OLEAN WELL FIELD	OLEAN	R		
04	FL	VARSOL SPILL	MIAMI	V	R	
08	CO	DENVER RADIUM SITE	DENVER	R		
04	FL	TOWER CHEMICAL CO.	CLERMONT	R	E	
07	MO	SYNTEX FACILITY	VERONA	V	E	
08	MT	MILLTOWN RESERVOIR SEDIMENTS	MILLTOWN	R		
02	NJ	PIJAK FARM	PLUMSTEAD TOWNSHIP	R		
02	NJ	SYNCON RESINS	SOUTH KEARNY	V	E	

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Group 5

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS @
09	CA	LIQUID GOLD OIL CORP.	RICHMOND	E
09	CA	PURITY OIL SALES, INC.	MALAGA	D
01	NH	TINKHAM GARAGE	LONDONDERRY	R
04	FL	ALPHA CHEMICAL CORP.	GALLOWAY	D
02	NJ	BOG CREEK FARM	HOWELL TOWNSHIP	R
01	ME	SACO TANNERY WASTE PITS	SACO	R
04	FL	PICKETTVILLE ROAD LANDFILL	JACKSONVILLE	D
03	PA	PALMERTON ZINC PILE	PALMERTON	D
05	IN	NEAL'S LANDFILL	BLOOMINGTON	E
01	MA	SILRESIN CHEMICAL CORP.	LOWELL	R E
01	MA	WELLS G&H	WOBURN	E
02	NJ	CHEMSOL, INC.	PISCATAWAY	D
05	MI	PETOSKEY MUNICIPAL WELL FIELD	PETOSKEY	R
02	NJ	FAIR LAWN WELL FIELD	FAIR LAWN	D
05	IN	MAIN STREET WELL FIELD	ELKHART	D
05	MN	LEMILLIER/MARRATO	LEMILLIER	R
10	WA	LAKEWOOD	LAKEWOOD	E
02	NJ	MONROE TOWNSHIP LANDFILL	MONROE TOWNSHIP	E
02	NJ	ROCKAWAY BOROUGH WELL FIELD	ROCKAWAY TOWNSHIP	D
05	IN	WAYNE WASTE OIL	COLUMBIA CITY	R E
07	IA	DES MOINES TCE	DES MOINES	D
02	NJ	BEACHWOOD/BERKLEY WELLS	BERKLEY TOWNSHIP	D
02	NY	VESTAL WATER SUPPLY WELL 4-2	VESTAL	E
09	AZ	INDIAN BEND WASH AREA	SCOTTSDALE	D
10	WA	COM. BAY, NEAR SEORE/TIDE FLAT	PIERCE COUNTY *	R E
05	IL	LASALLE ELECTRIC UTILITIES	LA SALLE	R
05	IL	CROSS BROS/PEMBROKE	PEMBROKE TOWNSHIP	R
09	CA	MCCOLL	FULLERTON	D
10	WA	COLBERT LANDFILL	SPOKANE	R
02	PR	FRONTERA CREEK *	RIO ABAJO	D
02	PR	BARCELONETA LANDFILL	FLORIDA AFUERA	D
03	MD	SAND, GRAVEL AND STONE	ELKTON	E
05	MI	SPARTAN CHEMICAL CO.	WYOMING	E
02	NJ	ROEBLING STEEL CO.	FLORENCE	D
04	TN	ARNICOLA DUMP	CHATTANOOGA	D
02	NJ	VINELAND STATE SCHOOL	VINELAND	D
03	PA	ENTERPRISE AVENUE	PHILADELPHIA	D
01	MA	GROVELAND WELLS	GROVELAND	R
04	SC	SCRDI DIXIANA	CAYCE	E
07	MO	FOLBRIGHT LANDFILL	SPRINGFIELD	D
03	PA	PRESQUE ISLE	ERIE	D
02	NJ	WILLIAMS PROPERTY	SWAINTON	R
02	NJ	RENORA, INC.	EDISON TOWNSHIP	D
02	NJ	DENZER & SCHAFER X-RAY CO.	BAYVILLE	E
02	NJ	HERCULES, INC (GIBBSTOWN)	GIBBSTOWN	D
05	IN	NINTH AVE. DUMP	GARY	V E
06	AR	GURLEY PIT	EDMONDSEN	D
01	RI	PETERSON/PURITAN, INC.	LINCOLN/CUMBERLAND	V
07	MO	TIMES BEACH	TIMES BEACH	R
05	MI	WASH KING LAUNDRY	PLEASANT PLAINS TWP	D

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Group 6

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS @
05	MN	NL INDUSTRIES/TARACORP/GOLDEN	ST. LOUIS PARK	V
01	MA	CANNON ENGINEERING CORP. (CEC)	BRIDGEWATER	R E
02	NY	NIAGARA COUNTY REFUSE	WHEATFIELD	D
04	FL	SHERWOOD MEDICAL INDUSTRIES	DELAND	D
05	MI	SOUTHWEST OTTAWA LANDFILL	PARK TOWNSHIP	E
02	NY	KENTUCKY AVE. WELL FIELD	HORSEHEADS	D
02	NJ	ASBESTOS DUMP	MILLINGTON	D
04	KY	LEE'S LAKE LANDFILL	LOUISVILLE	D
06	AR	FRIT INDUSTRIES	WALNUT RIDGE	V E
05	OH	PULTE LANDFILL	JACKSON TOWNSHIP	D
05	OH	COSHOCTON LANDFILL	FRANKLIN TOWNSHIP	D
03	PA	LORD-SHOPE LANDFILL	GIRARD TOWNSHIP	E
10	WA	PMC CORP. (YAKIMA)	YAKIMA	V
01	MA	PMC RESOURCES	PALMER	V
05	MI	FOREST WASTE PRODUCTS	OTISVILLE	E
03	PA	DRAKE CHEMICAL	LOCK HAVEN	E
03	PA	HAVERTOWN PCP	HAVERFORD	E
03	DE	NEW CASTLE SPILL	NEW CASTLE COUNTY	D
05	IN	LAKE SANDY JO (H&H LANDFILL)	GARY	D
05	IL	JOHNS-MANVILLE CORP.	WAUKEGAN	D
05	MI	CHEM CENTRAL	WYOMING TOWNSHIP	D
05	MI	HOVACO INDUSTRIES	TEMPERANCE	D
02	NJ	JACKSON TOWNSHIP LANDFILL	JACKSON TOWNSHIP	E
05	MI	E & L AVENUE LANDFILL	ORTONVILLE TOWNSHIP	R
10	WA	KAISER MEAD	MEAD	D
05	MI	CHARLEVOIX MUNICIPAL WELL	CHARLEVOIX	D
02	NJ	MONTGOMERY TOWNSHIP HOUSING DEV	MONTGOMERY TOWNSHIP	D
02	NJ	ROCKY HILL MUNICIPAL WELL	ROCKY HILL BOROUGH	D
02	NY	BREWSTER WELL FIELD	PUTNAM COUNTY	D
02	NY	VESTAL WATER SUPPLY WELL 1-1	VESTAL	E
02	NJ	G.E. RADIUM CORP.	ORANGE	D
06	TX	HIGHLANDS ACID PIT	HIGHLANDS	R
03	PA	RESIN DISPOSAL	JEFFERSON BOROUGH	E
08	MT	LIBBY GROUND WATER CONTAMINATION	LIBBY	D
04	KY	NEWPORT DUMP	NEWPORT	E
03	PA	MOYERS LANDFILL	EAGLEVILLE	E
04	FL	PARRAMORE SURPLUS	MOUNT PLEASANT	V
05	MI	NEDBLON INDUSTRIES	OSCODA	D
08	WY	BAXTER/UNION PACIFIC TIE TREATING	LARAMIE	D
02	NJ	SAYREVILLE LANDFILL	SAYREVILLE	D
01	NH	DOVER MUNICIPAL LANDFILL	DOVER	D
02	NY	LUDLOW SAND & GRAVEL	CLAYVILLE	D
07	MO	MINKER/STOUT/ROMAINE CREEK	IMPERIAL	R
01	CT	YAWORSKI WASTE LAGOON	CANTERBURY	E
03	WV	LEETOWN PESTICIDE	LEETOWN	D
02	NJ	EVOR PHILLIPS LEASING	OLD BRIDGE TOWNSHIP	D
03	PA	MADE (ABM)	CHESTER	R E
03	PA	LACKAWANNA REFUSE	OLD FORGE BOROUGH	E
02	NJ	MANNHEIM AVENUE DUMP	GALLOWAY TOWNSHIP	D
02	NY	FULTON TERMINALS	FULTON	V

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* = STATES' DESIGNATED TOP PRIORITY SITES.

Group 7

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS @		
01	NH	AUBURN ROAD LANDFILL	LONDONDERRY			E
03	WV	FIKE CHEMICAL, INC.	NITRO	V		
05	OH	LASKIN/POPLAR OIL CO.	JEFFERSON TOWNSHIP		R	E
05	OH	OLD MILL	ROCK CREEK		R	
07	KS	JOHNS' SLUDGE POND	WICHITA	V		E
02	NJ	SHOPE OIL & CHEMICAL CO.	PENNSAUKEN			D
01	ME	WINTHROP LANDFILL	WINTHROP		R	
06	AR	CECIL LINDSEY	NEWPORT			D
05	OH	SANDSVILLE WELL FIELD	SANDSVILLE			D
05	MI	GRAND TRAVERSE OVERALL SUPPLY CO.	GREILICKVILLE			D
05	MN	SOUTH ANDOVER SITE	ANDOVER			D
05	MI	KENTWOOD LANDFILL	KENTWOOD		R	
05	IN	MARION (BRAGG) DUMP	MARION			D
05	OH	PRISTINE, INC.	READING			E
05	OH	BUCKEYE RECLAMATION	ST. CLAIRSVILLE			D
06	TX	BIO-ECOLOGY SYSTEMS, INC.	GRAND PRAIRIE		R	
01	VT	OLD SPRINGFIELD LANDFILL	SPRINGFIELD			D
02	NY	SOLVENT SAVERS	LINCKLAEN			E
03	VA	U.S. TITANIUM	PINEY RIVER			E
05	IL	GALESBURG/KOPPERS	GALESBURG			D
02	NY	BOOKER - BYDE PARK	NIAGARA FALLS	V		E
05	MI	SCA INDEPENDENT LANDFILL	MUSKEGON HEIGHTS			E
09	CA	MGM BRAKES	CLOVERDALE			E
05	MI	DUELL & GARDNER LANDFILL	DALTON TOWNSHIP		R	
02	NJ	ELLIS PROPERTY	EVESHAM TOWNSHIP		R	
04	KY	DISTLER FARM	JEFFERSON COUNTY		R	
10	WA	HARBOR ISLAND LEAD	SEATTLE			D
05	OH	E.H. SCHILLING LANDFILL	HAMILTON TOWNSHIP			D
05	MI	CLIFF/DOW DUMP	MARQUETTE			E D
06	NM	HOMESTAKE MINING CO.	MILAN	V		E
05	MI	MASON COUNTY LANDFILL	PERE MARQUETTE TWP			E
05	MI	CEMETERY DUMP	ROSE CENTER		R	
01	RI	STAMINA MILLS, INC.	NORTH SMITHFIELD		R	E
01	ME	PINETTE'S SALVAGE YARD	WASHBURN			D
06	TX	HARRIS (FARLEY ST)	HOUSTON	V		E
03	PA	OLD CITY OF YORK LANDFILL	SEVEN VALLEYS			E
05	IL	BYRON SALVAGE YARD	BYRON		R	
03	PA	STANLEY KESSLER	KING OF PRUSSIA			E
02	NJ	FRIEDMAN PROPERTY	UPPER FREEHOLD TWP		R	
02	NJ	IMPERIAL OIL/CHAMPION CHEMICALS	MORGANVILLE			E
02	NJ	MYERS PROPERTY	FRANKLIN TOWNSHIP			D
02	NJ	PEPE FIELD	BOONTON			D
05	MI	OSSINEKE GROUND WATER CONTAM	OSSINEKE		R	
03	WV	FOLLANSBEE	FOLLANSBEE			D
05	MI	U.S. AVEX	HOWARD TOWNSHIP			E
06	NM	AT & SF / CLOVIS	CLOVIS			D
02	NY	AMERICAN THERMOSTAT CO.	SOUTH CAIRO			E
04	TN	LEWISBURG DUMP	LEWISBURG			D
05	MI	MCGRAW EDISON CORP.	ALBION			E
03	PA	METAL BANKS	PHILADELPHIA			E

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[FR Doc. 83-24536 Filed 9-7-83; 8:45 am]

BILLING CODE 6560-50-C

Group 8

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS @		
04	KY	B.F. GOODRICH	CALVERT CITY			D
05	MI	ORGANIC CHEMICALS, INC.	GRANDVILLE		E	
02	PR	JUNCOS LANDFILL	JUNCOS			D
04	FL	MUNISPORT LANDFILL	NORTH MIAMI			D
02	NJ	M&T DELISA LANDFILL	ASBURY PARK			D
10	OR	GOULD, INC.	PORTLAND		E	
05	MI	AUTO ION CHEMICALS, INC.	KALAMAZOO	R		
04	SC	CAROLAWN, INC.	FORT LAWN	R	E	
05	MI	SPARTA LANDFILL	SPARTA TOWNSHIP		R	
05	IL	ACME SOLVENT/MORRISTOWN	MORRISTOWN	R		
01	NH	O'CONNOR	AUGUSTA			R
05	MI	RASMUSSEN'S DUMP	BRIGHTON	R		
03	PA	WESTLINE	WESTLINE			R
05	MI	IONIA CITY LANDFILL	IONIA	R		
05	IN	REXCO INC	LEBANON		E	
02	PR	GE WIRING DEVICES	JUANA DIAZ			D
05	OH	NEW LYME LANDFILL	NEW LYME			D
02	PR	RCA DEL CARIBE	BARCELONETA			D
03	PA	BRODHEAD CREEK	STROUDSBURG	R		
05	MI	ANDERSON DEVELOPMENT CO.	ADRIAN		E	
05	MI	SHIAWASSEE RIVER	HOWELL	R		
03	DE	HARVEY & KNOTT DRUM, INC.	KIRKWOOD	R		
04	TN	GALLAWAY PITS	GALLAWAY		E	
05	OH	BIG D CAMPGROUND	KINGSVILLE			D
03	DE	WILDCAT LANDFILL	DOVER			D
03	PA	BLOSENSKI LANDFILL	WEST CALN TOWNSHIP		E	
03	DE	DELAWARE CITY PVC PLANT	DELAWARE CITY			D
03	MD	LIMESTONE ROAD	CUMBERLAND		E	
02	NY	BOOKER - 102ND STREET	NIAGARA FALLS		E	
03	DE	NEW CASTLE STEEL	NEW CASTLE COUNTY			D
06	NM	UNITED NUCLEAR CORP.	CHURCH ROCK			D
06	AR	INDUSTRIAL WASTE CONTROL	FT. SMITH			D
09	CA	CELTOR CHEMICAL WORKS	HOOPA	R		
04	AL	PERDIDO GROUND WATER CONTAM	PERDIDO			D
02	NY	MARATHON BATTERY CORP.	COLD SPRINGS			D
03	PA	LEHIGH ELECTRIC & ENG. CO.	OLD FORGE BOROUGH	R	E	
05	OH	SKINNER LANDFILL	WEST CHESTER			D
04	NC	CHEMTRONICS, INC.	SWANNANOA			D
07	MO	SHENANDOAH STABLES	MOSCOW MILLS		E	
06	LA	BAYOU BONFOUCA	SLIDELL			D
03	VA	SALTVILLE WASTE DISPOSAL PONDS	SALTVILLE			D
03	PA	SIMBERTON	SIMBERTON BOROUGH			D
03	MD	MIDDLETOWN ROAD DUMP	ANNAPOLIS		E	
10	WA	PESTICIDE LAB	YAKIMA			D
05	IN	LEMON LANE LANDFILL	BLOOMINGTON			D
10	ID	ARRCOM (DREXLER ENTERPRISES)	RATHDRUM			D
03	PA	FISCHER & PORTER CO.	WARMINSTER		E	
09	CA	JIBBOOM JUNKYARD	SACRAMENTO			D
02	NJ	A. O. POLYMER	SPARTA TOWNSHIP	R		
02	NJ	DOVER MUNICIPAL WELL 4	DOVER			D

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Group 9

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS @		
02	NJ	ROCKAWAY TOWNSHIP WELLS	ROCKAWAY			D
06	TX	TRIANGLE CHEMICAL CO.	BRIDGE CITY	R	E	
02	NJ	PJP LANDFILL	JERSEY CITY			D
03	PA	CRAIG FARM DRUM	PARKER			D
03	PA	WOORTMAN FARM	UPPER SAUCON TWP			D
05	IL	BELVIDERE MUNICIPAL LANDFILL	BELVIDERE			D

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

[S WER-FRL 2421-2]

Amendment to National Oil and Hazardous Substances Contingency Plan; National Priorities List

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency ("EPA") is proposing the first update to the National Priorities List ("NPL") which is promulgated today as Appendix B of the National Oil and Hazardous Substances Contingency Plan ("NCP"), pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA") and Executive Order 12316. CERCLA requires that the NPL be revised at least annually, and today's notice proposes the first such revision.

DATES: Comments may be submitted on or before November 7, 1983.

ADDRESSES: Comments may be mailed to Russell H. Wyer, Director, Hazardous Site Control Division, Office of Emergency and Remedial Response (WH-548E), Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460. The public docket for the update to the NCP will contain Hazard Ranking System score sheets for all sites on the proposed update, as well as a "Documentation Record" for each site describing the information used to compute the scores. The main docket is located in Room S-325 of Waterside Mall, 401 M Street, S.W., Washington, D C., and is available for viewing from 9 00 a m. to p m., Monday through Friday, excluding holidays. Requests for copies of these documents should be directed to EPA Headquarters, although the same documents will be available for viewing in the EPA Regional Offices. In addition, the background data relied upon by the Agency in calculating or evaluating HRS scores are retained in the Regional Offices. Any such data in EPA files may be obtained upon request. An informal written request, rather than a formal request under the Freedom of Information Act, should be the ordinary procedure for requesting these data sources. Addresses for the Regional Office dockets are:

Jenifer Arns, Region I, U S EPA Library, John F Kennedy Federal Bldg., Boston, MA 02203, 617/223-5791

Audrey Thomas, Region II, U S. EPA Library, 10th Floor, New York, NY 10278, 212/264-2881

Diane McCreary, Region III, U S. EPA Library, Curtis Building, 6th & Walnut Streets, Philadelphia, PA 19106, 215/597-0580

Carolyn Mitchell, Region IV, U.S EPA Library, 345 Courtland Street NE., 404/257-4216

Lou Tilly, Region V, U.S. EPA Library, 230 South Dearborn Street, Chicago, IL 60604, 512/353-2022

Nita House, Region VI, U S. EPA Library, First International Building, 1201 Elm Street, Dallas, TX 75270, 214/767-7341

Connier McKenzie, Region VII, U.S. EPA Library, Kansas City, MO 64106, 816/374-3497

Delores Eddy, Region VIII, U.S. EPA Library 1860 Lincoln Street, Denver, CO 80295, 303/837-2560

Jean Circiello, Region IX, U.S. EPA Library, 215 Fremont Street, San Francisco, CA 94105, 415/974-8076

Julie Sears, Region X, U S. EPA Library, 1200 6th Avenue, Seattle, WA 98101, 206/442-1289.

FOR FURTHER INFORMATION CONTACT: C. Scott Parrish, Hazardous Site Control Division, Office of Emergency and Remedial Response (WH-548E), Environmental Protection Agency, 401 M Street, S.W., Washington, D C. 20460, Phone (800) 424-9346 (or 382-3000 in the Washington, D C., metropolitan area).

SUPPLEMENTARY INFORMATION:

Table of Contents

I. NPL Update Process and Schedule
II. Contents of the Proposed Update
III. Additional Criteria for Listing
IV Regulatory Impact Analysis
V Regulatory Flexibility Act Analysis

I. NPL Update Process and Schedule

Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. §§ 9601-9657, EPA is required to establish, as part of the National Contingency Plan (NCP) for responding to releases of hazardous substances, a National Priorities List (NPL) of sites of such releases. The NPL serves as guidance to EPA in setting priorities among sites for further investigation and possible response actions. After proposing over 400 sites for inclusion on the NPL on December 30, 1982 (47 FR 58476), EPA has established a final NPL, which is being published in today s **Federal Register** immediately preceding this update proposal. The preamble to that final list explains in more detail the purpose of the NPL, the criteria used to develop the list, and how it will be administered and revised. The purpose of this notice is to propose the addition of 133 new sites to the NPL.

CERCLA requires that the NPL be revised at least once per year, and today's notice proposes the first such revision. EPA believes, however, that it may be desirable to update the list on a more frequent basis. Thus, the Agency may revise the NPL more often than is specified in CERCLA. For each revision, EPA will inform the States of the closing dates for submission of candidate sites to EPA. In addition to these periodic updates, EPA believes it may be desirable in rare instances to propose separately the addition of individual sites on the NPL as the Agency did in the case of the Times Beach, Missouri, site.

As with the establishment of the initial NPL, States have the primary responsibility for selecting and scoring sites that are condidates for inclusion on the NPL using the Hazard Ranking System (HRS) and submitting the candidates to the EPA Regional Offices. The regional Offices then conduct a quality control review of the States' candidate sites. After conducting this review, the EPA Regional Offices subm condidate sites to EPA Headquarters. The Regions may include candidate sites in addition to those submitted by States. In reviewing these submissions, EPA Headquarters conducts further quality assurance audits to ensure accuracy and consistency among the various EPA and State offices participating in the scoring.

EPA anticipates that each update publication will list sites in three categories: the "Current List;" "Proposed Additions;" and "Proposed Deletions". Sites on the "Current List" are those which have previously been proposed for listing, either in the initial NPL process or in any subsequent update proposal, and for which final scores have been established based on public comment and further investigation by EPA. In today's proposal, the "Current List" consists of the final NPL published immediately preceding this proposed update notice. As explained more fully in the preamble to the final NPL published today, once a site appears on the final "Current List," EPA does not expect to recalculate its HRS score. Although EPA does not plan to consider additional information on such sites for purposes of rescoring, the Agency always welcomes information on a si that may be useful in determining more precisely the nature of the release and what response actions may be appropriate

"Proposed Additions" consist of sites not currently on the NPL that the Agency is proposing to add to the NPL. The "Proposed Additions" for this update are those contained in the list immediately following this preamble discussion. The Agency is requesting public comment on whether it is appropriate to add these sites to the final NPL, and may recalculate site scores based on comments received during the comment period.

"Proposed Deletions" will consist of sites on the current NPL that EPA proposes to delete because listing of the site no longer is appropriate. EPA is not today proposing to delete any sites from the NPL. The Agency will consider deleting sites on a case by case basis, according to internal EPA guidance currently being developed. Deletions may be based on such circumstances as the fact that the site has been cleaned up by EPA or the responsible party, or a determination that no fund-financed cleanup is appropriate. EPA does not anticipate, however, that deletions will be based on recalculations of a site's HRS score. The criteria for deletion under consideration by EPA are discussed more fully in the preamble to the final NPL.

II. Contents of the Proposed Update

Each entry on the final NPL, as well as proposed additions and deletions, contains the name of the facility, the State and city or county in which it is located, and the corresponding EPA Region. Each site EPA is proposing to add is placed by score in a group corresponding to the groups of 50 sites presented on the final NPL. Thus, the sites in group 1 of the proposed update have scores that fall within the range of scores covered by the first 50 sites on the final NPL. Each entry on the proposed update, as well as those on the final NPL, is accompanied by one or more notations on the status of response and enforcement activities at the site at the time the list was prepared or updated. These status categories are described briefly below.

Voluntary or Negotiated Response (V). Sites are included in this category if private parties are taking response actions pursuant to a consent order or agreement to which EPA is a party. Voluntary or negotiated cleanup may include actions taken pursuant to agreements reached after enforcement action had commenced. This category of response may include remedial investigations, feasibility studies, and other preliminary work, as well as actual cleanup.

Even though response actions qualify for notation in this category only if sanctioned by a formal agreement, this is not intended to preclude responsible parties from taking voluntary response actions outside of such an agreement. However, in order for the site to be deleted, or to be noted in the Voluntary or Negotiated Response category, EPA must still sanction the complete cleanup. If the remedial action is not fully implemented or is not consistent with the NCP, the responsible party may be subject to an enforcement action. Therefore, most responsible parties may find it in their best interest to negotiate a consent agreement.

Federal and State Response (R). The Federal and State Response category includes sites at which EPA or State agencies have commenced or completed removal or remedial actions under CERCLA, including remedial investigations and feasibility studies (see NCP section 300.68(f)(1)). For purposes of this categorization, EPA considers the response action to have begun when EPA has obligated funds. For some of the sites in this category, remedial investigations and feasibility studies may be followed by EPA enforcement actions, at which time the site status will change to "Federal or State Enforcement."

Federal or State Enforcement (E). This category includes sites where the United States or the State has filed a civil complaint or issued an administrative order. It also includes sites at which a Federal or State court has mandated some form of no-consensual response action following a judicial proceeding. It may not, however, include all sites at which preliminary enforcement activities are underway. A number of sites that EPA is proposing to add to the NPL are the subject of enforcement investigation or have been formally referred to the Department of Justice for enforcement action. EPA's policy is not to release information concerning a possible enforcement action until a lawsuit has been filed. Accordingly, these sites have not been included in the enforcement category.

Actions to be Determined (D). This category includes all sites not listed in any other category. A wide range of activities may be in progress for sites in this category. The Agency may be considering a response action, or may be conducting an enforcement investigation. EPA may have referred a case involving a site to the Department of Justice, but no lawsuit has yet been filed. Investigations may be underway or needed to determine the source of a release in areas adjacent to or near a Federal facility. Responsible parties may be undertaking cleanup operations that are unknown to the Federal or State government, or corrective action may not be occurring yet.

EPA requests public comment on each of the sites it is proposing to add to the NPL, and will accept such comments for 60 days following the date of this notice. A "Documentation Record" and HRS scoring sheets for all proposed sites are available for inspection and copying in the NPL docket located in Washington, D.C. These documents are also available in the EPA Regional Offices, as are background data referred to in the Documentation Records and relied on for scoring. In some instances, where States calculated site scores and EPA review and quality control checking did not require direct inspection of background data, these data may be available only from the State that conducted the original scoring. After considering the relevant comments received during the comment period and determining the final score for each proposed site, the Agency will add to the current NPL at the time of the next update all sites that meet EPA's criteria for listing.

III. Additional Criteria for Listing

The preamble to the proposed NPL (47 FR 58478, December 30, 1982) stated that the more than 400 sites on the proposed list were included based primarily on total scores ("migration" or "S_m" scores) calculated according to the HRS. For the proposed NPL, all sites (with the exception of some sites designated by States as "top priority" sites) scored 28.50 or higher according to the HRS.

EPA has found that the HRS scoring factors provide a good estimate of the relative hazards at sites for purpose of establishing a list of national priorities for further investigation and possible remedial action. As explained in the preamble to the proposed NPL (47 FR 58479, December 30, 1982) and the preamble to the NCP which discusses the HRS (47 FR 31187–88, July 16, 1982), the HRS total score used for the NPL is designed to take into account a standard set of factors related to risks from migration of substances through ground water, surface water, and the air. Although the HRS also does provide an approximation of risk from direct contact with substances and from the possibility of fire and explosion, these pathway scores are not considered in computing the HRS "total score" of a site for purposes of listing. Rather, scores from the direct contact and fire and explosion pathways are used as guidance in determining the need for immediate removal action at a site.

EPA has found, however, that in certain instances EPA's authority to

conduct an immediate removal action may not be sufficient to address completely the direct contact risks at a site, and that remedial action may therefore be warranted. For example, where relocation of residents is the appropriate remedy, the Agency's removal authority extends only to evacuation of threatened residents, whereas its remedial authority may include permanent relocation of those residents. Although EPA can take removal actions, including temporary relocation of residents, irrespective of whether a site appears on the NPL, the NCP (40 CFR 300.68(a)) provides that remedial actins may be taken only at sites on the NPL.

Since the "direct contact" scores are not included in calculating the HRS total score for purposes of listing sites on the NPL, some of the sites involving direct contact to residents where remedial action, rather than immediate removal action, appears necessary to address the problem completely may not receive a sufficiently high HRS total score to be listed on the NPL. This situation has led EPA to believe that in limited circumstances it may be appropriate to consider other criteria than simply a sufficiently high HRS total score for purposes of listing sites on the NPL to make them eligible for remedial action.

Quail Run Mobile Manor, Grey Summit, Missouri, is an example of a site that presents a significant risk to the public that may warrant remedial action, although its HRS total score is too low for the site to be included on the NPL. During the winter of 1982–1983, the EPA conducted environmental sampling at Quail Run as part of its investigation of a number of sites in the State of Missouri that were potentially contaminated with dioxin. The investigation of the Quail Run site revealed widespread dioxin contamination of yards, roadsides, and garden areas, as well as high concentrations under the road pavement and presence in at least one residence.

In the case of Quail Run, EPA believes that a number of factors suggest that it may be appropriate to consider including the site on the NPL even though its HRS total score is less than 28.50. First, based on EPA's sampling, the Centers for Disease Control (CDC) on May 11, 1983 issued a public health advisory for the trailer park. This advisory was based on the risk to residents posed by direct contact with the contaminated areas. Second, the Federal Emergency Management Agency determined that temporary relocation of the residents was necessary to protect public health, based on the CDC avisory and its determination that the possible human exposure would continue unless the residents left their homes. Finally, EPA's current assessment is that some type of remedial action—as opposed to an immediate removal action—may be the most health-protective and cost-effective response.

Therefore, EPA is proposing to add the Quail Run site to the NPL. Including the Quail Run site on the NPL will permit EPA to consider the broadest possible range of response actions, including remedial actions, that will protect the public health and environment and provide the most cost-effective response.

EPA recognizes, however, that the sole criterion in the NCP for listing sites on the NPL is a sufficiently high HRS total score (or designation by a State as its top priority site). Before EPA includes the Quail Run site on the NPL, therefore, the Agency intends to amend the NCP to authorize consideration of limited criteria other than the HRS total score for purposes of including sites on the NPL. These alternative criteria would take into account circumstances such as those existing at the Quail Run site.

In preparing a proposed amendment to the NCP, EPA will consider the advisability of relying in part on health assessments or advisories such as those issued by the newly formed Agency for Toxic Substances and Disease Registry (ATSDR) or special information from the Federal Emergency Management Agency. Such information could serve as the technical basis for an EPA advisory committee review and subsequent administrative decision on the relative risk of the site. A related approach, for situations where persons at different locations are affected by the risks of direct contact from common substances (such as dioxin), might be to group such sites by geography or political subdivision on the NPL. For example, EPA might develop some process whereby many of the locations in Missouri involving direct contact risks from dioxin could be grouped into a single listing on the NPL if a suitable health assessment or advisory had been issued by an agency such as ATSDR with respect to those locations. Of course, this approach could also apply to similar dioxin risks in other States or territories.

EPA anticipates, however, that any alternative criteria it may develop will apply only to a limited number and type of sites. With rare exception, the HRS has proven to be an effective tool for approximating the risk posed by sites, and will remain the principal criterion for listing. EPA invites comments on the general issue of considering alternative criteria for listing on the NPL and on approaches such as those discussed above, as well as on the inclusion of the Quail Run site.

IV. Regulatory Impact Analysis

The EPA has conducted a preliminary analysis of the economic implications of today's amendment to the NCP. The EPA belives that the direction of the economic effects of this revision is generally similar to those effects identified in the regulatory impact analysis (RIA) prepared in 1982 for the revisions to the NCP pursuant to section 105 of CERCLA.[1] Nevertheless, the Agency intends to go beyond this earlier characterization of possible effects with a more extensive analysis of the combined economic impact of this update proposal and other amendments to the NCP that EPA may propose in the near future. The analysis will accompany publication of future major amendments to the NCP. A more comprehensive examination, together with more than 2 years of experience with the Superfund program, will allow better estimates of the economic impact of this and other proposed amendments. In the meantime, the Agency belives the anticipated economic effects of adding 133 sites to the NPL can be characterized in terms of the conclusions of the earlier regulatory impact analysis.

Costs

The costs associated with revising the NCP that were estimated in the 1982 RIA included costs to States of meeting cost-share requirements; costs to industries and individual firms of financing remedies at NPL sites as a result either of enforcement or cost recovery action or of voluntary response; and macroeconomic costs resulting from effects on industries and State governments. Each of these types of costs is discussed below.

Costs to States associated with today's amendment arise from the statutory State cost-share requirement of 10 percent of remedial action costs at privately-owned sites. Using the assumptions developed in the 1982 RIA we can assume that 90 percent of the 133 sites proposed for listing in this amendment will involve a 10 percent State cost share, and 10 percent will

[1] U.S. Environmental Protection Agency, Regulatory Impact Analysis of the Revisions to the National Oil and Hazardous Substances Contingency Plan, February 16, 1982. The analysis is available for inspection at the U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

involve a 50 percent cost share at publicly-owned sites. Estimating the average costs of a remedial action at $6.5 million. the cost to all States of undertaking Federal remedial actions at all 133 sites would be $121 million.

Cost to industry could result from required financing of remedies at sites on the NPL under enforcement or cost recovery action. Firms could also be induced to respond to sites for which they are responsible as a prudent business action to avoid possible enforcement actions and to prevent adverse publicity if they are linked to hazardous waste sites that are now national priority targets. Precise estimates must await the full analysis to be conducted; however. the range of costs would extend from zero (if none of the 133 sites is addressed) to a maximum of $865 million (if the 133 sites are privately-owned and each remedial action costs an average of $6.5 million). The EPA cannot identify at this time which firms may be threatened with specific portions of response costs. The act of adding a hazardous waste site to the NPL does not itself cause firms responsible for that site to bear these costs. Instead. listing acts only as a potential trigger for subsequent enforcement. cost recovery. or voluntary remedial efforts. Moreover. it remains at EPA's discretion whether or not to proceed with enforcement actions against firms which may be adversely affected by such actions.

Economy-wide effects of this amendment are aggregations of effects on firms and State and local governments. Although effects could be felt by some individual firms and States. the total impact of this revision on output. prices. and employment is expected to be negligible at the national level. as was the case in the 1982 RIA

Benefits

Associated with the costs are significant potential benefits and cost offsets. The distributional costs to firms of financing NPL remedies have corresponding "benefits" in that each dollar expended for a response puts someone to work directly or indirectly (through purchased materials).

The real benefits associated with today's amendment come in the form of increased health and environmental protection as a result of additional response actions at hazardous waste sites. In addition to the potential for more Federally-financed remedial actions. expansion of the NPL could accelerate privately-financed. voluntary cleanup efforts to avoid potential adverse publicity. torts. and/or enforcement action. Listing sites as national priority targets may also give States increased support for funding responses at particular sites.

As a result of the additional NPL remedies. there will be lower human exposure to high-risk chemicals. and higher quality surface water. ground water. soil. and air. The magnitude of these benefits is expected to be significant. although difficult to estimate. As an example of a rough calculation. the 1982 RIA estimated that the population potentially at risk from contamination of ground water. soil. and air would be reduced by approximately 1.8 million. 600.000. and 97.000 respectively. if remdial actions were taken at 170 NPL sites. Assuming an average estimate per NPL site of 10.000 people at risk of exposure to contaminated ground water. response actions at the 133 sites to be listed by this revision could result in a reduced risk of exposure to ground water contamination for up to 1.3 million people.

V. Regulatory Flexibility Act Analysis

As required by the Regulatory Flexibility Act of 1980. the Agency has reviewed the impact of this revision to the NCP on small entities. The EPA certifies that the revision will not have a significant impact on a substantial number of small entities.

While modifications to the NPL are considered revisions to the NCP. they are not typical regulation changes since the change does not automatically impose across-the-board costs. As a consequence. it is hard to predict effects. The Agency does expect that certain industries and firms within industries that have caused a proportionally high percentage of waste site problems will possibly be significantly affected by CERCLA actions. Being included on the NPL will increase the likelihood that these effects will occur. The costs. when imposed to these affected firms and industries. are justified because of the public health and environmental problems they have caused. Adverse effects are not expected to affect a substantial number of small businesses. as a class.

List of Subjects in 40 CFR Part 300

Air pollution control. Chemicals. Hazardous materials. Intergovernmental relations. Natural resources. Oil pollution. Reporting and recordkeeping requirements. Superfund. Waste treatment and disposal. Water pollution control. Water supply.

PART 300—[AMENDED]

It is proposed to amend Appendix B of 40 CFR Part 300 by adding the following sites to the National Priorities List:

BILLING CODE 6560-50-M

Appendix B—National Priorities List

Group 1

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
03	PA	TYSONS DUMP	UPPER MERION TWP		R	
08	MT	EAST HELENA SMELTER	EAST HELENA			D
06	TX	GENEVA INDUSTRIES (FUHRMANN)	HOUSTON		R	E
02	NJ	VINELAND CHEMICAL CO.	VINELAND	V		E
02	NJ	FLORENCE LAND RECONTOURING LF	FLORENCE TOWNSHIP	V		E
02	NJ	SHIELDALLOY CORP.	NEWFIELD BOROUGH			E
05	WI	OMEGA HILLS NORTH LANDFILL	GERMANTOWN	V		E
05	OH	UNITED SCRAP LEAD CO., INC.	TROY			D

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* = STATES' DESIGNATED TOP PRIORITY SITES;
NOTE: GROUP REFERS TO THE NPL GROUP WITH SIMILAR HRS SCORES;

Group 2

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
05	WI	JANESVILLE OLD LANDFILL	JANESVILLE			D
04	SC	INDEPENDENT NAIL CO.	BEAUFORT			D
04	SC	KALAMA SPECIALTY CHEMI 'ALS	BEAUFORT		E	
05	WI	JANESVILLE ASH BEDS	JANESVILLE			D
05	OH	MIAMI COUNTY INCINERATOR	TROY			D
05	WI	WHEELER PIT	LA PRAIRIE TOWNSHIP			D
02	NY	HUDSON RIVER PCBS	HUDSON RIVER			D
01	CT	OLD SOUTHINGTON LANDFILL	SOUTHINGTON	V	E	
04	MS	FLOWOOD *	FLOWOOD			D

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Group 3

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #
10	ID	UNION PACIFIC RAILROAD CO.	POCATELLO	E
04	AL	CIBA-GEIGY CORP. (MCINTOSH PLANT)	MCINTOSH	D
05	MN	ST. REGIS PAPER CO.	CASS LAKE	V
04	GA	HERCULES 009 LANDFILL	BRUNSWICK	D
05	MN	MACGILLIS & GIBBS/BELL & POLE	NEW BRIGHTON	D
05	WI	MUSKEGO SANITARY LANDFILL	MUSKEGO	D
02	NJ	VENTRON/VELSICOL	WOODRIDGE BOROUGH	E
04	SC	KOPPERS CO.,INC. (FLORENCE PLANT)	FLORENCE	E
02	NJ	NASCOLITE CORP.	MILLVILLE	E
05	MN	BOISE CASCADE/ONAN/MEDTRONICS	FRIDLEY	D
02	NJ	DELILAH ROAD	EGG HARBOR TOWNSHIP	E
03	PA	MILL CREEK DUMP	ERIE	R
05	WI	SCHMALZ DUMP	HARRISON	D
08	CO	LOWRY LANDFILL	ARAPAHOE COUNTY	E

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Group 4

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #
04	SC	WAMCHEM, INC. -	BURTON	D
02	NJ	CHEMICAL LEAMAN TANK LINERS, INC.	BRIDGEPORT	E
05	WI	MASTER DISPOSAL SERVICE LANDFILL	BROOKFIELD	E
02	NJ	W. R. GRACE CO. (WAYNE PLANT)	WAYNE TOWNSHIP	D
04	SC	LEONARD CHEMICAL CO.,INC.	ROCK HILL	V
04	AL	STAUFFER CHEM. (COLD CREEK PLANT)	BUCKS	D
04	GA	OLIN CORP. (AREAS 1,2 & 4)	AUGUSTA	V
05	OH	SOUTH POINT PLANT	SOUTH POINT	D
03	PA	DORNEY ROAD LANDFILL	UPPER MACUNGIE TWP	D
05	IN	NORTHSIDE SANITARY LANDFILL	ZIONSVILLE	E
09	CA	ATLAS ASBESTOS MINE	FRESNO COUNTY	E
09	CA	COALINGA ASBESTOS MINE	COALINGA	D
02	NJ	EWAN PROPERTY	SHAMONG TOWNSHIP	D
10	ID	PACIFIC HIDE & FUR RECYCLING CO.	POCATELLO	R E
05	MN	JOSLYN MFG. & SUPPLY CO.	BROOKLYN CENTER	D
05	MN	ARROWHEAD REFINERY CO.	HERMANTOWN	D
05	WI	MOSS-AMERICAN(KERR-MCGEE OIL CO.)	MILWAUKEE	D

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Group 5

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #
01	MA	IRON HORSE PARK	BILLERICA	D
05	WI	KOHLER CO. LANDFILL	SHEBOYGAN	D
05	IN	REILLY TAR & CHEMICAL CORP.	INDIANAPOLIS	D
05	WI	LAUER I SANITARY LANDFILL	MENOMONEE FALLS	E
05	MN	UNION SCRAP	MINNEAPOLIS	D
02	NJ	RADIATION TECHNOLOGY, INC.	ROCKAWAY TOWNSHIP	E
05	WI	ONALASKA MUNICIPAL LANDFILL	ONALASKA	D
05	MN	NUTTING TRUCK & CASTER CO.	FARIBAULT	D
02	PR	VEGA ALTA PUBLIC SUPPLY WELLS	VEGA ALTA	D
05	MI	STURGIS MUNICIPAL WELLS	STURGIS	D
05	MN	WASHINGTON COUNTY LANDFILL	LAKE ELMO	R
09	CA	SAN GABRIEL AREA 1	EL MONTE	D
09	CA	SAN GABRIEL AREA 2	BALDWIN PARK AREA	D
06	TX	PIG ROAD	NEW WAVERLY	D
02	PR	UPJOHN FACILITY	BARCELONETA	V
03	PA	HENDERSON ROAD	UPPER MERION TWP	D
06	LA	PETRO-PROCESSORS	SCOTLANDVILLE	E
03	PA	INDUSTRIAL LANE LANDFILL	WILLIAMS TOWNSHIP	D
03	PA	EAST MOUNT ZION	SPRINGETTSBURY TWP	D
02	NY	GENERAL MOTORS-CENT. FOUNDRY DIV.	MASSENA	D
03	DE	OLD BRINE SLUDGE LANDFILL	DELAWARE CITY	D
05	MN	WHITTAKER CORP.	MINNEAPOLIS	D

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Group 6

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #
01	CT	KELLOGG-DEERING WELL FIELD	NORWALK	V E
04	AL	OLIN CORP. (MCINTOSH PLANT)	MCINTOSH	V
04	FL	TRI-CITY OIL CONSERVATIONIST, INC.	TEMPLE TERRACE	D
05	WI	NORTHERN ENGRAVING CO.	SPARTA	D
01	NH	KEARSAGE METALLURGICAL CORP.	CONWAY	V E
04	SC	PALMETTO WOOD PRESERVING	DIXIANNA	E
05	MN	MORRIS ARSENIC DUMP	MORRIS	D
05	MN	PERHAM ARSENIC	PERHAM	D
01	NH	SAVAGE MUNICIPAL WATER SUPPLY	MILFORD	D
05	IN	POER FARM	HANCOCK COUNTY	R
06	TX	UNITED CREOSOTING CO.	CONROE	D
05	WI	CITY DISPOSAL CORP. LANDFILL	DUNN	D
02	NJ	TABERNACLE DRUM DUMP	TABERNACLE TWP	D
02	NJ	COOPER ROAD	VOORHEES TOWNSHIP	D
04	FL	CABOT-KOPPERS	GAINESVILLE	D

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Group 7

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #	
05	MN	GENERAL MILLS/HENKEL CORP.	MINNEAPOLIS	R	
09	CA	DEL NORTE PESTICIDE STORAGE	CRESCENT CITY		D
02	NJ	DE REWAL CHEMICAL CO.	KINGWOOD TOWNSHIP		D
04	GA	MONSANTO CORP. (AUGUSTA PLANT)	AUGUSTA		D
01	NH	SOUTH MUNICIPAL WATER SUPPLY WELL	PETERSBOROUGH		D
05	WI	EAU CLAIRE MUNCIPAL WELL FIELD	EAU CLAIRE CITY		D
04	GA	POWERSVILLE	PEACH COUNTY		D
05	MI	METAMORA LANDFILL	METAMORA		D
02	NJ	DIAMOND ALKALI CO.	NEWARK	R	
02	PR	FIBERS PUBLIC SUPPLY WELLS	JOBOS		D
05	WI	MID-STATE DISPOSAL, INC.,LANDFILL	CLEVELAND TOWNSHIP	E	
08	CO	BRODERICK WOOD PRODUCTS	DENVER		D
02	NJ	WOODLAND ROUTE 532 DUMP	WOODLAND TOWNSHIP		D
05	IN	AMERICAN CHEMICAL SERVICE	GRIFFITH		D
05	WI	LEMBERGER TRANSPORT & RECYCLING	FRANKLIN TOWNSHIP	E	
10	WA	QUEEN CITY FARMS	MAPLE VALLEY		D
05	WI	SCRAP PROCESSING CO., INC.	MEDFORD		D
02	NJ	HOPKINS FARM	PLUMSTEAD TOWNSHIP		D
02	NJ	WILSON FARM	PLUMSTEAD TOWNSHIP	R	
06	OK	COMPASS INDUSTRIES	TULSA	R	
09	CA	KOPPERS CO.,INC. (OROVILLE PLANT)	OROVILLE	E	
03	PA	WALSH LANDFILL	HONEYBROOK TWP		D
02	NJ	UPPER DEERFIELD TOWNSHIP SLF	UPPER DEERFIELD TWP	E	

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Group 8

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #			
01	MA	SULLIVAN'S LEDGE	NEW BEDFORD				D
05	IN	BENNETT STONE QUARRY	BLOOMINGTON		R		
04	AL	STAUFFER CHEM. (LE MOYNE PLANT)	AXIS				D
04	SC	GEIGER (C&M OIL)	RANTOULES				D
05	WI	WASTE RESEARCH & RECLAMATION CO.	EAU CLAIRE	V		E	
04	FL	PEPPER STEEL & ALLOYS, INC.	MEDLEY	V	R	E	
05	MN	ST. LOUIS RIVER	ST. LOUIS COUNTY				D
03	PA	BERKS SAND PIT	LONGSWAMP TOWNSHIP				D
04	FL	HIPPS ROAD LANDFILL	DUVAL COUNTY		R		
05	WI	OCONOMOWOC ELECTROPLATING CO.	ASHIPPIN			E	
08	CO	LINCOLN PARK	CANON CITY				D
02	NJ	WOODLAND ROUTE 72 DUMP	WOODLAND TOWNSHIP				D
10	OR	UNITED CHROME PRODUCTS, INC.	CORVALLIS				D
02	NJ	LANDFILL & DEVELOPMENT CO.	MOUNT HOLLY	V		E	
03	PA	TAYLOR BOROUGH DUMP	TAYLOR BOROUGH				D
05	OH	POWELL ROAD LANDFILL	DAYTON				D
05	MI	BURROWS SANITATION	HARTFORD		R		
10	WA	ROSCH PROPERTY	ROY				D

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Group 9

EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #			
05	WI	DELAVAN MUNICIPAL WELL #4	DELAVAN				D
09	CA	SAN GABRIEL AREA 3	ALHAMBRA				D
09	CA	SAN GABRIEL AREA 4	LA PUENTE				D
10	WA	AMERICAN LAKE GARDENS	TACOMA		R		
10	WA	GREENACRES LANDFILL	SPOKANE COUNTY				D
06	OK	SAND SPRINGS PETROCHEMICAL	SAND SPRINGS		R		
07	MO	QUAIL RUN MOBILE MANOR	GRAY SUMMIT		R		

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BILLING CODE 6560-50-C

NPL-06-1-3

IOWA TSP—Continued

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
Putnam Township			×	
Remainder of Linn County				×
The central portion of Marshalltown		×[1]		
Remainder of Marshall County				×
The central and southern portions of Muscatine		×[1]		
Fruitland Township			×	
Sweetland Township			×	
Montpelier Township			×	
Remainder of Muscatine County				×
An area of central Des Moines east of U.S. Highway 65 & 69 (E. 14th Street)	×	×		
Portions of Polk County contained entirely within T 78 N R 23 W, T 78 N R 24 W, T 78 N R 25 W, T 80 R 24 W, T 79 N, R 23 W., T 79 N, R 24 W., and T 79 R 25 W.,		×[1]		
Clay Township			×	
Douglas Township			×	
Jefferson Township			×	
Remainder of Polk County				×.
The western portion of Council Bluffs and Carter Lake		×[1]		
Lake Township			×	
Lewis Township			×	
Remainder of Pottawattamie County				×.
Portions of Buffalo, Davenport, Bettendorf and Riverdale		×[1]		
Remainder of Scott County				×.
Center Township			×	
Remainder of Wapello County				×.
The central portion Ft. Dodge		×[1]		
Otho Township			×	
Remainder of Webster County				×.
The central and southern portions of Sioux City		×[1]		
Liberty Township			×	
Woodbury Township			×	
Remainder of Woodbury County				×.
Remainder of State				×.

[1] EPA designation replaces State designation.

[FR Doc. 84-12208 Filed 5-7-84; 8:45 am]

BILLING CODE 6560-50-M

40 CFR Part 300

[SWH-FRL 2555-5]

Amendment to National Oil and Hazardous Substances Contingency Plan; National Priorities List

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency ("EPA") is amending the National Priorities List ("NPL") which was promulgated on September 8, 1983, as Appendix B of the National Oil and Hazardous Substances Contingency Plan ("NCP"), pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA") and Executive Order 12316. CERCLA requires that the NPL be revised at least annually, and on September 8, 1983, the first update to the NPL ("proposed NPL") was proposed concurrent with the promulgation of the final rule. Today's rule amends the NPL to include San Gabriel Areas 1, 2, 3, and 4. These four sites were included in the September 8, 1983 proposed rule.

DATES: The promulgation date for this amendment to the NCP shall be May 8, 1984. Under section 305 of CERCLA, amendments to the NCP cannot take effect until Congress has had at least 60 "calendar days of continuous session" from the date of promulgation in which to review the amended Plan. Since the actual length of this review period may be affected by Congressional action, it is not possible at this time to specify a date on which this amendment to the NPL will become effective. Therefore, EPA will publish a Federal Register notice at the end of the review period announcing the effective date of this NPL amendment. EPA notes, however, that the legal effect of a Congressional veto pursuant to section 305 has been placed in question by the recent decision, *Immigration and Naturalization Service* v. *Chadha*, 103 S. Ct. 2764 (1983). Nonetheless, the Agency has decided, as a matter of policy, to submit NPL amendments for Congressional review.

FOR FURTHER INFORMATION CONTACT: Stephen M. Caldwell, Hazardous Site Control Division, Office of Emergency and Remedial Response (WH-548-E), Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460, (Phone (800) 424-9346 or 382-3000 in the Washington, D.C., metropolitan area).

SUPPLEMENTARY INFORMATION:

Table of Contents

I. Background of NPL
II. Background of San Gabriel Area Sites
III. Addition of San Gabriel Area Sites to NPL
IV. Regulatory Impact
V. Regulatory Flexibility Act Analysis

I. Background of NPL

Pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601-9657 ("CERCLA" or "the Act"), and Executive Order 12316 (46 FR 42237, August 20, 1981), the Environmental Protection Agency ("EPA" or "the Agency") promulgated the revised National Contingency Plan ("NCP"), 40 CFR Part 300, on July 16, 1982 (47 FR 31180). The revised NCP implemented the new responsibilities and authorities created by CERCLA to respond to releases and threatened releases of hazardous substances, pollutants, and contaminants.

Section 105(8)(A) of CERCLA requires that the NCP include criteria for determining priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action and, to the extent practicable taking into account the potential urgency of such action, for the purpose of taking removal action. Removal action involves cleanup or other actions that are taken in response to emergency conditions or on a short-term or temporary basis (CERCLA Section 101(23)). Remedial actuon tends to be long-term in nature and involves response actions which are consistent with permanent remedy for a release (CERCLA Section 101(24)). Criteria for determining priorities are included in the Hazard Ranking System ("HRS"), which EPA promulgated as Appendix A of the NCP (40 CFR Part 300, Appendix A).

Section 105(8)(B) of CERCLA requires that these criteria be used to prepare a list of national priorities among the known releases or threatened releases throughout the United States, and that to the extent practicable at least 400 sites be designated individually. EPA has included releases on the NPL where CERCLA authorizes Federal response to the release. Under section 104(a) of CERCLA, this response authority is quite broad and extends to releases or threatened releases not only of designated hazardous substances, but of any "pollutant or contaminant" which presents an imminent and substantial danger to the public health or welfare. CERCLA requires that this National Priorities List ("NPL") be included as part of the NCP. On September 8, 1983,

the Agency amended the NCP by adding the NPL as Appendix B. Additional discussion on the purpose and development of the NPL and on generic issues relating to the Hazard Ranking System (HRS) is included in the preamble to the NPL promulgated on September 8, 1983. (48 FR 40658).

Section 300.68(a) of the NCP reserves remedial actions for those releases on the NPL taken to prevent or mitigate the migration of hazardous substances into the environment. The NPL promulgated on September 8, 1983, contains 406 sites eligible for EPA remedial actions financed by the Hazardous Substance Response Trust Fund established by Section 221 of CERCLA. Inclusion of a site on the NPL is not necessary for other types of response actions such as removal actions or for enforcement actions.

CERCLA requires the NPL to be revised at least once per year. The first proposed update was published at the same time as the final rulemaking on the NPL and included 133 sites. The four San Gabriel sites that are now being added to the NPL were among the 133 sites proposed at that time.

II. Background of San Gabriel Area Sites

The four San Gabriel Area sites were included in the proposed rulemaking for the first update of the NPL (48 FR 40674, September 8, 1983). The four sites are located in Los Angeles County, California. Over 400 domestic and municipal water supply wells are located in the four areas. EPA has determined that a release of hazardous substances into the environment has occurred. Chlorinated organic hydrocarbon contamination has been detected in the ground water at all four sites. EPA and the State have identified levels of contamination that pose an actual or potential threat to public health and the environment. The Agency is evaluating the situation to determine the appropriate response action (e.g. removal or remedial response) and expects that remedial response will be appropriate given the nature, extent and concentrations of contamination at the sites.

EPA has conducted remedial planning activities consistent with § 300.68 of the NCP to determine if a remedial action is justified by the actual or potential threat posed by the hazardous substances. Based on these planning activities, EPA believes that an initial remedial measure may be appropriate and that EPA should consider proceeding immediately to limit exposure or threat of exposure to a significant public health or environmental hazard. The initial remedial measure which is under consideration would provide alternative drinking water supplies to mitigate the public health threat. In addition, EPA and the State expect to undertake additional remedial planning activities to determine if further remedial actions are needed to mitigate any continued public health or environmental effects.

III. Addition of San Gabriel Area Sites to NPL

This action being taking today will add San Gabriel Area sites 1, 2, 3, and 4 to the NPL. No public comments were received by EPA, either during or after the 60-day comment period following addition of the sites on the proposed NPL. EPA has reviewed the Hazard Ranking System (HRS) score for each site and has determined that no information has been presented during or after the comment period that would justify a change in the HRS scores. The final scores exceed 28.5, which is the minimum score required for a site to be included on the NPL.

The decision to add the San Gabriel sites to the NPL immediately rather than waiting until rulemaking on the other 129 sites included in the September 8, 1983, proposed rule, is based on the serious nature of the problem. Approximately 500,000 people are potentially affected by consumption of contaminated ground water. It may be necessary to take remedial action at the sites in the near future.

IV. Regulatory Impact

The addition of these four sites to the final rulemaking on the NPL does not meet the Executive Order 12291 definition of the term "major rule."

The purpose of the NPL is primarily to serve as an informational tool for use by EPA in identifying sites that appear to present a significant risk to public health or the environment. The initial identification of a site in the NPL is intended primarily to guide EPA in determining which sites warrant further investigation designed to assess the nature and extent of the public health and environmental risks associated with the site and to determine what response action, if any, may be appropriate. Inclusion of a site on the NPL does not establish that EPA necessarily will undertake response actions. Moreover, listing does not require any action of any private party, nor does it determine the liability of any party for the cost of cleanup at the site.

In addition, although the HRS scor- used to placed sites on the NPL ma helpful to the Agency in determinin priorities for cleanup and other response activities among sites on the NPL. EPA does not rely on the scores as the sole means of determining such priorities, as discussed below. Neither can the HRS itself determine the appropriate remedy for a site. The information collected to develop HRS scores to choose sites for the NPL is not sufficient in itself to determine the appropriate remedy for a particular site. After a site has been included on the NPL, EPA generally will rely on further, more detailed studies conducted at the site to determine what response, if any, is appropriate. Decisions on the type and extent of action to be taken at these sites are made in accordance with the criteria contained in Subpart F of the NCP. After conducting those additional studies, EPA may conclude that it is not feasible to conduct response action at some sites on the NPL because of more pressing needs at other sites. Given the limited resources available in the Hazardous Substance Response Fund, the Agency must carefully balance the relative needs for response at the numerous sites it has studied.

No accurate assessment of the c remedial action at these four sites yet been developed by EPA. Howe preliminary analyses indicate that EPA might expend approximately $600,000 at the sites. It is not expected that, even at its highest cost, remedial action could cause an annual effect on the economy of $100 million or more. Further, it is not expected that remedial action could cause a major increase in costs or prices, nor could it have significant adverse effects on competition, employment investment or any other criteria of Executive Order 12291. Rather, beneficial effects may be anticipated from any actions taken to supply alternative sources of clean drinking water.

V. Regulatory Flexibility Act Analysis

After reviewing the criteria for significant economic impact on a substantial number of small entities as defined by the Regulatory Flexibility Act. EPA has concluded that promulgation of this rule will not have a significant effect on a substantial number of small entities.

In defining the purpose of the NPL (48 FR 40659, September 8, 1983), EPA has determined that listing does not r any action of any private party fi

cost of cleanup at the site. Currently, EPA and the State of California expect to fund remedial activities at the four sites. A search for potentially responsible parties is underway, but thus far, none have been identified. Should any potentially responsible parties be identified, EPA may seek to recover any costs of remedial activities conducted at these four sites. However, the portion of costs that might be borne by any identifiable potentially responsible parties cannot be estimated at this time.

Of the businesses and organizations possibly involved with the San Gabriel Area sites, the fraction constituting small business entities, as defined by the Small Business Administration would not be substantial. It is therefore unlikely that any EPA remedial activities at these four sites would significantly affect small business entities.

List of Subjects in 40 CFR Part 300

Air pollution control, Chemicals, Hazardous materials, Intergovernmental relations, Natural resources, Oil pollution, Reporting and recordkeeping requirements, Superfund, Waste Treatment and disposal, Water pollution control, Water supply.

PART 300—[AMENDED]

Appendix B—[Amended]

The National Priorities List which is Appendix B of the National Oil and Hazardous Substance Contingency Plan (40 FR 40658) is hereby amended to add the following sites:

EPA region	State	Site name	City/county	Response status No.
		Group 8		
09	CA	San Gabriel Area 1.	El Monte	D.
09	CA	San Gabriel Area 2.	Baldwin Park Area.	D.
		Group 9		
09	CA	San Gabriel Area 3.	Alhambra	D.
09	CA	San Gabriel Area 4.	La Puente	D.

V = Voluntary or Negotiated Response.
R = Federal and State Response.
E = Federal and State Enforcement.
D = Actions to be Determined.

Dated: May 1, 1984.

William D. Ruckelshaus,

Administrator.

[FR Doc. 84-12211 Filed 5-7-84; 8:45 am]

BILLING CODE 6560-50-M

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 73 and 76

[Docket No. 20521; Docket No. 20548; BC Docket No. 78-239; MM Docket No. 83-46; RM-3653; RM-3695; RM-4045; FCC 84-115]

Multiple Ownership of AM, FM, TV, and Cable TV Stations

AGENCY: Federal Communications Commissions.

ACTION: Final rule.

SUMMARY: This action amends §§ 73.35, 73.240, 73.636, 73.3615, and 78.501 of the Commission's Rules and FCC Forms 301, 314, 315, 316, 323 and 325. This action is taken to revise and modernize the rules the Commission uses to attribute ownership interests in broadcast, cable television and newspaper entities for purposes of applying its multiple ownership rules, as well as the rules governing the reporting of such ownership information. This action will more accurately identify those persons and entities with whom the multiple ownership rules are concerned, greatly reduce the amount of ownership information the Commission will require of licensees, and greatly reduce any restrictive effects of those rules on investors.

EFFECTIVE DATE: June 6, 1984.

ADDRESS: Federal Communications Commission, Washington, D.C. 20554.

FOR FURTHER INFORMATION CONTACT: Bruce A. Romano, Mass Media Bureau, (202) 632-9358.

List of Subjects

47 CFR Part 73

Radio and television broadcasting.

47 CFR Part 76

Cable television.

Report and Order (Proceedings Terminated)

In the matter of corporate ownership reporting and disclosure by broadcast licensees (Docket No. 20521), Amendment of §§ 73.35, 73.240 and 73.636 of the Commission's rules relating to multiple ownership of standard, FM and television broadcast stations (Docket No. 20548), Amendment of §§ 73.35, 73.240, 73.636 and 76.501 of the Commission's rules relating to multiple ownership of AM, FM, and television stations and CATV systems (BC Docket No. 78-239), reexamination of the Commission's rules and policies regarding the attribution of ownership interests in broadcast, cable television and newspaper entities (MM Docket No. 83-46, RM-3653, RM-3695, RM-4045).

Adopted: March 29, 1984.
Released: April 30, 1984.

By the Commission: Commissioner Rivera abstaining and issuing a statement.

I. Introduction

1. The Commission has before it comments filed by numerous parties in response to its *Notice of Proposed Rule Making* in MM Docket No. 83-46 ("*Notice 83-46*"), FCC 83-46, released February 15, 1983, 48 Fed. Reg. 10082 (March 10, 1983), and comments and pleadings filed in related docketed proceedings and rule making petitions as captioned above.[1] This *Report and Order* concludes those proceedings, comprehensively reviewing and revising the standards for attributing interests in broadcast, cable television and newspaper properties insofar as application of the Commission's various multiple ownership rules is concerned and for reporting those interests to the Commission.[2] Briefly stated, the specific changes adopted herein include:

(1) Raising the basic ownership benchmark for attribution to 5% regardless of the size of the licensee (eliminating the distinction between "closely-held" and "widely-held" licensees);

(2) Raising the attribution benchmark for "passive" investors to 10%;

(3) Introduction of a "multiplier" in determining attribution in vertical ownership chains;

(4) Clarification of the status of non-voting stock and limited partnership interests as non-attributable interests;

(5) Clarification of the attribution of interests held in various kinds of trusts and other fiduciary capacities;

(6) Provisions for the relief from attribution of officers and directors whose duties are not related to any licensee or its operations; and,

[1] A list of the parties filing comments in each of these proceedings is contained in Appendix B. A general summary of those comments, all of which have been fully considered herein, is contained in Appendix A.

[2] It is important to reiterate at the outset that this *Report and Order* is not intended to affect in any respect the Commission's current multiple ownership rules themselves and does not prejudge any action regarding those rules which the Commission may consider: it simply determines how and to whom these rules should be applied. *Notice 83-46, supra* at n. 4. Review of the Commission's "seven station" rule, which limits the number of stations a single entity may own nationwide, is the subject of another current rule making proceeding, *Notice of Proposed Rule Making* in Gen. Docket No. 83-1008, FCC 83-440, released October 20, 1983, 48 FR 49436 (October 25, 1983), corrected 48 FR 50907 (November 4, 1983). Review of the Commission's regional concentration of control restriction, which limits the proximity of any three stations owned by a single entity, is also the subject of another rule making proceeding, *Notice of Proposed Rule Making* in MM Docket No. 84-19, FCC 84-10, released January 17, 1984, 49 FR 2478 (January 20, 1984).

Federal Register

Wednesday
July 18, 198

Part II

Environmental Protection Agency

40 CFR Part 300

National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

[SWH-FRL-2596-7]

National Oil and Hazardous Substances Pollution Contingency Plan

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Pursuant to Section 311(c)(2)(G) of the Clean Water Act and Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, the Environmental Protection Agency is promulgating revisions to Subpart H of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. Today's final rule amends Subpart H by specifying testing and data requirements for inclusion of a dispersant, surface collecting agent, or biological additive on the NCP Product Schedule. The final rule also provides that products on this schedule may be authorized for use on discharges of oil.

EFFECTIVE DATE: August 17, 1984.

FOR FURTHER INFORMATION CONTACT: L.M. Flaherty, Emergency Response Division (WH-548/B), Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460. Phone (202) 382-2196.

SUPPLEMENTARY INFORMATION: The contents of today's preamble are listed in the following outline:

I. Introduction
  A. Background of This Rulemaking
  B. Organization of the Final Rule
II. Summary of Changes From the Proposed Rule
III. Major Issues
  A. NCP Product Schedule
  B. EPA and State Concurrence
  C. Burning and Sinking Agents
  D. Toxicity and Effectiveness Tests
IV. Miscellaneous Comments
V. Summary of Supporting Analyses
  A. Classification Under Executive Order 12291
  B. Paperwork Reduction Act
  C. Certification Why a Regulatory Flexibility Analysis Is Not Necessary

I. Introduction

A. Background of This Rulemaking

Section 311(c)(2) of the Federal Water Pollution Control Act ("Clean Water Act" or "CWA"), 33 U.S.C. 1251 *et seq.*, requires the publication of a National Contingency Plan ("NCP") that includes:

> (G) a schedule, prepared in cooperation with the States, identifying (i) dispersants and other chemicals, if any, that may be used in carrying out the Plan, (ii) the waters in which such dispersants and chemicals may be used, and (iii) the quantities of such dispersant or chemical which can be used safely in such waters, which schedule shall provide in the case of any dispersant, chemical, or waters not specifically identified in such schedule that the President, or his delegate, may, on a case-by-case basis, identify the dispersants and other chemicals which may be used, the waters in which they may be used, and the quantities which can be used safely in such waters * * *

The NCP published pursuant to Section 311(c)(2) of the CWA included an Annex X that complied with the above provision (see, e.g., 38 FR 21887, 21908, August 13, 1973). Annex X specified that, except in emergency situations, chemical agents could not be used to abate discharges of oil or hazardous substances unless the U.S. Environmental Protection Agency ("EPA") had been provided with the technical product data specified in the Annex and the agents were listed on EPA's Product Schedule. Annex X also specified procedures by which On-Scene Coordinators ("OSCs") could authorize the use of such products as well as the use of burning agents and mechanical control methods. The use of sinking agents was prohibited. On the basis of data submitted pursuant to Annex X, EPA prepared a schedule of 30 dispersants, surface collecting agents, and biological additives.

Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"), 42 USC 9601 *et seq.*, required revision of the NCP to implement new authorities provided by CERCLA. Under Executive Order 12316, the President delegated responsibility for revising the NCP to EPA. In the July 16, 1982 revision of the NCP (47 FR 31180, codified at 40 CFR Part 300), EPA eliminated Annex X. In place of Annex X, EPA established a new Subpart H to implement the provisions of CWA Section 311(C)(2)(G).

As promulgated on July 16, 1982, Subpart H permitted OSCs to authorize the use of dispersants and other chemicals on oil discharges if the dispersants or other chemicals were on EPA's Product Schedule. The use of any product not on the Product Schedule required the authorization of the Administrator or the Administrator's designee. These dispersants and other chemicals were authorized only for use in responding to oil spills. The rule did not address the use of dispersants and other chemicals for response to hazardous substance spills.

As initially promulgated, Subpart H did not contain a requirement regarding data submissions for adding chemicals or biological agents to the Schedule. In the preamble to the revised NCP (47 FR 31201), EPA explained that it had deleted the data submission requirements pending a detailed review of the requirements and revision of the product testing procedures. The Agency noted that once this review was completed, it would propose a rule revising testing procedures and establishing a process for adding dispersants and other chemical agents to the NCP Product Schedule.

On December 21, 1983, EPA published a Notice of Proposed Rulemaking (NPRM) in the Federal Register (48 FR 56484) to amend Subpart H. The proposed rule specified the test data needed to add dispersants, surface collecting agents, and biological additives to the NCP Product Schedule. The proposed rule also prohibited the use of sinking agents, required state concurrence in authorizing the use of a product listed on the Schedule, and allowed OSCs to authorize unilaterally the use of any product when human life was endangered.

EPA received fifteen comment letters in response to the December 21, 1983 NPRM. Many of these letters contained numerous individual comments on the proposals made in the NPRM. In preparing today's final rule, EPA has carefully considered all of the comments received and has modified the proposed rule in several respects.

B. Organization of the Final Rule

Today's final rule amends 40 CFR Part 300 by revising Subpart H and adding Appendix C. Section 300.81 describes the purpose and applicability of Subpart H. Section 300.82 defines several key terms used in the regulation. Section 300.83 provides that EPA shall maintain a schedule of dispersants and other chemical or biological products that may be authorized for use on oil discharges, called the "NCP Product Schedule."

Section 300.84 sets forth the procedures by which an OSC may authorize the use of products listed on the NCP Product Schedule. The section specifically notes the circumstances under which concurrence of the affected states and the EPA representative to the Regional Response Team ("RRT") is necessary. Section 300.85 details the data that must be submitted to have a dispersant, surface collecting agent, or biological additive placed on the Schedule. Section 300.86 describes the procedures for placing a product Schedule. Section 300.88 also sets

requirements designed to avoid possible misrepresentation or misinterpretation of the placement of a product on the Schedule, including the wording of a disclaimer to be used in product advertisements or technical literature referring to placement on the Schedule.

Lastly, Appendix C details the methods and types of apparatus to be used in carrying out the revised standard dispersant effectiveness and toxicity tests. The Appendix also sets forth the format required for summary presentaton of product test data.

II. Summary of Changes From the Proposed Rule

The final rule promulgated today generally conforms to the rule as proposed on December 21, 1983. However, several changes to the proposed rule have been made on the basis of EPA's analysis of the comments received.

EPA has changed § 300.85(c) (8) and (9), which concern the data submission requirements for biological additives. Under the final rule, a person seeking to have a biological additive included on the NCP Product Schedule must submit data concerning the optimum pH, temperature, and salinity ranges of the additive as well as the maximum and minimum pH, temperature, and salinity levels above and below which the effectiveness of a biological additive is reduced to half its optimum level.

EPA has revised § 300.86(e) to require the use, in all technical literature or advertisements referring to the placement of a product on the NCP Product Schedule, of either a written disclaimer or EPA's written statement concerning the effect of listing a product on the Schedule. The text of the disclaimer is provided in § 300.86(e).

Finally, EPA has revised portions of Appendix C to describe certain steps of the effectiveness and toxicity testing procedures more clearly.

The reasons for these changes are discussed below. Any additional changes in the rule from the proposed rule are minor and editorial in nature.

III. Major Issues

A. NCP Product Schedule

Under today's rule, Subpart H is similar to Annex X in that it does not identify the waters or quantities in which listed dispersants and chemicals may safely be used. The wide variability in waters, weather conditions, organisms living in the waters, and types of oil that might be discharged requires a flexible approach. Thus, the waters and quantities in which a dispersant or chemical agent may safely be used are to be determined in each case by the OSC on the basis of all relevant circumstances. The data requirements for placement of a product on the NCP Product Schedule are designed to provide sufficient data for OSCs to judge whether and in what quantities a dispersant may safely be used to control a particular discharge. The standardized testing procedures set out in the rule are intended to ensure that OSCs have comparable data regarding the effectiveness and toxicity of different products.

Today's rule requires those seeking placement of a product on the NCP Product Schedule to submit technical data on the product to EPA. Data on both dispersants and surface collecting agents must include the results of the standard dispersant toxicity test set forth in Appendix C of today's rule. Data on dispersants also must include the results of the standard dispersant effectiveness test set forth in Appendix C. Products already on the product list that was prepared pursuant to Annex X of the previous NCP will be included on the new NCP Product Schedule. No additional data will be required at this time for these products. Existing data on these products are sufficient to permit OSCs to make informed decisions about product use. Commenters supported this preservation of the existing product list.

EPA will review submissions of technical product data to ensure that the data requirements set out in 40 CFR 300.85 are satisfied. When these requirements are satisfied, the product will be added to the NCP Product Schedule. Within 60 days of the receipt of the data, EPA will inform the submitter in writing whether the product will be listed on the Schedule.

Inclusion on the Schedule means only that the data submission requirements of 40 CFR 300.85 have been satisfied. The OSCs, often in conjunction with affected states and the EPA RRT representative, will use submitted data to decide whether application of a product on an oil discharge should be authorized in a particular case. In addition, the data may be used in planning performed by the RRT to prepare for response to oil discharges. Listing of a product on the NCP Product Schedule does *not* mean that the product is recommended or authorized for use on an oil discharge.

In addition, placement of a product on the NCP Product Schedule does not imply that EPA has confirmed the safety or effectiveness of the product or in any other way endorsed the product. To prevent possible misrepresentation or misinterpretation, all product labeling, literature, or advertisements that refer to placement on the Schedule must either reproduce the entire EPA letter announcing placement on the Schedule or include the disclaimer set forth in § 300.86(e). Failure to comply with this restriction may lead to removal of a product from the Schedule.

The December 21, 1983 NPRM did not allow for the use of an alternative disclaimer; it required that the EPA disclaimer letter be reproduced in its entirety in all product advertisements or technical literature that refer to the Schedule. A commenter suggested that printing a brief disclaimer would be sufficient to avoid misrepresentation or misinterpretation and would cost less than printing the entire EPA letter. EPA agrees that a proper alternative disclaimer would be adequate and has revised § 300.86(e) to provide for such a disclaimer. The disclaimer must be conspicuous and must read as follows:

Disclaimer

[PRODUCT NAME] is on the U.S. Environmental Protection Agency's NCP Product Schedule. This listing does NOT mean that EPA approves, recommends, licenses, certifies, or authorizes the use of [product name] on an oil discharge. This listing means only that data have been submitted to EPA as required by Subpart H of the National Contingency Plan, 40 CFR 300.85.

One commenter expressed concern over whether an OSC would be able to evaluate required test data in an adequate and timely fashion, suggesting that OSCs be provided with information complied in a more readily usable form. The NCP Product Schedule itself is not intended to include any information on the usage of dispersant chemicals. Although the Agency agrees in general with the concept of providing OSCs with the necessary data in summary table form, development of such a tabular matrix is not feasible at this time because of the numerous factors that an OSC must consider in determining whether to use a product on an oil discharge. For each product currently on the NCP Product Schedule, EPA has prepared a product data bulletin in the format outlined in Section 4.0 of Appendix C. This bulletin presents summary information pertaining to the conditions under which dispersants may be used in accordance with § 300.84.

The same commenter also suggested that dispersants should be clearly identified for use in salt waters or in fresh waters. As mentioned above, EPA has prepared a product data bulletin in the format outlined in Section 4.0 of Appendix C. This bulletin includes any information submitted with regard to the use of products in fresh or salt water.

The final rule published today requires those seeking placement of a product on the Schedule to submit product test data on water salinity. (See Appendix C, Section 4.2.) In addition, EPA notes that the data submitted by some manufacturers of dispersants indicate that several of the products currently listed on the Schedule perform satisfactorily in both salt and fresh waters.

One commenter suggested that § 300.85 (c)(8)(iii) and (c)(9)(vi), which originally required data only on the "[o]ptimum pH and temperature range for the use of microbial cultures and enzyme additives, should be revised to read "[o]ptimum pH, temperature, and salinity ranges for use of the additive, and maximum and minimum pH, temperature, and salinity levels above or below which the effectiveness of the additive is reduced to half its optimum capacity."

EPA agrees that this information will assist the OSC in determining whether to use a biological additive listed on the Schedule and therefore has revised § 300.85 (c)(8)(iii) and (c)(9)(vi) accordingly.

B. EPA and State Concurrence

Section 300.84 of today's rule provides that an OSC, with the concurrence of the EPA representative to the RRT and the concurrence of the state(s) with jurisdiction over the navigable waters (as defined in the CWA) polluted by the oil discharge, may authorize the use of dispersants, surface collecting agents, and biological additives listed on the NCP Product Schedule. The rule supplements the preexisting authorization procedure in two areas. First, if the OSC determines that the use of a dispersant, surface collecting agent, or biological additive is necessary to prevent or substantially reduce a hazard to human life, and there is insufficient time to obtain the needed concurrences, the OSC may unilaterally authorize the use of any product (including products not on the NCP Product Schedule). In such instances, the OSC must inform the EPA RRT representative and the affected states of the use of a product as soon as possible and must obtain their concurrence for the continued use of the product once the threat to human life has subsided. This provision eliminates delays in potentially life-threatening situations, such as spills of highly flammable petroleum products in harbors or near inhabited areas.

Second, the rule now explicitly encourages advance planning. The OSC is authorized to act without the concurrence of the EPA representative to the RRT and the affected states if these parties have previously approved a plan identifying the products that may be used under the particular circumstances faced by the OSC.

Neither Annex X of the previous NCP nor the superseded provisions of Subpart H required the OSC to obtain the concurrence of affected states to authorize product use; instead, they required only "consultation". States, however, have generally understood the term "consultation" to mean that their approval is required before a chemical agent is used on an oil discharge, and most OSCs have sought such approval. The requirement in today's rule for state concurrence was developed to bring the authorization provisions in Subpart H into conformity with OSC practices and state expectations.

EPA received several comments concerning the requirements for authorizing the use of chemical or biological agents. Commenters generally supported the authorization requirements and commended the clarification of the authorization procedure.

Several commenters requested that EPA more clearly identify the waters where state concurrence is required before the OSC may authorize the use of a dispersant, surface collecting agent, or biological additive in response to an oil discharge.

EPA has revised Subpart H to require, in most instances, that states concur with an OSC's decision to use dispersants or other products in the navigable waters subject to a state's jurisdiction. ("Navigable waters" is used in the same sense as it is defined in the CWA.) EPA believes that precise demarcation of state jurisdictional limits consistent with this language should be made during RRT advance planning pursuant to § 300.84(e), and the Agency encourages the inclusion of such assessments in these planning activities.

Comments concerning the need for concurrence varied. One commenter suggested that appropriate federal agencies be consulted (in addition to the relevant states and the EPA representative on the RRT) prior to the use of a chemical or biological agent on an oil discharge. Another commenter suggested that the use of surface collecting agents be allowed without the concurrence of the relevant states and the EPA RRT representatives. A third commenter recommended that the use of chemical or biological agents be allowed without concurrence where use of such products is necessary to prevent or reduce hazards to environmentally sensitive areas.

EPA does not believe that there is any reason to exempt surface collecting agents from the general requirement for state and RRT concurrence. EPA intends that RRT advance planning under § 300.84(e) be used to address the use of such agents and other chemicals in environmentally sensitive areas on a Regional basis. Specifically, the federal agencies on the RRT have the opportunity during the planning activities to identify environmentally sensitive areas within the Region where the use of particular chemical or biological agents should be restricted or encouraged. In addition, Section 300.84(e) provides that the RRT may anticipate and authorize under specific circumstances the use of specific chemical or biological agents on the NCP Schedule, e.g., the use of surface collecting agents on spills in confined inland waters.

Two commenters suggested that EPA strongly encourage or require the RRTs to develop detailed "Plans of Action" under § 300.84(e). It is EPA policy for RRTs to prepare these plans where appropriate. Many of the RRTs have completed or are near completion of such plans for responding to oil discharges. However, EPA is not requiring that such plans be developed, because it would be difficult and possibly infeasible to define the precise nature of such plans and in what situation they would be appropriate.

Although the Agency does not promote the uses of products on the Product Schedule, neither does the Agency discourage their use under appropriate circumstances. The Agency strongly encourages the RRTs specifically to address the following in the regional contingency plans prepared under § 300.42 of the NCP: the use or restricted use of the dispersants, surface collecting agents, and biological additives on the NCP Product Schedule; the timing of the use of particular chemical or biological agents on the Schedule (e.g., seasonal restrictions); whether these products should be used alone or in conjunction with mechanical means for cleaning up oil discharges; the identification of personnel with knowledge of the proper application of products on the Schedule; and the determination of whether, and from whom, products on the Schedule are readily available.

One commenter suggested that § 300.84(c) be amended by deleting the parenthetical phrase "including products not on the NCP Product Schedule". This change would restrict OSCs to the use of chemical and biological agents on the NCP Product Schedule in all cases, including those involving life-threatening situations.

EPA does not agree with this recommendation. A life-threatening oil discharge (e.g., spills of highly flammable petroleum products in harbors or near inhabited areas) may occur at a location where chemical agents on the schedule are not immediately available. In such a case, the OSC must have the ability to use any product that, in his professional judgment, would effectively and expeditiously mitigate the threat to human life. The Agency believes that the protection of human life is a primary consideration in responding to an oil discharge. Therefore, § 300.84(c) of today's final regulation remains unchanged from the proposed rule.

C. Burning and Sinking Agents

Section 300.84 of today's final rule provides for authorization of the use of burning agents, as did Annex X of the previous NCP. Although burning agents will not be listed on the Schedule, OSCs may authorize their use on a case-by-case basis with the concurrence of the EPA RRT representative and the appropriate states. The OSC may authorize the use of burning agents without obtaining concurrence when their use is necessary to prevent or substantially reduce a hazard to human life.

One commenter suggested that EPA should require test data on burning agents similar to the data required for other chemical and biological agents. EPA disagrees, for several reasons. First, burning agents are relatively common inorganic chemicals that generally exhibit low toxicity. Data on toxicity and other relevant parameters are included in standard references that are already available to OSCs. To require test data on burning agents would be unnecessarily duplicative and burdensome for both industry and EPA. Second, state air pollution control programs generally regulate the use of burning agents. Finally, burning agents are used only rarely. Therefore, today's final rule includes § 300.84(b) as proposed, without change.

Sinking agents, however, may not be used. When applied to oil discharges, these agents sink floating oil to the bottom of the ocean or other body of water and increase the potential for adverse effects on benthic organisms that are vital to the food chain of the aquatic environment. Annex X of the previous NCP contained this same prohibition.

D. Toxicity and Effectiveness Tests

In the December 21, 1983 NPRM, EPA proposed revisions intended to simplify and reduce the cost of the effectiveness and toxicity testing procedures previously required under Annex X. The Agency is now making these proposed revisions final. The effectiveness test will require fewer replications, and the toxicity test will require fewer test species, while still assuring that the OSC will have adequate data available. These modifications reduce the cost of performing these tests by approximately 40 percent.

EPA has also proposed revisions to portions of Section 2.0 of Appendix C to clarify the dispersant effectiveness testing procedures and the methods and types of apparatus to be employed. In addition, the blank correction determination and calculation steps were clarified to facilitate performance of the effectiveness testing procedure. EPA will continue to study potential improvements in the test, and the Agency encourages manufacturers and suppliers to provide supplementary data on product performance under conditions not generated by the testing protocol.

Several commenters supported the revised testing and data requirements as a "definite improvement" over those required under Annex X; commenters also supported EPA's continuing commitment to study potential improvements in the testing protocol. Some commenters, however, expressed concern that the toxicity testing protocol was developed over ten years ago, and they encouraged updating these procedures. Two of these commenters distrusted the ability of the testing protocol to provide sufficient information regarding the effect of a product upon a wide range of environments and organisms.

The toxicity test set forth in Section 3.0 of Appendix C currently requires the use of *Fundulus* and *Artemia* as test species. EPA acknowledges that these species may not be present in all environments in which dispersants or surface collecting agents may be used in response to an oil discharge, but the Agency believes that the toxicity data provided by the test are useful to the OSC in judging whether to use a product on the NCP Product Schedule and are generally sufficient for that purpose. Requiring the performance of toxicity tests on all representative species that may be affected by use of a product on the Schedule would impose a severe burden on the manufacturer and would provide only marginally better data. EPA does not believe that it is appropriate or necessary to impose such a requirement at this time. Nonetheless, EPA will continue to evaluate improved testing procedures and, where appropriate, will attempt to revise the current toxicity testing requirements to reflect state-of-the-art developments. Moreover, the Agency strongly encourages manufacturers and suppliers to provide supplementary data on product toxicity under conditions and on species not involved in the testing protocol.[1]

EPA also strongly encourages each OSC to seek the assistance of the Scientific Support Coordinator (SSC) when responding to an oil discharge. In general, the SSC is the National Oceanic and Atmospheric Administration (NOAA) in the coastal areas and the Department of the Interior (DOI) in inland areas. The SSC may be able to provide additional environmental information that will help the OSC determine whether or not to use a particular chemical or biological agent on an oil discharge.

The commenters who were concerned about the toxicity testing protocol also suggested that the protocol include testing for sublethal or chronic effects. However, once applied, dispersants and other chemical agents rapidly dissipate into the water column, quickly reaching levels that cannot be detected. In most cases, therefore, no prolonged exposure to significant concentrations of dispersants or other agents will occur.

IV. Other Comments

One commenter suggested that appropriate federal agencies should have the opportunity to evaluate non-confidential information on the toxicity and composition of chemical and biological agents in advance of their use. As the commenter noted, the transfer of information is complicated by the fact that some of the information submitted by manufacturers may be protected through a claim of confidentiality under 40 CFR Part 2, Subpart B.

EPA agrees that providing appropriate federal and state agencies with information on products on the NCP Product Schedule may significantly enhance both advance planning activities and scientific support to the OSC. It is EPA policy for each OSC to make available to appropriate federal and state agencies relevant non-confidential information for each chemical and biological agent that may be used in response actions.

[1] The analytical methods provided in "Test Methods for Evaluating Solid Waste" (SW-846) should be used, where appropriate, for performing any analyses not specified in the rule. Copies of this document, numbered 055-002-81001-2, are available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

Product information claimed as confidential under § 300.86(c) of the final rule will be treated in accordance with the provisions of 40 CFR Part 2, Subpart B. The Agency will delete all specific product formulations that are confidential from documents potentially available to the public, and OSCs will receive such information separately from the technical product data bulletins. To assist the Agency, each submitter should present all information that is claimed confidential *separately* from non-confidential information and should clearly mark the former "Confidential Business Information" in accordance with 40 CFR 2.203. In addition, all parties who submitted data under Annex X will be encouraged to review their prior claims of confidentiality and determine whether such claims should remain in effect. If a manufacturer requests that specific information remain confidential, the Agency will continue to hold that information in accordance with the provisions of 40 CFR Part 2, Subpart B, and will distribute it to the OSCs separately from the technical product data bulletins.

EPA would like to emphasize that claims of confidentiality may restrict the dissemination of useful product information to states and other parties with a role in the authorization and use of products listed on the Schedule. To avoid such problems, submitters may wish to enter into agreements with particular states or agencies concerning the handling of confidential information.

One commenter recommended providing to the OSCs the name, address, and telephone number of the person who performed the product effectiveness and toxicity tests, as well as the name of the testing laboratory and the qualifications of its staff. Information of this nature is provided to EPA by product manufacturers with their original data submission, and it is kept on file. However, such information has limited value, because names, addresses, phone numbers, and company staffing frequently change. Therefore, EPA does not intend to include this type of information on the technical product data bulletins, which are already lengthy.

One commenter recommended that OSCs be required to prepare a technical report on each use of chemical or biological agents in response to an oil discharge. The commenter noted that such reports would then be available for use in making future decisions concerning such agents. EPA agrees that information on the actual applications of chemical and biological agents to oil discharges is useful. The Agency believes, however, that § 300.56 of the NCP, which requires OSCs to prepare pollution reports, provides an adequate mechanism for communicating this information. EPA strongly encourages the inclusion of such information in these pollution reports. In addition, the Agency is currently developing a check list that OSCs may use in evaluating the application of particular products to oil discharges. Such field reports will provide valuable assistance to OSCs in responding to similar discharges.

One commenter stated that, because the OSC is responsible for the selection of a chemical agent for use in a given situation, the government must assume liability for any additional damages resulting from the OSC's erroneous use of a particular chemical agent. Because OSC or government liability for damages resulting from OSC decisions is an issue beyond the scope of this rulemaking, it is not addressed here.

V. Summary of Supporting Analyses

A. Classification Under Executive Order 12291

Executive Order 12291 requires that proposed regulations be classified as "major" or "non-major" for purposes of review by the Office of Management and Budget. According to E.O. 12291, major rules are those likely to result in:

(1) An annual effect on the economy of $100 million or more;

(2) A major increase in costs or prices for consumers, individual industries, federal, state, or local government agencies, or geographic regions; or

(3) Significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

For several reasons, today's final rule is not likely to have any of these effects. First, the rule does not mandate or prohibit any private party conduct. Rather, the rule provides a procedure by which private parties may place dispersants and other agents on the NCP Product Schedule and make them available for authorized use on oil discharges. The choice of a manufacturer or supplier to submit the information required to place a product on the Schedule is entirely voluntary, and the application of the data requirements is conditioned on that choice. In addition, because today's rule provides a listing procedure for new products that has been unavailable since the substitution of Subpart H for Annex X, the rule may be expected to have a positive economic impact. The rule also simplifies and reduces the cost of the testing procedures previously provided under Annex X, thus benefiting those persons seeking to place new products on the Schedule. Because today's final rule is not a major regulation, no Regulatory Impact Analysis has been prepared.

This final rule was submitted to the Office of Management and Budget ("OMB") for review as required by Executive Order 12291. Any comments from OMB to EPA and EPA's responses to those comments are available for public inspection in Room S-321, U.S. Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460.

B. Paperwork Reduction Act

As noted above, today's final rule does not impose any regulatory burden on parties outside of EPA, including any reporting or information collection requirements. The rule also simplifies the standardized testing procedures. The Agency notes that, in practice, the voluntary submittal for which the rule provides will not impose a significant paperwork burden on manufacturers or suppliers of dispersants and other agents, because contract laboratories frequently handle the preparation of the test data. Moreover, given the importance of comprehensive information to the selection of a product for use on an oil discharge, any information submitted in addition to the minimum required to place a product on the Schedule may be expected to enhance the competitive position of the product.

The conditional information collection requirements in this final rule have been submitted for approval to OMB in accordance with the Paperwork Reduction Act of 1980, 44 U.S.C. 53601 *et seq.* This final rule package responds to OMB and public comments on those requirements.

C. Certification Why a Regulatory Flexibility Analysis Is Not Necessary

The Regulatory Flexibility Act of 1980 requires that a Regulatory Flexibility Analysis be performed for all rules that are likely to have "significant impact on a substantial number of small entities." EPA certifies that this regulation will not have a significant impact on a substantial number of small entities. The Agency believes that small businesses will constitute only a small percentage of the total number of businesses seeking to include their products on the NCP Product Schedule. The Agency also believes that the cost of seeking to include a product on the Schedule negligible and will not adversely affect

the financial structures of small businesses.

Dated: June 29, 1984.

William D. Ruckelshaus,

Administrator.

List of Subjects in 40 CFR Part 300

Chemicals, Hazardous materials, Hazardous substances, Intergovernmental relations, Natural resources, Occupational Safety and Health, Oil pollution, Reporting and recordkeeping requirements, Superfund, Waste treatment and disposal, Water pollution control, Water supply.

PART 300—[AMENDED]

For the reasons set out in the preamble, Part 300, Subpart H of Title 40, *Code of Federal Regulations*, is amended as set forth below.

40 CFR Part 300 is amended as follows:

1. The authority citation for Part 300 reads as follows:

Authority: Sec. 105, Pub. L. 96-510, 94 Stat. 2784, 42 U.S.C. 9605; sec. 311(c)(2), Pub. L. 92-500, as amended, 86 Stat. 865, 33 U.S.C. 1321(c)(2); E.O. 12316, 46 FR 42237; E.O. 11735, 38 FR 21243.

2. In Part 300, § 300.81 is revised and §§ 300.82, 300.83, 300.84, 300.85, 300.86, and Appendix C are added to read as follows:

Subpart H—Use of Dispersants and Other Chemicals

Sec.

300.81 General.
300.82 Definitions.
300.83 NCP product schedule.
300.84 Authorization of use.
300.85 Data requirements.
300.86 Addition of products to schedule.

Subpart H—Use of Dispersants and Other Chemicals

§ 300.81 General.

(a) Section 311(c)(2)(C) of the Clean Water Act requires that EPA prepare a schedule of dispersants and other chemicals, if any, that may be used in carrying out the plan. This subpart makes provisions for such a schedule.

(b) This subpart applies to the navigable waters of the United States and adjoining shorelines, the waters of the contiguous zone, and the high seas beyond the contiguous zone in connection with activities under the Outer Continental Shelf Lands Act, activities under the Deep Water Port Act of 1974, or activities that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976).

(c) This subpart applies to the use of any chemical agents or other additives as hereinafter defined that may be used to remove or control oil discharges.

§ 300.82 Definitions.

For the purposes of this subpart:

(a) *Chemical agents*, in general, are those elements, compounds, or mixtures that coagulate, disperse, dissolve, emulsify, foam, neutralize, precipitate, reduce, solubilize, oxidize, concentrate, congeal, entrap, fix, make the pollutant mass more rigid or viscous, or otherwise facilitate the mitigation of deleterious effects or removal of the pollutant from the water.

(b) *Dispersants* are those chemical agents that emulsify, disperse, or solubilize oil into the water column or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column.

(c) *Surface collecting agents* are those chemical agents that form a surface film to control the layer thickness of oil.

(b) *Biological additives* are microbiological cultures, enzymes, or nutrient additives that are deliberately introduced into an oil discharge for the specific purpose of encouraging biodegradation to mitigate the effects of the discharge.

(e) *Burning agents* are those additives that, through physical or chemical means, improve the combustibility of the materials to which they are applied.

(f) *Sinking agents* are those additives applied to oil discharges to sink floating pollutants below the water surface.

(g) *Navigable water* means the water of the United States, including the territorial seas. "Territorial seas" means the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of three miles.

§ 300.83 NCP Product Schedule.

(a) *Oil Discharges.* (1) EPA shall maintain a schedule of dispersants and other chemical or biological products that may be authorized for use on oil discharges in accordance with the procedures set forth in § 300.84, below. This schedule, called the NCP Product Schedule, may be obtained from the Emergency Response Division, U.S. Environmental Protection Agency, Washington, D.C. 20460. Phone (202) 382-2196.

(2) Products may be added to the NCP Product Schedule by the process specified in § 300.86.

(b) *Hazardous substance Releases.* [Reserved]

§ 300.84 Authorization of use.

(a) The OSC, with the concurrence of the EPA representative to the RRT and the concurrence of the States with jurisdiction over the navigable waters polluted by the oil discharge, may authorize the use of dispersants, surface collecting agents, and biological additives on the oil discharge, provided that the dispersants, surface collecting agents, or additives are on the NCP Product Schedule.

(b) The OSC, with the concurrence of the EPA representative to the RRT and the concurrence of the States with jurisdiction over the navigable waters polluted by the oil discharge, may authorize the use of burning agents on a case-by-case basis.

(c) The OSC may authorize the use of any dispersant, surface collecting agent, other chemical agent, burning agent, or biological additive (including products not on the NCP Product Schedule) without obtaining the concurrence of the EPA representative to the RRT or the States with jurisdiction over the navigable waters polluted by the oil discharge, when, in the judgment of the OSC, the use of the product is necessary to prevent or substantially reduce a hazard to human life. The OSC is to inform the EPA RRT representative and the affected States of the use of a product as soon as possible and, pursuant to the provisions in paragraph (a) of this section, obtain their concurrence for its continued use once the threat to human life has subsided.

(d) Sinking agents shall not be authorized for application to oil discharges.

(e) RRTs should consider, as part of their planning activities, the appropriateness of using the dispersants, surface collecting agents, or biological additives listed on the NCP Product Schedule, and the appropriateness of using burning agents. Regional contingency plans should address the use of such products in specific contexts. If the RRT and the States with jurisdiction over the waters of the area to which a plan applies approve in advance the use of certain products as described in the plan, the OSC may authorize the use of the products without obtaining the concurrence of the EPA representative to the RRT or of the States.

§ 300.85 Data requirements.

(a) *Dispersants.* (1) Name, brand, or trademark, if any, under which the dispersant is sold.

(2) Name, address, and telephone number of the manufacturer, importer, or vendor.

(3) Name, address, and telephone number of primary distributors or sales outlets.

(4) Special handling and worker precautions for storage and field application. Maximum and minimum storage temperatures, to include optimum ranges as well as temperatures that will cause phase separations, chemical changes, or other alterations to the effectiveness of the product.

(5) Shelf life.

(6) Recommended application procedures, concentrations, and conditions for use depending upon water salinity, water temperature, types and ages of the pollutants, and any other application restrictions.

(7) Dispersant Toxicity—Use standard toxicity test methods described in Appendix C.

(8) Effectiveness—Use standard effectiveness test methods described in Appendix C. Manufacturers are also encouraged to provide data on product performance under conditions other than those captured by these tests.

(9) Flash Point—Select appropriate method from the following: ASTM—D 56–77; ASTM—D 92–78; ASTM—D 93–77; ASTM—D 1310–72; ASTM—D 3278–78.[1]

(10) Pour Point—Use ASTM—D 97–66.[1]

(11) Viscosity—Use ASTM—D 445–74.[1]

(12) Specific Gravity—Use ASTM—D 1298–67.[1]

(13) pH—Use ASTM—D 1293–78.[1]

(14) Dispersing Agent Components. Itemize by chemical name and percentage by weight each component of the total formulation. The percentages will include maximum, minimum, and average weights in order to reflect quality control variations in manufacture or formulation. Identify at least the following major components: surface active agents; solvents; additives.

(15) Heavy Metals, Cyanide, and Chlorinated Hydrocarbons. Using standard test procedures, state the concentrations or upper limits of the following materials:

(i) Arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc, plus any other metals that may be reasonably expected to be in the sample. Atomic absorption methods should be used and the detailed analytical methods and sample preparation shall be fully described.

(ii) Cyanide. Standard colorimetric procedures should be used.

(iii) Chlorinated hydrocarbons. Gas chromatography should be used and the detailed analytical methods and sample preparation shall be fully described.

(16) The technical product data submission shall include the identity of the laboratory that performed the required tests, the qualifications of the laboratory staff (including professional biographical information for individuals responsible for any tests), and laboratory experience with similar tests. Laboratories performing toxicity tests for dispersant toxicity must demonstrate previous toxicity test experience in order for their results to be accepted. It is the responsibility of the submitter to select competent anayfical laboratories based on the guidelines contained herein. EPA reserves the right to refuse to accept a submission of technical product data because of lack of qualification of the analytical laboratory, significant variance between submitted data and any laboratory confirmation performed by EPA, or other circumstances that would result in inadequate or inaccurate information on the dispersing agent.

(b) *Surface Collecting Agents.* (1) Name, brand, or trademark, if any, under which the dispersant is sold.

(2) Name, address, and telephone number of the manufacturer, importer, or vendor.

(3) Name, address, and telephone number of primary distributors or sales outlets.

(4) Special handling and worker precautions for storage and field application. Maximum and minimum storage temperatures, to include optimum ranges as well as temperatures that will cause phase separations, chemical changes, or other alterations to the effectiveness of the product.

(5) Shelf life.

(6) Recommended application procedures, concentrations, and conditions for use depending upon water salinity, water temperature, types and ages of the pollutants, and any other application restrictions.

(7) Toxicity—Use standard toxicity test methods described in Appendix C.

(8) Flash Point—Select appropriate method from the following: ASTM—D 56–77; ASTM—D 92–78; ASTM—D 93–77; ASTM—D 1310–72; ASTM—D 3278–78.[1]

(9) Pour Point—Use ASTM—D 97–66.[1]

(10) Viscosity—Use ASTM—D 445–74.[1]

(11) Specific Gravity—Use ASTM—D 1298–67.[1]

(12) pH—Use ASTM—D 1298–78.[1]

(13) Test to Distinguish Between Surface Collection Agents and Other Chemical Agents.

(i) Method Summary—Five (5) milliliters of the chemical under test are mixed with ninety-five (95) milliliters of distilled water and allowed to stand undisturbed for one hour. Then the volume of the upper phase is determined to the nearest one (1) milliliter.

(ii) Apparatus.

(A) Mixing Cylinder: 100 milliliter subdivisions and fitted with a glass stopper.

(B) Pipettes: Volumetric pipette, 5.0 milliliter.

(C) Timers.

(iii) Procedure—Add 95 milliliters of distilled water at 22 °C+3 °C to a 100 milliliter mixing cylinder. To the surface of the water in the mixing cylinder, add 5.0 milliliters of the chemical under test. Insert the stopper and invert the cylinder five (5) times in 10 seconds. Set upright for one (1) hour at 22 °C+3 °C and then measure the chemical layer at the surface of the water. The major portions of the chemical added (75 percent) should be at the water surface as a separate and easily distinguished layer.

(14) Surface Collecting Agent Components. Itemize by chemical name and percentage by weight each component of the total formulation. The percentages should include maximum, minimum, and average weights in order to reflect quality control variations in manufacture or formulation. Identify at least the following major components: surface active agents; solvents; additives.

(15) Heavy Metals, Cyanide, and Chlorinated Hydrocarbons. Follow specifications in § 300.85(a)(15).

(16) Analytical Laboratory Requirements for Technical Product Data. Follow specifications in § 300.85(a)(16).

(c) *Biological Additives.* (1) Name, brand, or trademark, if any, under which the dispersant is sold.

(2) Name, address, and telephone number of the manufacturer, importer, or vendor.

(3) Name, address, and telephone number of primary distributors or sales outlets.

(4) Special handling and worker precautions for storage and field application. Maximum and minimum storage temperatures.

[1] *1981 Annual Book of ASTM Standards.* American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

[1] *1981 Annual Book of ASTM Standards.* American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

(5) Shelf life.

(6) Recommended application procedures, concentrations, and conditions for use depending upon water salinity, water temperature, types and ages of the pollutants, and any other application restrictions.

(7) Statements and supporting data on the expected effectiveness of the additive, including degradation rates, the test conditions, and data on effectiveness.

(8) For microbiological cultures furnish the following information:

(i) Listing of all microorganisms by species.

(ii) Percentage of each species in the composition of the additive.

(iii) Optimum pH, temperature, and salinity ranges for use of the additive, and maximum and minimum pH, temperature, and salinity levels above or below which the effectiveness of the additive is reduced to half its optimum capacity.

(iv) Special nutrient requirements, if any.

(v) Separate listing of the following, and test methods for such determinations: Salmonella, fecal coliform, Shigella, Staphylococcus Coagulase positive, and Beta Hemolytic Streptococci.

(9) For enzyme additives furnish the following information:

(i) Enzyme name(s).

(ii) International Union of Biochemistry (I.U.B.) number(s).

(iii) Source of the enzyme.

(iv) Units.

(v) Specific Activity.

(vi) Optimum pH, temperature, and salinity ranges for use of the additive, and maximum and minimum pH, temperature, and salinity levels above or below which the effectiveness of the additive is reduced to half its optimum capacity.

(vii) Enzyme shelf life.

(viii) Enzyme optimum storage conditions.

(10) Laboratory Requirements for Technical Product Data. Follow specifications in § 300.85(a)(15).

(d) *Burning Agents.* EPA does not require technical product data submissions for burning agents and does not include burning agents on the NCP Product Schedule.

§ 300.86 Addition of products to schedule.

(a) To add a dispersant, surface collecting agent, or biological additive to the NCP Product Schedule, the technical product data specified in § 300.85 must be submitted to the Emergency Response Division, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460. If EPA determines that the data submitted meet the relevant requirements, EPA will add the product to the schedule.

(b) EPA will inform the submitter in writing, within 60 days of the receipt of technical product data, of its decision on adding the product to the schedule.

(c) The submitter may assert that certain information in technical product data submissions is confidential business information. EPA will handle such claims pursuant to the provisions in 40 CFR Part 2, Subpart B. Such information must be submitted separately from non-confidential information, clearly identified, and clearly marked "Confidential Business Information." If the submitter fails to make such a claim at the time of submittal, EPA may make the information available to the public without further notice.

(d) The submitter must notify EPA of any changes in the composition or formulation of the dispersant, surface collecting agent, or biological additive. On the basis of this data, EPA may require retesting of the product if the change is likely to affect the effectiveness or toxicity of the product.

(e) The listing of a product on the NCP Product Schedule does not constitute approval of the product. To avoid possible misinterpretation or misrepresentation, any label, advertisement, or technical literature that refers to the placement of the product on the NCP schedule must either reproduce in its entirety EPA's written statement, referred to in Subsection (b), that the product has been listed on the schedule, or include the following disclaimer, which must be conspicuous and must be fully reproduced as follows:

Disclaimer

[PRODUCT NAME] is on the U.S. Environmental Protection Agency's NCP Product Schedule. This listing does *NOT* mean that EPA approves, recommends, licenses, certifies, or authorizes the use of [product name] on an oil discharge. This listing means *only* that data have been submitted to EPA as required by Subpart H of the National Contingency Plan, § 300.85.

Failure to comply with these restrictions or any other improper attempt to demonstrate EPA approval of the product shall constitute grounds for removing the product from the NCP Product Schedule.

* * * * *

Appendix C to Part 300—Revised Standard Dispersant Effectiveness and Toxicity Tests.

Table of Contents

1.0 Introduction
2.0 Revised Standard Dispersant Effectiveness Test
3.0 Revised Standard Dispersant Toxicity Test
4.0 Summary Technical Product Test Data Format

References

List of Illustrations

Figure Number

1 Test Tank
2 Suggested Hosing System
3 Schematic Diagram of Automatic Dispensing Pipette System

List of Tables

Table Number

1 Synthetic Seawater (Effectiveness Test)
2 Test Oil Characteristics: No. 6 Fuel Oil
3 Preparation of Standards for Calibration
4 Required Dispersant Effectiveness Tests Results
5 Synthetic Seawater (Toxicity Test)
6 Test Oil Characteristics: No. 2 Fuel Oil

1.0 Introduction

1.1 *Scope and Application.* These methods apply to "dispersants," involving Subpart H (Use of Dispersants and Other Chemicals) in 40 CFR Part 300 (National Oil and Hazardous Substances Pollution Contingency Plan). They are revisions to the EPA's Standard Dispersant Effectiveness and Toxicity Tests [1]. Note that the toxicity test is also used for collecting agents and other chemicals.

1.2 *Definition.* Dispersants are defined as those chemical agents that emulsify, disperse, or solubilized oil into the water column or act to further the surface spreading of oil slicks in order to facilitate dispersal of oil into the water column.

2.0 Revised Standard Dispersant Effectiveness Test

2.1 *Summary of Method.* The test oil (100 ml) is applied to the surface of synthetic seawater contained in a cylindrical tank. The dispersant (3, 5, or 25 ml) is applied to the oil in a fine stream, and 3.0 minutes are allowed for the dispersant to contact the oil. The oil, dispersant, and seawater are mixed by hosing with a pressurized water stream for 1.0 minute. The contents of the tank are recirculated by a pump, and samples are withdrawn from the recirculation system after 10 minutes and after 2 hours of recirculation. The amount of oil dispersed is determined by measuring the absorbance of visible light after extraction of the dispersed oil with chloroform. Each test is repeated three times.

2.2 *Apparatus. Test Tank.* Construct the cylindrical test tank, 24 inches (600 mm) inside diameter by 28 inches (710 mm) high, of 16-gauge stainless steel. Install, as shown in Figure 1, the associated piping, valve, and pump for recirculation of dispersed oil and for sample collection.

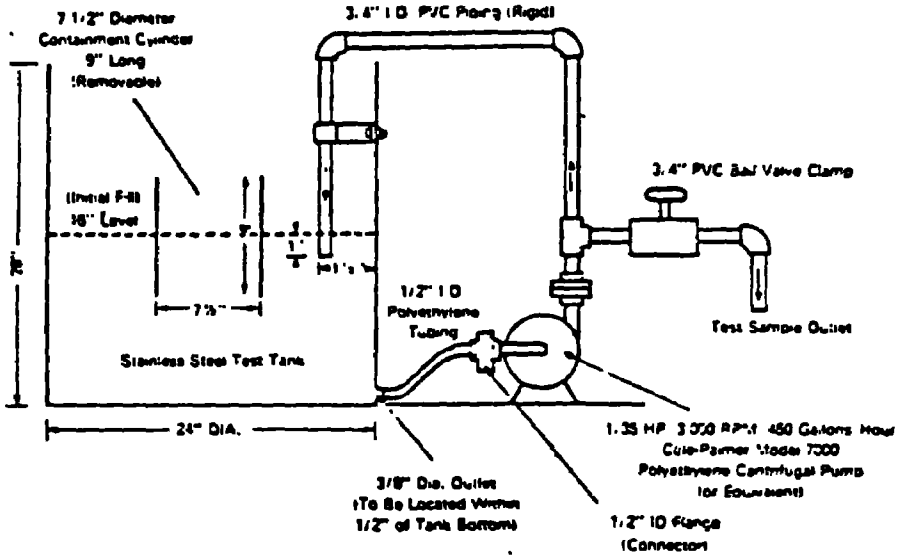


Figure 1. Test Tank

Oil Containment Cylinder. Use a 16-gauge stainless steel containment cylinder 7.5 inches (190 mm) in diameter and 9 inches (229 mm) long to contain the oil while the oil contacts the dispersant. Suspend the cylinder vertically in the center of the test tank with its midpoint 16 inches (406 mm) above the base of the tank. The design should be such that the cylinder can be removed from the tank in less than 10 seconds.

Hosing System. Provide a pressurized hosing system suitable for delivering synthetic seawater to the oil/dispersant mixture in the test tank. A suggested hosing system is shown in Figure 2. Deliver hosing water through a hose with a ½-inch (12.7 mm) inside diameter, which is connected to a shut-off nozzle with a discharge tip approximately with a 7/16-inch (4.8-mm) inside diameter [Akron Brass Company, Style 111 shutoff valve with Style 338, 7/16-inch tip, or equivalent].

The hosing system must be adjusted to deliver 15.1±0.8 liters/min at 140 kPa (4.0±0.2 gpm at 20 psig). Measure the flow by hosing synthetic seawater at 23±1°C into a calibrated container for the predetermined time. Set the proper flow rate by adjusting the pressure in the pressurized tank or a suitable valve in the hose line. The delivery pressure should be determined by means of a pressure gauge in the line immediately before the nozzle.

Corrosion buildup within the nozzle may change hosing pressure and alter test results. To prevent this, remove and flush the nozzle with fresh water at the end of each day's tests.

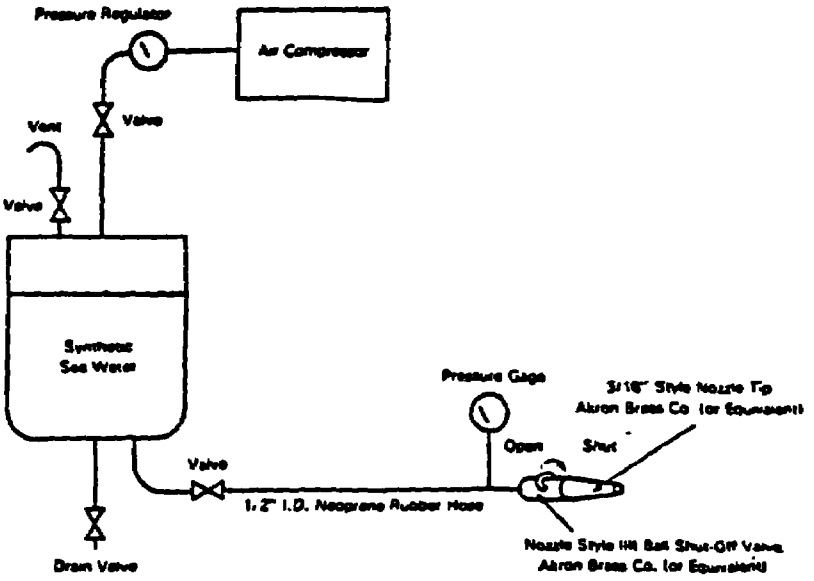


Figure 2. Suggested Hosing System

TABLE 2.—TEST OIL CHARACTERISTICS: NO. 6 FUEL OIL

Characteristics	No. 6 fuel oil	
	Minimum	Maximum
Gravity (°API)		18.9
Viscosity—Furol at 122°F (50°C)	191	300
Flash Point (°F)	150	
Pour Point (°F)		25
Sulfur (wt %)		2.73
Carbon residue (wt %)		12.5
Water (vol %)		0.20
Sediment (wt %)		0.10
Ash (wt %)		0.10
Asphaltenes (wt %)		10.0
Neutralization No.		2.5

TABLE 3.—PREPARATION OF STANDARDS FOR CALIBRATION

Volume of stock solution used (ml)	Concentration of test oil (mg/liter)
5	175
10	350
25	875
50	1,750
100 (max)	3,500

Spectrophotometer. Use a spectrophotometer suitable for measurement at 620 nanometers to determine photochemically the oil concentration of the oil/chloroform mixture. A Bausch and Lomb Spectronic 20 spectrophotometer (or equivalent) is acceptable for this purpose.

Filter Paper. Use a filter paper suitable for filtering the oil/chloroform extract. Whatman No. 1 filter paper (or equivalent) is acceptable for this purpose.

Glassware. Glassware should consist of 5-, 10-, 25-, 100-, and 500-ml graduated cylinders; two 1,000-ml separatory funnels with Teflon stopcocks; 10-, 100-, and 1,000-ml volumetric flasks and two 250-ml Erlenmeyer flasks.

2.3 *Reagents. Synthetic Seawater.* Prepare a batch of concentrated synthetic seawater using the components listed in Table 1, which are added to 379 liters (100 gal) of tap water having a hardness less than 50 mg/liter.

Chloroform Reagent Grade.

Sodium Sulfate, Anhydrous Reagent Grade.

Oils. Test the dispersant with 100 ml of No. 6 fuel oil that has the characteristics given in Table 2.

2.4 *Pretest Preparation. Calibration of Spectrophotometer.* Prepare a stock solution by adding 3.50 g of the test oil to a 1,000-ml volumetric flask. Dissolve the oil in about 900 ml of chloroform, then dilute to the mark with chloroform. The resulting concentration of test oil is 3,500 mg/liter.

Prepare standard solutions of No. 6 fuel oil by pipetting 5, 10, 25, and 50 ml of the test oil stock solution into 10-ml volumetric flasks. Dilute each flask to the mark with chloroform. The concentration of test oil in each flask is given in Table 3:

TABLE 1.—SYNTHETIC SEAWATER (EFFECTIVENESS TEST)

Salt*	Composition	
	Concentrate* [kg/379 liter]	Diluted seawater (g/liter)
NaCl	20.25	17.10
$MgCl_2 \cdot 6H_2O$	9.17	7.44
Na_2SO_4	3.38	2.85
$CaCl_2$	0.952	0.802
KCl	0.573	0.483
$NaHCO_3$	0.166	0.140

*If any salt other than those listed above is used, allowance must be made for water of crystallization.
*Concentrate is prepared by dissolving the indicated amount of salt in 379 liters (100 gal.) of tap water.

Determine the absorbance of the stock solution and the diluted aliquots at a wavelength of 620 nanometers. If a Bausch and Lomb Spectronic 20 spectrophotometer is used, the ½-inch (12.7-mm) cell is recommended. Plot the calibration curve for the test oil as mg/liter of test oil versus absorbance.

Measurement of Specific Gravity of the Test Oils and Dispersant. Equilibrate samples of the test oil and dispersant at 23±1 °C.

Weigh two dry 10-ml volumetric flasks on a balance capable of weighing to ±1 mg or better. Add enough test oil to one flask and enough dispersant to the second flask to fill them to the mark. Reweigh each flask. The density of the oil and dispersant is:

$$\text{Density (g/ml)} = \frac{\text{Weight of test oil or dispersant (g)}}{\text{volume of the flask (ml)}} \quad (1)$$

2.5 *Dispersant Effectiveness Test Procedure.* The dispersant effectiveness test procedures are as follows in steps 1–18:

1. Add 38±1 liters (10±0.25 gal) of the seawater concentrate to the test tank. Dilute the concentrate to a depth of 16±0.25 inches (410±5 mm) with hot and cold water in the proper amounts to bring the temperature of the diluted seawater to 23±1° C. Adjust the pH of the seawater to 8.0±0.1 with concentrated HCl or NaOH. The salinity of the water should be 25.00±0.15 parts per thousand (ppt).

2. Insert the oil containment cylinder into the test tank. Position the cylinder in the center of the tank with its midpoint 16±0.25 inches (410±5 mm) above the base of the tank.

3. Select one of the following graduated cylinders, a 5-, 10-, or 25-ml graduated cylinder, as appropriate for addition of the dispersant and a 100-ml graduated cylinder for addition of the test oil.

4. Fill the 100-ml graduated cylinder with 100 ml of the test oil. Drain the Cylinder for 3.0 minutes. Weigh the drained cylinder and record the weight. Calculate the weight of 100 ml of test oil [weight (g) = density (g/ml) × volume (ml)] and add this amount of test oil to the drained cylinder. Record the weight of the cylinder and oil.

Note.—The precision of the effectiveness test is increased substantially if exactly the same weight of test oil or dispersant is added for each test. The purpose of Step 4 is to determine the amount of test oil or dispersant

that will be left in the graduated cylinder after the addition.

5. Slowly and gently add the 100 ml of the test oil from the graduated cylinder directly onto the water surface within the center of the oil containment cylinder. Move the graduated cylinder in a circular motion to distribute the oil uniformly over the surface. Be careful that oil is not lost below the containment cylinder and that oil does not splash, drip onto, or contact the containment cylinder wall above the waterline during application.

Allow the oil to drain from the graduated cylinder for 3.0 minutes.

Weigh the drained graduated cylinder. Calculate the weight of oil actually added to the test tank. Check the weight to be sure that 100.0 ± 0.5 ml of test oil was added to the test tank.

6. Fill either the 5-, 10-, or 25-ml graduated cylinder with 3, 10, or 25 ml of dispersant, respectively. Drain it for 3.0 minutes and weigh the drained cylinder. Calculate the weight of 3, 10, or 25 ml of dispersant required [weight (g) = density (g/ml) × volume (ml)] and add this amount of dispersant to the drained cylinder. Record the weight of the cylinder and dispersant.

7. From the graduated cylinder gently add the dispersant at 23±1°C onto the oil surface within the containment cylinder. Move the graduated cylinder in a circular motion to distribute the dispersant uniformly over the surface. Carefully apply the dispersant onto the oil surface only and not through the oil surface or onto the containment cylinder walls. Allow the dispersant to drain from the graduated cylinder for 3.0 minutes.

Weigh the drained graduated cylinder. Calculate the weight of dispersant added to the test tank. Check the weight to be sure that the correct volume of dispersant, ± 3 percent, was added to the test tank.

8. Activate the hosing system, adjust nozzle pressure to 140 kPa, and apply a stream of synthetic seawater at 23±1°C to the oil/dispersant mixture within the containment cylinder. Immediately lift the cylinder all the way out above the water surface, and simultaneously hose off any oil adhering to the cylinder's inner surface. Remove the cylinder completely and continue to hose and agitate the oil/dispersant mixture for a total hosing period of 1.0 minute. The flow rate of hosing nozzle must be 15.1±0.8 liters/min at 140 kPa (4.0±0.2 gpm at 20 psig).

Note.—(1) Removing the containment cylinder must take no longer than 10 seconds. (2) To hose the oil/dispersant mixture, hold the discharge tip of the nozzle approximately level with the top edge of the test tank and pointed vertically downward. Move the nozzle rapidly in a random manner from side to side, backwards and forwards, and around the inner wall of the tank, as necessary, to facilitate continuous hosing and agitation of the entire oil/dispersant surface.

9. Immediately after hosing, start the recirculation pump and continue recirculation for 2.0 hours.

10. After 10.0 minutes of recirculation, withdraw a 500-ml sample into a 500-ml graduated cylinder and discard. Immediately collect another 500-ml sample for determining "initial dispersion."

11. After 2.0 hours of recirculation, withdraw a 500-ml sample into a 500-ml graduated cylinder and discard. Immediately collect another 500-ml sample for determining "final dispersion."

12. Transfer the 500-ml sample to a 1,000-ml separatory funnel. Add 25 ml of chloroform to the separatory funnel, stopper the funnel, and shake vigorously for 50 strokes. After shaking, place the funnel in a rack, vent, and allow a settling time of 2 to 3 minutes.

After the settling period, lift the funnel from the rack and gently invert it several times. While holding the funnel, allow the contents to settle and then gently swirl with a circular motion to afford additional settling of the oil/chloroform mixture. Transfer the oil/chloroform mixture to a 250-ml Erlenmeyer flask that contains anhydrous Na_2SO_4 for drying the extract.

Repeat the extractions using a total of at least three 25-ml portions of chloroform.

After the oil extraction is complete, filter the combined extracts from the Erlenmeyer flask through dry filter paper into an appropriate volumetric flask (100 ml, 250 ml, or 500 ml depending on the amount of chloroform used to complete the extraction).

Rinse the Na_2SO_4 and filter paper with small portions of chloroform to remove entrained oil. After removing, fill the volumetric flask to the mark with chloroform, invert and thoroughly mix contents.

13. Spectrophotometrically determine the absorbance of the extract using the identical wavelength and cell used to calibrate the spectrophotometer. From the calibration curve, determine the concentration of oil in the chloroform.

Compute the concentration of oil in the sample as follows:

$$C_{ss} = \frac{C_t \times (\text{volume of sample})}{(\text{volume of chloroform used})} \quad (2)$$

where:

C_{ss} is the concentration of dispersed oil in the sample and

C_t is the measured concentration of oil in the chloroform extract.

Note that the standard sample volume is 500 ml and the volume of chloroform used should also be expressed in ml.

Repeat Steps 1 through 13 at least three times for each of the three required volumes of dispersant.

2.6 *Blank Correction Determination.*

14. Clean the test tank and prepare the synthetic seawater at 23±1°C as described in Step 1. Do not install the containment cylinder and do not use any test oil. Add 25 ml of the dispersant to the tank as described in Steps 6 and 7 and continue the test procedure as described in Steps 8 through 12.

15. Spectrophotometrically determine the absorbance of the extract using the identical wavelength and cell used to calibrate the spectrophotometer. From the calibration curve, determine the corresponding concentration of oil in the chloroform. Compute the dispersant blank correction for 25 ml of dispersant as follows:

$$D = \frac{C_c \times (\text{volume of sample})}{(\text{volume of chloroform used})} \quad (3)$$

where:

D is the blank correction for 25 ml of dispersant, and

C_c is the measured concentration of oil in the chloroform extract.

Note that the standard sample volume is 500 ml and the volume of chloroform used should also be expressed in ml. The Dispersant Blank Correction (DBC) for other volumes of dispersant used in a test may then be computed as:

$$DBC = \frac{D \times (\text{volume in ml of dispersants used})}{25 \text{ ml}} \quad (4)$$

16. Clean the test tank and prepare the synthetic seawater at 23±1°C as described in Step 1. Do not install the containment cylinder. Prepare 100 ml of test oil as described in Steps 4 and 5, and add it to the test tank. Continue the test procedure as described in Steps 8 through 13. The Oil Blank Correction (OBC) is:

$$OBC = \frac{C_t \times (\text{volume of sample})}{(\text{volume of chloroform used})} \quad (5)$$

2.7 *Calculations.* The concentrations of test oil equivalent to 100 percent dispersion is:

$$C_{oss} = \frac{\text{(weight of test oil)}}{\text{(133.8 liter synthetic seawater)}} \quad (6)$$

The weight of the test oil should be expressed in milligrams, so that resulting C_{oss} will be in mg/liter.

The percent of oil dispersed is then:

$$\text{Percent dispersed} = \frac{(C_{oo} - OBC - DBC)}{C_{oss}} \times 100\% \quad (7)$$

2.8 *Report of the Effectiveness Test Results.* Based on 100 ml of oil, determine the percent dispersion of the test oil caused by 3, 10, and 25 ml of dispersant: (a) after 10 minutes recirculation ("initial dispersion") and (b) after 2 hours recirculation ("final dispersion").

Determine the mean of at least three replicate tests for each of the three dispersant dosages. If the percent dispersion value found (after the 10-minute recirculation period only) for any of the three replicate tests varies from the mean value by more than ±8 percent, discard that result and run another replicate.

For each test oil, using percent dispersion as the ordinate and dispersant dosage (ml) as the abscissa, plot two curves on one chart, one for "initial dispersion" and the other for "final dispersion." Draw the graphs by plotting mean percent dispersion values for each of the dispersant dosages of 3, 10, and 25 ml and connecting the corresponding data points for each sampling time (10 minutes or 2 hours) with straight lines. From the "initial dispersion" graph, determine the dispersant dosage (ml) causing 50 percent dispersion. From the "final dispersion" graph, determine the dispersant dosage (ml) causing 25 percent dispersion.

Report the data in the format given in Table 4.

TABLE 4

REQUIRED DISPERSANT EFFECTIVENESS TESTS RESULTS

Volume Dispersant (ml)	Initial Dispersion (10 minutes) Percent Dispersion for Replicate Number	Initial Dispersion (10 minutes) Mean Percent Dispersion	Final Dispersion (2 hours) Percent Dispersion for Replicate Number	Final Dispersion (2 hours) Mean Percent Dispersion
3	1 - 2 - 3 -	-	1 - 2 - 3 -	-
10	1 - 2 - 3 -	-	1 - 2 - 3 -	-
25	1 - 2 - 3 -	-	1 - 2 - 3 -	-

Dosage (ml) causing 50 percent dispersion (from "initial dispersion" graph) ____ ml.

Dosage (ml) causing 25 percent dispersion (from "final dispersion" graph) ____ ml.

2.9 *Comments on Revisions to Dispersant Effectiveness Tests.* The comments discussed here refer only to these revisions to the dispersant effectiveness test described by McCarthy et al. (1).

Addition to Test Oil and Dispersant. Rewick et al. (2), (3), found that the method described in the revised method for adding the same amount of test oil and dispersant significantly improved the precision of the test. The percent standard deviation of the initial and final amount of oil dispersed was determined for dispersant C, E, and F using the method described in McCarthy et al. (1). The data for dispersants A, B, and D were obtained using the weighing method for the oil and dispersant described in the revised procedure. The average percent standard deviation was reduced from 41.8 percent to 4.9 percent for No. 6 fuel oil. Additional testing of dispersants on EPA's NCP Product Schedule recently has been initiated to determine the precision of the Revised Standard Dispersant Effectiveness Test Procedures.

Inclusion of the Oil Blank. Rewick et al. (2) found that the optical density of the oil blank was significantly higher than the dispersant blank. Including an oil blank increased the accuracy of the test because it corrects for the light absorption of the water-soluble components of the fuel (amount of test oil dispersed into the water column in the absence of a dispersant is low).

Dispersant-to-Oil Ratio. The maximum effectiveness of many dispersants occurs at dispersant-to-oil (D/O) ratios of less than 0.10 or 0.25 (10 or 25 ml dispersant) (see Figure 1, Rewick et al. (3)). Furthermore, the manufacturer's recommended application rates are usually less than D/O=0.10, and the actual application rates in a real spill may be less than a D/O=0.10 specifically when applied by aircraft. Therefore, the revised

method specifies testing the dispersants at D/O=0.03, 0.10, and 0.25.

3.0 Revised Standard Dispersant Toxicity Test

3.1 *Summary of Method.* The standard toxicity test for dispersants involves exposing two species (*Fundulus heteroclitus* and *Artemia salina*) to five concentrations of the test dispersant and No. 2 fuel oil alone and in a 1:10 mixture of dispersant to oil. To aid in comparing results from assays performed by different workers, reference toxicity tests are conducted using dodecyl sodium sulfate as a reference toxicant. The test length is 96 hours for *Fundulus* and 48 hours for *Artemia*. LC50s are calculated based on mortality data at the end of the exposure period (for method of calculation, see section 3.8 below).

3.2 *Selection and Preparation of test Materials. Test Organisms. Fundulus heteroclitus.* Obtain test fish from a single source for each series of toxicity tests. Report any known unusual condition to which fish were exposed before use (e.g., pesticides or chemotherapeutic agents); avoid if possible. Use small fish 2.5 to 3.8 cm (1 to 1.5 inches) in length and weighing about 1 gram. The longest individual fish should be no more than 1.5 times the length of the smallest.

Acclimate test fish to a temperature of 20±1°C, a pH of 8.0±0.2, and 20 ± 2ppt salinity for 10 to 14 days before using them for the toxicity tests. Eliminate groups of fish having more than 20 percent mortality during the first 48 hours, and more than five percent thereafter. During acclimation, feed all species a balanced diet. Dry, pelleted, commercially available fishfood containing 30 percent to 45 percent protein is satisfactory. The pellets should be easily consumable by the test fish. Feed the fish twice daily to satiation, but not for 24 hours before or during the bioassay test. Use only those organisms that feed actively and appear to be healthy. Discard any fish injured or dropped while handling.

Artemia Salina. To ensure uniformity of *Artemia* (brine shrimp), use eggs from the San Francisco Bay area. Since the eggs of *Artemia* may be kept desiccated for long periods in a viable state, required numbers of the organism can be secured at any time for use in the bioassay tests through the use of proper hatching procedures.

A rectangular tray (plastic, glass, or enamel) having 200 square inches of bottom surface is suitable for hatching *Artemia* eggs. Divide this tray into two parts by a partition that extends from the top down to about 1.9 to 1.3 cm (0.75 to 0.5 inch) from the bottom. This partition may be of any opaque, biologically inert material (a pasteboard strip, sealed with paraffin wrapping, is satisfactory). Raise one end of the tray about 1.27 cm (0.5 inch) and add 3 liters of the synthetic seawater formulation (see Table 5).

Spread 0.5 gram of *Artemia* eggs in the shallow end of the tray. Cover this end of the tray with a piece of cardboard to keep the eggs in darkness until hatching is complete. About 20 hours after the eggs hatch, direct a narrow beam of light across the uncovered portion of the tray. Since brine shrimp are phototactic, they will swim beneath the partition into the illuminated end of the chamber and congregate in the beam of light. The *Artemia* concentrated in the beam of light can be easily collected with the use of a collecting pipette or siphon connected to a 30-cm (12-inch) rubber tube and mouthpiece. Transfer them to a beaker containing a small amount of the artificial seawater.

An alternative method for hatching *Artemia* eggs is to use a separator funnel. A small air line is placed in the bottom of the funnel and air is bubbled at a rate sufficient to keep the eggs from settling to the bottom. After the eggs hatch, the air line is removed and the newly hatched nauplii will settle to the bottom of the funnel where they can be drawn off without disturbing the empty egg cases, which will have floated to the surface.

Preparation of Experimental Water. Because large quantities of dilution water will be used in these tests, formulate the experimental water in large batches to ensure uniformity and constant conditions for the various tests. To prevent contamination, prepare and store the experimental water in inert containers of suitable size.

Synthetic Seawater Formation. To prepare standard seawater, mix technical-grade salts with 900 liters of distilled or demineralized water in the order and quantities listed in Table 5. These ingredients must be added in the order listed and each ingredient must be dissolved before another is added. Stir constantly after each addition during preparation until dissolution is complete.

Add distilled or demineralized water to make up to 1,000 liters. The pH should now be 8.0 ± 0.2. To attain the desired salinity of 20 ± 1 ppt, dilute again with distilled or demineralized water at time of use.

3.3 *Sampling and Storage of Test Materials.* Toxicity tests are performed with No. 2 fuel oil having the characteristics defined in Table 6. Store oil used in toxicity tests in sealed containers to prevent the loss of volatiles and other changes. For ease in handling and use, it is recommended that 1,000-ml glass containers be used. To ensure comparable results in the bioassay tests, use oils packaged and sealed at the source. Dispose of unused oil in each open container on completion of dosing to prevent its use at a later date when it may have lost some of its volatile components. Run all tests in a bioassay series with oil from the same container and with organisms from the same group collected or secured from the same source.

TABLE 5—SYNTHETIC SEAWATER

(Toxicity test)

Salt	(g)[1]
NaF	1.9
$SrCl_2 \cdot 6H_2O$	13.0
H_3BO_3	22.0
KBr	67.0
KCl	468.0
$CaCl_2 \cdot 2H_2O$	720.0
Na_2SO_4	2,560.0
$MgCl_2 \cdot 6H_2O$	3,330.0
$NaCl$	15,650.0
$Na_2SiO_3 \cdot 9H_2O$	12.0
EDTA[2]	0.4
$NaHCO_3$	120.0

[1] Amount added to 900 liters of water, as described in the text.

[2] Ethylenediaminetetraacetate tetrasodium salt.

TABLE 6.—TEST OIL CHARACTERISTICS: NO. 2 FUEL OIL

Characteristic	Minimum	Maximum
Gravity (°API)	32.1	42.0
Viscosity kinematic at 100°F (cs)	2.35	3.0
Flash point (°F)	150	
Pour point (°F)		0
Cloud point (°F)		10
Sulfur (wt %)		0.35
Aniline point (°F)	125	160
Carbon residue (wt %)		0.10
Water (vol %)		0
Sediment (wt %)		0
Aromatics (vol %)	10	15
Distillation:		
IBP (°F)	347	407
10% (°F)	402	456
50% (°F)	475	520
90% (°F)	542	606
End Point (°F)	598	655
Neutralization No.		0.05

3.4 *General Test Conditions and Procedures for Toxicity Tests. Temperature.* For these toxicity tests, use test solutions with temperatures of 20 ± 1°C.

Dissolved Oxygen and Aeration. Fundulus. Because oils and dispersants contain toxic, volatile materials, and because the toxicity of some water-soluble fractions of oil and degradation products are changed by oxidation, special care must be used in the oxygenation of test solutions. A 2 liter volume of solution is used for the *Fundulus* test. Initiate aeration to provide dissolved oxygen (DO)) and mixing after the fish are added. The DO content of test solutions must not drop below 4 ppm. Aerate at a rate of 100 ± 15 bubbles per minute supplied from a 1-ml serological pipette. At this rate and with the proper weight of fish, DO concentration should remain slightly above 4 ppm over a hour period. Take DO measurements daily.

Artemia. Achieve sufficient DO by ensuring the surface area to volume ratio of the test solution exposed is large enough. Oxygen content should remain high throughout the test because of the small quantity of test substances added and the low oxygen demand of organisms in each dish.

Controls. With each fish or *Artemia* test or each series of simultaneous tests of different solutions, perform a concurrent control test in exactly the same manner as the other tests and under the conditions prescribed or selected for those tests. Use the diluent water alone as the medium in which the controls are held. There must be no more than 10 percent mortality among the controls during the course of any valid test.

Reference Toxicant. To aid in comparing results from tests performed by different workers and to detect changes in the condition of the test organisms that might lead to different results, perform reference toxicity tests with reagent grade dodecyl sodium sulfate (DSS) in addition to the usual control tests. Prepare a stock solution of DSS immediately before use by adding 1 gram of DSS per 500 ml of test water solution. Use exploratory tests before the full scale tests are begun to determine the amount of reference standard to be used in each of five different concentrations.

Number of Organisms. For the toxicity test procedures using *Fundulus*, place two fish in each jar. For the toxicity tests using *Artemia*, place 20 larvae in each container.

Transfer of Organisms. Transfer *Fundulus* from the acclimatizing aquaria to the test containers only with small-mesh dip nets of soft material, and do not rest the net on any dry surface. Do not hold fish out of the water longer than necessary. Discard any specimen accidentally dropped or otherwise mishandled during transfer.

Artemia can be conveniently handled and transferred with a small pipette connected to a 30-cm (12-inch) length of rubber tubing and mouthpiece or with a Pasteur pipette equipped with a small rubber squeeze bulb. To have the necessary *Artemia* ready for the study, transfer 20 *Artemia* apiece into small beakers containing 20 ml of artificial seawater. Hold these batches of *Artemia* until they are 24 hours old; at that time, place them in the respective series of test concentrations set up for the toxicity test.

To avoid large fluctuations in the metabolic rate of organisms and the fouling of test solutions with metabolic waste products and uneaten food, do not feed organisms during tests.

Test Duration and Observations. Fish. Observe the number of dead fish in each test container and record at the end of each 24-hour period. Fish are considered dead upon cessation of respiratory and all other overt movements, whether spontaneous or in response to mild mechanical prodding. Remove dead fish as soon as observed.

Also note and report when the behavior of test fish deviates from that of control fish. Such behavioral changes would include variations in opercular movement, coloration, body orientation, movement, depth in container, schooling tendencies, and others. Abnormal behavior of the test organisms (especially during the first 24 hours) is a desirable parameter to monitor in a toxicity test because changes in behavior and appearance may precede mortality. Toxicants can reduce an organism's ability to survive natural stresses. In these cases, the mortality is not directly attributed to the toxicant, but most certainly is an indirect effect. Reports on behavioral changes during a toxicity test can give insight into the nonacute effects of the tested material.

At the end of the 96-hour period, terminate the fish tests and determine the LC50 values.

Artemia. Terminate the *Artemia* test after 48 hours of incubation. To count the dead animals accurately and with relative ease, place the test dishes on a black surface and hold a narrow beam of light parallel to the bottom of the dish. Most of the dead *Artemia* will be on the bottom of the test dish and can be readily seen against the black background. Also search the top of the liquid for *Artemia* trapped there by surface tension. Exercise caution when determining death of the animals. Occasionally, an animal appears dead, but closer observation shows slight movement of an appendage or a periodic spasm of its entire body. For this test, animals exhibiting any movement when touched with a needle are considered alive. Account for all test animals to ensure accuracy since some *Artemia* may disintegrate. Consider individuals not accounted for as dead.

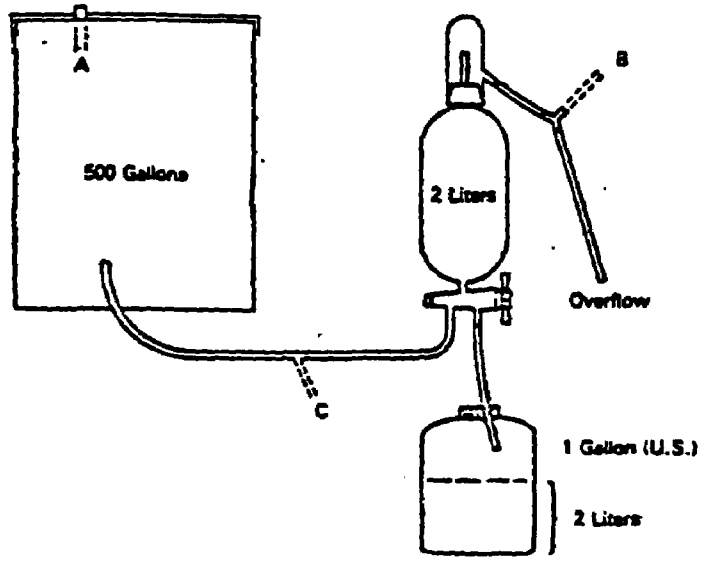
At the end of 48 hours of exposure, terminate the *Artemia* assay and determine the LC50 values.

Physical and Chemical Determinations. Fundulus. Determine the temperature, DO, and pH of the test solutions before the fish are added and at 24-, 72-, and 96-hour exposure intervals. It is necessary to take measurements from only one of the replicates of each of the toxicant series.

Artemia. Determine the temperature, DO, and pH of the test solutions before the nauplii are added and at the 48-hour exposure interval. Measure DO and pH in only one of the replicates of each of the toxicant series.

Testing Laboratory. An ordinary heated or air-conditioned laboratory room with thermostatic controls suitable for maintaining the prescribed test temperatures generally will suffice to conduct the toxicity tests. Where ambient temperatures cannot be controlled to 20 ±1°C, use water baths with the necessary temperature controls.

Test Containers. For fish tests, use 4-liter glass jars measuring approximately 22.5 cm in height, 15 cm in diameter and 11 cm in diameter at the mouth. The jars are to have screw top lids, lined with Teflon. In conducting the test, add to each of the jars 2 liters of the synthetic seawater formulation aerated to saturation with DO. To add the 2 liters easily and accurately, use a 2-liter-capacity, automatic dispensing pipette (Figure 3).



A = Inflow from Large Holding Reservoir

B = Overflow from Other Units in Series

C = Inflow to Other Units

Figure 3. Schematic Diagram of Automatic Dispensing Pipette System

For the *Artemia* tests, use Carolina culture dishes (or their equivalent) having dimensions approximately 8.9 cm by 3.8 cm (3.5 by 1.5 inches).

Process all required glassware before each test. Immerse in normal hexane for 10 minutes. Follow this with a thorough rinse with hot tap water, three hot detergent scrubs, an additional hot tap-water rinse, and three rinses with distilled water. Oven or air dry the glassware in a reasonably dust-free atmosphere.

3.5 *Preparation of Test Concentrations. Fundulus.* Place the test jars containing 2 liters of synthetic seawater on a reciprocal shaker. The shaker platform should be adapted to hold firmly six of the toxicity test jars. Add the desired amount of the petroleum product under test directly to each test jar. Dispense the appropriate amount of toxicant into the jars with a pipette. Tightly cap the test jars and shake for 5 minutes at approximately 313 to 333 2-cm (0.75-inch) strokes per minute in a reciprocal shaker or

at approximately 150 to 160 rpm on orbital shakers. At the completion of shaking, remove the jars from the shaker to a constant-temperature water bath or room, remove the lids, take water quality measurements, add two test fish, and initiate aeration.

Artemia. To prepare test solutions for dispersants and oil/dispersant mixtures, blend or mix the test solutions with an electric blender having: speeds of 10,000 rpm or less, a stainless-steel cutting assembly and a 1-liter borosilicate jar. To minimize foaming, blend at speeds below 10,000 rpm.

For the dispersant test solution, add 550 ml of the synthetic seawater to the jar, then with the use of a gas-tight calibrated glass syringe with a Teflon-tipped plunger, add 0.55 ml of the dispersant and mix for 5 seconds.

For the oil test solution, add 550 ml of the synthetic seawater to the jar, then with the use of a gas-tight calibrated glass syringe equipped with a Teflon-tipped plunger, add 0.55 ml of the oil and mix for 5 seconds.

For the oil/dispersant mixture, add 550 ml of the synthetic seawater to the mixing jar. While the blender is in operation, add 0.5 ml of the oil under study with the use of calibrated syringe with Teflon-tipped plunger and then 0.05 ml of the dispersant as indicated above. Blend for 5 seconds after addition of dispersant. These additions provide test solutions of the dispersant, oil, and the oil/dispersant mixture at concentrations of 1,000 ppm.

Immediately after the test solutions are prepared, draw up the necessary amount of test solution with a gas-tight Teflon-tipped glass syringe of appropriate size and dispense into each of the five containers in each series. If the series of five concentrations to be tested are 10, 18 32, 56, and 100 ppm, the amount of the test solution in the order of the concentrations listed above would be as follows: 1.0, 1.8, 3.2, 5.6, and 10.0 ml.

Each time a syringe is to be filled for dispensing to the series of test containers, start the mixer and withdraw the desired amount in the appropriate syringe while the mixer is in operation. Turn off immediately after the sample is taken to limit the loss of volatiles.

Use exploratory tests before the full-scale test is set up to determine the concentration of toxicant to be used in each of the five different concentrations. After adding the required amounts of liquid, bring the volume in each of the test containers up to 99 ml with the artificial seawater. To ensure keeping each of the series separate, designate on the lid of each container the date, the material under test, and its concentration.

When the desired concentrations are prepared, gently release into each dish the 20 test *Artemia* (previously transferred into 20 ml of medium). This provides a volume of 100 ml in each test chamber. A pair of standard cover glass forceps with flat, bent ends is an ideal tool for handling and tipping the small beaker without risk of contaminating the medium.

After adding the test animals, incubate the test dishes at 20 ± 1°C for 48 hours. Recommended lighting is 2,000 lumens/m² (200 ft-c) of diffused, constant, fluorescent illumination coming from beneath the culture dishes during incubation. Because *Artemia* are phototactic, bottom lighting should keep them from direct contact with the oil that sometimes layers on top.

Wash the blender thoroughly after use and repeat the above procedures for each series of tests. Wash the blender as follows: rinse with normal hexane, pour a strong solution of laboratory detergent into the blender to cover the blades, fill the container to about half of its volume with hot tap water, operate the blender for about 30 seconds at high speed, remove and rinse twice with hot tap water, mixing each rinse for 5 seconds at high speed, and then rinse twice with distilled water, mixing each rinse for 5 seconds at high speed.

3.6 *Calculating and Reporting.* At the end of the test period, the toxicity tests are terminated and the LC50 values are determined.

Calculations. The LC50 is the concentration lethal to 50 percent of the test population. It can be calculated as an interpolated value based on percentages of organisms surviving at two or more concentrations, at which less than half and more than half survived. The LC50 can be estimated with the aid of computer programs or graphic techniques (log paper). The 95 percent confidence intervals for the LC50 estimate should also be determined.

Reporting. The test dispersant and oil and their source and storage are described in the toxicity test report. Note any observed changes in the experimental water or the test solutions. Also include the species of fish used; the sources, size, and condition of the fish; data of any known treatment of the fish for disease or infestation with parasites before their use; and any observations on the fish behavior at regular intervals during tests. In addition to the calculated LC50 values, other data necessary for interpretation (e.g., DO, pH, other physical parameters, and the percent survival at the end of each day of exposure at each concentration of toxicant) should be reported.

3.7 *Summary of Procedures.*

Fundulus:

1. Prepare adequate stocks of the appropriate standard dilution water.

2. Add 2 liters of the standard dilution water to the 4-liter test jars. Each test consists of 5 replicates of each of 5 concentrations of the test material, a control series of 5 dishes, and a standard reference series of 5 different concentrations for a total of 35 dishes. Simultaneous performance of toxicity tests on the oil, dispersant, and oil/dispersant mixture requires a total of 105 dishes.

3. Add the determined amount (quarter points on the log scale) of test material to the appropriate jars. Preliminary tests will be necessary to define the range of definitive test concentrations.

4. Cap the jars tightly with the Teflon-lined screw caps and shake for 5 minutes at 315 to 333 2-cm (0.75-inch) strokes per minute on a reciprocal shaker.

5. Remove the jars from the shaker, take water quality data, and add two acclimated fish per jar.

6. Aerate with 100±15 bubbles per minute through a 1-ml serological pipette.

7. Observe and record mortalities, water quality, and behavioral changes each 24 hours.

8. After 96 hours, terminate the test, and calculate LC50 values and corresponding confidence limits.

Artemia:

1. Initiate the procedure for hatching the *Artemia* in sufficient time (approximately 48 hours) before the toxicity test is to be conducted so that 24-hour-old larvae are available.

2. With the use of a small pipette, transfer 20 *Artemia* into small beakers, each containing 20 ml of the proper synthetic seawater.

3. To prepare the test stock dispersant and oil solutions, add 550 ml of the artificial seawater to the prescribed blender jar. By means of a gas-tight glass syringe with a Teflon-tipped plunger, add 0.55 ml of the dispersant (or oil) and mix at 10,000 rpm for 5 seconds. To prepare the test stock oil/dispersant mixture, add 550 ml of the standard seawater to the blender jar. While the blender is in operation (10,000 rpm), add 0.5 ml of the oil, then 0.05 ml of the dispersant with the use of a calibrated syringe with a Teflon-tipped plunger. Blend for 5 seconds after adding the dispersant. One ml of these stock solutions added to the 100 ml of standard seawater in the test containers yields a concentration of 10 ppm dispersant, oil, or oil/dispersant combination (the test will be in a ratio of 1 part dispersant to 10 parts of oil).

4. Each test consists of 5 replications of each of 5 concentrations of the material under study, a control series of 5 dishes, a standard reference series of 5 different concentrations, a total of 35 dishes. Simultaneous performance of toxicity tests on the oil, dispersant, and oil/dispersant mixture requires a total of 105 dishes. Immediately after preparing the test solution of the dispersant or oil/dispersant solution, and using an appropriately sized syringe, draw up the necessary amount of test solution and dispense into each of the five containers in each series.

Each time a syringe is to be filled for dispensing to the series of test containers, start the mixer and withdraw the desired amount in the appropriate syringe while the mixer is in operation. Turn mixer off immediately after the sample is taken to limit the loss of volatiles. After adding the required amount of the test oil/dispersant or dispersant mixture, bring the volume of liquid in each of the test containers up to 80 ml with the artificial seawater.

When the desired concentrations have been prepared, gently release into each dish the 20 nauplii previously transferred into 20 ml of medium. This provides a volume of 100 ml in each test chamber. Use a pair of standard cover glass forceps for handling and tipping the small beaker.

5. Wash the blender as prescribed for each series of tests.

6. Incubate the test dishes at 20 ±1°C for 48 hours with the prescribed lighting.

7. Terminate the experiment after 48 observe and record the mortalities, and

determine the LC50s and corresponding confidence limits.

4.0 Summary Technical Product Test Data Format

The purpose of this format is to summarize in standard and convenient presentation the technical product test data required by the U.S. Environmental Protection Agency (EPA) before a product may be added to EPA's NCP Product Schedule, that may be used in carrying out the National Oil and Hazardous Substances Pollution Contingency Plan. This format, however, is not to preclude the submission of all the laboratory data used to develop the data summarized in this format. Sufficient data should be presented on both the effectiveness and toxicity tests to enable EPA to evaluate the adequacy of the summarized data.

A summary of the technical product test data should be submitted in the following format. The numbered headings should be used in all submissions. The subheadings indicate the kinds of information to be supplied. The listed subheadings, however, are not exhaustive; additional relevant information should be reported where necessary. As noted some subheadings may apply only to particular types of agents.

I. *Name, Brand, or Trademark:*

II. *Name, Address, and Telephone Number of Manufacturer:*

III. *Name, Address, and Telephone Numbers of Primary Distributors:*

IV. *Special Handling and Worker Precautions for Storage and Field Application*

1. Flammability.

2. Ventilation.

3. Skin and eye contact; protective clothing; treatment in case of contact.

4. Maximum and minimum storage temperatures; optimum storage temperature range; temperatures of phase separations and chemical changes.

V. *Shelf Life.*

VI. *Recommended Application Procedure.*

1. Application method.

2. Concentration, application rate (e.g., gallons of dispersant per ton of oil).

3. Conditions for use: water salinity, water temperature, types and ages of pollutants.

VII(a). *Toxicity (Dispersants and Surface Collecting Agents):*

Materials tested	Species	LC50 (ppm)
Product	*Fundulus heteroclitus*	——96-hr
	Artemia salina	——48-hr
No. 2 fuel oil	*Fundulus heteroclitus*	——96-hr
	Artemia salina	——48-hr.
Product and No. 2 fuel oil (1:10)	*Fundulus heteroclitus*	——96-hr.
	Artemia salina	——48-hr.

VII(b). *Effective (Dispersants):*

STANDARD EFFECTIVENESS TEST WITH NO. 6 FUEL OIL

Volume (ml) dispersant	Initial (10 min) mean percent dispersion	Final (2 hrs) mean percent dispersion
3		
10		
25		

Dosage causing 50 percent dispersion (from initial dispersion graph) is ——ml.

Dosage causing 25 percent dispersion (from initial dispersion graph) is ——ml.

VIII. *Microbiological Analysis (Biological Additives).*

IX. *Physical Properties of Dispersant/Surface Collecting Agent:*

1. *Flash Point:* (°F)

2. *Pour Point:* (°F).

3. *Viscosity:*——*at*——°F (furol seconds).

4. *Specific Gravity:*——*at*——°F.

5. *pH:* (10 percent solution if hydrocarbon based).

6. *Surface Active Agents (Dispersants).*[1]

7. *Solvents (Dispersants):*[1]

8. *Additives (Dispersants):*[1]

9. *Solubility (Surface Collecting Agents):*[1]

X. *Analysis for Heavy Metals and Chlorinated Hydrocarbons (Dispersants and Surface Collecting Agents):*

Compounds	Concentration (ppm)
Arsenic	
Cadmium	
Chromium	
Copper	
Lead	
Mercury	
Nickel	
Zinc	
Cyanide	
Chlorinated Hydrocarbons	

References

(1) L.T. McCarthy, Jr., L. Wilder, and J.S. Dorrler. *Standard Dispersant Effectiveness and Toxicity Tests.* EPA Report EPA–R2–73–201 (May 1973).

(2) R.T. Rewick, H.C. Bailey, and J.H. Smith. *Evaluation of Oil Spill Dispersant Testing Requirements,* draft report submitted in partial fulfillment of EPA Contract No. 68–03–2821. U.S. Environmental Protection Agency, Oil and Hazardous Materials Spills Branch, Edison, New Jersey (September 1982).

(3) R.T. Rewick, K.A. Sabo, J. Gates, J.H. Smith, and L.T. McCarthy, Jr. "An Evaluation of Oil Spill Dispersant Testing Requirements." *Proceedings, 1981 Oil Spill Conference.* Publication No. 4334. American Petroleum Institute, 1220 L Street, NW., Washington, DC 20005 (1981).

[FR Doc. 84–18871 Filed 7–17–84; 8:45 am]

BILLING CODE 6560–50–M

[1] If the submitter claims that the information presented under this subheading is confidential, this information should be submitted on a separate sheet of paper clearly labeled according to the subheading and entitled "Confidential Information."

This regulation, therefore, does not require a regulatory flexibility analysis.

This action is exempt from review under Executive Order 12291.

VI. List of Subjects in 40 CFR Part 261

Hazardous materials, Waste treatment and disposal, Recycling.

Dated: September 12, 1984.

Jack W. McGraw,

Acting Assistant Administrator.

PART 261—[AMENDED]

For the reasons set out in the preamble, 40 CFR Part 261 is amended as follows:

1. The authority citation for Part 261 read as follows:

Authority: Secs. 1006, 2002(a), 3001, and 3002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended [42 U.S.C. 6905, 6912, 6921, and 6922].

2. Section 261.31 is amended by adding the following introductory text before the table to read as follows:

§ 261.31 Hazardous wastes from non-specific sources

The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in Appendix XI.

• • • • •

3. Section 261.32 is amended by adding the following introductory text before the table to read as follows:

§ 261.32 Hazardous wastes from specific sources

The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in Appendix IX.

• • • • •

4. Section 261.33 is amended by revising the introductory text to read as follows:

§ 261.33 Discarded commercial chemical products, off-specification species, container residues and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded unless they are excluded under §§ 260.20 and 260.22 and listed in Appendix IX.

• • • • •

5. Appendix IX is added to Part 261 to read as follows:

Appendix IX—Wastes Excluded Under §§ 260.20 and 260.22

TABLE 1.—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES

Facility	Address	Waste description
Kay-Fries, Inc.	Stoney Point, NY.	Biological aeration lagoon sludge and filter press sludge generated after September 21, 1984, which contain EPA Hazardous Waste Nos. F003 and F005 as well as that disposed of in a holding lagoon as of September 21, 1984
Metropolitan Sewer District of Greater Cincinnati.	Cincinnati, OH —	Sluiced bottom ash sludge (approximately 25,000 cubic yards), contained in the North Lagoon, on September 21, 1984, which contains EPA Hazardous Wastes Nos. F001, F002, F003, F004, and F005.

TABLE 2.—WASTES EXCLUDED FROM SPECIFIC SOURCES

Facility	Address	Waste description
(Reserved)		

TABLE 3.—WASTES EXCLUDED FROM COMMERCIAL CHEMICAL PRODUCTS, OFF-SPECIFICATION SPECIES, CONTAINER RESIDUES, AND SOIL RESIDUES THEREOF

Facility	Address	Waste description
Union Carbide Corp.	Taft, LA	Contaminated soil (approximately 11,000 cubic yards), which contains acrolein in concentrations of less than 9 ppm.

[FR Doc. 84-24929 Filed 9-20-84; 8:45 am]

BILLING CODE 6560-50-M

40 CFR Part 300

[SWH-FRL-2646-2]

Amendment to National Oil and Hazardous Substance Contingency Plan; National Priorities List

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency ("EPA") is amending the National Oil and Hazardous Substances Contingency Plan ("NCP"), which was promulgated on July 16, 1982, pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA") and Executive Order 12316. This document amends the National Priorities List ("NPL"), which was promulgated as Appendix B of the NCP on September 8, 1983. CERCLA requires that the NCP include a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, and contaminants throughout the United States, and that the list be revised at least annually. The NPL constitutes this list and is being revised to meet those requirements.

DATES: The promulgation date for this amendment to the NCP shall be September 21, 1984. Under section 305 of CERCLA, amendments to the NCP cannot take effect until Congress has had at least 60 "calendar days of continuous session" from the date of promulgation in which to review the amended Plan. Since the actual length of this review period may be affected by Congressional action, it is not possible at this time to specify a date on which the NPL will become effective. Therefore, EPA will publish a Federal Register notice at the end of the review period announcing the effective date of this NPL. EPA notes, however, that the legal effect of a Congressional veto pursuant to section 305 has been placed in question by the recent decision, *Immigration and Naturalization Service* v. *Chadha*, 103 S. Ct. 2764 (1983). Nonetheless, the Agency has decided, as a matter of policy, to submit the NPL for Congressional review. If, however, public health or environmental concerns indicate the necessity for the Agency to initiate remedial action at any of the sites that have been placed on the NPL before the expiration of the time period specified in section 305, such actions will be taken.

ADDRESSES: The public docket for the NCP will contain Hazard Ranking System (HRS) score sheets for all sites on the NPL, as well as a "Documentation Record" for each site, describing the information used to compute the scores. The main docket is located in Room S325, Waterside Mall, 401 M Street, SW, Washington, DC 20460 and is available for viewing from 8:00 a.m. to 4:00 p.m., Monday through Friday, excluding holidays. Requests for copies of these documents should be directed to EPA at the above address. The EPA Regional Offices maintain dockets concerning the sites located in their Regions. Addresses for the Regional Office dockets are:

Peg Nelson, Region I, U.S. EPA Library, John F. Kennedy Federal Bldg., Boston, MA 02203, 617/223-5791;

Audrey Thomas, Region II, U.S. EPA Library, 26 Federal Plaza, 10th Floor, New York, NY 10278, 212/264-2881;

Diane McCreary, Region III, U.S. EPA Library, Curtis Building, 6th and Walnut Streets, Philadelphia, PA 19106, 215/597-0580;

Carolyn Mitchell, Region IV, U.S. EPA Library, 345 Courtland Street, NE, Atlanta, GA 30365, 404/881-4216;
Lou Tilly, Region V, U.S. EPA Library, 230 South Dearborn Street, Chicago, IL 60604, 312/353-2022;
Nita House, Region VI, U.S. EPA Library, First International Building, 1201 Elm Street, Dallas, TX 75270, 214/767-7341;
Connie McKenzie, Region VII, U.S. EPA Library, 324 East 11th Street, Kansas City, MO 64106, 816/374-3497;
Delores Eddy, Region VIII, U.S. EPA Library, 1860 Lincoln Street, Denver, CO 80295, 303/844-2580;
Jean Circiello, Region IX, U.S. EPA Library, 215 Freemont Street, San Francisco, CA 94105, 415/974-8076;
Julie Sears, Region X, U.S. EPA Library, 1200 6th Avenue, Seattle, WA 98101, 206/442-1289.

FOR FURTHER INFORMATION CONTACT:
C. Scott Parrish, Hazardous Site Control Division, Office of Emergency and Remedial Response (WH-548-E), Environmental Protection Agency, 401 M Street SW, Washington, DC 20460, Phone (800) 424-9346 (or 382-3000 in the Washington, DC, metropolitan area).

SUPPLEMENTARY INFORMATION:

Table of Contents

I—Introduction
II—Purpose of the NPL
III—Implementation
IV—Process for Establishing and Updating the List
V—Contents of the NPL
VI—Eligibility of Sites
VII—Changes from the Proposed NPL
VIII—Updates and Deletions
IX—Regulatory Impact Analysis
X—Regulatory Flexibility Act Analysis

I. Introduction

Pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601-9657 ("CERCLA" or "the Act"), and Executive Order 12316 (46 FR 42237, August 20, 1981), the Environmental Protection Agency ("EPA" or "the Agency") promulgated the revised National Contingency Plan ("NCP"), 40 CFR Part 300, on July 16, 1982 (47 FR 31180). Those amendments to the NCP implemented responsibilities and authorities created by CERCLA to respond to releases and threatened releases of hazardous substances, pollutants, and contaminants.

Section 105(8)(A) of CERCLA requires that the NCP includes criteria for determining priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action and, to the extent practicable taking into account the potential urgency of such action, for the purpose of taking removal action. Removal action involves cleanup or other actions that are taken in response to emergency conditions or on a short-term or temporary basis (CERCLA section 101(23)). Remedial action tends to be long-term in nature and involves response actions which are consistent with a permanent remedy for a release (CERCLA section 101(24)). Criteria for determining priorities are included in the Hazard Ranking System ("HRS"), which EPA promulgated as Appendix A of the NCP (47 FR 31219, July 16, 1982).

Section 105(8)(B) of CERCLA requires that these criteria be used to prepare a list of national priorities among the known releases or threatened releases throughout the United States, and that to the extent practicable at least 400 sites be designated individually on this National Priorities List (NPL). Section 105(8)(B) also requires that the list of priorities be revised at least annually. EPA has included on the NPL releases and threatened releases not only of designated hazardous substances, but of any "pollutant or contaminant" which presents an imminent and substantial danger to the public health or welfare. CERCLA requires that the NPL be included as part of the NCP. On September 8, 1983, EPA amended the NCP by adding the NPL, consisting of 406 sites, as Appendix B. On that same day, EPA proposed to amend Appendix B to add an additional 133 sites to the NPL. Of that number, four sites (San Gabriel Sites 1, 2, 3 and 4) have already been added to the NPL on May 8, 1984. Today, the Agency is revising Appendix B by adding 128 sites to the NPL. The discussion below may refer to "releases or threatened releases" simply as "releases," "facilities," or "sites."

II. Purpose of the NPL

The primary purpose of the NPL is stated in the legislative history of CERCLA (Report of the Committee on Environment and Public Works, Senate Report No. 96-848, 96th Cong., 2d. Sess. 60 (1980)):

> The priority lists serve primarily informational purposes, identifying for the States and the public those facilities and sites or other releases which appear to warrant remedial actions. Inclusion of a facility or site on the list does not in itself reflect a judgment of the activities of its owner or operator. It does not require those persons to undertake any action, nor does it assign liability to any person. Subsequent government action in the form of remedial actions or enforcement actions will be necessary in order to do so, and these actions will be attended by all appropriate procedural safeguards.

The purpose of the NPL, therefore, is primarily to serve as an informational tool for use by EPA in identifying sites that appear to present a significant risk to public health or the environment. The initial identification of a site on the NPL is intended primarily to guide EPA in determining which sites warrant further investigation in order to assess the nature and extent of the public health and environmental risks associated with the site and to determine what response action, if any, may be appropriate. Inclusion of a site on the NPL does not establish that EPA necessarily will undertake response actions. Moreover, listing does not require any action of any private party, nor does it determine the liability of any party for the cost of cleanup at the site.

In addition, although the HRS scores used to place sites on the NPL may be helpful to the Agency in determining priorities for cleanup and other response activities among sites on the NPL, EPA does not rely on the scores as the sole means of determining such priorities, as discussed below. Neither can the HRS itself determine the appropriate remedy for a site. The information collected to develop HRS scores to choose sites for the NPL is not sufficient in itself to determine the appropriate remedy for a particular site. After a site has been included on the NPL, EPA generally will rely on further, more detailed studies conducted at the site to determine what response, if any, is appropriate. Decisions on the type and extent of action to be taken at these sites are made in accordance with the criteria contained in Subpart F of the NCP. After conducting these additional studies EPA may conclude that it is not desirable to conduct response action at some sites on the NPL because of more pressing needs at other sites. Given the limited resources available in the Hazardous Substance Response Fund established under CERCLA, the Agency must carefully balance the relative needs for response at the numerous sites it has studied. It is also possible that EPA will conclude after further analysis that no action is needed at a site because the site does not present a significant threat to public health, welfare or the environment.

III. Implementation

EPA's policy is to pursue cleanup of hazardous waste sites using all appropriate response and/or enforcement actions which are available to the Agency. Publication of sites on the NPL will serve as notice to any potentially responsible party that the Agency may initiate Fund-financed response action. The Agency will decide on a site-by-site basis whether to take enforcement action or to proceed directly with Fund-financed response

actions and seek recovery of response costs after cleanup. To the extent feasible, once sites are listed on the NPL EPA will determine high priority candidates for Fund-financed response action and enforcement action through State or Federal initiative. The determinations will take into account which approach is more likely to accomplish cleanup of the site while using the Fund's limited resources as efficiently as possible.

In many situations, it is difficult to determine whether private party response through enforcement measures of Fund-financed response and cost recovery will be the more effective approach in securing site cleanup until studies have been completed indicating the extent of the problem and alternative response actions. Accordingly, the Agency plans to proceed with remedial investigations and feasibility studies at sites as quickly as possible. (See the NCP, 40 CFR 300.68, and the preamble, 47 FR 31180, July 16, 1982, for a more detailed discussion of remedial investigations and feasibility studies.)

Funding of response actions for sites will not necessarily take place in order of the sites' ranking on the NPL. EPA does intend in most cases to set priorities for remedial investigations and feasibility studies largely on the basis of relative position on the list and the States' priorities simply because at this early stage these may be the only sources of information regarding the risks presented by a site. Funding for the design and construction of remedial measures is less likely, however, to be done according to relative position on the list. State assurances that cost sharing and other State responsibilities will be met are prerequisites for construction of remedial measures. Taking those factors into account, EPA will base priorities for design and construction on impacts on public health and the environment, as indicated by the HRS scores and other available information, and on a case-by-case evaluation of economic, engineering, and environmental considerations.

Revisions to the NPL such as today's rulemaking will tend to result in moving some previously listed sites to a lower position on the NPL. If EPA has initiated remedial action such as a remedial investigation or feasibility study at a site, the Agency does not intend to cease such actions in order to determine whether a subsequently listed site should have a higher priority for funding. Rather, the Agency will continue funding remedial actions once they have been initiated regardless of whether higher scoring sites are later added to the NPL.

The NPL does not determine priorities for removal actions; EPA may take removal actions at any site, whether listed or not, that meets the criteria of §§ 300.65–300.67 of the NCP. Likewise, EPA may take enforcement actions under applicable statutes against responsible parties regardless of whether the site is listed on the NPL, although the focus of EPA's enforcement actions will be on NPL sites.

IV. Process for Establishing the NPL

Section 105(8) of the CERCLA contemplates that the States will identify the majority of candidate sites for the NPL according to EPA criteria, although EPA also has independent authority to consider sites for listing. For that reason, most of the sites on the NPL were evaluated by the States in accordance with the HRS and submitted to EPA. In some cases, however, EPA Regional Offices, independent of these State efforts, scored other sites using the HRS. For all sites considered for this update of the NPL, including those scored by the States, EPA reviewed the HRS evaluations and conducted quality assurance audits. These audits are intended to ensure accuracy and consistency in HRS scoring among the various EPA and State offices.

On September 8, 1983, EPA proposed the first revision to the NPL in the Federal Register (48 FR 40674). Of the 133 sites proposed, 131 had received HRS scores of 28.50 or higher; one site was designated by the State as its top priority and, according to CERCLA, must be included among the top 100 sites; and one site was proposed for listing on the basis of a future NCP amendment which will delineate additional criteria for listing sites on the NPL. The cutoff score of 28.50 points was the same cutoff chosen for the initial NPL (see 47 FR 58476, December 30, 1982, and 48 FR 40658, September 8, 1983). The cutoff score was selected because it would yield an initial NPL of at least 400 sites as suggested by CERCLA, not because of any determination that sites scoring less than 28.50 did not present a significant risk to human health, welfare or the environment.

The public comment period on the proposed rule ended November 8, 1983. EPA considered all comments received by March 30, 1984. Based on the comments received on the September 8, 1983, proposed rule, as well as further investigation by EPA and the States, EPA recalculated the HRS scores for individual sites where appropriate. EPA's response to public comments and explanations of any score changes made as a result of such comments, are addressed in the "Support Document for the Revised National Priorities List—1984." This document is available for review in the EPA dockets in Washington, DC and the Regional Offices.

One commenter disagreed with EPA's approach for selecting sites for the NPL update. The commenter was concerned over the lack of a permanent and consistent rationale for the NPL cutoff score of 28.50. The commenter said that the threshold should be based on risk, not on the need to include a specified number of sites. The commenter suggested that EPA should begin to address this issue for long-range planning purposes in its implementation of CERCLA. The commenter expressed concern that EPA and others may "erroneously assume there is an automatic need to continually replenish the list." The commenter said that if sites posing minimal or non-existent risks continue to be added to the NPL, the public could be misled about the nature of the risks, and unnecessary demands could be placed on public and private resources.

In response, EPA selected the 28.50 score for the initial NPL because it would yield a list of at least 400 sites as required in section 105(8)(B) of CERCLA. The decision to retain the 28.50 cutoff score for the first update was based on the absence of any scientific evidence of an alternative HRS threshold score. EPA has not made a determination that sites scoring less than 28.50 do not present a significant risk to human health, welfare, or the environment.

The HRS was designed to use information such as that collected during a site inspection in order to allow EPA to include sites which have not been extensively investigated. As stated in the Preamble to the NCP (47 FR 31188), the requirements of section 105(8)(A) of CERCLA to list national priorities would not be met if EPA waited until extensive information has been generated for all releases. Consequently, the HRS does not measure absolute risks associated with a site. EPA believes that such a risk assessment would require significantly greater time and funds than are presently required for placing a site on the NPL. The HRS does distinguish relative risks among sites and does identify sites that appear to present a significant risk to public health, welfare, or the environment.

A much more detailed investigation conducted following a site's listing on the NPL. Decisions on the type and

extent of actions to be taken at these sites are made in accordance with the criteria contained in subpart F of the NCP. These more detailed studies would determine if sites posing minimal or nonexistent risks had been included on the NPL. In response to the commenter's concerns, EPA could conclude after further analysis that no action is needed at such a site because it does not present a significant threat to public health, welfare, or the environment.

EPA has initiated a preliminary study to characterize the potential threats from sites that score below the cutoff score of 28.50. Generally, these are sites that potentially affect fewer people, or where there is less opportunity for exposure. EPA has acknowledged that in limited circumstances it may be appropriate to consider other criteria than simply a sufficiently high HRS total score for purposes of listing sites on the NPL. These criteria, described in the Preamble to the first NPL update (48 FR 40676, September 8, 1983) were the basis for proposing the Quail Run Mobile Manor, Missouri site for inclusion on the NPL. Although the NCP does not currently include provisions to add sites on the basis of these criteria, EPA intends to modify the NCP in such a way that Quail Run and other similar sites will qualify for the NPL.

EPA considered several alternatives for adding sites to the NPL: (1) Maintaining the size of the list at approximately 400 sites by raising the threshold HRS score and removing lower-scoring sites from the list; (2) allowing the list to expand in a limited way by raising the threshold score but not removing lower-scoring sites from the list; and (3) maintaining the threshold score of 28.50 and allowing the size of the NPL to be determined by the number of sites exceeding the threshold score. EPA selected the third approach in order to be consistent at all sites and to give equal treatment to all interested parties. EPA's decision was not based on a need to replenish the list. The list is growing because EPA and the States continue to identify candidates as a result of their investigative programs.

Some commenters stated that certain specific sites not included in the September 8, 1983, proposed rule should be on the NPL. EPA and States are evaluating those sites and will propose any sites that meet EPA's criteria in future updates.

V. Contents of the NPL

As noted above, CERCLA requires that the NPL include, if practicable, at least 400 sites. The NPL amendment published today contains a total of 538 entries, including 128 new sites. Each entry contains the name of the facility, the State and city or county in which it is located, and the corresponding EPA Region. For informational purposes, each entry is accompanied by a notation on the current status of response and enforcement activities at the site. The definitions of the status codes are described more fully below.

The new sites added to the NPL are incorporated into the previously promulgated NPL in order of their HRS score (except where EPA modified the order to reflect top priorities designated by States, as discussed in the following paragraph). Those new sites are also listed separately in Table 2. The NPL is presented in groups of 50 sites to emphasize the fact that minor differences in HRS scores do not necessarily represent significantly different levels of risk. EPA considers the sites within a group to have approximately the same priority for response actions.

Section 105(8)(B) of CERCLA requires that, to the extent practicable, the NPL include within the 100 highest priorities at least one facility designated by each State as representing the greatest danger to public health, welfare, or the environment among known facilities in the State. The Agency did not require States to rely exclusively on the HRS in designating their top priority sites, and the HRS scores of some of these sites did not place them among the first 100. These lower-scoring State priority sites are listed at the bottom of the first 100 sites. All top priority sites designated by States are indicated by asterisks.

For informational purposes, the NPL includes several categories of notation reflecting the status of response and enforcement actions based on the Agency's most current information. Because a site's status may change periodically, these notations may become outdated. Site status will be noted in the following categories: Voluntary or Negotiated Response (V); Federal and State Response (R); Federal or State Enforcement (E); and Actions to be Determined (D). Each category is explained below.

Voluntary or Negotiated Response (V)

Sites are included in the Voluntary or Negotiated Response category if private parties are taking response actions pursuant to settlement agreements or consent orders to which EPA is a party. Voluntary or negotiated cleanup may also include actions taken pursuant to a consent decree reached after EPA has commenced an enforcement action. This category of response may include remedial investigations, feasibility studies, and other preliminary work, as well as actual cleanup.

Federal and State Response (R)

The Federal and State Response category includes sites at which EPA or State agencies have commenced or completed removal or remedial actions under CERCLA, including remedial investigations and feasibility studies (see NCP, § 300.68 (f)–(i), 47 FR 31217, July 16, 1982). For purposes of this classification, EPA considers the response action to have commenced when EPA has obligated funds. For some sites in this category EPA may follow remedial investigations and feasibility studies with enforcement actions, at which time the site status would change to "Federal or State Enforcement."

Federal or State Enforcement (E)

This category includes sites where the United States or the State has filed a civil complaint or issued an administrative order. It also includes sites at which a Federal or State court has mandated some form of non-consensual response action following a judicial proceeding. It does not, necessarily, include all sites at which preliminary enforcement activities are underway. A number of sites on the NPL are the subject of enforcement investigation or have been formally referred to the Department of Justice for enforcement action. EPA's policy is not to release information concerning a possible enforcement action until a lawsuit has been filed. Accordingly, such sites are not included in the enforcement category.

Actions to be Determined (D)

This category includes all sites not listed in any other category. A wide range of activities may be in progress for such sites. The Agency may be considering whether to undertake response action, or may be conducting an enforcement investigation. EPA may have referred a case involving the site to the Department of Justice prior to formal commencement of enforcement action. Other examples of actions not covered in other categories include investigations to determine the source of a release in areas adjacent to or near a Federal facility or cleanup operations by responsible parties that are not covered by consent orders, consent decrees, or settlement agreements.

VI. Eligibility

CERCLA restricts EPA's authority to respond to the release of certain substances into the environment, and

explicitly excludes some substances from the definition of release. In addition, as a matter of policy, EPA may choose not to respond to certain types of releases under CERCLA because existing regulatory or other authority under other Federal statutes provides for an appropriate response. Where such other authorities exist, and the Federal government can undertake or enforce cleanup pursuant to a particular established program, listing on the NPL to determine the priority or need for response under CERCLA may not be appropriate. EPA has therefore chosen not to consider certain types of sites for the NPL even though CERCLA may provide authority to respond. If, however, the Agency later determines that sites not listed as a matter of policy are not being properly responded to, the Agency will consider listing them on the NPL.

This section discusses the comments received on these categories of releases and the Agency's decisions with respect to including them on the NPL.

Releases of Radioactive Materials

Section 101(22) of CERCLA excludes several types of releases of radioactive materials from the statutory definition of "release." These releases are therefore not eligible for CERCLA response actions or inclusion on the NPL. The exclusions apply to the following: (1) Releases of source, by-product or special nuclear material from a nuclear incident if these releases are subject to financial protection requirements under section 170 of the Atomic Energy Act; and (2) any release of source, by-product, or special nuclear material from any processing site designated under the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA). Accordingly, such radioactive releases have not been considered eligible for the NPL. As a policy matter, EPA has also chosen not to list releases of source, by-product, or special nuclear material from any facility with a current license issued by the Nuclear Regulatory Commission (NRC), on the grounds that the NRC has full authority to require cleanup of releases from such facilities. Formerly licensed facilities whose licenses no longer are in effect will, however, be considered for listing.

Some commenters took issue with EPA's position on releases of radioactive materials in presenting the following arguments: (1) EPA should not include facilities on the NPL that hold a current license issued by a State pursuant to a delegation of authority from the NRC pursuant to section 274 of the Atomic Energy Act (42 U.S.C. 2021); (2) EPA should not include sites containing radioactive materials on the NPL because other Federal authorities, such as UMTRCA, provide adequate authority to control releases from such sites; and (3) HRS scores do not accurately reflect the real hazards presented by radioactive sites especially when the releases are within radiation limits established by NRC pursuant to the Atomic Energy Act. These comments reiterate points made when the first NPL was published. EPA's response (48 FR 30661, September 8, 1983) remains unchanged. Regarding the points that facilities regulated by States should not be included on the NPL, one commenter said that EPA is incorrect as to the control exercised by the NRC in such agreement States and that such State controls are adequate. EPA on the other hand believes that if such controls are adequate, then the sites will not have sufficiently high HRS scores to warrant including them.

Releases From Federal Facilities

CERCLA section 111(e)(3) prohibits use of the Fund for remedial actions at Federally owned facilities. EPA has not listed any sites where the release clearly resulted solely from a Federal facility, regardless of whether contamination remains on-site or has migrated off-site. EPA did, however, consider eligible for inclusion on the NPL sites where it was unclear whether the Federal facility was the sole source of contamination based on the rationale that if some other source were also responsible, EPA might be authorized to respond. In these situations, the off-site contaminated area associated with this type of release was considered eligible for inclusion. Sites previously, but not currently, owned by the Federal government were also considered eligible. Finally, sites not owned by the Federal government but where the Federal government may have contributed to a release were also eligible.

EPA chose not to list releases coming solely from Federal facilities because EPA lacks response authority and because Executive Order 12316 (46 FR 42237, August 20, 1981) assigns the responsibility for cleanup of these sites to the responsible Federal agency. EPA incorporated this position into the NCP, at § 300.66(e)(2) (47 FR 31215, July 16, 1982). However, after further consideration of this policy, the Agency concluded that it may be useful for informational purposes to include Federal facility sites on the NPL and will propose a future amendment to the NCP to permit the Agency to do so. EPA intends to consider Federal facilities in the next update proposal.

Indians Lands

Sites on Indian lands are currently eligible for inclusion on the NPL. EPA is developing a discovery and investigation program for evaluating potential sites on Indian lands. The Agency urges commenters to submit information on any sites which they feel may need to be evaluated for future updates to the NPL.

RCRA Sites

As stated in EPA's previous NPL rulemaking (48 FR 40658, September 8, 1983), both CERCLA and the Resource Conservation and Recovery Act (RCRA) contain authorities applicable to hazardous waste facilities. These authorities overlap for certain sites. Accordingly, where a site consists only of regulated units of a RCRA facility operating pursuant to a permit or interim status, it will not be included on the NPL but will instead be addressed under the authorities of RCRA except as provided in the paragraph that follows. The Land Disposal Regulations under RCRA (40 CFR Parts 122, 260, 264, and 265) gives EPA and the States authority to control active sites through a broad program which includes monitoring, compliance inspections, penalties for violations, and requirements for postclosure plans and financial responsibility. RCRA regulations require a contingency plan for each facility. The regulations also contain ground water protection standards (40 CFR Part 264 Subpart F) that cover detection monitoring, compliance monitoring (if ground water impacts are identified) and corrective action for releases within the boundaries.

These monitoring and corrective action standards apply to all "regulated units" of RCRA facilities, i.e., any part of the waste treatment, storage, or disposal operation within the boundaries of the facility that accepted waste after January 26, 1983, the effective date of the Land Disposal Regulations (47 FR 32349, July 26, 1982). Even if the unit ceases operation after this time, EPA has the authority to require it to obtain a permit, and the monitoring and corrective action requirements could therefore be enforced by this mechanism. Given this alternative authority to ensure cleanup, regulated units of RCRA facilities generally are not included on the NPL. If the facility is abandoned or lacks sufficient resources and the RCRA corrective action requirements cannot be enforced, EPA will consider listing the site on the NPL for possible response under CERCLA. This policy is applicable not only to

sites subject to EPA-administered hazardous waste programs but also to sites in States that administer programs approved by EPA. In the latter instance, close Federal control is ensured by the comprehensiveness of the program elements required of all State programs along with EPA's authority to enforce State program requirements directly if the State fails to do so. EPA does, however, consider eligible for listing on the NPL those RCRA facilities where a significant portion of the release appears to come from "non-regulated units" of the facility (that is, portions that ceased operation prior to January 26, 1983).

Releases of Mining Wastes

Some commenters expressed their views that CERCLA does not authorize EPA to respond to releases of mining wastes and, therefore, sites involving mining wastes should not be included on the NPL. The commenters argued that it is unclear if CERCLA was intended to address the type of waste problem, characterized by low concentrations and large volumes, associated with mining waste. The commenter believed the HRS is not an appropriate tool to estimate the risk to health and the environment presented by mining waste sites. Finally, the commenters stated that the mining waste sites are generally in rural areas, so that no sizable target populations are affected.

These comments also were received during the previous rulemaking and EPA's response to these comments (48 FR 40663, September 8, 1983) remains unchanged. Some commenters raised a new issue related the EPA's authorities to respond to mining sites: that is, certain sites do not pose imminent hazards, thus, should not have been included on the NPL or are not eligible. EPA believes that if the substance involved at a site is a "hazardous substance," the Agency can respond to any release, or any threatened release, without any need to determine that a threshold level of hazard is present. With respect to pollutants or contaminants, EPA does not agree that response authority is limited to releases that pose an imminent and substantial danger. Section 104(a)(1)(B) of CERCLA clearly states that response is authorized for any release that "may" present an imminent and substantial danger, and is not limited to those that actually do present such danger. More importantly, response is authorized not only for releases, but for any "substantial threat of release." As one example, the East Helena site in Montana presents at least a substantial threat of release, as indicated by the fact that its HRS score was based on the potential for a release, which resulted in a score high enough to place it on the NPL.

Regarding the issue of whether the HRS is appropriate for evaluating mining sites, one commenter elaborated on the point that HRS does not use information on the concentrations of the substances involved and that mineral substances do not pose the same risks as man-made chemicals. In response, the commenters have presented no information that would support a contention that concentrations of hazardous substances in discharges from mining sites are lower than from other types of sites or are too low to cause problems. The toxicity values specified in the HRS instructions, including those for mineral substances, are derived from standard references in the field of toxicology. Concentrations at which various health effects occur are the basis for assigning toxicity values to various mineral substances. The fact that these standard texts assign the highest toxicity values to some mineral substances contradicts the position set forth by the commenter. Furthermore, EPA believes that there is ample evidence that the concentrations and amounts of pollutants and contaminants discharged by mining sites can and do have a significant impact on public health and the environment. As the commenter pointed out, mining sites tend to generate extremly large quantities of wastes. Thus, even if the concentration of hazardous substances in the wastes are low, as the commenter contends, the total quantities of substances available to be discharged into the environment are high. Finally, as the commenter's own studies demonstrate, the two most important factors in determining whether a mining site is included on the NPL are whether the site is known to be discharging into the environment and the size of and distance to the potentially affected populations. EPA believes that these are reasonable factors to use in assessing sites.

Sites Which May Be Cleaned Up by Responsible Parties

Some commenters said that EPA should not include on the NPL those sites associated with known active waste sources with identified responsible parties because such listing misrepresents the amount of Fund money required for response actions and may give an unduly negative impression with respect to ongoing cleanup activities. One commenter suggested deleting from the NPL sites undergoing such cleanups. Another commenter said that EPA should not include on the NPL those sites where the responsible parties are "acting appropriately." Other commenters said that EPA should not have included certain sites on the NPL because responsible parties had concluded agreements with State agencies or the Federal government providing for response actions.

In developing the policy on eligibility for the NPL, EPA considered several alternatives for excluding sites where private parties might be performing cleanup. The Agency decided, however, that making such exclusions was not the best approach, taking into account the purpose of the NPL as stated in the legislative history of CERCLA, the objectives of protecting public health and the environment, and the need to administer the program consistently. The NPL is primarily for informational purposes (Report of the Committee on Environment and Public Works, Senate Report No. 96-848, 96th Cong., 2d Sess. 60 (1980)). The Agency believes that even where a site is undergoing response actions, interested parties such as neighboring residents may need to know about the threats posed by that site relative to other sites. In addition, the Agency believes that including sites on the NPL until appropriate cleanup actions have been completed will provide more incentives for early and effective actions than the alternatives such as excluding sites where responsible parties have agreed to begin cleanup. Another consideration is that the comprehensiveness and effectiveness of such agreements will vary considerably among States, and in some cases agreements may not be completely consistent with the standards of the NCP. Excluding sites on the basis of the financial resources of responsible parties may establish a dual standard that is unfair to small businesses. Furthermore, some financially viable responsible parties have refused to undertake response actions. Finally, excluding sites on the basis of financial resources of potentially responsible parties would necessitate identification of those parties and comparison of their resources with potential cleanup costs before listing them on the NPL, which EPA believes would significantly increase the costs of the NPL and seriously delay its implementation. Accordingly, consistent with previous Agency policy, EPA has decided not to exclude any sites based on the financial resources of responsible parties or their willingness to respond to releases.

Sites Which Are Difficult to Address

One commenter said that "unbounded or unmanageable sites, such as well fields" should not be included on the NPL. In response, EPA believes that unless a remedial investigation and feasibility study has been completed at a site, it is not possible to specify whether a site presents a manageable problem. Furthermore, at many of those sites where commonly applied remedial actions are infeasible, some response actions short of waste removal or source controls, e.g., providing alternative water supplies, may be appropriate. EPA believes that the technologies for response actions have been developing rapidly; a response which was infeasible in the past may become feasible in the near future. Finally, with the case specifically mentioned, wellfields, the Agency has generally found the need for CERCLA response particularly acute since this generally involves contamination of public water supplies. Hence, EPA has not attempted to exclude sites which are especially difficult to address through current response technologies.

Noncontiguous Facilities

Section 104(d)(4) of CERCLA authorizes the Federal government to treat two or more noncontiguous facilities as one for purposes of response, if such facilities are reasonably related on the basis of geography or their potential threat to public health, welfare, or the environment. As previously stated (48 FR 65058, September 8, 1983), for purposes of the NPL, EPA has decided that in most cases such sites should be scored and listed individually because the HRS scores more accurately reflect the conditions at the sites if each is scored individually. In other cases, however, the nature of the operation that created the sites and, possibly, the nature of the appropriate response may indicate that two geographically separate properties should be treated as one site for purposes of listing. EPA has done so for some sites previously listed separately on the NPL.

Factors relevant to such a determination may include whether the two or more areas were operated as parts of a single unit. Another factor is whether contamination from the two or more sites is threatening the same part of an aquifer or surface water body. Finally, EPA will also consider the distance between the noncontiguous sites and whether the target population (i.e., within 3 miles) is essentially the same or substantially overlapping for the sites.

One commenter, Governor Bond of Missouri, submitted the 33 known dioxin sites in that State as a single site on the NPL. Using characteristics from various sites, he assigned a single HRS score to the 33 sites. Governor Bond maintained that the dioxin was produced by a single waste generator and that the sites had a common method of disposal. According to the Governor, by treating the sites individually EPA has complicated negotiations for health studies, development of cost recovery suits, and the State's accounting procedures.

EPA carefully considered the Governor's proposal and, taking into account the factors discussed above, decided that his reasons did not warrant consolidating the 33 sites into a single site. The sites are dispersed over a wide area of the State and affect different target populations. The 33 sites generally comprised different disposal operations rather than parts of the same facility. Many of the 33 sites would not individually score high enough to be on the NPL and, thus, the overall score for the 33 sites would be misleading. EPA has also concluded that listing the 33 sites as a single site on the NPL is not a prerequisite for developing a consolidated response strategy for the Missouri dioxin sites. Many of these sites may qualify for Fund-financed removal actions. The Agency is currently evaluating ways of coordinating possible response strategies at these sites to alleviate the problems which Governor Bond has identified.

Another commenter expressed the view that any grouping of noncontiguous sites would be inappropriate. EPA disagrees. In some instances the property boundaries or other factors commonly used to define a site may not be very useful or reasonable for determining if a problem involves one site or several. One example is the Minker/Stout/Romaine Creek site in Missouri where dioxin contaminated soils were used as fill in several yards in a residential neighborhood. Even though the contaminated areas are not contiguous and the properties involved have several different owners, the Agency determined that the site was really a single operation, that the same target populations might be affected, and that there is no logic to support treating the various areas as separate sites. Given the many factors involved in making such determinations and the differing importance that each factor may take on in various situations, the Agency must weigh each situation individually to determine if noncontiguous disposal areas are a single site or several.

Where EPA determines, based on the above considerations, that two or more noncontiguous locations are most logically considered as a single site, they will appear as a single site on the NPL. While the listing suggests prospective response actions, it does not prescribe them; EPA may decide that response efforts should be distinct and separate for the two locations. Also, EPA may decide to respond to several sites listed separately on the NPL with a single response if it appears cost-effective to do so.

Scoring of Air Releases

A comment was received concerning how past air releases are scored. Language in the preamble to the final NCP caused a commenter on the Bayou Sorrell, Louisiana site to question whether past air releases may properly be included in a site's HRS score. This issue is discussed in detail in the "Support Document for the revised National Priorities List—1984" for the Bayou Sorrell site. However, the main points of this issue are presented in the following discussion.

EPA believes that past air releases are included in a site's HRS score. The HRS stipulates that a site is to be scored for an air release if data "show levels of contaminants at or in the vicinity of the facility that significantly exceed background levels, regardless of the frequency of the occurrence (47 FR 31236). According to the HRS as established in the NCP revisions, therefore, the single evidence of an air release such as that which occurred at Bayou Sorrell requires that the site be scored as having an observed release to air. This approach to scoring has been clarified by EPA's stated policy that sites are to be scored on the basis of conditions existing before any remedial measures were performed. This policy was clearly stated at the time of promulgation of the NCP revisions (47 FR 31188), and EPA considers it to be firmly established as part of the HRS. In addition, the Agency has attempted to clarify further the reasons for this policy in subsequent statements (48 FR 40664–5).

Several considerations underlie the policy. Actions by States to conduct or enforce cleanup might be discouraged if partial cleanup of a site could reduce the score such that the site would not be eligible for the NPL.

Another concern is that responsible parties might be encouraged to conduct minimal, incomplete cleanup actions at sites that might reduce the HRS score

but fail to remedy the problems completely. For example, a site may present problems in all three routes—ground water, surface water, and air, and only the air route is remedied. In such a situation, because the partial cleanup could leave significant health threats unaddressed, the site would not be scored on the basis of the latest conditions, but rather on the basis of conditions existing prior to the remedy of the air route (48 FR 40664).

A third consideration is that the HRS was designed according to the reasonable approximations of risk that could be derived from certain basic conditions at a site as they existed prior to any cleanup actions. Where the data on a site reflect conditions after some cleanup actions, the assumptions upon which the HRS was designed may no longer be appropriate, and the score would not represent an approximation of risk that is accurate or consistent with scores for other sites. All three of these considerations are explained in detail in the preamble to the initial NPL (48 FR 40664–5).

Another consideration is that the level of scrutiny provided by the HRS and the NPL listing process, while sufficient to provide a general approximation of risks and comparison among sites, is not sufficiently detailed to evaluate the adequacy of cleanup actions. The HRS was designed to take into account as many factors regarding the condition of sites and the risk they present as can be considered simply and for many sites across the country. It does not take into account factors that the Agency believes would require sophisticated data or analysis. In developing the HRS, EPA considered evidence that a release above background has occurred is relatively easily determined. However, the Agency determined that evidence as to whether past cleanup actions are sufficient to have eliminated the release and potential for future releases is much more difficult to obtain and evaluate, and therefore chose not to include consideration of this factor in the HRS. Likewise, the Agency decided not to require evidence of frequency and continuation of a release, as explained in the promulgation of the HRS (47 FR 31188). To do otherwise would render the NPL process unnecessarily expensive and time-consuming, which would divert funds from cleanup activities and impede the progress of the program. EPA recognizes that these considerations are very relevant to determining the risks presented by a site and the remedies, if any, that should be conducted. Factors of this type, however, are intended to be evaluated after the NPL listing process has identified a limited number of sites as potential problems. Having taken this approach in the HRS, EPA must apply it consistently to individual sites.

A commenter on the Bayou Sorrell, Louisiana site cited preamble language which states that "air releases must currently exist, must be measured, and must not be caused by disturbances from investigations" (47 FR 31189). EPA believes that the commenter took this language out of context. Read in context, it in no way contradicts the Agency's policies of scoring on the basis of a single observation and scoring on the basis of conditions existing before any cleanup actions.

The portion of the preamble (47 FR 31189) containing this language was written in response to comments arguing that the HRS should provide for scoring for the potential of a release, rather than only scoring when an actual release is observed. The HRS does score for potential releases in the ground water and surface water routes if no actual release has been observed. For the air route, however, EPA believed that evidence of the potential for an air release could not be easily established and would be too tenuous a possibility to warrant taking it into account. Therefore, in order to calculate any score at all for the air route, an actual release must be observed. By stating that air releases must "currently exist," EPA was attempting to explain that the release must have actually occurred, rather than being merely a potentiality. This interpretation is consistent with the actual HRS instructions, which require "data that show levels of a contaminant at or in the vicinity of the facility that significantly exceed background levels, regardless of the frequency of occurrence" (47 FR 31236).

Any other interpretation of this language would be illogical. If the word "current" were to be interpreted as meaning "today," then an observed release to air would have to be continually updated and redocumented. This would not only entail considerable expense but would also allow the assignment of an observed release to the air to be negated by a removal or remedial action. The Agency has consistently scored sites on the basis of conditions before removal or remedial actions, as explained in 48 FR 40664.

VII. Changes From the Proposed NPL

The Agency received a total of 128 comments on the proposed NPL update. Of these, 112 comments pertained to 50 of the proposed sites. The remainder of the comments addressed sites that were not proposed or generic or technical issues that were not site specific. General comments on the NPL are addressed throughout this preamble. Significant comments regarding specific sites are addressed in the "Support Document for the Revised National Priorities List—1984." A number of the site-specific comments addressed similar issues, and EPA's rationale for addressing those issues is presented in this section. Many of the issues raised in comments are the same as those raised previously and discussed in the previous final rulemaking on the NPL (48 FR 40658, September 8, 1983). The Agency's positions on these issues remains unchanged.

Waste Quantity

A number of commenters said that the waste quantity values assigned under the HRS were too high because EPA had included the non-hazardous constituents of the hazardous substances in calculating the quantity of waste located at the facility. Commenters raised similar issues when the first NPL was published (48 FR 40658, September 8, 1983), and EPA's response remains unchanged.

Consideration of Flow Gradients

In some instances commenters maintained that, based upon their conclusions regarding prospective movement of contaminants in ground waters, the values assigned by EPA to population served by ground water are too high. The commenters said that EPA should only count the population using those wells which they believed would be affected by the releases. As was the case with the waste quantity issue, this issue was addressed and resolved when the NPL was first promulgated (48 FR 40658). The rationale for the Agency's approach is futher discussed in the preamble to the NCP (47 FR 31190–91, July 16, 1982) and is equally applicable now. The HRS specifies that all the population using the aquifer of concern within 3 miles of the facility should be included in the calculations of population served by ground water. The Agency's approach is based on the difficulty of predicting precisely the movements of ground water based on the limited amount of data consistently avaliable at the time of HRS scoring. Furthermore, in establishing the rating scales, the Agency took into account the fact that most wells within 3 miles would not be affected. If EPA were to establish rating scales based only on the populations that have been or are certain to be affected, the scales would have assigned high values for much smaller populations then those specified

in the current HRS. Another consideration is that population using the aquifer is a measure of the value of the ground water to the local population. Thus, even if EPA determines at a specific site that currently operating wells will not be affected, taking current water use into account is important because it allows the Agency to indirectly estimate the potential uses of the resource.

Scoring on the Basis of Current Conditions

Many commenters felt that EPA should take current conditions into account when scoring sites where response actions have reduced the hazards posed by the site. For the ground water, surface water, and air pathways, EPA scored sites for inclusion in the NPL based on the hazards that existed before any response actions were initiated. This policy was explained in the preamble to the final revisions to the NCP (47 FR 31187, July 16, 1982). At that time the Agency explained that public agencies might have been discouraged from taking early response if such actions could lower the HRS score and prevent a site from being included on the NPL. Another reason, stated in the Preamble to the NCP, is that EPA does not want to encourage incomplete solutions that might leave significant health threats unaddressed. EPA is also concerned that if a site is rescored taking the response actions into account, the drop in score that may result might not reflect a commensurate reduction in the level of risk presented by a site. EPA has elaborated on this rationale in the Preamble to the previous NPL final rule (48 FR 40658, September 8, 1983), and the Agency's position remains unchanged.

Where response actions have already been initiated by private parties or another agency, listing such sites will enable EPA to evaluate the need for a more complete response. Inclusion on the NPL therefore does not reflect a judgment that responsible parties are failing to address the problems. The Agency believes, therefore, that this approach is appropriate, and consistent with the purpose of the NPL as stated in the legislative history of CERCLA.

This policy is also relevant to evaluating the waste management practices at a facility for the purpose of assigning a score for the "containment" factor as a part of the "Route Characteristics" score for a site. Some commenters said the EPA should have considered corrective actions at sites in assigning containment values. In response, the containment values were designed to allow EPA to evaluate the likelihood of a release occurring in light of the measures taken to prevent such a release (e.g., infiltration controls designed to prevent leachate generation). If such controls are not operational until some time after disposal, then the likelihood of a release is high, and subsequent installation of the controls does not alter that fact. Thus, in scoring the containment factor EPA has considered only those waste management practices that clearly have been applied in a timely manner.

Small Observed Release

Some commenters maintained that EPA incorrectly assigned values for observed releases to ground waters because the measured concentrations of the substances involved were below the regulatory limits specified under the Safe Drinking Water Act or other Federal and State laws. Their comments reiterate comments made when the first NPL was published. EPA's response (48 FR 40658, September 8, 1983) remains unchanged.

Some commenters submitted data showing lower concentrations of contaminants in the environment than EPA or the States had found in previous analyses; in some instances the data indicated the absence of any contaminants at the time of sampling. These commenters suggested that EPA had erred in assigning an observed release. In all such instances EPA carefully reviewed the original EPA or State data as well as that furnished by the commenters. In those cases where EPA determined that the original data substantiating the observed releases were valid, EPA assigned values based on that data even if subsequent sampling failed to detect the same contaminants. Such an approach is consistent with the HRS and recognizes that many releases vary in concentration through time or occur sporadically. Thus, negative results during one or more sampling intervals cannot refute a finding, when based on valid sampling and analyses, that an observed release has occurred.

Several commenters questioned the validity of the sampling and analytical data used to establish observed releases, particularly in instances where the amount of contaminant detected in a sample is near the detection limit of the appropriate analytical method. As stated in the HRS (47 FR 31224), the standard requirement for establishing an observed release is that the measured concentration of a contaminant in a sample must be significantly higher than background concentrations of the contaminant in other samples from the site. The methodologies used to establish background levels and to determine significantly higher concentrations are explained below in response to these comments.

In cases in which a specific contaminant is not detected in some site samples, the background level of that contaminant is assumed to be some unknown value less than the detection limit. Any measurable quantity of contaminant in the site samples is considered significantly higher than the background and provides the basis for scoring an observed release. The validity of these assumptions is supported by the statistical analysis used to establish detection limits for the analytical methodology.

In situations in which a specific contaminant is detected in all site samples, an observed release is sometimes more difficult to determine than in the case where the substance is not detected in background samples. Generally, there are insufficient numbers of samples from a site to apply conventional statistical tests for significance. The scorer must often rely on inspection of the data to evaluate whether an observed release has occurred. If the data cluster into a group of high values and a group of lower values, particularly if the high values are attributed to sampling locations that appear to be downgradient of a site, an observed release is confirmed. If the analytical results from only one sampling location are significantly higher than from all other locations, an observed release has also ocurred. However, if the contaminant concentrations are similar among background and monitoring wells within a 10 to 20 percent range, for example, EPA generally cannot state conclusively that an observed release has occurred. In addition, low concentrations (e.g., less than 10 parts per billion) of phthalates and other substances very commonly found in ground water are examined very carefully along with any other evidence that might tend to corroborate or disprove that a release has occurred.

Summary of Score Changes

For the 133 sites proposed on September 8, 1983, a total of 14 HRS scores changed on the basis of the Agency's reviews of comments and other information (Table 1). For 12 sites, the changes had no effect on listing; however, some of these changes resulted in the site being placed in different groups. For two sites, final HRS scores were below 28.50 and the sites will not be included on the NPL at this time. For four sites, the Agency is still considering the comments received.

TABLE 1.—HRS SCORE CHANGES

State city and county	Site name	HRS score	
		As proposed	Revised
Region II			
New Jersey			
Sherwood Township	Ewan Property	45.66	89.19
Florence Township	Florence Land Reconditioning	56.79	47.37
Mount Holly	Landfill & Development Co	31.03	33.62
Region III			
Delaware: Delaware City	Old Brine Sludge Landfill	40.32	14.49
Pennsylvania: Williams Township	Industrial Lane (Chris)	41.12	42.47
Region IV			
Florida: Medley	Pepper Steel & Alloy	32.11	31.92
Region V			
Indiana: Indianapolis	Reilly Tar & Chemical	42.92	34.09
Minnesota:			
Fanbault: Nutting Truck & Caster.	42.58	57.89	
New Brighton	MacGillis & Gibbs Co./Bell Lumber & Pole Co	52.53	48.33
Ohio: Dayton	Powell Road Landfill	30.86	31.62
Wisconsin: Milwaukee	Moss American	43.53	32.14
Region VI			
Oklahoma: Tulsa County	Compass Industries (Avery Drive)	33.83	38.57
Region X			
Idaho: Pocatello	Pacific Hide & Fur Recycling Co	44.52	42.50
Washington: Roy	Rosch Property	28.31	10.36

State	Site name for proposed NPL	New site name
New Hampshire	Keasbey Metallurgical Corp.	Keasbey Metallurgical Corp
New Jersey	Chemical Leaman Tank Lines, Inc.	Chemical Leaman Tank Lines Inc.
Texas	Compass Industries.	Compass Industries (Avery Drive)
Montana	East Helena Smelter.	East Helena site

In addition, on September 8, 1983, EPA deferred rulemaking on a total of seven sites that had been included in the first proposed rule for the NPL, December 30, 1982 (47 FR 58476). Those sites are listed below along with the originally proposed scores and the final scores.

State	Site name	Proposed score	Final score
Arizona	Kingman Airport Industrial Area.	40.82	8.46
Kentucky	Airco	35.19	33.29
Louisiana	Bayou Sorrel	45.58	34.89
Michigan	Clare Water Supply	32.38	38.43
Michigan	Electrovoice	29.77	35.36
Michigan	Littlefield Township Dumps	32.09	28.48
Michigan	Wheeler Wells	29.85	35.45

Proposed NPL Sites with Scores Below 28.50. The following sites will not be included on the NPL because the final HRS scores are below 28.50:

State and Site Name

Arizona—Kingman Airport Industrial Area (proposed 12/30/82).
Delaware—Old Brine Sludge Landfill.
Michigan—Littlefield Township Dump (proposed 12/30/82).
Washington—Rosch Property.

Sites Still Under Consideration. In the case of the following sites, EPA was unable to reach a final decision on listing in time for this publication:

State and Site Name

Georgia—Olin Corporation (Areas 1, 2, & 4).
Missouri—Quail Run Mobile Manor.
Oklahoma—Sand Springs.
Texas—Pig Road.

Regarding Quail Run Mobile Manor, the site does not meet the criteria currently specified in the NCP for including a site on the NPL. The Agency does, however, intend to modify the NCP in such a way that Quail Run and other similar sites will qualify for the NPL. Regarding the Sand Springs and Olin Corporation (Areas 1, 2, & 4) sites, EPA has determined that the HRS scoring documents for these sites, on which the September 8, 1983, Notice of Proposed Rulemaking (48 FR 40674) was based, were not in the public docket and were not available to the public during the 60-day comment period for this rule. Thus, EPA is seeking further public comment on these sites for a period of 60 days following publication of this notice. Interested parties may inspect the HRS scoring documents for these sites in the EPA Headquarters or Region IV (Olin Corporation) and Region VI (Sand Springs) dockets. In the case of Pig Road site, the Agency has determined that further sampling and laboratory analysis will be necessary to determine the appropriate HRS scores. Interested persons may obtain copies of that sampling and analysis data when it becomes available by notifying the EPA Region VI docket of their intent to provide further comments on that site. EPA will announce deadlines for comments on the Pig Road site in a later notice. EPA will continue to evaluate these sites and announce its decisions in subsequent NPL rulemaking.

Name Revision

In some instances EPA has determined that the names of sites should be revised to more accurately reflect the location or nature of the problem. Those name revisions are listed below:

In addition, the name of the Toms River Chemical, New Jersey site promulgated on September 8, 1983 (48 FR 40674) has been changed to the Ciba-Geigy Corporation site.

Additional Criteria for Listing

In the September 8, 1983, proposed rule to update the NPL (48 FR 40674), EPA invited comments on the general issue of alternative criteria for selecting sites for the NPL in addition to the HRS and State's top priority designations. EPA has concluded that at some sites remedial actions may be the only adequate response, but that these sites will not score sufficiently high to be included on the NPL. That can occur where the type of problem (e.g., direct contact), is usually addressed through removal actions, and thus the HRS total score does not reflect the associated risks. EPA cited Quail Run Mobile Manor, in Gray Summit, Missouri, as an example and included that site in the proposed update to the NPL. EPA intends to propose an amendment to the NCP to authorize consideration of additional criteria.

Several commenters addressed the issue of additional criteria. One expressed interest in the specifics of the proposed amendment and suggested that it include a clear statement of goals and an explanation of where emergency and removal authority will "prove inadequate." The commenter also suggested that criteria for extraordinary listings require "a demonstration for each proposed site that remedial action, as opposed to other types of response action, is necessary and an actual health threat beyond some threshold exists."

Another commenter stated that EPA's invitation to provide comments on additional criteria for listing "belies the Agency's assertion that the HRS is effective in approximating risks and raises the questions as to the overall validity of the HRS/MITRE model in assessing risks at any site." The same commenter suggested that the additional criteria be the subject of a detailed separate notice of proposed rulemaking, so that the overall effectiveness of the HRS can be examined.

In response, EPA does intend to publish a separate notice of proposed rulemaking revising the NCP to incorporate additional criteria for listing. EPA is developing such a notice, and the comments received so far have been useful for defining the issues. When that rule is proposed, EPA will seek further public comment on the additional criteria. The full scope of that proposed revision has not been determined. EPA disagrees with the commenter's assertion that inviting comment on the additional criteria raises questions regarding the validity of using the HRS to assess risks at any site.

Since EPA is still working on revising the NCP and establishing additional criteria for listing, the Agency will not at this time complete rulemaking on Quail Run, which was included in the September 8, 1983, proposed rule.

VIII Updates (Additions and Deletions) to the NPL

CERCLA requires that the NPL be revised or updated at least once per year. The Agency plans to identify, consider, and propose additional sites for NPL updates as it has in the past. States have the primary responsibility for identifying sites, computing HRS scores, and providing that information to EPA. EPA Regional Offices may assist in investigation, sampling, monitoring, and scoring, and may in some cases consider candidate sites on their own initiative. In advance of each update publication, EPA will notify the States of the closing dates for submission of proposed additions (or deletions, as discussed below) to EPA. EPA will exercise quality control and quality assurance to verify the accuracy and consistency of scoring. The Agency will then propose the new sites that appear to meet the criteria for listing and solicit public comment on the proposal. Based on comments, and any further review by EPA, the Agency will determine final scores and in the next update publication will include on the final NPL any sites that score high enough for listing.

In addition to these periodic updates, EPA believes it may be appropriate in rare instances to add sites to the NPL individually as in the case of the Times Beach site in Missouri.

One commenter said that EPA should clarify whether it will follow notice and comment rulemaking procedures in future updates. The commenter said that such rulemaking might have a substantial impact on private parties and that EPA should adhere to the Administrative Procedures Act. In response, EPA intends to continue seeking public comment prior to final rulemaking on the NPL updates as long as most response actions are not significantly delayed as a result. The Agency reserves the right to depart from that general approach should a situation require expedited rulemaking.

Deletion of Sites

There is no specific statutory requirement that the NPL be revised to delete sites. However, EPA has decided to consider deleting sites to provide incentives for cleanup to private parties and public agencies. Furthermore, deleting sites allows the Agency to give notice that the sites have been cleaned up and gives the public an opportunity to comment on those actions. EPA does not consider this policy to be binding, and may revise it to provide for deletion of sites based on other factors in appropriate cases.

EPA will consider deleting sites at which any of the following criteria have been met:

(1) EPA, in consultation with the State, has determined that responsible parties have completed all appropriate response actions.

(2) EPA, in consultation with the State, has determined that all appropriate Fund-financed response actions have been completed and that no further cleanup by responsible parties is appropriate.

(3) Based on a remedial investigation, EPA in consultation with the State has determined that the facility poses no significant threat to public health, welfare, or the environment and, therefore, construction of remedial measures is not appropriate.

Although there are not any deletions included in this rulemaking, EPA intends to publish a notice of proposed rulemaking and solicit public comments on rulemaking actions to delete sites in future updates. EPA is considering some alternative approaches, but for now the Agency will follow the procedures specified in the guidance memorandum, "Interim Procedures for Deleting Sites from the National Priorities List," March 27, 1984. This document is available in the EPA dockets (see addresses section of this announcement).

Rescoring Sites

EPA expects that updates to the NPL will be solely for the purposes of adding sites to or deleting sites from the NPL. The current EPA position, which will serve as guidance for individual listing and deletion decisions, is that EPA will not rescore sites that previously had been placed on the NPL.

Several commenters presented suggestions to the contrary. Some recommended that EPA revise HRS scores periodically to reflect the results of cleanup activities, and suggested deleting any site whose HRS score dropped below the cutoff. Other commenters pointed out that new data gathered on a site might alter previous assumptions in scoring, and suggested continual rescoring to reflect any new data for purposes of adjusting a site's position on the list or deleting it if the score fell below the cutoff.

Another commenter suggested that EPA reevaluate all HRS scores, preferably after a thorough site investigation. The commenter said that this process would help assure that sites most in need of remedy would be identified and that the process would allow the deletion of sites placed on the list due to scoring based on incorrect facts.

EPA believes that the current approach of scoring by EPA or the States, EPA quality assurance review, public comment on the scoring, and EPA review of the comments provides adequate safeguards against incorrect site scores. EPA's experience to date indicates that very few scores, if any, would be lowered sufficiently to remove sites from the NPL if EPA were to do as the commenter suggests. On the other hand, many site scores would increase somewhat if the commenters' approach were followed. Moreover, the alternative recommended by the commenter would significantly increase the time and resources needed to develop the NPL.

EPA believes that a number of important factors support its current position that site on the final NPL should not be rescored for future updates. With respect to sites where response actions have been taken, the HRS was not designed to reflect completeness of cleanup, and therefore should not be used as a tool for deleting sites from the list or altering their relative ranking based on response actions. If response actions were taken into account in scoring, the lower HRS score that results might not reflect a commensurate reduction in the endangerment presented by the site. The result might be to delete sites where cleanups have not been completed, thereby removing incentives for further response and giving incentives for selecting cleanups primarily designed to result in score reductions as opposed to risk reductions.

In addition to the foregoing reasons, other considerations justify the current position not to rescore sites after final listing. These considerations apply not only to cleanup situations but also to situations where a score might be

affected by new information about a site or by detection of an error in the original calculations. The process established by EPA for developing the NPL is comprehensive, involving initial scoring, public proposal, consideration of public comment, re-examination of data and scores, final score calculation, and inclusion on the final NPL. Given this level of scrutiny, and the time and expense involved in scoring sites, EPA finds it necessary to rely upon the interested public to identify factors pertinent to HRS score in a timely manner. EPA believes that it is appropriate to consider inclusion of a site on the final NPL to end the scoring process.

Furthermore, as described in Part II of this preamble, the purpose of the NPL is primarily informational, to serve as a tool for EPA to identify sites that appear to present a significant risk to public health or the environment, for purposes of deciding which sites to investigate fully and determine what response, if any, is appropriate. EPA believes that it is most consistent with that statutory purpose to cease the costly and time-consuming efforts of site scoring once a site is on the NPL. Rather than spend the limited resources of the Fund on rescoring, the Agency prefers to use all available resources to clean up sites.

EPA recognizes that the NPL process cannot be perfect, and it is possible that errors exist or that new data will alter previous assumptions. Once the initial scoring effort is complete, however, the focus of EPA activity must be on investigating sites in detail and determining the appropriate response. New data or errors can be considered in that process. Since HRS scores alone do not determine the priorities for actual response actions, any new data or revealed errors indicating that a site is either more or less of a problem than reflected in the HRS score will be taken into account and the priority for response adjusted accordingly. If the new information indicates that the site does not present a significant threat to health, welfare, or the environment, the site may meet one of the EPA criteria for deletion regardless of any original or revised HRS score.

In conclusion, EPA does not currently plan to rescore sites once they have been included on the final NPL because: (1) The HRS was not designed to reflect reductions in hazard resulting from cleanup; (2) EPA does not want to create the incentive for incomplete cleanup actions; (3) the Fund must be conserved and focused on further investigation and cleanup; (4) the NPL serves as a guide to EPA and does not determine liability or the need for response; and (5) any new information can be used to adjust response priorities or to delete a site without recalculating the HRS score. Actual decisions on the appropriate treatment of individual sites, however, will be made on a case-by-case basis, with consideration of this policy and any other appropriate factors.

IX. Regulatory Impact Analysis

The cost of cleanup actions that may be taken at sites are not directly attributable to listing on the NPL, as explained below, and therefore the Agency has determined that this rulemaking is not a "major" regulation under Executive Order 12291. The EPA has conducted a preliminary analysis of the economic implications of today's amendment to the NCP. The EPA believes that the kind of the economic effects associated with this revision are generally similar to those effects identified in the regulatory impact analysis (RIA) prepared in 1982 for the revisions to the NCP pursuant to section 105 of CERCLA. The Agency believes the anticipated economic effects related to adding 128 sites to the NPL can be characterized in terms of the conclusions of the earlier regulatory impact analysis. At proposal, the Agency noted that a more extensive analysis of the economic impacts of the NCP would be prepared in the future and would accompany publication of future major amendments to the NCP. The Agency expects to propose major amendments to the NCP and a more comprehensive economic analysis will be made available for comment at that time.

Costs

The EPA has determined that this rulemaking is not a "major" regulation under Executive Order 12291 because inclusion of a site on the NPL does not itself impose any costs. It does not establish that EPA will necessarily undertake response action, nor does it require any action by a private party or determine their liability for site response costs. Costs that arise out of site responses result from site-by-site decisions about what actions to take, not directly from the act of listing itself. Nonetheless, it is useful to consider the costs associated with responding to all sites included in a listing rulemaking.

The major events that follow the listing of a site on the NPL are a responsible party search and a Remedial Investigation/Feasibility Study (RI/FS) which determines whether response actions will be undertaken at a site. Design and construction of the selected remedial alternative follow completion of the RI/FS, and operation and maintenance (O&M) activities may continue after construction has been completed.

Costs associated with responsible party searches are generally borne by EPA. Responsible parties may bear some or all the costs of the RI/FS, design and construction, and O&M, or the costs may be shared by EPA and the States on a 90%: 10% basis (50%:50% in the case of state-owned sites). Additionally, States assume all costs for O&M activities after the first year at sites involving fund-financed remedial actions.

Rough estimates of the average total per-site and total costs associated with each of the above activities are presented below. At this time EPA is unable to predict what portions of the total costs will be borne by responsible parties, since the distribution of costs depends on the extent of voluntary and negotiated response and the successfulness of cost recovery actions where such actions are brought.

Cost category	Average total cost per site *
RI/FS	$800 000
Remedial design	440 000
Remedial action	7,200 000
Initial remedial measures (IRM) at 10 pct of sites	80 000
Net present value of O&M (over 30 years)	4 100 000

*1948 U.S. Dollars.

Source: OERR budget figures (assumes $6.5 million Federal share for remedial action).

Costs to States associated with today's amendment arise from the statutory State cost-share requirement of (1) 10 percent of remedial implementation (remedial action and IRM) and O&M costs at privately-owned sites, and (2) 50 percent of the remedial planning (RI/FS and remedial design), remedial implementation and O&M costs at publicly-owned sites. Using the assumptions developed in the 1982 RIA, we can assume that 90 percent of the 128 sites added to the NPL in this amendment will be privately-owned and 10 percent will be publicly-owned. Therefore, using the budget projections presented above, the cost to States of undertaking Federal remedial actions at all 128 sites would be $212 million.

The act of adding a hazardous waste site to the NPL does not necessarily cause firms responsible for the site to bear costs. Nonetheless, listing may induce firms to clean up the sites voluntarily, or it may act as a potential trigger for subsequent enforcement or cost recovery actions. Such actions may impose costs on firms, but the decisions to take such actions are discretionary, and made on a case-by-case basis.

Consequently, precise estimates of these effects cannot be made. EPA does not believe that every site will be cleaned up by a responsible party. EPA cannot project at this time which firms or industry sectors will bear specific portions of response costs, but the Agency considers such factors as: The volume and nature of the wastes contributed; the strength of the evidence linking the wastes at the site to the parties; ability to pay, inequities and aggravating circumstances; and other factors when deciding whether and how to proceed against potentially responsible parties.

Economy-wide effects of this amendment are aggregations of effects on firms and State and local governments. Although effects could be felt by some individual firms and States, the total impact of this revision on output, prices, and employment is expected to be negligible at the national level, as was the case in the 1982 RIA.

Benefits

The real benefits associated with today's amendment come in the form of increased health and environmental protection as a result of increased public awareness of potential hazards and the additional response actions at hazardous waste sites. In addition to the potential for more Federally-financed remedial actions, expansion of the NPL could accelerate privately-financed, voluntary cleanup efforts to avoid potential adverse publicity, torts, and/or enforcement action. Listing sites as national priority targets may also give States increased support for funding responses at particular sites.

As a result of the additional NPL remedies, there will be lower human exposure to high risk chemicals, and higher quality surface water, ground water, soil, and air. The magnitude of these benefits is expected to be significant, although difficult to estimate in advance of completing the RI/FS at these sites.

Associated with the costs are significant potential benefits and cost offsets. The distributional costs to firms of financing NPL remedies have corresponding "benefits" in that each dollar expended for a response puts someone to work directly or indirectly (through purchased materials).

X. Regulatory Flexibility Act Analysis

The Regulatory Flexibility Act of 1980 requires EPA to review the impacts of this action on small entities, or certify that the action will not have a significant impact on a substantial number of small entities. By small entities the Act refers to small businesses, small governmental jurisdiction, and non-profit organizations.

While modifications to the NPL are considered revisions to the NCP, they are not typical regulatory changes since the revisions do not automatically impose costs. The listing of sites on the NPL does not in itself require any action of any private party, nor does it determine the liability of any party for the cost of cleanup at the site. Further, no identifiable groups are affected as a whole. As a consequence, it is hard to predict impacts on any group. A site's inclusion on the NPL could increase the likelihood that adverse impacts to responsible parties (in the form of cleanup costs) will occur, but EPA cannot identify the potentially affected businesses at this time nor estimate a number of businesses affected. In addition, we cannot define what is "small" for the wide variety of potentially affected firms.

The Agency does expect that certain industries and small firms within industries that have caused a proportionately high percentage of waste site problems could be significantly affected by CERCLA actions. However, EPA does not expect the impacts from the listing of these 128 sites, or the NPL as a whole, to have a significant economic impact on small business as a whole when they are considered as a nation-wide group.

In any case, economic impacts would only occur through enforcement and cost recovery actions which are taken at EPA's discretion on a site-by-site basis. EPA considers many factors when determining what enforcement actions to take, including not only the firm's contribution to the problem, but also the firm's ability to pay. The impacts (from cost-recovery) on small governments and non-profit organizations would be determined on a similar case-by-case basis.

List of Subjects in 40 CFR Part 300

Air pollution control, Chemicals, Hazardous materials, Intergovernmental relations, Natural resources, Oil pollution, Reporting and recordkeeping requirements, Superfund, Waste treatment and disposal, Water pollution control, Water supply.

PART 300—[AMENDED]

Appendix B of 40 CFR Part 300 is amended by adding the following sites to the National Priorities List:

Dated: September 11, 1984

Alvin L. Alm,

Acting Administrator.

BILLING CODE 6560-50-M

GROUP 1

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
25	03	PA	Tysons Dump	Upper Merion Twp	R		
29	08	MT	East Helena Site	East Helena		E	
37	06	TX	Geneva Industries/Fuhrmann Energy	Houston	R	E	
41	02	NJ	Vineland Chemical Co., Inc.	Vineland	V		
45	02	NJ	Shieldalloy Corp.	Newfield Borough	R	E	
49	05	WI	Omega Hills North Landfill	Germantown			D

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E = FEDERAL AND STATE ENFORCEMENT; D = ACTIONS TO BE DETERMINED.
* = STATES' DESIGNATED TOP PRIORITY SITES.
NOTE: GROUP REFERS TO THE NPL GROUP WITH SIMILAR HRS SCORES.

GROUP 2

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
54	05	OH	United Scrap Lead Co., Inc.	Troy			D
59	05	WI	Janesville Old Landfill	Janesville			D
61	04	SC	Independent Nail Co.	Beaufort			D
62	04	SC	Helena Specialty Chemicals	Beaufort		E	
63	05	WI	Janesville Ash Beds	Janesville			D
65	05	OH	Miami County Incinerator	Troy	R	E	
67	05	WI	Wheeler Pit	La Prairie Township			D
97	04	MS	Flowood Site *	Flowood			D

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GROUP 3

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
108	02	NY	Hudson River PCBs	Hudson River		R E	
113	01	CT	Old Southington Landfill	Southington	V	E	
122	10	ID	Union Pacific Railroad Co.	Pocatello			D
124	04	AL	Ciba-Geigy Corp. (McIntosh Plant)	McIntosh			D
130	05	MN	St. Regis Paper Co.	Cass Lake	V		
133	04	GA	Hercules 009 Landfill	Brunswick			D
144	05	WI	Muskego Sanitary Landfill	Muskego			D
148	02	NJ	Ventron/Velsicol	Wood Ridge Borough		R E	

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GROUP 4

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
151	04	SC	Koppers Co., Inc (Florence Plant)	Florence		E	
153	02	NJ	Nascolite Corp.	Millville	V R		
161	02	NJ	Ewan Property	Shamong Township			D
165	05	MN	Boise Cascade/Onan/Medtronics	Fridley		E	
168	02	NJ	Delilah Road	Egg Harbor Township	R	E	
169	03	PA	Mill Creek Dump	Erie	R		
173	05	WI	Schmalz Dump	Harrison			D
180	08	CO	Lowry Landfill	Arapahoe County	V R	E	
181	05	MN	MacGillis & Gibbs/Bell Lumber	New Brighton		E	
188	04	SC	Wamchem, Inc.	Burton			D
189	02	NJ	Chemical Leaman Tank Lines, Inc.	Bridgeport			D
190	05	WI	Master Disposal Service Landfill	Brookfield		E	
192	02	NJ	Florence Land Recontouring Lf	Florence Township	R	E	
198	02	NJ	W. R. Grace & Co. (Wayne Plant)	Wayne Township	R		
200	04	SC	Leonard Chemical Co., Inc.	Rock Hill		E	

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GROUP 5

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #
204	04	AL	Stauffer Chem (Cold Creek Plant)	Bucks	D
212	05	OH	South Point Plant	South Point	D
214	03	PA	Dorney Road Landfill	Upper Macungie Twp	R
215	05	IN	Northside Sanitary Landfill, Inc	Zionsville	E
220	09	CA	Atlas Asbestos Mine	Fresno County	D
221	09	CA	Coalinga Asbestos Mine	Coalinga	D
230	05	MN	Joslyn Manufacturing & Supply Co.	Brooklyn Center	E
243	05	MN	Arrowhead Refinery Co.	Hermantown	R

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GROUP 6

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #
253	01	MA	Iron Horse Park	Billerica	D
256	05	WI	Kohler Co. Landfill	Kohler	D
260	05	WI	Lauer I Sanitary Landfill	Menomonee Falls	E
262	05	MN	Union Scrap	Minneapolis	E
263	02	NJ	Radiation Technology, Inc.	Rockaway Township	E
268	03	PA	Industrial Lane	Williams Township	R
269	05	WI	Onalaska Municipal Landfill	Onalaska	D
273	10	ID	Pacific Hide & Fur Recycling Co.	Pocatello	R E
277	02	PR	Vega Alta Public Supply Wells	Vega Alta	R
278	05	MI	Sturgis Municipal Wells	Sturgis	D
279	05	MN	Washington County Landfill	Lake Elmo	D
286	02	PR	Upjohn Facility	Barceloneta	V
288	03	PA	Henderson Road	Upper Merion Twp	R
291	06	LA	Petro-Processors	Scotlandville	V R E
296	03	PA	East Mount Zion	Springettsbury Twp	R

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GROUP 7

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #
301	02	NY	General Motors (Cent Foundry Div)	Massena	R
314	05	MN	Whittaker Corp	Minneapolis	D
316	01	CT	Kellogg-Deering Well Field	Norwalk	V R E
320	04	AL	Olin Corp. (McIntosh Plant)	McIntosh	D
327	04	FL	Tri-City Oil Conservationist, Inc	Tampa	R
331	05	WI	Northern Engraving Co.	Sparta	D
335	01	NH	Nearsarge Metallurgical Corp.	Conway	V E
336	04	SC	Palmetto Wood Preserving	Dixianna	D
337	05	MI	Clare Water Supply	Clare	V
340	05	MN	Morris Arsenic Dump	Morris	R
348	05	MN	Perham Arsenic Site	Perham	R

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GROUP 8

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #
354	05	MN	Nutting Truck & Caster Co.	Faribault	V D
362	01	NH	Savage Municipal Water Supply	Milford	D
363	05	IN	Poor Farm	Hancock County	R
365	06	TX	United Creosoting Co.	Conroe	R
370	05	WI	City Disposal Corp. Landfill	Dunn	D
371	02	NJ	Tabernacle Drum Dump	Tabernacle Twp	E
372	02	NJ	Cooper Road	Voorhees Township	D
376	04	FL	Cabot/Koppers	Gainesville	R
380	06	OK	Compass Industries (Avery Drive)	Tulsa	R
385	05	MN	General Mills/Henkel Corp.	Minneapolis	V
389	09	CA	Del Norte Pesticide Storage	Crescent City	R
390	02	NJ	De Rewal Chemical Co.	Kingwood Township	D
392	04	GA	Monsanto Corp. (Augusta Plant)	Augusta	D
393	01	NH	South Municipal Water Supply Well	Peterborough	D
397	05	WI	Eau Claire Municipal Well Field	Eau Claire	D
398	04	GA	Powersville Site	Peach County	D
400	05	MI	Metamora Landfill	Metamora	D

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GROUP 9

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
401	05	MI	Whitehall Municipal Wells	Whitehall			E
403	02	NJ	Diamond Alkali Co.	Newark	V	R	E
405	05	MI	Electrovoice	Buchanan			D
406	02	PR	Fibers Public Supply Wells	Jobos			D
409	05	WI	Mid-State Disposal, Inc. Landfill	Cleveland Township		R	
410	08	CO	Broderick Wood Products	Denver		R	E
413	02	NJ	Woodland Route 532 Dump	Woodland Township			D
416	05	IN	American Chemical Service, Inc.	Griffith			D
422	06	LA	Bayou Sorrell	Bayou Sorrell		R	E
427	05	WI	Leaberger Transport & Recycling	Franklin Township			E
430	10	WA	Queen City Farms	Maple Valley	V		
431	05	WI	Scrap Processing Co., Inc.	Medford			E
435	02	NJ	Hopkins Farm	Plumstead Township			D
437	05	IN	Reilly Tar (Indianapolis Plant)	Indianapolis			D
440	02	NJ	Wilson Farm	Plumstead Township			D
450	09	CA	Koppers Co., Inc. (Oroville Plant)	Oroville			E

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GROUP 10

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
452	03	PA	Welsh Landfill	Honeybrook Township		R	
453	02	NJ	Landfill & Development Co.	Mount Holly			E
454	02	NJ	Upper Deerfield Township Site	Upper Deerfield Twp	V		E
459	04	KY	Airco	Calvert City			D
463	01	MA	Sullivan's Ledge	New Bedford			D
465	05	IN	Bennett Stone Quarry	Bloomington			E
467	04	AL	Stauffer Chem (Le Moyne Plant)	Axis			D
469	04	SC	Geiger (C & M Oil)	Rantowles			D
470	05	WI	Moss-American(Kerr-McGee Oil Co.)	Milwaukee			D
471	05	WI	Waste Research & Reclamation Co.	Eau Claire			E
473	05	MN	St. Louis River Site	St. Louis County			E
476	03	PA	Berks Sand Pit	Longswamp Township		R	
479	04	FL	Hippo Road Landfill	Duval County		R	
480	04	FL	Pepper Steel & Alloys, Inc.	Medley		R	
482	05	WI	Oconomowoc Electroplating Co. Inc	Ashippin			E
485	05	OH	Powell Road Landfill	Dayton			D
487	08	CO	Lincoln Park	Canon City			D
491	02	NJ	Woodland Route 72 Dump	Woodland Township			D
494	10	OR	United Chrome Products, Inc.	Corvallis		R	
497	03	PA	Taylor Borough Dump	Taylor Borough		R	

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NOTE: GROUP REFERS TO THE NPL GROUP WITH SIMILAR HRS SCORES.

GROUP 11

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
502	05	MI	Burrows Sanitation	Hartford			E
509	05	WI	Delavan Municipal Well #4	Delavan			D
512	10	WA	American Lake Gardens	Tacoma	V		
513	10	WA	Greenacres Landfill	Spokane County			D

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GROUP 1

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
1	02	NJ	Lipari Landfill	Pitman	V	R	E
2	03	DE	Tybouts Corner Landfill *	New Castle County		R	E
3	03	PA	Bruin Lagoon	Bruin Borough		R	
4	02	NJ	Helen Kramer Landfill	Mantua Township		R	
5	01	MA	Industri-Plex	Woburn	V	R	E
6	02	NJ	Price Landfill *	Pleasantville		R	E
7	02	NY	Pollution Abatement Services *	Oswego		R	E
8	07	IA	LeBounty Site	Charles City	V	R	E
9	03	DE	Army Creek Landfill	New Castle County			E
10	02	NJ	CPS/Madison Industries	Old Bridge Township			E
11	01	MA	Nyanza Chemical Waste Dump	Ashland		R	
12	02	NJ	Gems Landfill	Gloucester Township		R	
13	05	MI	Berlin & Farro	Swartz Creek	V	R	E
14	01	MA	Baird & McGuire	Holbrook		R	E
15	02	NJ	Lone Pine Landfill	Freehold Township		R	
16	01	NH	Somersworth Sanitary Landfill	Somersworth		R	
17	05	MN	FMC Corp. (Fridley Plant)	Fridley	V		
18	06	AR	Vertac, Inc.	Jacksonville	V	R	E
19	01	NH	Keefe Environmental Services	Epping		R	E
20	08	SD	Whitewood Creek *	Whitewood	V		
21	08	MT	Silver Bow Creek	Sil Bow/Deer Lodge		R	
22	06	TX	French, Ltd.	Crosby		R	
23	01	NH	Sylvester *	Nashua		R	E
24	05	MI	Liquid Disposal, Inc.	Utica		R	
25	03	PA	Tysons Dump	Upper Merion Twp		R	
26	03	PA	McAdoo Associates *	McAdoo Borough		R	
27	06	TX	Motco Inc. *	La Marque		R	
28	05	OH	Arcanum Iron & Metal	Darke County		R	
29	08	MT	East Helena Site	East Helena			E
30	06	TX	Sikes Disposal Pits	Crosby		R	
31	04	AL	Triana/Tennessee River	Limestone/Morgan	V		E
32	09	CA	Stringfellow *	Glen Avon Heights		R	E
33	01	ME	McKin Co.	Gray		R	
34	06	TX	Crystal Chemical Co.	Houston		R	E
35	02	NJ	Bridgeport Rental & Oil Services	Bridgeport		R	E
36	08	CO	Sand Creek Industrial	Commerce City			E
37	06	TX	Geneva Industries/Fuhrmann Energy	Houston		R	E
38	01	MA	W. R. Grace & Co. (Acton Plant)	Acton	V		E
39	05	MN	Reilly Tar (St. Louis Park Plant)	St. Louis Park		R	
40	02	NJ	Burnt Fly Bog	Marlboro Township		R	E
41	02	NJ	Vineland Chemical Co., Inc.	Vineland	V		
42	04	FL	Schuylkill Metals Corp.	Plant City			D
43	05	MN	New Brighton/Arden Hills	New Brighton		R	E
44	02	NY	Old Bethpage Landfill	Oyster Bay	V		
45	02	NJ	Shieldalloy Corp.	Newfield Borough		R	E
46	04	FL	Reeves SE Galvanizing Corp.	Tampa			D
47	08	MT	Anaconda Co. Smelter	Anaconda	V	R	E
48	10	WA	Western Processing Co., Inc.	Kent	V	R	E
49	05	WI	Omega Hills North Landfill	Germantown			D
50	04	FL	American Creosote Works	Pensacola		R	

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GROUP 2

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
51	02	NJ	Caldwell Trucking Co.	Fairfield	R		
52	02	NY	GE Moreau	South Glen Falls	V	E	
53	05	IN	Seymour Recycling Corp. *	Seymour	V	R	E
54	05	OH	United Scrap Lead Co., Inc.	Troy			D
55	06	OK	Tar Creek (Ottawa County)	Ottawa County	R		
56	07	KS	Cherokee County	Cherokee County	R		
57	02	NJ	Brick Township Landfill*	Brick Township	V		
58	05	MI	Northernaire Plating	Cadillac	R	E	
59	05	WI	Janesville Old Landfill	Janesville			D
60	10	WA	Frontier Hard Chrome, Inc.	Vancouver	R		
61	04	SC	Independent Nail Co.	Beaufort			D
62	04	SC	Kalama Specialty Chemicals	Beaufort		E	
63	05	WI	Janesville Ash Beds	Janesville			D
64	04	FL	Davie Landfill	Davie			D
65	05	OH	Miami County Incinerator	Troy	R	E	
66	04	FL	Cold Coast Oil Corp.	Miami	V		
67	05	WI	Wheeler Pit	La Prairie Township			D
68	09	AZ	Tucson Intl Airport Area	Tucson	V	R	
69	02	NY	Wide Beach Development	Brant	R		
70	09	CA	Iron Mountain Mine	Redding	R		
71	02	NJ	Scientific Chemical Processing	Carlstadt		E	
72	08	CO	California Gulch	Leadville		E	
73	02	NJ	D'Imperio Property	Hamilton Township	R		
74	05	MI	Gratiot County Landfill *	St. Louis	V		
75	01	RI	Picillo Farm *	Coventry	R	E	
76	01	MA	New Bedford Site *	New Bedford	V	R	E
77	06	LA	Old Inger Oil Refinery *	Darrow	R		
78	05	OH	Chem-Dyne *	Hamilton	V	R	E
79	04	SC	SCRDI Bluff Road *	Columbia	V	R	E
80	01	CT	Laurel Park, Inc. *	Naugatuck Borough			E
81	08	CO	Marshall Landfill *	Boulder County			E
82	05	IL	Outboard Marine Corp. *	Waukegan	R	E	
83	06	NM	South Valley *	Albuquerque	R	E	
84	01	VT	Pine Street Canal *	Burlington			D
85	03	WV	West Virginia Ordnance *	Point Pleasant	R		
86	07	MO	Ellisville Site *	Ellisville	R		
87	08	ND	Arsenic Trioxide Site *	Southeastern N.D.	R		
88	09	TT	PCB Wastes *	Pacific Trust Terr	R		
89	03	VA	Matthews Electroplating *	Roanoke County	R		
90	07	IA	Aidex Corp. *	Council Bluffs	R	E	
91	09	AZ	Mountain View Mobile Homes *	Globe	R	E	
92	09	AS	Tapuitmu Farm *	American Samoa	R		
93	04	TN	North Hollywood Dump *	Memphis	R		
94	04	KY	A.L. Taylor (Valley of Drums) *	Brooks	R		
95	04	NC	PCB Spills *	210 Miles of Roads	R	E	
96	09	GU	Ordot Landfill *	Guam	R		
97	04	MS	Flowood Site *	Flowood			D
98	08	UT	Rose Park Sludge Pit *	Salt Lake City	V		
99	07	KS	Arkansas City Dump *	Arkansas City	R		
100	09	CN	PCB Warehouse *	Marianas	R		

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GROUP 3

RANK	EPA REG	ST	SITE NAME	CITY/COUNTY	RESPONSE STATUS #		
101	09	NM	Oakdale Dump	Oakdale	V		
102	05	IL	A & F Material Reclaiming, Inc.	Greenup	V		
103	03	PA	Douglassville Disposal	Douglassville			
104	02	NJ	Krysowaty Farm	Hillsborough			
105	05	MN	Koppers Coke	St. Paul			D
106	01	MA	Plymouth Harbor/Cannon Engineering	Plymouth			
107	10	ID	Bunker Hill Mining & Metallurgy	Smeltzerville			
108	02	NY	Hudson River PCBs	Hudson River			
109	02	NJ	Universal Oil Products(Chem Div)	East Rutherford			
110	09	CA	Aerojet General Corp.	Rancho Cordova			
111	10	WA	Commencement Bay, South Tacoma Channel	Tacoma			
112	03	PA	Osborne Landfill	Grove City			
113	01	CT	Old Southington Landfill	Southington	V		
114	02	NY	Syosset Landfill	Oyster Bay			D
115	09	AZ	Nineteenth Avenue Landfill	Phoenix			D
116	10	OR	Teledyne Wah Chang	Albany			D
117	02	NY	Sinclair Refinery	Wellsville			
118	04	AL	Muscle Shoals Engineering	Greenville			
119	05	MI	Spiegelberg Landfill	Green Oak Township			
120	04	FL	Miami Drum Services	Miami			
121	02	NJ	Ralph Farms	Pleasant Plains			
122	10	ID	Union Pacific Railroad Co.	Pocatello			D
123	02	NJ	South Brunswick Landfill	South Brunswick			D
124	04	AL	Gibe-Geigy Corp. (Holcomb Plant)	Holcomb			
125	04	FL	Hillsboro-Kimerling Battery	Tampa			
126	05	IL	Waukegan Sand & Gravel	Waukegan			
127	01	NH	Gilson & Goss/Kingston Steel Drum	Kingston	V		
128	05	MI	Dye/Story/Cordova	Dalton Township			
129	02	NJ	ML Industries	Paddlethorpe			
130	05	WI	St. Regis Paper Co.	Cecil Lake	V		
131	02	NJ	Ringwood Mines/Landfill	Ringwood Borough	V		
132	04	FL	Whitehouse Oil Pits	Whitehouse			
133	04	GA	Hercules 009 Landfill	Brunswick			D
134	05	MI	Velsicol Chemical (Michigan)	St. Louis	V		
135	05	OH	Summit National	Deerfield Township	V		
136	02	NY	Love Canal	Niagara Falls	V		
137	05	IN	Fisher-Calo	Laporte	V		
138	04	FL	Pioneer Sand Co.	Warrington			
139	05	MI	Springfield Township Dump	Davisburg			
140	03	PA	Hranica Landfill	Buffalo Township			D
141	04	NC	Martin Marietta, Sodyeco, Inc.	Charlotte			D
142	04	FL	Zellwood Ground Water Contam	Zellwood			D
143	05	MI	Packaging Corp. of America	Filer City			D
144	05	WI	Muskego Sanitary Landfill	Muskego			D
145	02	NY	Hooker (S Area)	Niagara Falls	V		D
146	03	PA	Lindane Dump	Harrison Township			D
147	08	CO	Central City-Clear Creek	Idaho Springs			
148	02	NJ	Ventron/Velsicol	Wood Ridge Borough			
149	04	FL	Taylor Road Landfill	Seffner			
150	01	RI	Western Sand & Gravel	Burrillville			

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GROUP 4

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #	
151	04	SC	Koppers Co., Inc (Florence Plant)	Florence		E
152	02	NJ	Maywood Chemical Co.	Maywood/Rochelle Pk		E
153	02	NJ	Rascolite Corp.	Millville	V R	
154	06	OK	Hardage/Criner	Criner	R	E
155	05	MI	Rose Township Dump	Rose Township	R	
156	05	MN	Waste Disposal Engineering	Andover	V	E
157	02	NJ	Kin-Buc Landfill	Edison Township	V R	E
158	05	OH	Bowers Landfill	Circleville	R	
159	02	NJ	Ciba-Geigy Corp.	Toms River		D
160	05	MI	Butterworth #2 Landfill	Grand Rapids		E
161	02	NJ	American Cyanamid Co.	Bound Brook		E
162	03	PA	Heleva Landfill	North Whitehall Twp	R	
163	02	NJ	Ewan Property	Shamong Township		D
164	02	NY	Batavia Landfill	Batavia		E
165	05	MN	Boise Cascade/Onan/Medtronics	Fridley		E
166	01	RI	LaRA, Inc.	North Smithfield		E
167	04	FL	NW 58th Street Landfill	Hialeah	R	E
168	02	NJ	Delilah Road	Egg Harbor Township	R	E
169	03	PA	Mill Creek Dump	Erie	R	
170	04	FL	Sixty-Second Street Dump	Tampa	R	
171	05	MI	G&M Landfill	Utica	R	
172	02	NJ	Metaltec/Aerosystems	Franklin Borough	R	E
173	05	WI	Schmalz Dump	Harrison		D
174	02	NJ	Long Property	Pemberton Township		D
175	02	NJ	Sharkey Landfill	Parsippany Troy Hls	R	
176	09	CA	Selma Treating Co.	Selma		E
177	06	LA	Cleve Reber	Sorrento	R	
178	05	IL	Velsicol Chemical (Illinois)	Marshall	V	
179	05	MI	Tar Lake	Mancelona Township	R	
180	08	CO	Lowry Landfill	Arapahoe County	V R	E
181	05	MN	MacGillis & Gibbs/Bell Lumber	New Brighton		E
182	02	NJ	Combe Fill North Landfill	Mount Olive Twp	R	
183	01	MA	Re-Solve, Inc.	Dartmouth	R	E
184	02	NJ	Goose Farm	Plumstead Township	R	E
185	04	TN	Velsicol Chem (Hardeman County)	Toone		D
186	02	NY	York Oil Co	Moira	R	E
187	04	FL	Sapp Battery Salvage	Cottondale	R	E
188	04	SC	Wamchem, Inc.	Burton		D
189	02	NJ	Chemical Leaman Tank Lines, Inc.	Bridgeport		D
190	05	WI	Master Disposal Service Landfill	Brookfield		E
191	07	KS	Doepke Disposal Site (Holliday)	Johnson County	R	
192	02	NJ	Florence Land Recontouring LF	Florence Township	R	E
193	01	RI	Davis Liquid Waste	Smithfield	R	E
194	01	MA	Charles-George Reclamation Lf	Tyngsborough	R	E
195	02	NJ	Ring of Prussia	Winslow Township		D
196	03	VA	Chisman Creek	York County	R	
197	05	OH	Reese Chemical	Salem		D
198	02	NJ	W. R. Grace & Co. (Wayne Plant)	Wayne Township	R	
199	02	NJ	Chemical Control	Elizabeth	R	E
200	04	SC	Leonard Chemical Co., Inc.	Rock Hill		E

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GROUP 5

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
201	05	OH	Allied Chemical & Ironton Coke	Ironton	V		
202	05	MI	Verona Well Field	Battle Creek	R		
203	01	CT	Beacon Heights Landfill	Beacon Falls	R	E	
204	04	AL	Stauffer Chem (Cold Creek Plant)	Bucks			D
205	05	MN	Burlington Northern (Brainerd)	Brainerd/Baxter			D
206	03	PA	Malvern TCE	Malvern			D
207	02	NY	Facet Enterprises, Inc.	Elmira	V		
208	03	DE	Delaware Sand & Gravel Landfill	New Castle County	R		
209	04	TN	Murray-Ohio Dump	Lawrenceburg	V	E	
210	05	IN	Envirochem Corp.	Zionsville	V R	E	
211	05	IN	NIDCO I	Gary	R	E	
212	05	OH	South Point Plant	South Point			D
213	04	FL	Coleman-Evans Wood Preserving Co.	Whitehouse		E	
214	03	PA	Dorney Road Landfill	Upper Macungie Twp	R		
215	05	IN	Northside Sanitary Landfill, Inc	Zionsville		E	
216	04	FL	Florida Steel Corp.	Indiantown			D
217	09	AZ	Litchfield Airport Area	Goodyear/Avondale	R	E	
218	02	NJ	Spence Farm	Plumstead Township	R		
219	06	AR	Mid-South Wood Products	Mena	R	E	
220	09	CA	Atlas Asbestos Mine	Fresno County			D
221	09	CA	Coalinga Asbestos Mine	Coalinga			D
222	04	FL	Brown Wood Preserving	Live Oak	V	E	
223	02	NY	Port Washington Landfill	Port Washington	V		
224	02	NJ	Combe Fill South Landfill	Chester Township	R		
225	02	NJ	JIS Landfill	Jamesburg/S. Brnswck		E	
226	03	PA	Centre County Kepone	State College Boro		E	
227	05	OH	Fields Brook	Ashtabula	R	E	
228	01	CT	Solvents Recovery Service	Southington	V	E	
229	08	CO	Woodbury Chemical Co.	Commerce City	R		
230	01	MA	Hocomonco Pond	Westborough	R		
231	04	KY	Distler Brickyard	West Point	R		
232	02	NY	Ramapo Landfill	Ramapo	V		
233	09	CA	Coast Wood Preserving	Ukiah		E	
234	02	NY	Mercury Refining, Inc.	Colonie		E	
235	04	FL	Hollingsworth Solderless Terminal	Fort Lauderdale			D
236	02	NY	Olean Well Field	Olean	R		
237	04	FL	Versol Spill	Miami	V R		
238	05	MN	Joslyn Manufacturing & Supply Co.	Brooklyn Center		E	
239	08	CO	Denver Radium Site	Denver	R		
240	04	FL	Tower Chemical Co.	Clermont	R	E	
241	07	MO	Syntex Facility	Verona	V	E	
242	08	MT	Milltown Reservoir Sediments	Milltown	R		
243	05	MN	Arrowhead Refinery Co.	Hermantown	R		
244	02	NJ	Pijak Farm	Plumstead Township	R		
245	02	NJ	Syncon Resins	South Kearny	R		
246	09	CA	Liquid Gold Oil Corp.	Richmond		E	
247	09	CA	Purity Oil Sales, Inc.	Malaga	R		
248	01	NH	Tinkham Garage	Londonderry	R		
249	04	FL	Alpha Chemical Corp.	Galloway			D
250	02	NJ	Bog Creek Farm	Howell Township	R		

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GROUP 6

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
251	01	ME	Saco Tannery Waste Pits	Saco	R		
252	04	FL	Pickettville Road Landfill	Jacksonville			D
253	01	MA	Iron Horse Park	Billerica			D
254	03	PA	Palmerton Zinc Pile	Palmerton	R		
255	05	IN	Neal's Landfill (Bloomington)	Bloomington	V	E	
256	05	WI	Kohler Co. Landfill	Kohler			D
257	01	MA	Stauffer Chemical Corp.	Everett	R	E	
258	01	MA	Wells G&H	Woburn	R	E	
259	02	NJ	Cheetah, Inc.	Piscataway			D
260	05	WI	Lauer I Sanitary Landfill	Menomonee Falls		E	
261	05	MI	Petoskey Municipal Well Field	Petoskey		E	
262	05	MN	Union Scrap	Minneapolis		E	
263	02	NJ	Radiation Technology, Inc.	Rockaway Township		E	
264	02	NJ	Fair Lawn Well Field	Fair Lawn	V		
265	05	IN	Main Street Well Field	Elkhart	V		
266	05	MN	Lehillier/Mankato Site	Lehillier	R		
267	10	WA	Lakewood Site	Lakewood		E	
268	03	PA	Industrial Lane	Williams Township	R		
269	05	WI	Onalaska Municipal Landfill	Onalaska			D
270	02	NJ	Monroe Township Landfill	Monroe Township		E	
271	02	NJ	Rockaway Borough Well Field	Rockaway Township			D
272	05	IN	Wayne Waste Oil	Columbia City		E	
273	10	ID	Pacific Hide & Fur Recycling Co.	Pocatello	R	E	
274	07	IA	Des Moines ICE	Des Moines	R		
275	02	NJ	Beachwood/Berkley Wells	Berkley Township	R		
276	02	NY	Vestal Water Supply Well 4-2	Vestal		E	
277	02	PR	Vega Alta Public Supply Wells	Vega Alta	R		
278	05	MI	Sturgis Municipal Wells	Sturgis			D
279	05	MN	Washington County Landfill	Lake Elmo			D
280	09	AZ	Indian Bend Wash Area	Scottsdale/Tempe	R	E	
281	09	CA	San Gabriel Valley (Area 1)	El Monte	R		
282	09	CA	San Gabriel Valley (Area 2)	Baldwin Park Area	R		
283	10	WA	Commencement Bay, Near Shore/Tide Flats	Pierce County	R	E	
284	05	IL	LaSalle Electric Utilities	LaSalle	R		
285	05	IL	Cross Brothers Pail (Pembroke)	Pembroke Township	R		
286	02	PR	Upjohn Facility	Barceloneta	V		
287	09	CA	McColl	Fullerton	R	E	
288	03	PA	Henderson Road	Upper Merion Twp	R		
289	10	WA	Colbert Landfill	Colbert	R		
290	06	LA	Petro-Processors	Scotlandville	V	R	E
291	02	PR	Frontera Creek	Rio Abajo			D
292	02	PR	Barceloneta Landfill	Florida Afuera			D
293	03	MD	Sand, Gravel & Stone	Elkton	R		
294	05	MI	Spartan Chemical Co.	Wyoming		E	
295	02	NJ	Roebling Steel Co.	Florence	R		
296	03	PA	East Mount Zion	Springettsbury Twp	R		
297	04	TN	Aamicola Dump	Chattanooga			D
298	02	NJ	Vineland State School	Vineland	R		
299	01	PA	Enterprise Avenue	Philadelphia	R		
300	01	MA	Groveland Wells	Groveland	R	E	

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GROUP 7

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
301	02	NY	General Motors (Cent Foundry Div)	Massena	R		
302	04	SC	SLRDI Division	Cayce	R	E	
303	07	MO	Fulbright Landfill	Springfield			D
304	03	PA	Presque Isle	Erie			D
305	02	NJ	Williams Property	Swainton	R		
306	02	NJ	Renora, Inc.	Edison Township			D
307	02	NJ	Denzer & Schafer X-Ray Co.	Bayville			D
308	02	NJ	Hercules, Inc. (Gibbstown Plant)	Gibbstown			
309	05	IN	Ninth Avenue Dump	Gary	V	E	
310	06	AR	Curley Pit	Edmondson			D
311	01	RI	Peterson/Puritan, Inc.	Lincoln/Cumberland	V	E	
312	07	MO	Times Beach Site	Times Beach	R		
313	05	MI	Wash King Laundry	Pleasant Plains Twp			D
314	05	MN	Whittaker Corp.	Minneapolis			D
315	05	MN	NL Industries/Taracorp/Golden	St. Louis Park	V		
316	01	CT	Kellogg-Deering Well Field	Norwalk	V	R	E
317	01	MA	Cannon Engineering Corp. (CEC)	Bridgewater		R	E
318	02	NY	Niagara County Refuse	Wheatfield			D
319	04	FL	Sherwood Medical Industries	Deland			D
320	04	AL	Olin Corp. (McIntosh Plant)	McIntosh			D
321	05	MI	Southwest Ottawa County Landfill	Park Township		E	
322	02	NY	Kentucky Avenue Well Field	Horseheads	R		
323	02	NJ	Asbestos Dump	Millington	R		
324	04	KY	LEE'S LANE LANDFILL	LOUISVILLE	R	E	
325	06	AR	Frit Industries	Walnut Ridge	V	E	
326	05	OH	Fultz Landfill	Jackson Township			D
327	04	FL	Tri-City Oil Conservationist, Inc	Tampa	R		
328	05	OH	Coshocton Landfill	Franklin Township	R	E	
329	03	PA	Lord-Shope Landfill	Girard Township		E	
330	10	WA	FMC Corp. (Yakima Pit)	Yakima	V		
331	05	WI	Northern Engraving Co.	Sparta			D
332	01	MA	PSC Resources	Palmer	V		
333	05	MI	Forest Waste Products	Otisville	R		
334	03	PA	Drake Chemical	Lock Haven	R		
335	01	NH	Kearsarge Metallurgical Corp.	Conway	V	E	
336	04	SC	Palmetto Wood Preserving	Dixianna			D
337	05	MI	Clare Water Supply	Clare	V		
338	03	PA	Haverford PCP	Haverford	R		
339	03	DE	New Castle Spill	New Castle County			D
340	05	MN	Morris Arsenic Dump	Morris	R		
341	05	IN	Lake Sandy Jo (K&M Landfill)	Gary	R		
342	05	IL	Johns-Manville Corp.	Waukegan	V	R	E
343	05	MI	Clean Central	Wyoming Township			D
344	05	MI	Novaco Industries	Temperance		E	
345	02	NJ	Jackson Township Landfill	Jackson Township		E	
346	05	MI	R&L Avenue Landfill	Oshtemo Township	V	E	
347	10	WA	Kaiser Aluminum Mead Works	Mead	V		
348	05	MN	Perham Arsenic Site	Perham	R		
349	05	MI	Charlevoix Municipal Well	Charlevoix	R		
350	02	NJ	Montgomery Township Housing Dev	Montgomery Township			D

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GROUP 8

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
351	02	NJ	Rocky Hill Municipal Well	Rocky Hill Borough		E	
352	02	NY	Brewster Well Field	Putnam County	R		
353	02	NY	Vestal Water Supply Well 1-1	Vestal	R		
354	05	MN	Nutting Truck & Caster Co.	Faribault	V		D
355	02	NJ	U S. Radium Corp.	Orange	R		
356	06	TX	Highlands Acid Pit	Highlands	R		
357	03	PA	Resin Disposal	Jefferson Borough			D
358	08	MT	Libby Ground Water Contamination	Libby			D
359	04	KY	Newport Dump	Newport		E	
360	03	PA	Moyers Landfill	Eagleville	R	E	
361	04	FL	Perramore Surplus	Mount Pleasant			D
362	01	NH	Savage Municipal Water Supply	Milford			D
363	05	IN	Poor Farm	Hancock County	R		
364	05	MI	Hedblum Industries	Oscoda			D
365	06	TX	United Creosoting Co.	Conroe	R		
366	08	WY	Baxter/Union Pacific Tie Treating	Laramie			D
367	02	NJ	Sayreville Landfill	Sayreville			D
368	01	NH	Dover Municipal Landfill	Dover	R		
369	02	NY	Ludlow Sand & Gravel	Claysville	R		
370	05	WI	City Disposal Corp. Landfill	Dunn			D
371	02	NJ	Tabernacle Drum Dump	Tabernacle Twp		E	
372	02	NJ	Cooper Road	Voorhees Township			D
373	07	MO	Minker/Stout/Romaine Creek	Imperial	R		
374	01	CT	Yaworski Waste Lagoon	Canterbury	R	E	
375	03	WV	Leetown Pesticide	Leetown	R		
376	04	FL	Labot/Koppers	Gainesville	R		
377	02	NJ	Evor Phillips Leasing	Old Bridge Township			D
378	03	PA	Wade (ABM)	Chester	R	E	
379	03	PA	Lackawanna Refuse	Old Forge Borough	R	E	
380	06	OK	Compass Industries (Avery Drive)	Tulsa	R		
381	02	NJ	Hannhein Avenue Dump	Galloway Township			D
382	02	NY	Fulton Terminals	Fulton	R		
383	01	NH	Auburn Road Landfill	Londonderry	R	E	
384	03	WV	Fike Chemical, Inc.	Nitro		E	
385	05	MN	General Mills/Henkel Corp.	Minneapolis	V		
386	05	UH	Laskin/Poplar Oil Co.	Jefferson Township	R	E	
387	05	OH	Old Mill	Rock Creek	R		
388	07	KS	Johns' Sludge Pond	Wichita	V	E	
389	09	CA	Del Norte Pesticide Storage	Crescent City	R		
390	02	NJ	De Raval Chemical Co.	Kingwood Township			D
391	02	NJ	Swope Oil & Chemical Co.	Pennsauken	V	R	
392	04	GA	Monsanto Corp. (Augusta Plant)	Augusta			D
393	01	NH	South Municipal Water Supply Well	Peterborough			D
394	01	ME	Winthrop Landfill	Winthrop		E	
395	06	AR	Cecil Lindsey	Newport	R		
396	05	OH	Zanesville Well Field	Zanesville			D
397	05	WI	Eau Claire Municipal Well Field	Eau Claire			D
398	04	GA	Powerville Site	Peach County			D
399	05	MI	Grand Traverse Overall Supply Co.	Grellickville			D
400	05	MI	Metamora Landfill	Metamora			D

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GROUP 9

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE STATUS #		
401	05	MI	Whitehall Municipal Wells	Whitehall		E	
402	05	MN	South Andover Site	Andover			D
403	02	NJ	Diamond Alkali Co.	Newark	V R	E	
404	05	MI	Kentwood Landfill	Kentwood		E	
405	05	MI	Electrovoice	Buchanan			D
406	02	PR	Fibers Public Supply Wells	Jobos			D
407	05	IN	Marion (Bragg) Dump	Marion	R		
408	05	OH	Pristine, Inc.	Reading		E	
409	05	WI	Mid-State Disposal, Inc. Landfill	Cleveland Township	R	E	
410	08	CO	Broderick Wood Products	Denver	R	E	
411	05	OH	Buckeye Reclamation	St Clairsville			D
412	06	TX	Bio-Icology Systems, Inc.	Grand Prairie	R		
413	02	NJ	Woodland Route 532 Dump	Woodland Township			D
414	05	IN	American Chemical Service, Inc.	Griffith			D
415	01	VT	Old Springfield Landfill	Springfield	R	E	
416	02	NY	Solvent Savers	Linchlaen	R	E	
417	03	VA	U S. Titanium	Piney River	R	E	
418	05	IL	Galesburg/Koppers Co.	Galesburg			D
419	02	NY	Hooker (Hyde Park)	Niagara Falls	V	E	
420	05	MI	SCA Independent Landfill	Muskegon Heights		E	
421	09	CA	MCM Brakes	Cloverdale		E	
422	06	LA	Bayou Sorrell	Bayou Sorrell	R		
423	05	MI	Duell & Gardner Landfill	Dalton Township	R		
424	02	NJ	Ellis Property	Evesham Township	R		
425	04	KY	Distler Farm	Jefferson County	R		
426	10	WA	Harbor Island (Lead)	Seattle			D
427	05	WI	Lemberger Transport & Recycling	Franklin Township		E	
428	05	OH	E.H. Schilling Landfill	Hamilton Township		E	D
429	05	MI	Cliff/Dow Dump	Marquette	R	E	
430	10	WA	Queen City Farms	Maple Valley	V		
431	05	WI	Scrap Processing Co., Inc.	Medford		E	
432	06	NM	Homestake Mining Co.	Milan	V		
433	05	MI	Mason County Landfill	Pere Marquette Twp		E	
434	05	MI	Cemetery Dump	Rose Center	R		
435	02	NJ	Hopkins Farm	Plumstead Township			D
436	01	RI	Stamina Mills, Inc.	North Smithfield	R	E	D
437	05	IN	Reilly Tar (Indianapolis Plant)	Indianapolis			D
438	01	ME	Pinette's Salvage Yard	Washburn	R		
439	06	TX	Harris (Farley Street)	Houston	V	E	
440	02	NJ	Wilson Farm	Plumstead Township		E	D
441	03	PA	Old City of York Landfill	Seven Valleys		E	
442	05	IL	Byron Salvage Yard	Byron	R	E	
443	03	PA	Stanley Kessler	King of Prussia		E	
444	02	NJ	Friedman Property	Upper Freehold Twp	R		
445	02	NJ	Imperial Oil/Champion Chemicals	Morganville	R		
446	02	NJ	Myers Property	Franklin Township	R		
447	02	NJ	Pepe Field	Boonton			D
448	05	MI	Ossineke Ground Water Contam	Ossineke		E	D
449	03	WV	Follansbee Site	Follansbee			
450	09	CA	Koppers Co., Inc. (Oroville Plant)	Oroville		E	

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GROUP 10

RANK	EPA REG	ST	SITE NAME •	CITY/COUNTY	RESPONSE STATUS #		
451	05	MI	G.S. Avion	Howard Township		E	
452	03	PA	Walsh Landfill	Honeybrook Township	R		
453	02	NJ	Landfill & Developement Co.	Mount Holly		E	
454	02	NJ	Upper Deerfield Township Slf	Upper Deerfield Twp	V	E	
455	06	NM	Al & Sf (Clovis)	Clovis	V	E	D
456	02	NY	American Thermostat Co.	South Cairo		E	
457	04	TN	Lewisburg Dump	Lewisburg			D
458	05	MI	McGraw Edison Corp.	Albion		/ E	
459	06	NY	Airco	Calvert City			D
460	03	PA	Metal Banks	Philadelphia	V		
461	04	KY	B F. Goodrich	Calvert City			D
462	05	MI	Organic Chemicals, Inc.	Grandville		E	
463	01	MA	Sullivan's Ledge	New Bedford			D
464	02	PR	Juncos Landfill	Juncos	V	R	
465	05	IN	Bennett Stone Quarry	Bloomington		E	
466	04	FL	Munisport Landfill	North Miami			D
467	04	AL	Stauffer Chem (La Moyne Plant)	Axis			D
468	02	NJ	M&l Delise Landfill	Asbury Park	V		
469	04	SC	Celgar (C & M Oil)	Rantoules			D
470	05	WI	Moss-American(Kerr-McGee Oil Co.)	Milwaukee			D
471	05	WI	Waste Research & Reclamation Co.	Eau Claire		E	
472	10	OR	Gould, Inc.	Portland		E	
473	05	MN	St. Louis River Site	St. Louis County		E	
474	05	MI	Auto Ion Chemicals, Inc.	Kalamazoo	R		
475	04	SC	Carolawn, Inc.	Fort Lawn	R	E	
476	03	PA	Berks Sand Pit	Longswamp Township	R		
477	05	MI	Sparta Landfill	Sparta Township		E	
478	05	IL	ACME Solvent (Morristown Plant)	Morristown	R		
479	04	FL	Hipps Road Landfill	Duval County	R		
480	04	FL	Pepper Steel & Alloys, Inc.	Medley	R		
481	01	ME	O'Connor Co.	Augusta			D
482	05	WI	Oconomowoc Electroplating Co. Inc	Ashippin		E	
483	05	MI	Rasmussen's Dump	Green Oak Township	R		
484	03	PA	Westline Site	Westline	R		
485	05	OH	Powell Road Landfill	Dayton			D
486	05	MI	Ionia City Landfill	Ionia	R		
487	08	CO	Lincoln Park	Canon City			D
488	05	IN	Wedzeb Enterprises, Inc.	Lebanon		E	
489	02	PR	Gl Wiring Devices	Juana Diaz	V		
490	05	OH	New Lyme Landfill	New Lyme	R		
491	02	NJ	Woodland Route 72 Dump	Woodland Township			D
492	02	PR	RCA Del Caribe	Barceloneta			D
493	03	PA	Brodhead Creek	Stroudsburg	R		
494	10	OR	United Chrome Products, Inc.	Corvallis	R		
495	05	MI	Anderson Development Co.	Adrian		E	
496	05	MI	Shiawassee River	Howell		E	
497	03	PA	Taylor Borough Dump	Taylor Borough	R		
498	03	DE	Harvey & Knott Drum, Inc.	Kirkwood	R		
499	04	TN	Gallaway Pits	Gallaway	R	E	
500	05	OH	Big D Campground	Kingsville		E	

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[FR Doc. 84-24767 Filed 9-20-84; 8:45 am]

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GROUP 11

RANK	EPA REG	ST	SITE NAME •	CITY/COUNTY	RESPONSE STATUS #		
501	03	DE	Wildcat Landfill	Dover	R		
502	05	MI	Burrows Sanitation	Hartford		E	
503	03	PA	Biosenshi Landfill	West Cain Township	R		
504	03	DE	Delaware City PVC Plant	Delaware City	V		
505	03	MD	Limestone Road	Cumberland	R	E	
506	02	NY	Hooker (102nd Street)	Niagara Falls		E	
507	03	DE	New Castle Steel	New Castle County			D
508	06	NM	United Nuclear Corp.	Church Rock	R	E	
509	06	AR	Industrial Waste Control	Fort Smith	R	E	
510	09	CA	Coltor Chemical Works	Hoopa	R		
511	04	AL	Perdido Ground Water Contam	Perdido			D
512	02	NY	Marathon Battery Corp.	Cold Springs	R		
513	03	PA	Lehigh Electric & Engineering Co.	Old forge Borough	R	E	
514	05	OH	Skinner Landfill	West Chester			D
515	04	NC	Chemtronics, Inc.	Swannanoa			D
516	07	MO	Shenandoah Stables	Museow Mills		E	
517	06	LA	Bayou Bonfouca	Slidell	R		
518	03	VA	Saltville Waste Disposal Ponds	Saltville	R		
519	03	PA	Kleberton Site	Kleberton Borough			D
520	03	MD	Middletown Road Dump	Annapolis	R	E	
521	10	WA	Pesticide Lab (Yakima)	Yakima			D
522	05	IN	Lemon Lane Landfill	Bloomington	R		
523	10	ID	Arrcom (Drexler Enterprises)	Rathdrum			D
524	03	PA	Fischer & Porter Co.	Warminster	V		
525	09	CA	Jibboom Junkyard	Sacramento	R		
526	02	NJ	A. O. Polyner	Sparta Township		E	
527	02	NJ	Dover Municipal Well 4	Dover Township			D
528	02	NJ	Rockaway Township Wells	Rockaway	R		
529	05	WI	Delavan Municipal Well #4	Delavan			D
530	09	CA	San Gabriel Valley (Area 3)	Alhambra	R		
531	09	CA	San Gabriel Valley (Area 4)	La Puente	R		
532	10	WA	American Lake Gardens	Tacoma	V		
533	10	WA	Greenacres Landfill	Spokane County			D
534	06	TX	Triangle Chemical Co.	Bridge City	R	E	
535	02	NJ	PJP Landfill	Jersey City		E	
536	03	PA	Craig Farm Drum	Parker			D
537	03	PA	Voortman Farm	Upper Saucon Twp	R		
538	05	IL	Belvidere Municipal Landfill	Belvidere	R		

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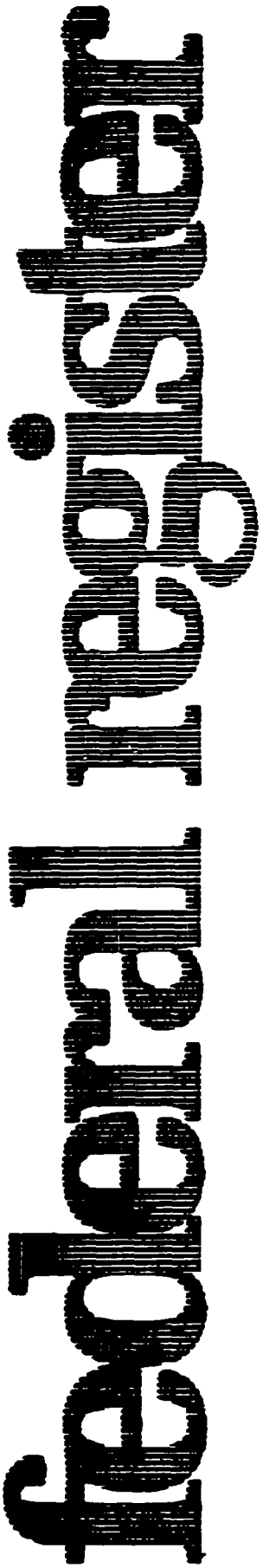

Monday
October 15, 1984

Part III

Environmental Protection Agency

40 CFR Part 300

Amendment to National Oil and Hazardous Substances Contingency Plan: The National Priorities List; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

[OSWER-FRL-2690-6]

Amendment to National Oil and Hazardous Substances Contingency Plan: The National Priorities List

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule

SUMMARY: The Environmental Protection Agency ("EPA") is proposing the second update to the National Priorities List ("NPL"). The NPL is Appendix B to the National Oil and Hazardous Substances Contingency Plan ("NCP"), which EPA promulgated pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA") and Executive Order 12316. CERCLA requires that the NPL be revised at least annually, and today's notice proposes the second such revision.

DATES: Comments may be submitted on or before December 14, 1984.

ADDRESSES: Comments may be mailed to Russel H. Wyer, Director, Hazardous Site Control Division (NPL Staff), Office of Emergency and Remedial Response (WH-548E), Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460. The public docket for the update to the NPL will contain Hazard Ranking System (HRS) score sheets for all sites on this proposed update, as well as a "Documentation Record" for each site describing the information used to compute the scores. The main public docket is located in Room S-325 of Waterside Mall, 401 M Street, SW., Washington, D.C. 20460, and is available for viewing from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding holidays. Requests for copies of documents in the docket should be directed to EPA Headquarters, although the same documents will be available for viewing in the EPA Regional Offices. In addition, the background data relied upon by the Agency in calculating or evaluating HRS scores are retained only in the Regional Offices. Such data in EPA files may be obtained upon request. An informal written request, rather than a formal request under the Freedom of Information Act, should be the ordinary procedure for requesting these data sources. Addresses for the Regional Office dockets are:

Peg Nelson, Region I, U.S. EPA Library, John F. Kennedy Federal Bldg., Boston, MA 02203, 617/223-5791
Audrey Thomas, Region II, U.S. EPA Library, 26 Federal Plaza, 10th Floor, New York, NY 10278, 212/264-2881
Diane McCreary, Region III, U.S. EPA Library, Curtis Building, 6th & Walnut Streets, Philadelphia, PA 19106, 215/597-0580
Carolyn Mitchell, Region IV, U.S. EPA Library, 345 Courtland Street, NE, Atlanta, GA 30365, 404/881-4216
Lou Tilly, Region V, U.S. EPA Library, 230 South Dearborn Street, Chicago, IL 60604, 312/353-2022
Nita House, Region VI, U.S. EPA Library, First International Building, 1201 Elm Street, Dallas, TX 75270, 214/767-7341
Connie McKenzie, Region VII, U.S. EPA Library, 324 East 11th Street, Kansas City, MO 64106, 816/374-3497
Delores Eddy, Region VIII, U.S. EPA Library, 1860 Lincoln Street, Denver, CO 80295, 303/837-2560
Jean Circiello, Region IX, U.S. EPA Library, 215 Fremont Street, San Francisco, CA 94105, 415/974-8076
Julie Sears, Region X, U.S. EPA Library, 1200 6th Avenue, Seattle, WA 98101, 206/442-1289

FOR FURTHER INFORMATION CONTACT: Joseph R. Gearo, Jr., Hazardous Site Control Division, Office of Emergency and Remedial Response (WH-548E), Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460, Phone (800) 424-9346 (or 382-3000 in the Washington, D.C., metropolitan area).

SUPPLEMENTARY INFORMATION:

Table of Contents

I Introduction
II Purpose of the NPL
III NPL Update Process and Schedule
IV Contents of the Proposed Second NPL Update
V Deleting Sites from the NPL
VI Eligibility
VII Regulatory Impact Analysis
VIII Regulatory Flexibility Act Analysis

I. Introduction

Pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601-9657 ("CERCLA" or "the Act"), and Executive Order 12316 (46 FR 42237, August 20, 1981), the Environmental Protection Agency ("EPA" or the "Agency") promulgated the revised National Contingency Plan ("NCP"), 40 CFR Part 300, on July 16, 1982 (47 FR 31180). Those amendments to the NCP implement the responsibilities and authorities created by CERCLA to respond to releases and threatened releases of hazardous substances, pollutants, and contaminants.

Section 105(8)(A) of CERCLA requires that the NCP include criteria for determining priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action and, to the extent practicable taking into account the potential urgency of such action, for the purpose of taking removal action. Removal action involves cleanup or other actions that are taken in response to emergency conditions or on a short-term or temporary basis (CERCLA Section 101(23)). Remedial actions tend to be long-term in nature and involve response actions which are consistent with a permanent remedy for a release (CERCLA Section 101(24)). Criteria for determining priorities are included in the Hazard Ranking System ("HRS"), which EPA promulgated as Appendix A of the NCP (47 FR 31219, July 16, 1982).

Section 105(8)(B) of CERCLA requires that these criteria be used to prepare a list of national priorities among the known releases or threatened releases throughout the United States, and that to the extent practicable at least 400 sites be designated individually. CERCLA requires that this National Priorities List ("NPL") be included as part of the NCP. Today, the Agency is proposing the addition of 238 sites to the NPL.

EPA is proposing to include on the NPL sites at which there are or have been releases or threatened releases of designated hazardous substances or of any "pollutant or contaminant." The discussion below may refer to "release or threatened releases" simply as "releases," "facilities," or "sites."

II. Purpose of the NPL

The primary purpose of the NPL is stated in the legislative history of CERCLA (Report of the Committee on Environment and Public Works, Senate Report No. 96-848, 96th Cong., 2d Sess. 60 (1980)):

> The priority lists serve primarily informational purposes, identifying for the States and the public those facilities and sites or other releases which appear to warrant remedial actions. Inclusion of a facility or site on the list does not in itself reflect a judgement of the activities of its owner or operator. It does not require those persons to undertake any action, nor does it assign liability to any person. Subsequent government action in the form of remedial actions or enforcement actions will be necessary in order to do so, and these actions will be attended by all appropriate procedural safeguards.

The purpose of the NPL, therefore, is primarily to serve as an informational tool for use by EPA in identifying sites that appear to present a significant risk to public health or the environment. The initial identification of a site on the NPL is intended primarily to guide EPA in determining which sites warrant further investigation designed to assess the nature and extent of the public health

and environmental risks associated with the site and to determine what CERCLA-financed remedial action(s), if any, may be appropriate. Inclusion of a site on the NPL does not establish that EPA necessarily will undertake remedial actions. Moreover, listing does not require any action of any private party, nor does it determine the liability of any party for the cost of cleanup at the site. In addition, a site need not be on the NPL to be the subject of CERCLA-financed removal actions or of actions brought pursuant to section 107(a)(4)(B) of CERCLA.

In addition, although the HRS scores used to place sites on the NPL may be helpful to the Agency in determining priorities for cleanup and other response activities among sites on the NPL, EPA does not rely on the scores as the sole means of determining such priorities, as discussed below. Neither can the HRS itself determine the appropriate remedy for a site. The information collected to develop HRS scores to select sites for the NPL is not sufficient in itself to determine the appropriate remedy for a particular site. After a site has been included on the NPL, EPA generally will rely on further more detailed studies conducted at the site to determine what response, if any, is appropriate. These studies will take into account, among other things, response actions that have been taken by potential responsible parties or others. Decisions on the type and extent of action to be taken at these sites are made in accordance with the criteria contained in Subpart F of the NCP. After conducting these additional studies, EPA may conclude that it is not desirable to conduct response action at some sites on the NPL because of more pressing needs at other sites. Given the limited resources available in the Hazardous Substance Response Trust Fund established under CERCLA, the Agency must carefully balance the relative needs for response at the numerous sites it has studied. Also, it is possible that EPA will conclude after further analysis that no action is needed at a site because the site does not present a significant threat to public health, welfare or the environment.

III. NPL Update Process and Schedule

Pursuant to section 105(8)(B) of CERCLA, 42 U.S.C. 9605(8)(B), EPA is required to establish, as part of the NCP for responding to releases of hazardous substances, a NPL of sites of such releases. The principal purpose of this notice is to propose the addition of 238 new sites to the NPL which have HRS scores of 28.50 or above. In addition, the final NPL (49 FR 37070, September 21, 1984) is included to indicate the appropriate status codes for response and cleanup activities at these sites. These codes are explained in greater detail in section IV of this notice.

CERCLA requires that the NPL be revised at least once per year. Accordingly, EPA added 128 sites to the final NPL on September 21, 1984 (49 FR 37070). The majority (123) of those sites were proposed on September 8, 1983 (48 FR 40674) as the first update to the NPL. Today's notice proposes the second such revision, which the Agency expects to promulgate within one year of this announcement. For each NPL revision, EPA informs the States of the closing dates for submission of candidate sites to EPA. In addition to these periodic updates, EPA believes it may be desirable in rare instances, because of urgency and needed corrective action, to propose separately the addition of individual sites on the NPL as it did in the case of the Times Beach, Missouri, (48 FR 9311, March 4, 1983).

As with the establishment of the initial NPL and subsequent revisions to the NPL, States have the primary responsibility for selecting and scoring sites that are candidates for inclusion on the NPL using the HRS (Appendix A to the NCP, 47 FR 31223, July 16, 1982) and submitting the candidate sites to the EPA Regional Offices. The Regional Offices then conduct a quality control review of the States' candidate sites. After conducting this review, the EPA Regional Offices submit candidate sites to EPA Headquarters. The Regions may include candidate sites in addition to those submitted by States. In reviewing these submissions, EPA Headquarters conducts further quality assurance audits to ensure accuracy and consistency among the various EPA and State offices participating in the scoring.

In today's proposal, the "Proposed Additions" consist of sites not currently on the NPL that the Agency is proposing to add to the NPL. The "Proposed Additions" are contained in the list immediately following this preamble. The additions are presented in two separate lists, non-Federal and Federal facility sites.

Public Comment Period

EPA requests public comment on each of the sites it is proposing to add to the NPL and will accept such comments for 60 days following the date of publication of this notice in the **Federal Register**. HRS scoring sheets and a "Documentation Record" for all sites proposed to be added to the NPL are available for inspection and copying in the NPL docket located in Washington, D.C. The same documents will be available for viewing in the EPA Regional offices for sites located in that particular Region. After considering the relevant comments received during the comment period and determining the final score for each proposed site, the Agency will add to the current NPL all sites that meet EPA's criteria for listing (e.g., sites with HRS scores at or above 28.50 or those designated as a State's top priority site).

IV. Contents of the Proposed Second NPL Update

Each entry on the proposed second NPL update contains the name of the facility, the State and city or county in which it is located, and the corresponding EPA Region. Each site EPA is proposing to add is placed by score in a group corresponding to the groups of 50 sites presented within the final NPL (49 FR 37070, September 21, 1984). Thus, the sites in group 1 of the proposed update have scores that fall within the range of scores covered by the first 50 sites on the final NPL. Each entry on this proposed update and all sites already on the NPL is accompanied by one or more notations referencing the status of response and cleanup activities at the site at the time this list was prepared. This site status and cleanup information are described briefly below.

In the past, EPA categorized the NPL sites based on the type of response at the site (Fund-financed, enforcement or voluntary action). This second update will expand the prior categorization system in two ways. First, Federal enforcement actions are separated from State enforcement actions. Second, the status of site cleanup activities is designated by three new cleanup status codes. EPA is proposing the cleanup status codes to identify sites where significant response activities are underway or completed. These cleanup status codes on this NPL update are included in response to public requests for information regarding actual site cleanup activities.

Response Categories

The following response categories are used to designate the type of response underway. One or more categories may apply to each site.

Voluntary or Negotiated Response (V): Sites are included in this category if private parties have started or completed response actions pursuant to settlement agreements or consent decrees to which EPA or the State is a party. This category includes privately-financed remedial planning, removal actions, initial remedial measures and/or remedial actions.

Federal and/or State Response (R). The Federal and/or State Response category includes sites at which EPA or State agencies have started or completed response actions. These include removal actions, non-enforcement remedial planning, initial remedial measures, and/or remedial actions under CERCLA (NCP, § 300.66(f)–(i) 47 FR 31217, July 16, 1982). For purposes of assigning a category, the response action commences when EPA obligates funds.

Federal Enforcement (F). This category includes sites where the United States has filed a civil complaint (including cost recovery actions) or issued an administrative order. It also includes sites at which a Federal court has mandated some form of response action following a judicial proceeding. All sites at which enforcement-lead remedial investigations and feasibility studies are underway are also included in this category.

A number of sites on the NPL are the subject of investigations or have been referred to the Department of Justice for possible enforcement action. EPA's policy is not to release information concerning a possible enforcement action until a lawsuit has been filed. Accordingly, these sites are not included in this category, but are included under "Category to be Determined."

State Enforcement (S). This category includes sites where a State has filed a civil complaint or issued an administrative order. It also includes sites at which a State court has mandated some form of response action following a judicial proceeding. Sites where State enforcement-lead remedial investigations and feasibility studies are underway are also included in this category.

It is assumed that State policy precludes the release of information concerning possible enforcement actions until such action has been formally taken. Accordingly, sites subject to possible State legal action are not included in this category, but are included under "Category to be Determined."

Category to be Determined (D). This category includes all sites not listed in any other category. A wide range of activities may be in progress at sites in this category. EPA or a State may be evaluating the type of response action to undertake, or an enforcement case may be under consideration. Responsible parties may be undertaking cleanup actions that are not covered by a consent decree or an administrative order.

Cleanup Status Codes

EPA has decided to indicate the states of Fund-financed or private party cleanup activities underway or completed at proposed NPL sites. Fund-financed response activities which are coded include: significant removal actions, initial remedial measures, source control remedial actions, and offsite remedial actions. The status of cleanup activities conducted by responsible parties under a consent decree, court order, or an administrative order also is coded. Remedial planning activities or engineering studies do not receive a cleanup status code.

Many sites listed on the NPL are cleaned up in stages or "operable units." For purposes of cleanup status coding, an operable unit is a discrete action taken as part of the entire site cleanup that significantly decreases or eliminates a release, threat of release, or pathway of exposure. One or more operable units may be necessary to complete the cleanup of a hazardous waste site. Operable units may include removal actions taken to stabilize deteriorating site conditions, initial remedial measures, and remedial actions. A simple removal action (constructing fences, or berms or lowering free-board) that does not eliminate a significant release, threat of release, or pathway of exposure is not considered an operable unit for purposes of cleanup status coding.

The following cleanup status codes (and definitions) are used to designate the status of cleanup activities at proposed sites on the NPL. Only one code is necessary to denote the status of actual cleanup activity at each site since the codes are mutually exclusive.

Implementation Activities Are Underway for One or More Operable Units (I). Field work is in progress at the site for implementation of one or more removal or remedial operable units, but no operable units are completed.

Implementation Activities for One or More (But Not All) Operable Units Are Completed. Implementation Activities May be Underway for Additional Operable Units (O). Field work has been completed for one or more operable units, but additional site cleanup actions are necessary.

Implementation Activities for all Operable Units Are Completed (C). All actions agreed upon for remedial action at the site have been completed and performance monitoring has commenced. The site will be considered for deletion from the NPL subsequent to completion of the performance monitoring and preparation of a deletion recommendation. Further site activities could occur if EPA considers such activities necessary.

V. Deleting Sites From the NPL

There is no specific statutory requirement that the NPL be revised to delete sites. However EPA has decided to consider deleting sites to provide incentives for cleanup to private parties and public agencies. Furthermore, deleting sites allows the Agency to give notice that the sites have been cleaned up and gives the public an opportunity to comment on those actions.

EPA will delete a previously promulgated NPL site after EPA has determined that it has satisfied one or more of the following criteria:

(1) EPA, in consultation with the State, has determined that responsible parties have completed all appropriate response actions;

(2) EPA, in consultation with the State, has determined that all appropriate Fund-financed response actions have been completed and that no further cleanup by responsible parties is appropriate;

(3) Based on a remedial investigation, EPA, in consultation with the State, has determined that the facility poses no significant threat to public health, welfare, or the environment and, therefore, construction of remedial measures is not appropriate.

These criteria are the only deletion criteria EPA has developed to date. These criteria constitute guidance, not regulations. They may be revised or supplemented if experience indicates that other factors should be taken into account. At this time, however, it appears that these three criteria are adequate.

The Agency issued a guidance memorandum on March 27, 1984, describing these criteria and interim procedures for deleting sites from the NPL. This document is available in the EPA dockets (see addresses section of this announcement). In deleting sites from the NPL, EPA will use the same Federal Register notice and comment procedures that were used for placing sites on the NPL.

The NCP currently restricts expenditures of Trust Fund monies to sites on the NPL. The Agency intends to modify the NCP to allow EPA to return to a site and expend Fund monies as warranted for operation and maintenance costs, continued monitoring, or correction of any failures of the remedy even though the site will have actually been deleted from the NPL. If sites are proposed for deletion before the NCP revisions have been promulgated, the Agency will establish a

"deletion category" for the NPL. This category will be explicitly denoted as containing sites at which the Agency has determined that one or more of the deletion criteria described above have been satisfied. However, these sites would not actually be deleted from the NPL. Once the NCP modifications are promulgated, the Agency will be able to delete a site from the NPL and spend additional Fund monies if conditions warrant.

The Agency is interested in the public reaction to these deletion procedures. Specifically, the Agency is interested in (1) The desirability of maintaining the Federal Register notice and comment procedures for deletions that are currently used for placing sites on the NPL, and (2) the desirability of continuing to print, on a separate list, the names of sites deleted from the NPL at the time of each update. The Agency believes that including the names of deleted sites on the NPL may provide important information to the public on the final disposition of these sites and may result in favorable publicity for parties who have cleaned up sites on the NPL.

VI. Eligibility

CERCLA restricts EPA's authority to respond to certain categories of releases and expressly excludes some substances from the definition of release. In addition, as a matter of policy , EPA may or may not choose to respond to certain types of releases because other Federal agencies have adequate authority to respond. This section discusses the inclusion of such releases on the NPL.

Releases from Federal Facility Sites

CERCLA section 111(e)(3) prohibits use of the Funds for remedial actions at Federally owned facilities. Previously, EPA did not list any sites on the NPL where the release resulted solely from a Federal facility, regardless of whether contamination remained onsite or had migrated ofsite. EPA incorporated this position into the NCP (section 300.66(e)(2), 47 FR 31215, July 16, 1982); an also in the promulgation of the first NPL (48 FR 40662, September 8, 1983).

Public comments received from previously proposed NPL announcements suggested including Federal facilities, and the Agency now believes that it is appropriate to include Federal facility sites on the NPL when such facilities meet the criteria for inclusion. Federal facility sites will be listed when the HRS scores are equal to or above 28.50 so as to focus public attention and appropriate resources on the most serious sites, even though they are not eligible for Fund-financed remedial action.

For this update, Federal sites will be presented in a separate NPL section with Federal site displayed in scoring groups equivalent to the groups shown in the non-Federal NPL. As discussed in 48 FR 40662, September 8, 1984, EPA previously has listed sites that formerly were owned by the Federal government, and non-Federally owned sites where the Federal government may have contributed to a release. EPA intends to continue this policy by listing such site on the non-Federal NPL. The Federal facility section of the NPL will only contain sites where the release appears to result solely from a Federal facility, regardless of whether contamination remained on site or has migrated offsite.

Response categories and cleanup status codes also will be assigned for Federal facility sites, and these will be essentially the same categories and codes used for non-Federal sites. A Federal agency response at a Federal facility site will be indicated by the (R) category. When the (R) category does not apply to a Federal facility site, other Federal agency activities at that site, such as evaluating the appropriate response to undertake, will be indicated by the (D) category. Cleanup codes will be assigned to Federal facility sites in the same manner as they are to non-Federal sites.

EPA is preparing a proposed amendment in section 300.66(e)(2) of the NCP to allow the listing of Federal facility sites on the NPL. For this proposal, EPA scored those Federal facilities identified by Federal agencies and the States as NPL candidates where sufficient information existed to apply the HRS. However, EPA does not intend to promulgate any of the sites proposed today until such time as the NCP amendment is final. In the meantime the Agency is continuing work with Federal agencies to investigate potential problem Federal sites and to implement corrective measures at Federal sites.

Releases of Pesticides Registered Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

This proposal includes six sites in South Central Oahu, Hawaii, where parts of the basal aquifer have been contaminated by pesticides including ethylene dibromide (EDB), dibromochloropropane (DBCP), and trichloropropane (TCP), a likely contaminant of the pesticide D-D (which contains 1,2-dichloropane, 1,3-dichloropene and related C3 compounds). These pesticides are all soil fumigants that have been used as nematocides in Oahu pineapple fields. All were registered under FIFRA at the time of their use in Oahu. We do not believe these pesticides are being used in Hawaii any longer. EDB's soil fumigation use has been cancelled, and EPA has proposed to cancel the sole remaining use of DBCP (pineapples) in the United States. D-D is no longer being produced, although it is still Federally registered. The most likely source of the contamination by DBCP and TCP was their use as pesticides, although it is less clear that the contamination by EDB resulted solely from its agricultural use.

These six sites are the first such sites proposed to be added to the NPL on the basis of releases which appear to originate from the application of pesticides. Insecticides and similar products are used extensively throughout the United States. The application of the HRS to public and private ground water systems throughout the country could possibly result in the listing of additional similar sites in a number of other States. At this time, however, the Agency has little data from which to predict the number of similar problems or the degree of risk posed by them, compared with the risks posed by other identified sites.

EPA is concerned that listing these sites may set important precedents with currently unknown implications for the future direction of CERCLA. As CERCLA's scope is broad, EPA wants to insure that its efforts under CERCLA are focused on the most significant risks and on problems that cannot be adequately addressed under EPA's other statutory authorities. Therefore, the Agency is interested in public comment for consideration in evaluating what alternative statutory tools or other approaches are most appropriate for dealing with these problems. Other approaches on which EPA wants to receive comment are those which would assure that only sites posing significant problems are included on the NPL. EPA plans to consider these issues. If the Agency decides that problems arising from pesticide use are better addressed outside the frame-work of CERCLA, it may decide as a matter of policy not to list the sites on the NPL.

EPA is planning a monitoring survey to evaluate the frequency and severity of contamination of ground water by pesticides. In addition, the Agency has initiated a special data call-in under FIFRA to evaluate the potential for ground water contamination of many pesticides. Pending the results of these information gathering efforts, the extent of this problem is not fully understood.

EPA has the authority to include sites on the NPL where contamination from

pesticide application has occurred (or has the potential to occur). The definition of "release" in section 101(22) of CERCLA is very broad; and whereas it excludes the "normal application of a fertilizer," it does not contain a similar exclusion for the application of pesticides. Additional review of CERCLA gives no suggestion that EPA authority to list such pesticide sites on the NPL or to take response action is limited. Section 107(i) limits EPA's ability to recover costs from releases associated with pesticide use, but CERCLA does not contain a similar limitation on EPA's ability to respond. Thus, there is no statutory restriction on the use of money from the CERCLA Trust Fund to clean up sites where public health or the environment has been threatened as a result of the application of pesticides. At the same time the Agency is not obliged to exercise response authority whenever a site is included on the NPL.

There are several legal authorities by which the hazards associated with contamination of ground water by pesticide use can be addressed: CERCLA enforcement actions and some CERCLA response actions, as well as actions under other laws, do not depend on a site's placement on the NPL. For example, FIFRA provides authority to require manufacturers to submit test results with which the Agency can evaluate hazards, including health effects and environmental fate and transport. FIFRA also provides authority to limit or prohibit use of pesticides when the risk associated with use outweigh the benefits of use. Under the Safe Drinking Water Act, EPA can issue health advisories or specify maximum contaminant limits in public water systems.

CERCLA authorizes Fund-financed response actions such as cleaning up acquifers or providing alternate drinking water supplies. Certain response actions taken with CERCLA trust fund money, however, are authorized only where a site has been listed on the NPL. While listing a site on the NPL is necessary to take these actions, it does not require them. After a site has been included on the NPL, EPA generally will rely on further, more detailed studies conducted at the site to determine what response, if any, is appropriate. The authority to compel private responsible parties to abate or clean up releases of pollutants and contaminants provided by CERCLA is not limited to sites listed on the NPL.

Releases From Sites Having Interim Status or Permits Under the Resource Conservation and Recovery Act (RCRA)

As stated in EPA's first NPL final rulemaking (48 FR 40658, September 8, 1983), both CERCLA and the Resource Conservation and Recovery Act (RCRA) contain authorities applicable to hazardous waste facilities. These authorities overlap for certain sites. EPA is adhering to its established policy that, where a site consists only of "regulated units" of a RCRA facility operating pursuant to a permit or interim status, it will not be included on the NPL but, to the extent possible, instead will be addressed under the authorities of RCRA. The RCRA Land Disposal Regulations (40 CFR Parts 122, 260, 264, and 265) give EPA authority to control actives sites through a broad program which includes monitoring, compliance inspections, penalties for violations, and requirements for post-closure plans and financial responsibility.

RCRA regulations require a contingency plan for each facility. The regulations also contain groundwater protection standards (40 CFR Part 264, Subpart F) that cover detection monitoring, compliance monitoring (if groundwater impacts are identified) and corrective action for releases within the site boundaries. These monitoring and corrective action standards apply to all "regulated units" of RCRA facilities, i.e. any part of the waste treatment, storage or disposal operation within the boundaries of the facility that accepted waste after January 26, 1983, the effective date of the Land Disposal Regulations (47 FR 32349, July 26, 1982). Even if the unit ceases operation after this time, EPA has the authority to require it to obtain a permit, and the monitoring and corrective action requirements could therefore be enforced by this mechanism.

Given this authority to ensure cleanup of regulated units of RCRA facilities, such facilities generally are not included on the NPL. If the facility is abandoned or lacks sufficient resources and the RCRA corrective action requirements cannot be enforced, however, EPA will consider listing the site on the NPL for possible response under CERCLA. This policy is applicable not only to sites subject to EPA-administered hazardous waste programs but also to sites in States that administer programs approved by EPA. Even in the latter instance, close Federal control is ensured by the comprehensivenes of the program elements required of all State programs coupled with EPA's authority to enforce State program requirements directly if the State fails to do so. EPA does, however, consider eligible for listing on the NPL those RCRA facilities at which a significant portion of the release appears to come from "non-regulated units" of the facility, that is, portions of the facility that ceased operation prior to January 26, 1983. However, pending amendments to RCRA would extend RCRA jurisdiction to releases from non-regulated units at regulated facilities. Therefore, if the amendments are enacted, the Agency will consider modifying the existing policy of including such sites on the NPL at that time.

VII. Regulatory Impact Analysis

The costs of cleanup actions that may be taken at sites are not directly attributable to listing on the NPL, as explained below and therefore the Agency has determined that this rulemaking is not a "major" regulation under Executive Order 12291. The EPA has conducted a preliminary analysis of the economic implications of today's proposed amendment to the NCP. The EPA believes that the kind of economic effects associated with this revision are generally similar to those effects identified in the regulatory impact analysis (RIA) prepared in 1982 for the revisions to the NCP pursuant to section 105 of CERCLA. The Agency believes the anticipated economic effects related to proposing the addition of 244 sites to the NPL can be characterized in terms of the conclusions of the earlier regulatory impact analysis. At that time the Agency noted that a more extensive analysis of the economic impacts of the NCP would be prepared in the future and would accompany publication of future major amendments to the NCP. The Agency expects to propose major amendments to the NCP in the future and a more comprehensive economic analysis will be made available for comment at that time.

Costs

The EPA has determined that this proposed rulemaking is not a "major" regulation under Executive Order 12291 because inclusion of a site on the NPL does not itself impose any costs. It does not establish that EPA will necessarily undertake response action, nor does it require any action by a private party or determine its liability for site response costs. Costs that arise out of site response result from site-by-site decisions about what actions to take, not directly from the act of listing itself. Nonetheless, it is useful to consider the costs associated with responding to all sites included in a listing proposed rulemaking. This action was submitted

to the Office of Management and Budget (OMB) for review.

The major events that follow the proposed listing of a site on the NPL are a responsible party search and a Remedial Investigation/Feasibility Study (RI/FS) which determines whether response actions will be undertaken at a site. Design and construction of the selected remedial alternative follow completion of the RI/FS and operation and maintenance (O&M) activities may continue after construction has been completed.

Costs associated with responsible party searches are initially borne by EPA. Responsible parties may bear some or all the costs of the RI/FS, design and construction, and O&M, or the costs may be shared by EPA and the States on a 90% 10% basis (50%.50% in the case of State-owned sites). Additionally, States assume all costs for O&M activities after the first year at sites involving Fund-financed remedial actions.

Rough estimates of the average per-site and total costs associated with each of the above activities are presented below. At this time EPA is unable to predict what portions of the total costs will be borne by responsible parties, since the distribution of costs depends on the extent of voluntary and negotiated response and the successfulness of cost recovery actions where such actions are brought.

Cost category	Average total cost per site [1]
Studies	$800,000
Remedial Design	440,000
Remedial Action	7,200,000
Initial Remedial Measures (IRM) at 10% of sites	90,000
Net Present Value of O&M (over 30 years)	4,700,000

[1] 1984 U.S. Dollars.

Source: CERCLA implementation figures assumes $8.5 million Federal share of remedial action.

Costs to States associated with today's proposed amendment arise from the statutory State cost-share requirement of (1) 10 percent of remedial implementation (remedial action and IRM) and O&M costs at privately-owned sites, and (2) 50 percent of the remedial planning (RI/FS and remedial design) remedial implementation and O&M costs at State or locally-owned sites. Using the assumptions developed in the 1982 RIA, we can assume that 90 percent of the 208 non-Federal sites proposed to be added to the NPL in this amendment will be privately-owned and 10 percent will be State or locally-owned. Therefore, using the budget projections presented above, the cost to States of undertaking Federal remedial actions at all 208 non-Federal sites would be $344 million.

The act of listing a hazardous waste site on the final NPL does not necessarily cause firms responsible for the site to bear costs. Nonetheless, a listing may induce firms to clean up the sites voluntarily, or it may act as a potential trigger for subsequent enforcement or cost recovery actions. Such actions may impose costs on firms, but the decisions to take such actions are discretionary, and made on a case-by-case basis. Consequently, precise estimates of these effects cannot be made. EPA does not believe that every site will be cleaned up by a responsible party. EPA cannot project at this time which firms or industry sectors will bear specific portions of response costs, but the Agency considers such factors as the volume and nature of the wastes contributed, the strength of the evidence linking the wastes at the site to the parties, ability to pay, and other factors when deciding whether and how to proceed against potentially responsible parties.

Economy-wide effects of this proposed amendment are aggregations of effects on firms and State and local governments. Although effects could be felt by some individual firms and States, the total impact of this revision on output, prices, and employment is expected to be negligible at the national level, as was the case in the 1982 RIA.

Benefits

The real benefits associated with today's proposed amendment come in the form of increased health and environmental protection as a result of increased public awareness of potential hazards and the additional response actions at hazardous waste sites. In addition to the potential for more Federally-financed remedial actions this proposed expansion of the NPL could accelerate privately-financed, voluntary cleanup efforts to avoid potential adverse publicity, private lawsuits, and/or Federal or State enforcement actions.

As a result of the additional NPL remedies, there will be lower human exposure to high risk chemicals, and higher quality surface water, ground water, soil, and air. The magnitude of these benefits is expected to be significant, although difficult to estimate in advance of completing the RI/FS at these particular sites.

Associated with the costs of remedial actions are significant potential benefits and cost offsets. The distributional costs to firms of financing NPL remedies have corresponding "benefits" in that Funds expended for a response generates employment, directly or indirectly (through purchased materials).

VIII. Regulatory Flexibility Act Analysis

The Regulatory Flexibility Act of 1980 requires EPA to review the impacts of this action on small entities, or certify that the action will not have a significant impact on a substantial number of small entities. By small entities the Act refers to small businesses, small governmental jurisdictions, and non-profit organizations.

While proposed modifications to the NPL are considered revisions to the NCP, they are not typical regulatory changes since the revisions do not automatically impose costs. The proposed listing of sites on the NPL does not in itself require any action of any private party, nor does it determine the liability of any party for the cost of cleanup at the site. Further, no identifiable groups are affected as a whole. As a consequence, it is impossible to predict impacts on any group. A site's proposed inclusion on the NPL could increase the likelihood that adverse impacts to responsible parties (in the form of clean-up costs) will occur, but EPA cannot identify the potentially affected businesses at this time nor estimate a number of businesses affected. In addition, we cannot define what is small for the wide variety of potentially affected small entities because small entities that could be affected by this rulemaking would come from any industrial sector and could include governmental units. It is not possible to articulate a meaningful definition of small entities.

The Agency does expect that certain industries and firms within industries that have caused a disproportionately high percentage of waste site problems could be significantly affected by CERCLA actions. However, EPA does not expect the impacts from the proposed listing of these 208 sites on the NPL as a whole to have a significant economic impact on small businesses and small governments.

In any case, economic impacts would only occur through enforcement and cost recovery actions which are taken at EPA's discretion on a site-by-site basis. EPA considers many factors when determining what enforcement actions to take, including not only the firm's contribution to the problem, but also the firm's ability to pay. The impacts from cost recovery on small governments and non-profit organizations would be determined on a similar case-by-case basis.

List of Subjects in 40 CFR Part 300

Air pollution control, Chemicals, Hazardous materials, Intergovernmental

relations. Natural resources. Oil pollution. Reporting and recordkeeping requirements. Superfund. Waste treatment and disposal. Water pollution control. Water supply.

PART 300—[AMENDED]

It is proposed to amend Appendix B of 40 CFR Part 300 by adding the following sites to the National Priorities List:

Dated: October 2, 1984.
William D. Ruckelshaus,
Administrator.

NATIONAL PRIORITIES UPDATE LIST
GROUP 1

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#:	CLEANUP STATUS @:
08	UT	Sharon Steel (Midvale Smelter)	Midvale	D	
08	UT	Portland Cement (Kiln Dust 2 & 3)	Salt Lake City	D	

#: V = VOLUNTARY OR NEGOTIATED RESPONSE, R = FEDERAL AND STATE RESPONSE,
F = FEDERAL ENFORCEMENT; S = STATE ENFORCEMENT;
D = ACTIONS TO BE DETERMINED.

@: I = IMPLEMENTATION ACTIVITY UNDERWAY, ONE OR MORE OPERABLE UNITS,
O = ONE OR MORE OPERABLE UNITS COMPLETED, OTHERS MAY BE UNDERWAY;
C = IMPLEMENTATION ACTIVITY COMPLETED FOR ALL OPERABLE UNITS.

NATIONAL PRIORITIES UPDATE LIST
GROUP 2

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#:	CLEANUP STATUS @:
04	FL	Peak Oil Co./Bay Drum Co.	Tampa	S	
05	OH	Industrial Excess Landfill	Uniontown	D	

#: V = VOLUNTARY OR NEGOTIATED RESPONSE, R = FEDERAL AND STATE RESPONSE,
F = FEDERAL ENFORCEMENT; S = STATE ENFORCEMENT,
D = ACTIONS TO BE DETERMINED.

@: I = IMPLEMENTATION ACTIVITY UNDERWAY, ONE OR MORE OPERABLE UNITS;
O = ONE OR MORE OPERABLE UNITS COMPLETED, OTHERS MAY BE UNDERWAY;
C = IMPLEMENTATION ACTIVITY COMPLETED FOR ALL OPERABLE UNITS.

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NATIONAL PRIORITIES UPDATE LIST
GROUP 3

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
10	WA	Midway Landfill	Kent	D	
06	TX	Bailey Waste Disposal	Bridge City	D	
05	MI	Thermo-Chem, Inc.	Muskegon	D	
09	CA	Van Waters & Rogers, Inc.	San Jose	D	
05	MN	Pine Bend/Crosby American Lf	Dakota County	D	
07	IA	Chemplex Co.	Clinton/Camanche	D	
04	NC	NC State U (Lot 86, Farm Unit #1)	Raleigh	D	

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F = FEDERAL ENFORCEMENT; S = STATE ENFORCEMENT;
D = ACTIONS TO BE DETERMINED.

@ I = IMPLEMENTATION ACTIVITY UNDERWAY, ONE OR MORE OPERABLE UNITS;
O = ONE OR MORE OPERABLE UNITS COMPLETED, OTHERS MAY BE UNDERWAY;
C = IMPLEMENTATION ACTIVITY COMPLETED FOR ALL OPERABLE UNITS.

NATIONAL PRIORITIES UPDATE LIST
GROUP 4

EPA	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
05	OH	General Electric(Coshocton Plant)	Coshocton	D	
02	NY	Liberty Industrial Finishing	Farmingdale	D	
06	TX	Brio Refining Co., Inc.	Friendswood	D	
02	NJ	Glen Ridge Radium Site	Glen Ridge	R	O
02	NJ	Montclair/West Orange Radium Site	Montclair/W Orange	R	O
04	NC	Celanese(Shelby Fiber Operations)	Shelby	D	
05	IN	International Minerals (E. Plant)	Terre Haute	D	
05	MI	Motor Wheel, Inc.	Lansing	D	
06	TX	Stewco, Inc.	Waskom	D	
05	OH	Alsco Anaconda	Gnadenhutten	D	
02	NY	Johnstown City Landfill	Town of Johnstown	D	
03	PA	Hunterstown Road	Straban Township	V F	O
02	NY	Hooker Chemical/Ruco Polymer Corp	Hicksville	D	
07	NE	Lindsay Manufacturing Co.	Lindsay	V S	O
09	CA	Operating Industries, Inc. Lf	Monterey Park	S	
04	FL	Pratt & Whitney Air/United Tech.	West Palm Beach	D	
08	CO	Eagle Mine	Minturn/Redcliff	R	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 5

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY*	CLEANUP STATUS @
07	MO	Lee Chemical	Liberty	R	I
05	MI	Torch Lake	Houghton County	D	
01	RI	Central Landfill	Johnston	F	
03	PA	Domino Salvage Yard	Valley Township	V R S	O
08	UT	Mayflower Mountain Tailings Ponds	Wasatch County	D	
03	WV	Mobay Chemical (New Martinsville)	New Martinsville	D	
03	PA	Whitmoyer Laboratories	Jackson Township	D	
03	PA	Shriver's Corner	Straban Township	V F	O
03	VA	Culpeper Wood Preservers, Inc	Culpeper	F S	
05	MN	U of Minnesota Rosemount Res Cent	Rosemount	D	
04	MS	Newsom Brothers/Old Reichhold	Columbia	R	O
02	NY	Tronic Plating Co., Inc.	Farmingdale	D	
02	NJ	Waldick Aerospace Devices, Inc.	Wall Township	S	
08	CO	Smuggler Mountain	Aspen	D	
09	CA	Alviso Dumping Areas	Alviso	D	
10	OR	Martin-Marietta Aluminum Co	The Dalles	D	
08	CO	Uravan Uranium (Union Carbide)	Uravan	D	
05	MN	Oak Grove Sanitary Landfill	Oak Grove Township		

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NATIONAL PRIORITIES UPDATE LIST
GROUP 6

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#		CLEANUP STATUS @
10	WA	Quendall Terminal	Renton		D	
05	IN	Fort Wayne Reduction Dump	Fort Wayne		D	
05	IL	Pagel's Pit	Rockford		D	
03	MD	Mid-Atlantic Wood Preservers, Inc	Harmans	V	S	D
07	NE	Hastings Ground Water Contamin	Hastings		D	
05	MN	Kummer Sanitary Landfill	Bemidji	R		
09	HI	Mililani Wells	Oahu		D	
09	CA	Monolithic Memories, Inc.	Sunnyvale		D	
06	TX	Odessa Chromium #1	Odessa		D	
06	TX	Odessa Chromium #2 (Andrews Hgwy)	Odessa		D	
09	CA	San Fernando Valley (Area 1)	Los Angeles		D	
09	CA	San Fernando Valley (Area 2)	Los Angeles/Glendale		D	
09	CA	San Fernando Valley (Area 3)	Glendale		D	
09	CA	Teledyne Semiconductor	Mountain View		D	
09	CA	Thompson-Hayward Chemical Co.	Fresno		S	
09	HI	Waiawa Shaft	Oahu		D	
04	NC	Jadco-Hughes Facility	Belmont		D	
02	NY	Applied Environmental Services	Glenwood Landing		S	
09	AZ	Motorola, Inc (52nd Street Plant)	Phoenix		D	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 7

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#				CLEANUP STATUS ‡
07	MO	Quality Plating	Sikeston				D	
05	MI	Roto-Finish Co , Inc.	Kalamazoo				D	
10	WA	Toftdahl Drums	Brush Prairie				D	
09	CA	Westinghouse (Sunnyvale Plant)	Sunnyvale				D	
02	NY	Nepera Chemical Co , Inc.	Maybrook				D	
09	CA	FMC Corp (Fresno Plant)	Fresno				D	
03	VA	IBM Corp. (Manassas Plant Spill)	Manassas				D	
09	HI	Kunia Wells I	Oahu				D	
09	HI	Kunia Wells II	Cahu				D	
02	NY	Pasley Solvents & Chemicals, Inc	Hempstead				D	
06	TX	Sol Lynn/Industrial Transformers	Houston				D	
09	HI	Waipahu Wells	Oahu				D	
07	KS	National Industrial Environ Serv	Furley			S		
05	IL	Kerr-McGee (Reed-Keppler Park)	West Chicago				D	
05	IL	Kerr-McGee (Kress Creek)	DuPage County				D	
09	CA	Southern Pacific Transportation	Roseville			S		
06	TX	South Cavalcade Street	Houston				D	
05	WI	National Presto Industries, Inc	Eau Claire				D	
05	IL	Petersen Sand & Gravel	Libertyville		R			
08	MT	Idaho Pole Co.	Bozeman				D	
07	MO	Findett Corp	St Charles	V	F			I
05	MN	Windom Dump	Windom				D	
05	IL	Kerr-McGee (Residential Areas)	West Chicago				D	
05	IL	NL Industries/Taracorp Lead Smelt	Granite City	V	F	S		
05	MI	E.I Du Pont (Montague Plant)	Montague				D	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 8

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY*			CLEANUP STATUS †	
09	CA	Advanced Micro Devices, Inc.	Sunnyvale		S			
04	NC	Bypass 601 Ground Water Contam.	Concord			D		
02	NJ	Cinnaminson Ground Water Contam	Cinnaminson Township			D		
05	MI	Lenawee Disposal Service, Inc Lf	Adrian			D		
09	CA	Raytheon Corp.	Mountain View			D		
07	MO	Solid State Circuits, Inc	Republic	R	S			I
07	NE	Waverly Ground Water Contamin	Waverly			D		
05	MI	Michigan Disposal (Cork St Lf)	Kalamazoo			D		
09	CA	Fairchild Camera (S San Jose Plt)	South San Jose			D		
03	PA	Brown's Battery Breaking	Shoemakersville	R				C
02	NY	SMS Instruments, Inc	Deer Park			D		
02	NY	Byron Barrel & Drum	Byron	R				I
02	NY	Anchor Chemicals	Hicksville			D		
05	MI	Waste Management-Mich (Holland)	Holland			D		
06	TX	North Cavalcade Street	Houston			D		
08	MT	Burlington Northern(Somers Plant)	Somers			D		
05	IN	Neal's Dump (Spencer)	Spencer		F S			
03	PA	Westinghouse Elevator Co Plant	Gettysburg			D		O
03	PA	Middletown Air Field	Middletown			D		I
03	WV	Ordnance Works Disposal Areas	Morgantown			D		O
02	NY	Endicott Village Well Field	Village of Endicott			D		
09	CA	National Semiconductor Corp	Santa Clara			D		
09	CA	San Fernando Valley (Area 4)	Los Angeles			D		
02	NY	Suffern Village Well Field	Village of Suffern			D		

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NATIONAL PRIORITIES UPDATE LIST
GROUP 9

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
03	VA	Avtex Fibers, Inc.	Front Royal	D	
02	NY	Katonah Municipal Well	Town of Bedford	D	
09	HI	Waipio Heights Wells II	Oahu	D	
04	TN	American Creosote Works, Inc.	Jackson	R	O
05	IL	Kerr-McGee (Sewage Treat Plant)	West Chicago	D	
02	NY	Preferred Plating Corp.	Farmingdale	D	
08	UT	Monticello Rad Contaminated Props	Monticello	D	
01	MA	Salem Acres	Salem	D	
04	FL	Davidson Lumber Co.	South Miami	S	O
09	CA	J.H. Baxter Co.	Weed	S	
10	WA	Mica Landfill	Mica	D	
02	NY	Clothier Disposal	Town of Granby	D	
03	PA	Ambler Asbestos Piles	Ambler	V R F S	O
03	VA	L.A. Clarke & Son	Spotsylvania County	S	
05	IL	Sheffield (U.S. Ecology, Inc.)	Sheffield	D	
09	CA	Beckman Instruments (Porterville)	Porterville	D	
05	MI	Lacks Industries, Inc.	Grand Rapids	D	
03	MD	Southern Maryland Wood Treating	Hollywood	D	
04	FL	Dubose Oil Products Co.	Cantonment	S	
09	CA	Lorentz Barrel & Drum Co.	San Jose	S	
03	PA	Modern Sanitation Landfill	Lower Windsor Twp	D	
05	MI	North Bronson Industrial Area	Bronson	D	
09	CA	Montrose Chemical Corp.	Torrance	F	
10	WA	Northwest Transformer	Everson	D	
08	UT	Olson/Neihart Reservoir	Wasatch County	D	
02	NY	North Sea Municipal Landfill	North Sea	D	
09	CA	Louisiana-Pacific Corp.	Oroville	D	
05	MI	South Macomb Disposal (Lf 9 & 9A)	Macomb Township	D	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 10

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
05	MN	Adrian Municipal well Field	Adrian	S	
02	NY	Haviland Complex	Town of Hyde Park	D	
02	NY	Hertel Landfill	Plattekill	D	
09	CA	Marley Cooling Tower Co.	Stockton	D	
05	MN	Olmsted County Sanitary Landfill	Oronoco	D	
07	KS	Strother Field Industrial Park	Cowley County	R	I
02	NJ	Fried Industries	East Brunswick Twp	D	
02	NY	Goldisc Recordings, Inc.	Holbrook	D	
02	NJ	Lodi Municipal Well	Lodi	D	
02	NY	Sarney Farm	Amenia	D	
01	MA	Rose Disposal Pit	Lanesboro	F S	
05	OH	Van Dale Junkyard	Marietta	S	
02	NY	FMC Corp. (Dublin Road Landfill)	Town of Shelby	V	
02	NY	Volney Municipal Landfill	Town of Volney	V	
04	KY	Smith's Farm	Brooks	R	O
07	KS	Big River Sand Co.	Wichita	V S	O
05	WI	Stoughton City Landfill	Stoughton	D	
06	TX	Crystal City Airport	Crystal City	D	
02	NY	Cortese Landfill	Vil of Narrowsburg	S	
04	FL	City Industries, Inc.	Orlando	R F S	O
09	CA	Applied Materials	Santa Clara	D	
09	CA	Fairchild Camera (Mountain View)	Mountain View	D	
09	CA	Intel Corp (Mountain View Plant)	Mountain View	D	
09	CA	Intel Corp. (Santa Clara III)	Santa Clara	D	
09	CA	Intel Magnetics	Santa Clara	D	
05	MN	Long Prairie Ground Water Contam	Long Prairie	D	
02	NJ	Pomona Oaks Residential Wells	Galloway Township	D	
09	CA	Precision Monolithic, Inc.	Santa Clara	D	
05	OH	Sanitary Landfill Co. (IWD)	Dayton	D	
09	CA	Signetics, Inc.	Sunnyvale	S	
02	NY	Kenmark Textile Corp.	Farmingdale	D	
04	KY	Maxey Flats Nuclear Disposal	Hillsboro	R	O

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NATIONAL PRIORITIES UPDATE LIST
GROUP 10 (CON'T)

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY*	CLEANUP STATUS †
08	MT	Mouat Industries	Columbus	D	
02	NY	Claremont Polychemical	Old Bethpage	V	
07	IA	Vogel Paint & Wax Co.	Orange City	S	I
05	MN	Kurt Manufacturing Co.	Fridley	D	
06	TX	Koppers Co., Inc. (Texarkana Plt)	Texarkana	D	
05	MN	Agate Lake Scrapyard	Fairview Township	D	
05	MI	Avenue "E" Ground Water Contamin	Traverse City	S	I
02	NJ	Jame Fine Chemical	Bound Brook	D	
05	MN	Koch Refining Co./N-Ren Corp.	Pine Bend	D	
07	IA	U.S. Nameplate Co.	Mount Vernon	D	
05	WI	Fadrowski Drum Disposal	Franklin	D	
09	CA	Zoecon Corp/Rhone-Poulenc, Inc	East Palo Alto	S	
06	AR	Midland Products	Ola/Birta	D	
02	NY	BEC Trucking	Town of Vestal	D	
02	NY	Robintech, Inc./National Pipe Co	Town of Vestal	D	

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NATIONAL PRIORITIES UPDATE LIST
GROUP 11

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY				CLEANUP STATUS
03	VA	Rhinehart Tire Fire Dump	Frederick County	V	R	F		D
01	MA	Haverhill Municipal Landfill	Haverhill				D	
02	NY	Colesville Municipal Landfill	Town of Colesville				D	
09	CA	Firestone Tire (Salinas Plant)	Salinas				D	
05	IN	MIDCO II	Gary		R	F		I
03	MD	Kane & Lombard Street Drums	Baltimore		R			O
10	WA	Silver Mountain Mine	Loomis				D	
06	TX	Petro-Chemical (Turtle Bayou)	Liberty County				D	
05	OH	Republic Steel Corp Quarry	Elyria				D	
09	CA	Hewlett Packard	Palo Alto				D	
01	MA	Shpack Landfill	Norton/Attleboro				D	
04	FL	Montco Research Products, Inc.	Hollister			S		
01	MA	Norwood PCBs	Norwood		R			
01	NH	Coakley Landfill	North Hampton			S		
09	CA	IBM Corp (San Jose Plant)	San Jose				D	
07	MO	North-C Drive Well Contamination	Springfield		R			I
10	WA	Northside Landfill	Spokane				D	
06	TX	Pesses Chemical Co.	Fort Worth				D	
07	MO	Bee Cee Manufacturing Co	Malden				D	

TOTAL SITES LISTED 208

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 1

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
08	CO	Rocky Flats Plant (USDOE)	Golden	R	O
05	IL	Sangamo/Crab Orchard NWR (USDOI)	Carterville	R	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 2

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
04	TN	Milan Army Ammunition Plant	Milan	R	I
08	CO	Rocky Mountain Arsenal	Adams County	R	O
09	CA	McClellan AFB (Ground Water Cont)	Sacramento	R	I

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 3

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
07	MO	Weldon Spring Quarry (USDOE/ARMY)	St. Charles County	R	
04	AL	Anniston Army Depot (SE Ind Area)	Anniston	R	O
04	GA	Robins Air Force Base	Houston County	R	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 4

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
07	NE	Cornhusker Army Ammunition Plant	Hall County	R	O
08	UT	Hill Air Force Base	Ogden	R	O

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 5

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
08	UT	Ogden Defense Depot	Ogden	R	
09	CA	Sacramento Army Depot	Sacramento	R	
01	ME	Brunswick Naval Air Station	Brunswick	R	
10	WA	McChord AFB (Wash Rack/Treatment)	Tacoma	R	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 6

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
10	WA	Fort Lewis (Landfill No 5)	Tacoma	D	
09	CA	Lawrence Livermore Lab (USDOE)	Livermore	R	O
09	CA	Sharpe Army Depot	Lathrop	R	
05	IL	Savanna Army Depot Activity	Savanna	R	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 7

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
06	TX	Air Force Plant #4 (Gen Dynamics)	Fort Worth	R	
09	CA	Norton Air Force Base	San Bernardino	R	
08	UT	Tooele Army Depot (North Area)	Tooele	R	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 8

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
09	CA	Castle Air Force Base	Merced	R	I
02	NJ	Fort Dix (Landfill Site)	Trenton	R	
02	NJ	Naval Weapons Stat Earle (Site A)	Colts Neck	R	
04	AL	Alabama Army Ammunition Plant	Childersburg	R	O
03	DE	Dover Air Force Base	Dover	D	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 9

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
03	PA	Letterkenny Army Depot (SE Area)	Chambersburg	R	O
02	NY	Griffiss Air Force Base	Rome	R	
03	VA	Defense General Supply Center	Chesterfield County	R	I

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 10

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
07	MO	Lake City Army Plant (NW Lagoon)	Independence	R	I
05	IL	Joliet Army Ammo Plant (Mfg Area)	Joliet	R	O
06	TX	Lone Star Army Ammunition Plant	Texarkana	R	
10	OR	Umatilla Army Depot Lagoons	Hermiston	R	

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NATIONAL PRIORITIES UPDATE LIST
FEDERAL SITES
GROUP 11

EPA RG	ST	SITE NAME	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
06	LA	Louisiana Army Ammunition Plant	Doyline	R	
10	WA	Bangor Ordnance Disposal	Bremerton	R	
09	CA	Mather AFB (ACSW Disposal Site)	Sacramento	R	

TOTAL SITES LISTED: 36

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The following list of final NPL (49 FR 37070 September 21, 1984) indicates the appropriate status codes for response and cleanup activities at these sites.

NATIONAL PRIORITIES LIST FINAL SITES - GROUP 1

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY #	CLEANUP STATUS @
1	02	NJ	Lipari Landfill	Pitman	R F	O
2	03	DE	Tybouts Corner Landfill *	New Castle County	V R F	
3	03	PA	Bruin Lagoon	Bruin Borough	R	I
4	02	NJ	Helen Kramer Landfill	Mantua Township	R	
5	01	MA	Industri-Plex	Woburn	V R	I
6	02	NJ	Price Landfill *	Pleasantville	R F	O
7	02	NY	Pollution Abatement Services *	Oswego	R F	O
8	07	IA	LaBounty Site	Charles City	V F S	O
9	03	DE	Army Creek Landfill	New Castle County	V F	
10	02	NJ	CPS/Madison Industries	Old Bridge Township	S	
11	01	MA	Nyanza Chemical Waste Dump	Ashland	R	
12	02	NJ	Gems Landfill	Gloucester Township	R	I
13	05	MI	Berlin & Farro	Swartz Creek	V R S S	O
14	01	MA	Baird & McGuire	Holbrook	R F	O
15	02	NJ	Lone Pine Landfill	Freehold Township	R	
16	01	NH	Somersworth Sanitary Landfill	Somersworth	R	
17	05	MN	FMC Corp (Fridley Plant)	Fridley	V F S	O
18	06	AR	Vertac, Inc.	Jacksonville	V F	I
19	01	NH	Keefe Environmental Services	Epping	V R S	O
20	08	SD	Whitewood Creek *	Whitewood	V	
21	08	MT	Silver Bow Creek	Silver Bow/Deer Lodge	V	
22	06	TX	French, Ltd	Crosby	R F	O
23	01	NH	Sylvester *	Nashua	R S	O
24	05	MI	Liquid Disposal, Inc	Utica	R F	O
25	03	PA	Tysons Dump	Upper Merion Twp	R	O
26	03	PA	McAdoo Associates *	McAdoo Borough	R	
27	06	TX	Motco Inc. *	La Marque	R	O
28	05	OH	Arcanum Iron & Metal	Darke County	R F	
29	08	MT	East Helena Site	East Helena		
30	06	TX	Sikes Disposal Pits	Crosby	R F	I
31	04	AL	Triana/Tennessee River	Limestone/Morgan	V I F	
32	09	CA	Stringfellow *	Glen Avon Heights	R F	I
33	01	ME	McKin Co.	Gray	R S	O
34	06	TX	Crystal Chemical Co	Houston	R F	O
35	02	NJ	Bridgeport Rental & Oil Services	Bridgeport	R	O
36	08	CO	Sand Creek Industrial	Commerce City		
37	06	TX	Geneva Industries/Fuhrmann Energy	Houston	R F	O
38	01	MA	W R Grace & Co (Acton Plant)	Acton	V F	I
39	05	MN	Reilly Tar (St Louis Park Plant)	St Louis Park	R F S	I
40	02	NJ	Burnt Fly Bog	Marlboro Township	R S	O
41	02	NJ	Vineland Chemical Co., Inc.	Vineland	D	
42	04	FL	Schuylkill Metals Corp.	Plant City	D	O
43	05	MN	New Brighton/Arden Hills	New Brighton	R	O
44	02	NY	Old Bethpage Landfill	Oyster Bay	V S	
45	02	NJ	Shieldalloy Corp.	Newfield Borough	D	
46	04	FL	Reeves SE Galvanizing Corp.	Tampa	D	O
47	08	MT	Anaconda Co. Smelter	Anaconda	V R	
48	10	WA	Western Processing Co., Inc.	Kent	V P F	O
49	05	WI	Omega Hills North Landfill	Germantown	D	
50	04	FL	American Creosote Works	Pensacola	F	O

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 2

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
51	02	NJ	Caldwell Trucking Co	Fairfield	R S	
52	02	NY	GE Moreau	South Glen Falls	V	
53	05	IN	Seymour Recycling Corp. *	Seymour	V R F	O
54	05	OH	United Scrap Lead Co., Inc.	Troy	D	
55	06	OK	Tar Creek (Ottawa County)	Ottawa County	R	I
56	07	KS	Cherokee County	Cherokee County	R	
57	02	NJ	Brick Township Landfill	Brick Township	D	
58	05	MI	Northernaire Plating	Cadillac	R	O
59	05	WI	Janesville Old Landfill	Janesville	D	
60	10	WA	Frontier Hard Chrome, Inc.	Vancouver	R	
61	04	SC	Independent Nail Co	Beaufort	D	
62	04	SC	Kalama Specialty Chemicals	Beaufort	S	
63	05	WI	Janesville Ash Beds	Janesville	D	
64	04	FL	Davie Landfill	Davie	D	
65	05	OH	Miami County Incinerator	Troy	F	
66	04	FL	Gold Coast Oil Corp.	Miami	D	
67	05	WI	Wheeler Pit	La Prairie Township	D	
68	09	AZ	Tucson Intl Airport Area	Tucson	R	
69	02	NY	Wide Beach Development	Brant	R	
70	09	CA	Iron Mountain Mine	Redding	R	
71	02	NJ	Scientific Chemical Processing	Carlstadt	S	
72	08	CO	California Gulch	Leadville		
73	02	NJ	D'Imperio Property	Hamilton Township	R	
74	05	MI	Gratiot County Landfill *	St. Louis	V R F S	
75	01	RI	Picillo Farm *	Coventry	R S	O
76	01	MA	New Bedford Site *	New Bedford	V R F S	I
77	06	LA	Old Inger Oil Refinery *	Darrow	R	O
78	05	OH	Chem-Dyne *	Hamilton	V R F S	O
79	04	SC	SCRDI Bluff Road *	Columbia	V R F	O
80	01	CT	Laurel Park, Inc *	Naugatuck Borough	V S	
81	08	CO	Marshall Landfill *	Boulder County		
82	05	IL	Outboard Marine Corp. *	Waukegan	R F S	
83	06	NM	South Valley *	Albuquerque	R F	
84	01	VT	Pine Street Canal *	Burlington	V	I
85	03	WV	West Virginia Ordnance *	Point Pleasant	V	O
86	07	MO	Ellisville Site *	Ellisville	R	O
87	08	ND	Arsenic Trioxide Site *	Southeastern N.D.	R	
88	09	TT	PCB Wastes *	Pacific Trust Terr	R	C
89	03	VA	Matthews Electroplating *	Roanoke County	R	
90	07	IA	Ardex Corp. *	Council Bluffs	R F	O
91	09	AZ	Mountain View Mobile Homes *	Globe	R F	I
92	09	AS	Taputimu Farm *	American Samoa	R	C
93	04	TN	North Hollywood Dump *	Memphis	R S	
94	04	KY	A.L. Taylor (Valley of Drums) *	Brooks	R F	O
95	04	NC	PCB Spills *	210 Miles of Roads	R F	C
96	09	GU	Ordot Landfill *	Guam	R	
97	04	MS	Flowood Site *	Flowood	D	
98	08	UT	Rose Park Sludge Pit *	Salt Lake City	V	
99	07	KS	Arkansas City Dump *	Arkansas City	R	
100	09	CM	PCB Warehouse *	Marianas	R	C

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 1

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY #	CLEANUP STATUS @
101	05	MN	Oakdale Dump	Oakdale	F	
102	05	IL	A & F Material Reclaiming, Inc	Greenup	V R F S	O
103	03	PA	Douglassville Disposal	Douglassville	R	
104	02	NJ	Krysowaty Farm	Hillsborough	R	
105	05	MN	Koppers Coke	St. Paul	D	
106	01	MA	Plymouth Harbor/Cannon Engrng	Plymouth	V R S	O
107	10	ID	Bunker Hill Mining & Metallurg	Smeltersville	D	
108	02	NY	Hudson River PCBs	Hudson River	R	
109	02	NJ	Universal Oil Products(Chem Div)	East Rutherford	S	
110	09	CA	Aerojet General Corp	Rancho Cordova	S	
111	10	WA	Com Bay, South Tacoma Channel	Tacoma	R F	O
112	03	PA	Osborne Landfill	Cross City	V S	
113	01	CT	Old Southington Landfill	Southington	D	
114	02	NY	Syosset Landfill	Oyster Bay	D	
115	09	AZ	Nineteenth Avenue Landfill	Phoenix	S	
116	10	OR	Teledyne Wah Chang	Albany	D	
117	02	NY	Sinclair Refinery	Wellsville	V R	
118	04	AL	Mowbray Engineering Co	Greenville	R	O
119	05	MI	Spiegelberg Landfill	Green Oak Township	R	
120	04	FL	Miami Drum Services	Miami	R	O
121	02	NJ	Peach Farms	Pleasant Plains	D	
122	10	ID	Union Pacific Railroad Co	Pocatello	D	
123	02	NJ	South Brunswick Landfill	South Brunswick	V	I
124	04	AL	Ciba-Geigy Corp. (McIntosh Plant)	McIntosh	D	
125	04	FL	Fassat Freimerding Battery	Tampa	R F	
126	05	IL	Waukegan Sand & Gravel	Waukegan	R	
127	01	NH	Ottati & Goss/Kingston Steel Drum	Kingston	V R F S	O
128	05	MI	Ott/Story/Cordova	Dalton Township	R	O
129	02	NJ	Nl Industries	Pedricktown	S	O
130	05	MN	St. Regis Paper Co	Cass Lake	D	
131	02	NJ	Kingwood Mines/Landfill	Kingwood Township	V	
132	04	FL	Whitehouse Oil Pits	Whitehouse	R	
133	04	CA	Hercules 2 D Landfill	Pittsburg	D	
134	05	MI	Velsicol Chemical (Michigan)	St. Louis	V F S	O
135	05	OH	Summit National	Deerfield Township	R	
136	02	NY	Love Canal	Niagara Falls	R F S	O
137	05	IN	Fisher-Calo	Laporte	F	
138	04	FL	Pioneer Sand Co	Warrington	R S	
139	05	MI	Spring Lake Township Dump	Muskegon	R	
140	03	PA	Brodhead Landfill	Buffalo Township	D	
141	04	NC	Manus Marietta, Sodyeco, Inc	Charlotte	D	
142	04	FL	Zellwood Ground Water Contam	Zellwood	F	
143	05	MI	Packaging Corp. of America	Filer City	F	
144	05	WI	Muskego Sanitary Landfill	Muskego	D	
145	02	NY	Hooker (S Area)	Niagara Falls	F S	
146	03	PA	Lindane Dump	Harrison Township	S	
147	08	CO	Central City-Clear Creek	Idaho Springs	V	
148	02	NJ	Ventron/Velsicol	Wood Ridge Borough	S	
149	04	FL	Taylor Road Landfill	Seffner	V	C
150	01	RI	Western Sand & Gravel	Burrillville	V S	D

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 4

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY #	CLEANUP STATUS @
151	04	SC	Koppers Co., Inc (Florence Plant)	Florence	S	
152	02	NJ	Maywood Chemical Co.	Maywood/Rochelle Pk		I
153	02	NJ	Nascolite Corp.	Millville	V R	
154	06	OK	Hardage/Criner	Criner	F	
155	05	MI	Rose Township Dump	Rose Township	R	
156	05	MN	Waste Disposal Engineering	Andover	V R F	
157	02	NJ	Kin-Buc Landfill	Edison Township	V R F	O
158	05	OH	Bowers Landfill	Circleville	V	
159	02	NJ	Ciba-Geigy Corp.	Toms River	R	
160	05	MI	Butterworth #2 Landfill	Grand Rapids	F	
161	02	NJ	American Cyanamid Co.	Bound Brook	S	
162	03	PA	Heleva Landfill	North Whitehall Twp	R	
163	02	NJ	Ewan Property	Shamong Township	D	
164	02	NY	Batavia Landfill	Batavia	V	
165	05	MN	Boise Cascade/Onan/Medtronics	Fridley	S	I
166	01	RI	L&RR, Inc.	North Smithfield	V S	
167	04	FL	NW 58th Street Landfill	Hialeah	R	
168	02	NJ	Dellian Road	Egg Harbor Township	R	
169	03	PA	Mill Creek Dump	Erie	R	O
170	04	FL	Sixty-Second Street Dump	Tampa	R	
171	05	MI	G&H Landfill	Utica	R	
172	02	NJ	Metaltec/Aerosystems	Franklin Borough	R	
173	05	WI	Schmalz Dump	Harrison	D	
174	02	NJ	Lang Property	Pemberton Township	D	
175	02	NJ	Sharkey Landfill	Parsippany Troy Hls	R	
176	09	CA	Selma Treating Co.	Selma	S	
177	06	LA	Cleve Reber	Sorrento	V R	O
178	05	IL	Velsicol Chemical (Illinois)	Marshall	D	
179	05	MI	Tar Lake	Mancelona Township	D	
180	08	CO	Lowry Landfill	Arapahoe County	V R	
181	05	MN	MacGillis & Gibbs/Bell Lumber	New Brighton	S	
182	02	NJ	Combe Fill North Landfill	Mount Olive Twp	R	
183	01	MA	Re-Solve, Inc.	Dartmouth	R F	I
184	02	NJ	Goose Farm	Plumstead Township	R F	O
185	04	TN	Velsicol Chem (Hardeman County)	Toone	D	
186	02	NY	York Oil Co	Moira	R F	O
187	04	FL	Sapp Battery Salvage	Cottondale	R	I
188	04	SC	Wamchem, Inc.	Burton	D	
189	02	NJ	Chemical Leaman Tank Lines, Inc	Bridgeport	D	
190	05	WI	Master Disposal Service Landfill	Brookfield	D	
191	07	KS	Druepke Disposal Site (Holliday)	Johnson County	D	
192	02	NJ	Florence Land Recontouring LF	Florence Township	R	
193	01	RI	Davis Liquid Waste	Smithfield	R S	
194	01	MA	Charles-George Reclamation Lf	Tyngsborough	R F	O
195	02	NJ	King of Prussia	Winslow Township	D	
196	03	VA	Chisman Creek	York County	R	
197	05	OH	Nease Chemical	Salem	D	
198	02	NJ	W. R. Grace & Co. (Wayne Plant)	Wayne Township	R	O
199	02	NJ	Chemical Control	Elizabeth	R S	O
200	04	SC	Leonard Chemical Co., Inc.	Rock Hill	S	O

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 5

RANK	EPA REG	ST	SITE NAME •	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
201	05	OH	Allied Chemical & Ironton Coke	Ironton	R F	
202	05	MI	Verona Well Field	Battle Creek	R F S	O
203	01	CT	Beacon Heights Landfill	Beacon Falls	F	
204	04	AL	Stauffer Chem (Cold Creek Plant)	Bucks	D	
205	05	MN	Burlington Northern (Brainerd)	Brainerd/Baxter	F S	
206	03	PA	Malvern TCE	Malvern	D	
207	02	NY	Facet Enterprises, Inc.	Elmira	V	
208	03	DE	Delaware Sand & Gravel Landfill	New Castle County	R	O
209	04	TN	Murray-Ohio Dump	Lawrenceburg	S	
210	05	IN	Envirochem Corp.	Zionsville	V R F S	O
211	05	IN	MIDCO I	Gary	R F	O
212	05	OH	South Point Plant	South Point	D	
213	04	FL	Coleman-Evans Wood Preserving Co.	Whitehouse	S	
214	03	PA	Dorney Road Landfill	Upper Macungie Twp	R	
215	05	IN	Northside Sanitary Landfill, Inc	Zionsville	F	
216	04	FL	Florida Steel Corp.	Indiantown	D	
217	09	AZ	Litchfield Airport Area	Goodyear/Avondale	F	
218	02	NJ	Spence Farm	Plumstead Township	R	
219	06	AR	Mid-South Wood Products	Mena	F	
220	09	CA	Atlas Asbestos Mine	Fresno County	D	
221	09	CA	Coalinga Asbestos Mine	Coalinga	D	
222	04	FL	Brown Wood Preserving	Live Oak	F	
223	02	NY	Port Washington Landfill	Port Washington	D	
224	02	NJ	Combe Fill South Landfill	Chester Township	R	
225	02	NJ	JIS Landfill	Jamesburg/S. Brnswck	S	
226	03	PA	Centre County Kepone	State College Boro	S	O
227	05	OH	Fields Brook	Ashtabula	D	
228	01	CT	Solvents Recovery Service	Southington	V	
229	08	CO	Woodbury Chemical Co.	Commerce City	R	
230	01	MA	Hocomonco Pond	Westborough	R	
231	04	KY	Distler Brickyard	West Point	R F	O
232	02	NY	Ramapo Landfill	Ramapo	V	
233	09	CA	Coast Wood Preserving	Ukiah	S	
234	02	NY	Mercury Refining, Inc.	Colonie	D	
235	04	FL	Hollingsworth Solderless Terminal	Fort Lauderdale	D	
236	02	NY	Olean Well Field	Olean	V R	O
237	04	FL	Varsol Spill	Miami	R	
238	05	MN	Josiyn Manufacturing & Supply Co.	Brooklyn Center	F S	
239	08	CO	Denver Radium Site	Denver	R	
240	04	FL	Tower Chemical Co.	Clermont	R F	O
241	07	MO	Syntex Facility	Verona	V F	I
242	08	MT	Milltown Reservoir Sediments	Milltown	R	
243	05	MN	Arrowhead Refinery Co.	Hermantown	R	
244	02	NJ	Pijak Farm	Plumstead Township	R	
245	02	NJ	Syncon Resins	South Kearny	R	O
246	09	CA	Liquid Gold Oil Corp	Richmond	S	
247	09	CA	Purity Oil Sales, Inc.	Malaga	R	
248	01	NH	Tinkham Garage	Londonderry	R S	O
249	04	FL	Alpha Chemical Corp.	Galloway	D	
250	02	NJ	Bog Creek Farm	Howell Township	R	

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 6

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
251	01	ME	Saco Tannery Waste Pits	Saco	R	O
252	04	FL	Pickettville Road Landfill	Jacksonville	D	
253	01	MA	Iron Horse Park	Billerica	R	
254	03	PA	Palmerton Zinc Pile	Palmerton	F	
255	05	IN	Neal's Landfill (Bloomington)	Bloomington	V F S	
256	05	WI	Kohler Co Landfill	Kohler	D	
257	01	MA	Silresim Chemical Corp	Lowell	R S	O
258	01	MA	Wells G&H	Woburn	V F	
259	02	NJ	Chemsol, Inc.	Piscataway	S	
260	05	WI	Lauer I Sanitary Landfill	Menomonee Falls	D	
261	05	MI	Petoskey Municipal Well Field	Petoskey	F	
262	05	MN	Union Scrap	Minneapolis	S	
263	02	NJ	Radiation Technology, Inc.	Rockaway Township	V	
264	02	NJ	Fair Lawn Well Field	Fair Lawn	S	I
265	05	IN	Main Street Well Field	Elkhart	D	
266	05	MN	Lehillier/Mankato Site	Lehillier	R	O
267	10	WA	Lakewood Site	Lakewood	R S	I
268	03	PA	Industrial Lane	Williams Township	F	
269	05	WI	Onalaska Municipal Landfill	Onalaska	D	
270	02	NJ	Monroe Township Landfill	Monroe Township	S	O
271	02	NJ	Rockaway Borough Well Field	Rockaway Township	R	
272	05	IN	Wayne Waste Oil	Columbia City	R S	
273	10	ID	Pacific Hide & Fur Recycling Co.	Pocatello	R F	O
274	07	IA	Des Moines TCE	Des Moines	F	
275	02	NJ	Beachwood/Berkley Wells	Berkley Township	R	
276	02	NY	Vestal Water Supply Well 4-2	Vestal	S	
277	02	PR	Vega Alta Public Supply Wells	Vega Alta	R	
278	05	MI	Sturgis Municipal Wells	Sturgis	D	
279	05	MN	Washington County Landfill	Lake Elmo	S	
280	09	AZ	Indian Bend Wash Area	Scottsdale/Tempe	F	
281	09	CA	San Gabriel Valley (Area 1)	El Monte	R	I
282	09	CA	San Gabriel Valley (Area 2)	Baldwin Park Area	R	
283	10	WA	Com Bay, Near Shore/Tide Flats	Pierce County	R	
284	05	IL	LaSalle Electric Utilities	LaSalle	R	
285	05	IL	Cross Brothers Pail (Pembroke)	Pembroke Township	R	
286	02	PR	Upjohn Facility	Barceloneta	D	
287	09	CA	McColl	Fullerton	R F	I
288	03	PA	Henderson Road	Upper Merion T.	D	
289	10	WA	Colbert Landfill	Colbert	R	O
290	06	LA	Petro-Processors	Scotlandville	V F	
291	02	PR	Frontera Creek	Rio Abajo	D	
292	02	PR	Barceloneta Landfill	Florida Afuera	D	
293	03	MD	Sand, Gravel & Stone	Elkton	R	I
294	05	MI	Spartan Chemical Co.	Wyoming	D	
295	02	NJ	Roebling Steel Co.	Florence	R	
296	03	PA	East Mount Zion	Springettsbury Twp	R	
297	04	TN	Amnicola Dump	Chattanooga	D	
298	02	NJ	Vineland State School	Vineland	D	
299	03	PA	Enterprise Avenue	Philadelphia	R S	O
300	01	MA	Groveland Wells	Groveland	V R S	

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NATIONAL PRIORITIES LIST FINAL SITES -- GROUP 7

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
301	02	NY	General Motors (Cent Foundry Div)	Massena	F	
302	04	SC	SCRDI Dixiana	Cayce	R,F,S	O
303	07	MO	Fulbright Landfill	Springfield	O	
304	03	PA	Presque Isle	Erie	O	
305	02	NJ	Williams Property	Swainton	R	
306	02	NJ	Renora, Inc.	Edison Township	O	
307	02	NJ	Denzer & Schafer x-Ray Co	Bayville	O	
308	02	NJ	Hercules, Inc (Gibbstown Plant)	Gibbstown	O	
309	05	IN	Ninth Avenue Dump	Gary	V	
310	06	AR	Gurley Pit	Edmondson	V,R,F	O
311	01	RI	Peterson/Puritan, Inc.	Lincoln/Cumberland	O	
312	07	MO	Times Beach Site	Times Beach	R	O
313	05	MI	Wash King Laundry	Pleasant Plains Twp	S	
314	05	MN	Whittaker Corp.	Minneapolis	S	
315	05	MN	NL Industries/Taracorp/Golden	St Louis Park,	O	
316	01	CT	Kellogg-Deering Well Field	Norwalk	R	
317	01	MA	Cannon Engineering Corp. (CEC)	Bridgewater	R,S	
318	02	NY	Niagara County Refuse	Wheatfield	O	
319	04	FL	Sherwood Medical Industries	Deland	O	
320	04	AL	Olin Corp (McIntosh Plant)	McIntosh	O	
321	05	MI	Southwest Ottawa County Landfill	Park Township	S	
322	02	NY	Kentucky Avenue Well Field	Horseheads	R	
323	02	NJ	Asbestos Dump	Millington	F	
324	04	KY	Lee's Lane Landfill	Louisville	F	
325	06	AR	Frit Industries	Walnut Ridge	V,F	I
326	05	OH	Fultz Landfill	Jackson Township	R	
327	04	FL	Tri-City Oil Conservationist, Inc	Tampa	R,F	O
328	05	OH	Coshocton Landfill	Franklin Township	F	
329	03	PA	Lord-Shope Landfill	Girard Township	V,S	I
330	10	WA	IMC Corp. (Yakima Pit)	Yakima	O	
331	05	WI	Northern Engraving Co.	Sparta	O	
332	01	MA	PSC Resources	Palmer	S	I
333	05	MI	Forest Waste Products	Otisville	R,F	I
334	03	PA	Drake Chemical	Lock Haven	R,F	O
335	01	NH	Kearsarge Metallurgical Corp.	Conway	S	
336	04	SC	Palmetto Wood Preserving	Dixianna	O	
337	05	MI	Clare Water Supply	Clare	O	
338	03	PA	Havertown PCP	Haverford	R	
339	03	DE	New Castle Spill	New Castle County,	O	
340	05	MN	Morris Arsenic Dump	Morris	R	
341	05	IN	Lake Sandy Jo (M&M Landfill)	Gary	R	
342	05	IL	Johns-Manville Corp.	Waukegan	V,F	
343	05	MI	Chem Central	Wyoming Township	S	
344	05	MI	Novaco Industries	Temperance	F	
345	02	NJ	Jackson Township Landfill	Jackson Township	O	
346	05	MI	K&L Avenue Landfill	Oshtemo Township	O	
347	10	WA	Kaiser Aluminum Mead Works	Mead	V	O
348	05	MN	Perham Arsenic Site	Perham	R	
349	05	MI	Charlevoix Municipal Well	Charlevoix	R	I
350	02	NJ	Montgomery Township Housing Dev	Montgomery Township	R	

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 8

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY #	CLEANUP STATUS @
381	02	NJ	Rocky Hill Municipal Well	Rocky Hill Borough ..	R	
382	02	NY	Brewster Well Field	Putnam County	R	
383	02	NY	Vestal Water Supply Well 1-1	Vestal	R	
384	05	MN	Waste Disposal Engineering	Fairbault	S	
385	02	NJ	U S Radium Corp.	Orange	R	
386	04	TN	Highlands Acid Pit	Highlands	R	
387	03	PA	Peters Creek	Jefferson Borough	D	
388	08	MT	Libby Ground Water Contamination	Libby	D	
389	01	NH	Newport Dump	Newport	D	
390	03	PA	Meyers Property	Layleville	R F	
391	04	TN	Velsicol Chemical	Mount Pleasant	D	
392	01	NH	Savage Municipal Water Supply	Milford	R S	O
393	05	MN	Superior Refining	Hancock County	R	O
394	05	MI	Sheridan Disposal Services	Osceola	F	
395	04	TN	Industrial Excavating Co	Conroe	V R	C
396	08	WY	Baxter/Maxon Pacific Pole Treating	Laramie	D	
397	02	NJ	Sayreville Landfill	Sayreville	D	
398	01	NH	Dover Municipal Landfill	Dover	R	
399	02	NY	Ludlow Sand & Gravel	Clayville	D	
400	05	WI	City Disposal Corp. Landfill	Dunn	D	
401	02	NJ	Tabernacle Drum Dump	Tabernacle Twp	V F	
402	02	NJ	Cooper Road	Voorhees Township	D	
403	02	PR	Vieques Airport/Romaine Creek	Imperial	R	O
404	01	CT	Kaydosh Waste Lagoon	Canterbury	R S	
405	03	WV	Leetown Pesticide	Leetown	R	O
406	05	WI	Cabot/Koppers	Gainesville	R S	
407	02	NJ	Evor Phillips Leasing	Old Bridge Township	D	
408	03	PA	Wade (ARM)	Chester	R F S	O
409	03	PA	Lackawanna Refuse	Old Forge Borough	R F	O
410	06	OK	Compass Industries (Avery Drive)	Tulsa	R	
411	02	NJ	Manchester Avenue Dump	Galloway Township	D	
412	02	NY	Fulton Terminals	Fulton	D	O
413	01	NH	Auburn Road Landfill	Londonderry	R S	
414	03	WV	Fike Chemical, Inc.	Nitro	V F	I
415	05	MN	Ceneral Mills/Henkel Corp.	Minneapolis	S	
416	06	OK	Eaker/Polar Oil Co	Jefferson Town	R F	O
417	05	OH	Old Mill	Rock Creek	R F	O
418	07	KS	Johns' Sludge Pond	Wichita	V F	I
419	09	CA	Del Norte Pesticide Storage	Crescent City	R	
420	02	NJ	De Rewal Chemical Co.	Kingwood Township	D	
421	02	NJ	Swope Oil & Chemical Co.	Pennsauken	V R	I
422	04	GA	Monsanto Corp (Augusta Plant)	Augusta	V	
423	01	NH	South Municipal Water Supply Well	Peterborough	S	
424	01	ME	Winthrop Landfill	Winthrop	V F	I
425	06	AR	Cecil Lindsey	Newport	R	
426	05	OH	Zanesville well Field	Zanesville	V	
427	05	WI	Eau Claire Municipal Well Field	Eau Claire	D	
428	04	GA	Powersville Site	Peach County	D	
429	05	MI	Cecil Converse Overall Supply Co.	Greenville	D	
430	05	MI	Metamora Landfill	Metamora	D	

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 9

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
401	05	MI	Whitehall Municipal Wells	Whitehall	R	
402	05	MN	South Andover Site	Andover	D	
403	02	NJ	Diamond Alkali Co	Newark	V	I
404	05	MI	Kentwood Landfill	Kentwood	D	
405	05	MI	Electrovoice	Buchanan	D	
406	02	PR	Fibers Public Supply Wells	Jobos	D	
407	05	IN	Marion (Bragg) Dump	Marion	D	
408	05	OH	Pristine, Inc.	Reading	F	I
409	05	WI	Mid-State Disposal, Inc. Landfill	Cleveland Township	R	
410	08	CO	Broderick Wood Products	Denver	R	
411	05	OH	Buckeye Reclamation	St. Clairsville	D	
412	06	TX	Bio-Ecology Systems, Inc	Grand Prairie	R	O
413	02	NJ	Woodland Route 532 Dump	Woodland Township	D	
414	05	IN	American Chemical Service, Inc.	Griffith	D	
415	01	VT	Old Springfield Landfill	Springfield	V R F	O
416	02	NY	Solvent Savers	Lincklaen	D	
417	03	VA	U.S. Titanium	Piney River	F S	
418	05	IL	Galesburg/Koppers Co.	Galesburg	D	
419	02	NY	Hooker (Hyde Park)	Niagara Falls	V F S	O
420	05	MI	SCA Independent Landfill	Muskegon Heights	D	
421	09	CA	MGM Brakes	Cloverdale	S	
422	06	LA	Bayou Sorrell	Bayou Sorrell	F	
423	05	MI	Duell & Gardner Landfill	Dalton Township	D	
424	02	NJ	Ellis Property	Evesham Township	R	O
425	04	KY	Distler Farm	Jefferson County	R F	O
426	10	WA	Harbor Island (Lead)	Seattle	D	
427	05	WI	Lemberger Transport & Recycling	Franklin Township	D	
428	05	OH	E.H. Schilling Landfill	Hamilton Township	D	
429	05	MI	Cliff/Dow Dump	Marquette	F	
430	10	WA	Queen City Farms	Maple Valley	F	
431	05	WI	Scrap Processing Co , Inc.	Medford	S	
432	06	NM	Homestake Mining Co.	Milan	V F	I
433	05	MI	Mason County Landfill	Pere Marquette Twp	D	
434	05	MI	Cemetery Dump	Rose Center	R	
435	02	NJ	Hopkins Farm	Plumstead Township	D	
436	01	RI	Stamina Mills, Inc.	North Smithfiel	R	
437	05	IN	Reilly Tar (Indianapolis Plant)	Indianapolis	F	
438	01	ME	Pinette's Salvage Yard	Washburn	R	O
439	06	TX	Harris (Farley Street)	Houston	V	
440	02	NJ	Wilson Farm	Plumstead Townsh p	D	
441	03	PA	Old City of York Landfill	Seven Valleys	D	
442	05	IL	Byron Salvage Yard	Byron	R	I
443	03	PA	Stanley Kessler	King of Prussia	F	
444	02	NJ	Friedman Property	Upper Freehold Twp	R	
445	02	NJ	Imperial Oil/Champion Chemicals	Morganville	D	
446	02	NJ	Myers Property	Franklin Township	R	I
447	02	NJ	Pepe Field	Boonton	R	
448	05	MI	Ossineke Ground Water Contam	Ossineke	D	
449	03	WV	Follansbee Site	Follansbee	F	
450	09	CA	Koppers Co , Inc (Oroville Plant)	Oroville	S	

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RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY#	CLEANUP STATUS @
451	05	MI	U.S. Avtex	Howard Township	S	
452	03	PA	Walsh Landfill	Honeybrook Township	R	
453	02	NJ	Landfill & Development Co.	Mount Holly	S	I
454	02	NJ	Upper Deerfield Township Slf	Upper Deerfield Twp	D	
455	06	NM	AT & SF (Clovis)	Clovis	V F	
456	02	NY	American Thermostat Co.	South Cairo	V	
457	04	TN	Lewisburg Dump	Lewisburg	D	
458	05	MI	McCraw Edison Corp.	Albion	V	
459	04	KY	Airco	Calvert City	D	
460	03	PA	Metal Banks	Philadelphia	V F	
461	04	KY	B.F. Goodrich	Calvert City	D	
462	05	MI	Organic Chemicals, Inc.	Grandville	D	
463	01	MA	Sullivan's Ledge	New Bedford	R	
464	02	PR	Juncos Landfill	Juncos	V F	O
465	05	IN	Bennett Stone Quarry	Bloomington	S	O
466	04	FL	Munisport Landfill	North Miami	D	
467	04	AL	Stauffer Chem (Le Moyne Plant)	Axis	D	
468	02	NJ	M&T Delisa Landfill	Asbury Park	V R	
469	04	SC	Geiger (C & M Oil)	Rantowles	D	
470	05	WI	Moss-American(Kerr-McGee Oil Co.)	Milwaukee	D	
471	05	WI	Waste Research & Reclamation Co.	Eau Claire	D	
472	10	OR	Gould, Inc.	Portland	V	I
473	05	MN	St. Louis River Site	St. Louis County	D	
474	05	MI	Auto Ion Chemicals, Inc.	Kalamazoo	V	
475	04	SC	Carolawn, Inc.	Fort Lawn	R F	O
476	03	PA	Berks Sand Pit	Longswamp Township	R	O
477	05	MI	Sparta Landfill	Sparta Township	S	
478	05	IL	ACME Solvent (Morristown Plant)	Morristown	R	
479	04	FL	Hipps Road Landfill	Duval County	D	
480	04	FL	Pepper Steel & Alloys, Inc.	Medley	R F	O
481	01	ME	O'Connor Co	Augusta	D	
482	05	WI	Oconomowoc Electroplating Co. Inc	Ashippin	D	
483	05	MI	Rasmussen's Dump	Green Oak Township	R	
484	03	PA	Westline Site	Westline	R	O
485	05	OH	Powell Road Landfill	Dayton	D	
486	05	MI	Ionia City Landfill	Ionia	F	I
487	08	CO	Lincoln Park	Canon City	D	
488	05	IN	Wedzeb Enterprises, Inc	Lebanon		I
489	02	PR	GE Wiring Devices	Juana Diaz	V F	
490	05	OH	New Lyme Landfill	New Lyme	V	
491	02	NJ	Woodland Route 72 Dump	Woodland Township	D	
492	02	PR	RCA Del Caribe	Barceloneta	D	C
493	03	PA	Brodhead Creek	Stroudsburg	R F	O
494	10	OR	United Chrome Products, Inc.	Corvallis	R	
495	05	MI	Anderson Development Co.	Adrian	D	
496	05	MI	Shiawassee River	Howell	D	
497	03	PA	Taylor Borough Dump	Taylor Borough	R	O
498	03	DE	Harvey & Knott Drum, Inc.	Kirkwood	R F	O
499	04	TN	Callaway Pits	Callaway	R F	O
500	05	OH	Big D Campground	Kingsville	D	

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NATIONAL PRIORITIES LIST FINAL SITES - GROUP 11

RANK	EPA REG	ST	SITE NAME *	CITY/COUNTY	RESPONSE CATEGORY #	CLEANUP STATUS @
501	03	DE	Wildcat Landfill	Dover	D	
502	05	MI	Burrows Sanitation	Hartford	D	
503	03	PA	Bioserski Landfill	West Cain Township	F	
504	03	DE	Delaware City PVC Plant	Delaware City	V F	
505	03	MD	Limestone Road	Cumberland	R	
506	02	NY	Hooker (102nd Street)	Niagara Falls	V F S	
507	03	DE	New Castle Steel	New Castle County	D	
508	06	NM	United Nuclear Corp.	Church Rock	F	
509	06	AR	Industrial Waste Control	Fort Smith	F	
510	09	CA	Celtor Chemical Works	Hoopa	R	O
511	04	AL	Perdido Ground Water Contam	Perdido	D	O
512	02	NY	Marathon Battery Corp.	Cold Springs	R	
513	03	PA	Lehigh Electric & Engineering Co.	Old Forge Borough	R F	O
514	05	OH	Skinner Landfill	West Chester	D	
515	04	NC	Chemtronics, Inc.	Swannanoa	D	
516	07	MO	Shenandoah Stables	Moscow Mills	V F	O
517	06	LA	Bayou Bonfouca	Slidell	R	
518	03	VA	Saltville Waste Disposal Ponds	Saltville	R	
519	03	PA	Kimberton Site	Kimberton Borough	D	
520	03	MD	Middletown Road Dump	Annapolis	R	I
521	10	WA	Pesticide Lab (Yakima)	Yakima	D	
522	05	IN	Lemon Lane Landfill	Bloomington	R S	I
523	10	ID	Arrcom (Drexler Enterprises)	Rathdrum	R	O
524	03	PA	Fischer & Porter Co.	Warminster	V F	
525	09	CA	Jibboom Junkyard	Sacramento	R	
526	02	NJ	A. O. Polymer	Sparta Township	D	O
527	02	NJ	Dover Municipal Well 4	Dover Township	D	
528	02	NJ	Rockaway Township Wells	Rockaway	V	I
529	05	WI	Delavan Municipal Well #4	Delavan	D	
530	09	CA	San Gabriel Valley (Area 3)	Alhambra	R	
531	09	CA	San Gabriel Valley (Area 4)	La Puente	R	
532	10	WA	American Lake Gardens	Tacoma	V	O
533	10	WA	Greenacres Landfill	Spokane County	D	
534	06	TX	Triangle Chemical Co.	Bridge City	R F	O
535	02	NJ	PJP Landfill	Jersey City	S	I
536	03	PA	Craig Farm Drum	Parker	D	
537	03	PA	Voortman Farm	Upper Saucon Twp	R	
538	05	IL	Belvidere Municipal Landfill	Belvidere	D	

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