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ENVIRONMENTAL LAW DESKBOOK

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CHAPTER I

INTRODUCTION

I. A BRIEF HISTORY.

A. American society's widespread concern about the environment is a relatively recent development that has fueled rapid growth in environmental regulation. In 1970, there were only 500 pages in the Code of Federal Regulations (C.F.R.) devoted to environmental protection. Today, there are thousands of pages of environmental regulations in the C.F.R. implementing over 70 pieces of environmental legislation. In addition, many states have enacted environmental regulatory schemes that rival their federal counterparts in scope and complexity.

B. DOD installations must interact with multiple sources of environmental regulators.

1. At the federal level, most environmental statutes are primarily administered and enforced by the Environmental Protection Agency (EPA). EPA has divided the country into 10 regions. While subject to direction from EPA National Headquarters in Washington, D.C., each EPA region has a distinctive "personality" that is often displayed when enforcing environmental requirements at federal facilities.

2. Increasingly, state and local agencies are administering and enforcing environmental requirements that impact on federal facilities. Some of these requirements are based on federal programs that have been delegated by EPA or other federal agencies to the state. Other requirements are unique to the state, or products of local initiatives. Typically, states assign principal responsibility for environmental regulation to various branches or divisions within their existing Departments of Natural Resources or Health.

3. Compliance with U.S. environmental laws overseas.

a. With the exception of the National Environmental Policy Act (NEPA) and its application to Antarctica, there is no direct application of U.S. laws to overseas operations (*see infra* Chapter II, section X). DOD has, however, decided to apply many U.S. standards via DoD Instruction 4715.5, Management of Environmental Compliance at Overseas Installations, 22 Apr 96 (replaces DoD Directive 6050.16, DoD Policy for Establishing and Implementing Environmental Standards at Overseas Installations, 20 Sep 91).

(1) Applies to all DOD components, including the Unified Combatant Commands.

(2) Explicitly does not apply to:

(a) The operations of U.S. military vessels or aircraft;

(b) Off-installation operational and training deployments; or

(c) The investigation or execution of remedial or cleanup actions necessary to correct environmental problems arising from past DOD activities.

b. DOD establishes an overseas "baseline" document. The baseline will consist of standards applicable to similar operations conducted in the U.S.

(1) Once developed, the baseline will be compared with existing host nation law to develop country-specific environmental standards (i.e., Final Governing Standards (FGS)).

(2) After consultation with the U.S. Diplomatic Mission in the host country, the "Executive Agent" will determine whether to apply baseline standards or host nation standards. Ordinarily, the Executive Agent uses the most protective standard to establish the FGS.

c. Waivers from applicable standards can be obtained from the Executive Agent where "compliance with the standards at particular installations or facilities would seriously impair their actions, adversely affect relations with the host nation or would require substantial expenditure of funds for physical improvements at an installation that has been identified for closure or . . . realignment. . . ." Consultation with the Diplomatic Mission must occur before compliance with a host nation standard is waived.

d. Disposal of hazardous wastes in the host country will be limited to instances where:

(1) Disposal complies with the baseline guidance and any applicable international agreements; or

(2) Disposal complies with the baseline guidance and host nation authorities have concurred with disposal in their country.

C. The Unitary Executive Doctrine.

1. In most cases, federal environmental laws apply to federal agencies and their facilities. Enforcement of federal law against noncomplying federal agencies, however, has sometimes proven problematic. EPA cannot sue another federal agency and has been able to unilaterally issue compliance orders or assess fines only in very limited circumstances because of the "unitary executive doctrine." In 1987, Henry Habicht III, then the Department of Justice's Assistant Attorney General for the Land and Natural Resources Division, described the unitary executive doctrine as follows:

> [T]he President has the ultimate duty to ensure that federal facilities comply with the environmental laws as part of his constitutional responsibilities under Article II, even though Executive branch agencies are subject to EPA's regulatory oversight. Accordingly, Executive Branch agencies may not sue one another, nor may one agency be ordered to comply with an administrative order *without the prior opportunity to contest the order within the executive Branch*. (Emphasis in original).

--Environmental Compliance by Federal Agencies: Hearing Before the Subcommittee on Oversight and Investigations of the House Committee on Energy and Commerce, 100th Cong., 1st Sess., 210 (1987).

2. To resolve the inherent tension between the unitary executive doctrine and EPA's duty to regulate federal agencies, President Carter issued Executive Orders 12,088 and 12,146. Collectively these Executive Orders provide federal agencies with a dispute resolution process that offers federal agencies the opportunity to challenge the terms of an EPA proposed order through various levels of EPA's regional and national bureaucracy.

   a. Executive Order 12,088 provides in relevant part:

      (1) 1-602. The Administrator [of EPA] shall make every effort to resolve conflicts regarding such violation [of an applicable pollution control standard] between Executive Agencies. . . . If the Administrator cannot resolve a conflict, the Administrator shall request the Director of the Office of Management and Budget to resolve the conflict.

      (2) 1-603. The Director of the Office of Management and Budget shall consider unresolved conflicts at the request of the Administrator. The Director shall seek the Administrator's technological judgment and determination with regard to the applicability of statutes and regulations.

   b. Executive Order 12,146 provides in relevant part:

      (1) 1-401. Whenever two or more Executive agencies are unable to resolve a legal dispute between them, including the question of which has jurisdiction to administer a particular program or regulate a particular activity, each agency is encouraged to submit the dispute to the Attorney General.

      (2) 1-402. Whenever two or more Executive agencies whose heads serve at the pleasure of the President are unable to resolve such a legal dispute, the agencies shall submit the dispute to the Attorney General prior to proceeding into any court, except where there is specific statutory vesting of responsibility for resolution elsewhere.

c. Note that under Executive Order 12,088, resolution of disputes by OMB rests upon request of the EPA Administrator. Under Executive Order 12,146, on the other hand, either of any two disputing Federal agencies can submit the case to the Department of Justice (DOJ).

3. Although the unitary executive doctrine does preclude civil judicial enforcement by EPA as an enforcement option against federal agencies, the Administrator may, however, request that DOJ initiate a civil suit against the contractor who administers any portion of the installation's environmental program.

D. States have also experienced problems trying to force federal facilities to comply with state environmental requirements. While Congress has included a waiver of sovereign immunity provision in nearly all environmental legislation, courts have frequently found that the waivers were not broad enough to permit effective enforcement. Initially, disputes focused on whether federal facilities were required to obtain state issued permits. For example, in Hancock v. Train, 426 U.S. 167 (1976), the Court held that the waiver provision in the Clean Air Act (CAA) did not constitute the "clear and unequivocal waiver" required to constitutionally subject federal facilities to state permitting requirements. Congress responded to Hancock by amending the CAA waiver and ensuring that all environmental statutes passed or amended subsequently contained waivers of immunity that clearly required federal agencies to obtain applicable state permits. Congress' response to Hancock did not, however, answer the issue of whether or not states can impose fines on federal agencies for CAA violations at federal facilities. This and other sovereign immunity issues are addressed *infra* at section VI, para. D.

E. DOD places considerable emphasis on dealing with environmental problems caused by past practices and in ensuring that current environmental standards are achieved at all facilities subject to regulation. More importantly, DOD's leadership has demanded that protection of the environment be considered part of the military's mission. As Secretary Cheney said in a 1989 memorandum to the Service Secretaries:

> Federal facilities, including military bases, must meet environmental standards. Congress has repeatedly expressed a similar sentiment. As the largest Federal agency, the Department of Defense has a great responsibility to meet this challenge. It must be a command priority at all levels. We must demonstrate commitment with accountability for responding to the Nation's environmental agenda. I want every command to be an environmental standard by which Federal agencies are judged.

F. The U.S. Army's Environmental Philosophy. In 1992, then Army Chief of Staff General Sullivan announced that as part of the Army's Environmental Strategy into the 21st Century that, "The Army will be a national leader in environmental and natural resource stewardship for present and future generations as an integral part of our mission."

II. THE JUDGE ADVOCATE'S ENVIRONMENTAL ROLE.

A. Army Regulation 200-1, Environmental Protection and Enhancement, 21 February 1997, makes JAGs responsible for:

1. Providing advice and guidance to commanders on their legal responsibilities for complying with all applicable environmental requirements.

2. Providing guidance and legal opinions to commanders on the applicability of federal, state, local, and host nation laws and regulations governing hazardous materials for Army installations.

B. In addition to the responsibilities outlined in AR 200-1, installation JAG offices should consider the following general guidance.

1. Each installation is to have an environmental law specialist (ELS).

2. The ELS should be proactively involved in installation activities with potential environmental consequences. Starting point—membership on the installation Environmental Quality Control Committee (EQCC).

3. Moreover, to protect the commander and ensure decision makers have the information they need to make good environmentally sound decisions, the ELS should:

a. Review environmental documentation and plans prepared by other agencies (e.g., Corps of Engineers and tenant commands).

b. Be advised of all environmental inspections by federal, state, local, or Army agencies.

c. Participate in most environmental inspections from outside agencies, as well as internal and external Environmental Compliance Assessment System (ECAS) audits.

d. Receive a copy of all inspection reports, notices of violation, administrative orders, etc.

e. Participate in all environmental consultations.

f. Review all command environmental responses.

4. The ELS must be familiar with all federal, state, and local environmental compliance requirements affecting their installation. Equally important, the ELS must be fluent in the Army's program and requirements for environmental compliance.

5. To be effective, an ELS must be actively involved in internal environmental compliance inspections/audits of installation activities and facilities.

a. By virtue of their training and experience, there are usually a number of personnel at an Army installation better qualified than the ELS to conduct an audit of an installation's activities for compliance with environmental requirements.

b. At a minimum, however, the ELS should meet with the audit team prior to the audit's initiation, review the audit protocol(s), and ensure that the audit team understands the environmental requirements applicable to the activities and facilities scheduled for auditing.

c. The ELS should stress during the pre-audit meeting that:

(1) Any limitations in conducting the audit should be clearly stated in the audit report (shortage of time, lack of supporting documentation, unavailability of key personnel, etc.).

(2) All documents reviewed and persons interviewed that become the basis of findings should be clearly identified. Particularly significant documents should be copied and attached as enclosures.

(3) All conclusions stated in the audit report should be based on facts. Facts relied on should be cited as justification for each conclusion.

(4) Anecdotal information should be clearly identified and qualified as appropriate (e.g., "It was reported by Mr. John Smith, the assistant Sewage Treatment Plan Operator, that over the last year. . . .").

(5) Recommendations for site-specific corrective action and ways to avoid or minimize future risks of noncompliance should be included as part of the audit report.

(6) The audit team should be primarily concerned with making **factual** observations and conclusions; **legal** conclusions **should not** be made a part of the audit report unless first reviewed for accuracy by an attorney.

d. The ELS should also be familiar with the purpose of and procedures applicable to the Environmental Compliance Assessment System (ECAS) and participate in the ECAS process as appropriate. The Environmental Assessment Management (TEAM) Guide is the standard DOD protocol manual used by ECAS auditors. The TEAM Guide contains federal regulations, DOD Directives, and Executive Orders and is supplemented with an Army Manual and a state and local manual.

(1) The ECAS is a centrally funded Department of the Army program established in 1992 and managed by the Army Environmental Center (AEC).

(2) MACOMs coordinate the scheduling of the triennial ECAS, provide oversight, and assist in the identification, planning, and programming for necessary corrective actions discovered in the ECAS process.

(3) The program is intended to provide installation commanders with a tool for attaining, sustaining, and monitoring compliance with all applicable environmental laws and regulations.

(4) External ECAS audits, using a team of independent assessors not associated with the installation, will be conducted at active Army installations every three years. Installations must develop management and funding plans to correct deficiencies identified during external assessments.

(5) In addition to external audits, installations are responsible for performing annual internal audits, except in years when an external assessment is conducted. Installation personnel conduct internal assessments. Deviations from the annual internal audit cycle require MACOM justification and HQDA approval.

(6) In the Reserve Component, the ECAS is known as the Environmental Compliance Assessment Army Reserve (ECAAR) and Environmental Compliance Assessment System - Army National Guard (ECAS-ARNG).

III. THE ENVIRONMENTAL QUALITY CONTROL COMMITTEE (EQCC).

A. Every installation, major subordinate command, and MACOM is required by AR 200-1, para. 15-11, to have an EQCC. Overseas, the EQCC may be organized at the military community level. The EQCC must include representatives from each major, sub-installation, and tenant activity. The EQCC membership will include representatives of the operational, engineering, planning, resource management, legal, medical, and safety interests of the command.

B. The purpose of the EQCC is to advise the installation commander on environmental priorities, policies, strategies, and programs. The EQCC also coordinates the activities of environmental programs covered in AR 200-1.

C. The installation commander or his designated representative **must** chair the EQCC. It is important that any delegate also be given authority to assign coordination responsibilities to resolve problems that are identified. The EQCC should normally meet monthly.

D. At many installations, meetings of the entire EQCC on a monthly basis may not be practical. At a minimum, however, the ELS should meet formally on a monthly basis with the installation's environmental coordinator; representatives from the safety, training, and preventative medicine offices; and also with the direct overseers of the installation's building and maintenance activities. This "mini-EQCC" should examine all ongoing and upcoming installation activities for their environmental impacts and determine what, if any, permits or corrective actions are required. Informal discussion between members of the mini-EQCC should occur frequently on an "as needed" basis.

E. Minutes of all EQCC and mini-EQCC meetings should be taken and maintained. A summary of the minutes should be provided to the chairman of the EQCC. The summary should highlight problems identified and recommend courses of action to resolve those problems. Problems that could result in adverse publicity for the installation or command should be discussed thoroughly with the installation's public affairs officer.

IV. ADDRESSING ENVIRONMENTAL NON-COMPLIANCE.

A. Federal facilities are required to comply with applicable federal law and also state environmental laws that are encompassed by a waiver of sovereign immunity. A sample waiver of sovereign immunity reads as follows: "Each Federal agency shall be subject to and comply with all Federal, State, interstate, and local requirements, both substantive and procedural, respecting abatement and control of [air, water, etc.] pollution in the same manner, and to the same extent, as any person is subject to such requirements."

--Caution: this is a *sample* waiver provision. Each statutory waiver has its own unique language, and the applicable waiver must be reviewed in analyzing any specific problem.

B. In determining whether or not a state environmental requirement is binding on a federal facility, use the following analysis:

1. Starting point: Hancock v. Train. Bottom line we need not comply unless Congress has relinquished federal supremacy -- (and we *cannot* pay money to the state unless Congress has authorized the expenditure).

a. Identify exactly what it is that the state is requiring us to do.

b. What waiver of federal supremacy is the state relying on?

c. Does the state requirement fit within the federal statutory program that creates the waiver? *See*, *e.g.*, Kelley v. United States, 618 F. Supp. 1103 (W.D. Mich. 1985) (Clean Water Act (CWA) waiver does not render federal agency liable for violation of state law designed to protect underground water because the CWA generally does not address underground water issues); Goodyear Atomic Corp. v. Miller, 406 U.S. 174, 185-195 (1988) (dissenting opinion) (state work place regulatory scheme is not encompassed within the federal waiver of sovereign immunity regarding workman's compensation laws).

2. Are there other "defenses?"

a. What about exclusive federal legislative jurisdiction? While it should insulate a federal facility from state regulation, DOJ has declined to raise this defense.

b. Typical waiver language: ". . . in the same manner, and to the same extent as any person . . . ." Does state law discriminate (e.g., are municipalities or state agencies exempted)?

c. Does the state's law or regulation embody a "requirement" that is encompassed within the limits of the waiver of sovereign immunity?

(1) Based on language in Hancock, some courts have distinguished between environmentally protective provisions of state law and remedial provisions, finding that the latter do not constitute "requirements." *See*, *e.g.*, Florida Dep't of Envir. Reg. v. Silvex Corp., 606 F. Supp. 159 (M.D. Fla. 1985) (state provision creating liability for environmental damage held not to be a "requirement" for purposes of the Resource Conservation and Recovery Act (RCRA)).

(2) Has the requirement been regularly promulgated through a routine administrative process, or is it *ad hoc*?

(3) Does the requirement mandate "relatively precise standards capable of uniform application?" Romero-Barcelo v. Brown, 643 F.2d 835, 855 (1st Cir. 1979*), rev'd on other grounds, sub nom*. Weinberger v. Romero-Barcelo, 456 U.S. 305 (1982) (criminal and civil nuisance statutes held not to create specific standards that a federal agency must adhere to); *see also* Kelley v. United States, 618 F. Supp. 1103, 1108 (W.D. Mich. 1985) (state statute proscribing discharging "any substance which is or may become injurious to the public health, safety or welfare" does not create a "requirement" that a federal agency must comply with).

C. If We Must Comply.

1. Make arrangements to do so, or

2. If there are problems, seek to negotiate a delayed compliance agreement with the state.

3. If only a portion of the state's requirements can be achieved immediately, negotiate a compliance timetable for actions that cannot be accomplished immediately.

4. **Caution:** do not negotiate an agreement with obligations that the command cannot meet.

5. **Caution:** note the fiscal law considerations discussed in Section IV F., below.

6. Should we try to comply with state requirements even if we are not required to as a matter of law? Ask:

a. Will it improve our relationship with the regulators?

b. Is it the smart thing to do:

(1) Environmentally.

(2) Economically.

D. Reporting Potential Liability of Army Activities and Personnel. *See*, AR 200-1, para. 15-7.

1. Criminal indictments or information against Army and civilian personnel for violations of environmental laws must be reported through command channels.

a. Criminal actions involving Civil Works activities or personnel will be reported to the Director of Civil Works.

b. Other criminal actions will be reported to the Director of Environmental Programs (DEP) and the Environmental Law Division (ELD).

2. Enforcement action will be reported through the Army Compliance Tracking System Report (ACTS) to the AEC within 48 hours and any fine or penalty within 24 hours. Tenants are expected to notify the installation commander of enforcement actions with 24 hours.

3. Any actual or likely enforcement action not involving Civil Works that involves a fine, penalty, fee, tax, media attention, or has potential or off-post impact will be reported through technical legal channels through the MACOM ELS to ELD within 48 hours, followed by written notification within 7 days. Subsequent reports should be provided whenever there is a significant development.

4. In accordance with AR 27-40, the ELD must be notified immediately of any service of summons, complaint, or other process or pleading commencing civil litigation against the United States or a soldier or employee. Actions involving Civil Works employees must be reported to the Chief Counsel, U.S. Army Corps of Engineers (USACE).

E. Within 45 days of receiving a notice of violation (NOV), the installation will forward through command channels a plan for corrective action. The plan will include corrective milestones, cost estimates, and any associated 1383 report numbers.

F. If an installation cannot immediately comply with state or federal environmental requirements, the ELS will help negotiate a delayed compliance schedule that can be achieved.

1. Compliance orders/agreements may shield the command from citizen suits and other enforcement actions.

2. On the other hand, the order/agreement can result in an obligation enforceable in court, through injunctions and possibly penalties for violations.

3. **Compliance orders, consent agreements, and settlements are negotiated at the installation level, but must be coordinated with the ELD prior to being signed by the installation commander.** AR 200-1, paras. 1-7.d. and 15-8.

4. **Caution:** the Anti-Deficiency Act, 31 U.S.C. § 1341 (ADA). Negligent violations of the ADA trigger a requirement that administrative discipline (up to removal from office) be imposed against the violator. Knowing and willful violation of the ADA can expose violators to possible criminal sanctions. 31 U.S.C. §§ 1349, 1350 and 1518, 1519. To avoid ADA violations:

   a. Observe the limitations on using OMA funds for construction projects.

   b. Avoid incurring an unconditional obligation to install pollution control equipment or otherwise spend money in future fiscal years in advance of an appropriation of funds.

   c. Include a condition that the required actions will be taken subject to availability of funds.

      (1) If possible, condition actions upon the installation receiving funding that Congress authorizes **for the specific project necessary to achieve compliance**.

(2) Alternatively, make actions subject to funding that Congress authorizes for the project coupled with a commitment to request such funds (and then ensure that they are requested).

(3) Alternatively, condition actions upon the availability of funding allocated to the installation that can be used for the project.

(4) Alternatively, make actions subject to the availability of **any** funding that can used for the project. This provision, if used, typically requires the installation to seek funding directly from its MACOM. It is particularly important, therefore, to coordinate closely with the MACOM before proposing the use of such a provision.

5. What about Presidential exemptions?

a. The President may exempt federal activities from compliance with most environmental requirements for up to a year at a time if this would be in the paramount interests of the U.S. *See*, *e.g.*, 42 U.S.C. § 7418(b); and 42 U.S.C.§ 6961(a).

b. Presidential exemptions have been granted in a limited number of situations.

(1) President Carter exempted Fort Allen, Puerto Rico, from selected provisions of the CWA, RCRA, the CAA, and the Noise Control Act of 1972, in order to facilitate the relocation and temporary housing of Haitian and Cuban refugee. *See*, Executive Order 12244, Exemption for Fort Allen, 3 October 1980, 45 Fed. Reg. 66,443.

(2) Pursuant to 40 C.F.R. § 1506.11, DOD was permitted to execute two missions in support of Desert Shield/Desert Storm without complying with the formal documentation requirements of the National Environmental Policy Act. DOD was, however, required to use "alternative methods of considering environmental impacts." *See,* Swenson, Desert Storm, Desert Flood: A Guide to Emergency and Other Exemptions from NEPA and Other Environmental Laws, 2 Fed. Facility Envtl. J. 3 (1991).

(3) More recently, President Clinton, for national security reasons, exempted the United States Air Force's operating location near Groom Lake, Nevada (Area 51?), from selected provisions of RCRA. *See,* Presidential Determination No. 95-45, Presidential Determination on Classified Information Concerning the Air Force's Operating Location Near Groom Lake, Nevada, 29 September 1995; Presidential Determination No. 96-54, Presidential Determination on Classified Information Concerning the Air Force's Operating Location Near Groom Lake, Nevada, 28 September 1996; and, Presidential Determination No. 97-35, Presidential Determination on Classified Information Concerning the Air Force's Operating Location Near Groom Lake, Nevada, 26 September 1997. *See also*, Kaza v. Browner, 133 F.3d 1159 (9th Cir. 1998).

c. Absent a war or other exigent circumstances, however, it is highly unlikely that Presidential exemptions will be sought in the future to excuse federal facilities from complying with federal, state, or local environmental requirements.

V. FUNDING AND FEES VERSUS TAXES.

A. In the Army, funding for environmental compliance and restoration (cleanup) can come from four sources:

1. The Defense Environmental Restoration Account (DERA).

2. Operations and Maintenance Account (OMA).

3. Research, Development, Testing, and Evaluation (RDT&E).

4. Military Construction Account (MCA).

B. The DERA was established by the Superfund Amendments and Reauthorization Act (SARA) § 211 (10 U.S.C. § 2703). Beginning in FY 97, Congress devolved the Defense Environmental Restoration Program (DERP), authorizing and appropriating funds for individual transfer accounts for the Army, Navy, Air Force, Defense Agencies, formerly used defense sites (FUDS), and the Office of the Deputy Under Secretary of Defense for Environmental Security (ODUSD (ES)).

1. The Army's transfer account is the Environmental Restoration, Army (ER, A) account.

2. The ODUSD (ES) establishes cleanup goals for the Services and provides program management oversight, but the individual Services program, budget and manage their respective transfer accounts.

3. Although the AEC develops the Army's installation restoration budget, ER, A funds are managed and distributed by the MACOM.

4. Environmental Restoration (ER) funds shield installations from the immediate impact of funding environmental cleanups. Instead of using OMA or RDT&E money, ER funds are used to finance most installation-level restoration activities.

5. Many restoration actions, however, will require long-term operation to be effective (*e.g.*, groundwater pump and treat operations). Current DOD policy is that ER funds can be used to finance operation and maintenance of restoration projects for 10 years. After that, operational and maintenance expenses must be funded with OMA money.

C. Current compliance requirements (including training) must be satisfied through use of OMA money.

D. Budgeting for major environmental compliance projects is accomplished pursuant to the A-106 process (Environmental Program Requirements Report (EPR), formerly the Environmental Pollution Prevention, Control, and Abatement at DOD Facilities Report (RCS 1383)). AR 200-1, para. 13-5.

1. Commanders must ensure that **all** pollution control projects and programs needed to achieve and maintain environmental compliance for the next 5 years are identified. Items identified (to include training) are divided into three categories:

a. Category I is for "must fund" requirements. Included within Category I are items necessary to resolve NOVs, necessary to meet promulgated standards whose implementation deadline has already passed, will pass in a current budget cycle, or are needed to support a signed compliance agreement.

b. Category II is for items necessary to meet established standards whose compliance date falls in a future budget cycle.

c. Category III is for items which will require replacement in the future because of physical or technological obsolescence, or needed to demonstrate environmental leadership.

2. The EPR Report satisfies the requirement in Executive Order 12088 that federal agencies submit to EPA detailed plans showing how they are budgeting sufficient funds to achieve and maintain environmental compliance. Installation compliance with the EPR process is likely to receive increased scrutiny in the future as compliance costs/demands increase and available funds decrease. The EPR Report also accompanies the President's annual budget submission to Congress. In imposing this requirement, Congress stated: **"[K]nowing that their input on environmental funding requirements is going to subject [them] to Congressional oversight will provide a greater incentive to base commanders to improve the accuracy and realism of their funding estimates."** *National Defense Authorization Act For Fiscal Year 1991: Report of the House of Representatives Armed Services Committee on H.R. 4739*, 101st Cong., 2nd Sess. 250 (1990).

3. ELSs must play a prominent role in ensuring that the command understands what the **current** requirements are. To the extent possible, ELSs should also assist the command in forecasting **future** environmental requirements.

E. Fees and Taxes.

1. The Army's policy is to pay all nondiscriminatory administrative fees and assessments imposed by state and local governments for state and local permits and to defray the costs of their environmental programs.

2. Sovereignty, however, has not been waived for state taxation. "Excessive" environmental permitting and operating fees can constitute disguised taxes. States and local governments often assess three generic types of "fees" against federal facilities, which do not normally constitute reasonable service charges:

   a. Remedial Fund Fee - Fees that fund cleanup activities, or mini-superfunds, do not constitute reasonable service charges and should not be paid. DOD conducts its own cleanups and receives no benefits from programs funded by these fees.

   b. Broad "Program" Fees - States typically establish broad programs to address particular environmental media. Some program elements, such as permit review and processing, inspections, and compliance monitoring, may be paid as reasonable service charges. Other portions, such as special grant or loan programs of which we cannot take advantage, are objectionable and should not be paid. Commands must analyze these programs on a case-by-case basis and negotiate with regulators to determine the proportion of the fee to be paid.

   c. Insurance-type programs - Many states require regulated facilities of certain types, especially underground storage tanks, to pay into an insurance fund that is available to help pay the cost of pollution caused by the facility. Because DOD funds its own cleanup efforts, payment of the fee violates the second prong of the Massachusetts test and the fiscal self-insurance rule.

3. The label placed on the requested payment is not important. A fee is an amount that, if calculated correctly, allows an agency to recover a reasonable approximation of the costs it incurs in acting on a license request and providing a benefit or a service. A tax is an enforced contribution to provide for the general support of the government.

4. A three-step test is used to determine if a "fee" is actually a tax (*see* Massachusetts v. United States, 435 U.S. 444, 464-67 (1978)). Under the Massachusetts test, determine whether or not:

   a. The fee is imposed in a nondiscriminatory manner; i.e., are local governmental or other entities exempted?

--Theory: a tax can be discriminatory, but a valid permit fee or user fee cannot.

b. The fee is a fair approximation of the cost of the benefit received. The "benefit" is generally the overhead expense for operating the permit system and the costs of conducting inspections.

c. The fee is not structured to produce revenues that will exceed the total cost to the state of the "benefits" it confers. Fees that are structured to produce excess revenue are often structured so that all funds received are channeled into the state's general revenue fund.

5. If the charge is nondiscriminatory, a fair approximation of the cost of the benefit received, and not structured to produce revenues that will exceed the total cost to the state of the benefits it confers, then it will normally be a permissible fee.

6. **REMEMBER!** Unless the fee is discriminatory, some portion (i.e., the reasonable portion) of a state imposed fee is payable.

VI. ENFORCEMENT OF ENVIRONMENTAL LAWS.

A. EPA Enforcement Options. EPA has the primary regulatory authority and responsibility for the enforcement of most environmental statutes. EPA has three basic enforcement options when dealing with federal facilities: criminal prosecution (against individuals); civil judicial action (only against government contractors); or administrative enforcement actions.

B. EPA's Enforcement Objectives:

1. Ensure that the alleged violator is and will be in compliance;

2. Punish noncompliance;

3. Deter the alleged violator and others from not complying; and

4. Correct the harm caused by the noncompliance.

--EPA Enforcement Manual (1995).

C. EPA Enforcement Preferences.

1. Administrative and civil enforcement actions employ a strict liability standard and are, thus, generally favored over criminal enforcement actions that require a greater showing of culpability. Criminal enforcement actions are, however, normally initiated where there is egregious conduct and/or clearly culpable conduct that results in significant harm to human health and/or the environment.

2. Administrative cases are generally favored over civil enforcement actions because:

a. The proceedings at an administrative hearing are much less formal than those employed in the judicial process;

b. The Presiding Officer is an EPA employee as opposed to a district court judge; and

c. Civil judicial cases require review and approval by DOJ and EPA, as opposed to administrative determinations that require approval at the EPA Region level.

3. In addition, because the unitary executive doctrine precludes civil judicial action against federal facilities (except government contractors), administrative enforcement actions are the most common enforcement actions taken against federal facilities.

D. State Enforcement Actions.

1. Most environmental statutes contain provisions allowing EPA to delegate permitting, oversight, and enforcement responsibilities to the states, and the clear trend is to allow even greater state control and authority over federal activities and installations.

a. This system of delegation is known as "cooperative Federalism." Under this system, the federal government establishes minimum standards and procedural requirements based on statutory mandates and the states develop implementation and enforcement programs that are no less stringent.

(1) Once the state has demonstrated that its program is no less stringent and capable of enforcement, the state assumes, subject to EPA oversight and right of revocation, enforcement authority. Once approved, actions taken under the state program have the same effect as if the EPA had taken the action. Even after delegation, however, EPA reserves parallel enforcement authority if it is dissatisfied with a State response.

(2) Delegation authority exists in RCRA, CAA, CWA, and the Safe Drinking Water Act (SDWA).

b. Some environmental statutes permit states to operate, subject to general preemption principles governing impediments to federal goals and procedures, a parallel program that is completely independent of the equivalent federal program.

c. Regardless of the type of program administered by the state, EPA will always retain at least concurrent inspection and enforcement authority.

2. In addition, explicit waivers of sovereign immunity have exposed federal installations to fines and penalties by the states, a trend that is also likely to continue.

a. In 1992, the Federal Facility Compliance Act (FFCA) (Pub. L. No. 102-386, 106 Stat. 1505) explicitly waived the federal government's sovereign immunity for violations of RCRA. Prior to the enactment of the FFCA, the Supreme Court had held that the waiver of sovereign immunity in RCRA was not sufficiently explicit enough to allow states to impose punitive fines for past violations of RCRA. *See* United States Department of Energy v. Ohio, 503 U.S. 607 (1992). Note: the FFCA waived the sovereign immunity provisions of RCRA that are applicable to the management of solid and hazardous waste, but not the sovereign immunity provisions applicable to the management of underground storage tanks.

b. The government's sovereign immunity for violations of Subchapter IV of the Toxic Substance Control Act (TSCA) was waived by the Lead Based Paint Hazard Reduction Act of 1992 (Pub. Law No. 94-469 (1992)).

c. In 1996, the sovereign immunity provisions of the SDWA were amended to allow for the imposition of fines and penalties by the states.

d. There is currently legislation before Congress to amend the sovereign immunity provisions of both the CWA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), to permit fines and penalties by the states for violations by federal agencies.

e. As to the CAA, the current DOD position is that the waiver of sovereign immunity is not so explicit as to permit fines and penalties against federal agencies. This position is discussed in greater detail at Chapter IV, section III. E., *infra*.

E. Administrative Enforcement Actions.

1. Payment of fines and penalties. Penalties imposed by the EPA are typically assessed by determining a gravity-based penalty for a particular violation, considering any economic benefit, and adjusting the penalty for special circumstances. *See*, *e.g.*, EPA, Revised RCRA Civil Penalty Policy (October 29, 1990*), reprinted in,* 21 Envtl. L. Rep. (Envtl. L. Inst.) 35,273 (October 1990).

2. The gravity-based penalty is determined by reference to a matrix that considers both the potential for harm and the extent of deviation from the RCRA requirement. Each violation is characterized as either “major,” “moderate,” or “minor” under each factor. The results are then compared on a matrix to determine the appropriate penalty range.

   a. The "potential for harm" factor considers both the risks to human health and the environment and the adverse impact the violation may have on the RCRA regulatory process. As used in the penalty matrix, the different degrees of “potential for harm” are defined as follows:

      (1) Major: the violation creates a substantial likelihood of exposure to hazardous waste (HW) or may have a substantial adverse effect on purposes or procedures for implementing RCRA.

      (2) Moderate: the violation creates a significant likelihood of exposure to HW or may have a significant adverse effect on purposes or procedures for implementing RCRA.

      (3) Minor: the violation creates a relatively low likelihood of exposure to HW or may have an adverse effect on purposes or procedures for implementing RCRA.

   b. "Extent of deviation from the requirement" measures the degree to which the violation renders the requirement inoperative. As used in the penalty matrix, the different degrees of deviation are defined as follows:

      (1) Major: the violation constitutes substantial noncompliance.

      (2) Moderate: the violation significantly deviates from the requirement, but some of the requirements are implemented as intended.

      (3) Minor: the violation deviates from the requirement somewhat, but most of the requirements are met.

3. Multiple penalties for each violation are a distinct possibility: "A separate penalty should be assessed for each violation that results from an independent act (or failure to act) . . . [that] is substantially distinguishable from any other charge." For example, where different elements of proof are required, multiple penalties are appropriate.

4. Multi-day penalties are also distinct possibilities. They "should generally be calculated in the case of continuing egregious violations. However, per day assessment may be appropriate in other cases."

5. EPA also attempts to recoup, as part of any penalty assessed, the Economic Benefit of Noncompliance.

    a. The "benefit" is calculated based on computation of interest earned on avoided costs during period of noncompliance and marginal tax rate of company.

    b. It would seem to be inappropriate for application to federal facilities.

6. There are a number of penalty adjustment factors.

    a. Good faith effort to comply/lack of good faith can justify 25-40% reduction/increase in otherwise appropriate fine. Examples of good faith efforts:

        (1) Self-audits.

        (2) Internal disciplinary action.

        (3) Anything else you're not *required* by RCRA to do to comply, *e.g.*, the EQCC or any of its working groups.

    b. Degree of willfulness and/or negligence.

        (1) Mitigation or aggravation of 25-40% may be justified.

(2) Factors: control over events, speed of remedy, foreseeability, and precautions.

c. History of noncompliance (upward adjustment only, of 25-40%): "The [EPA] may find a consistent pattern of noncompliance by many divisions or subsidiaries of a corporation even though the facilities are at different geographic locations. This often reflects, at best, a corporate wide indifference to environmental protection." As a result of this, an installation's past compliance problems could subject it to a substantially enhanced fine.

d. "Other unique factors" provision may permit argument of military-unique factors, e.g., short-notice deployment of personnel contributed to violation. These factors can either result in reduction or enhancement of the fine.

7. Sources of funds to pay fines and penalties.

a. Congress prohibits the use of Environmental Restoration funds to pay fines and penalties for violations of environmental requirements (s*ee*, *e.g.*, National Defense Authorization Act for Fiscal Year 1995, Pub. L. No. 103-337, § 321, 108 Stat. 2663 (October 5, 1994)).

b. As a result, it is likely that fines and penalties will be paid out of O&M funds.

F. Criminal Enforcement. Each of the major environmental statutes contain provisions that provide for criminal sanctions, including fines and/or imprisonment.

1. Fines and penalties.

a. Federal employees can be held individually liable for fines and penalties resulting from violations of most environmental statutes.

b. Currently, only three statutes specifically provide that federal employees cannot be held individually civilly liable for environmental violations resulting from performance of their official duties; *see* 33 U.S.C. § 1323 (CWA); 42 U.S.C. § 7418(a) (CAA); and 42 U.S.C. § 6961 (RCRA).

2. Criminal liability.

a. Generally.

(1) While all major environmental statutes have criminal provisions for knowing violations, some permit prosecution for merely negligent acts. *See* CWA, 33 U.S.C. § 1319 (negligent release of a contaminant into navigable waters of the United States); and CAA, 42 U.S.C. § 7413(c)(4) (negligent release of a hazardous pollutant into the ambient air that places others in imminent danger).

(2) In most cases, to establish a knowing violation, the government need only prove knowledge of the actions taken, not knowledge of the environmental statute itself. In addition, responsible officials who have knowledge of a wrongful act and the authority to take action, but fail to do so may also face prosecution.

b. Trends.

(1) The number of federal criminal prosecutions has been increasing steadily. Moreover, jail time adjudged by federal judges and actually served by individual defendants has also been increasing.

(2) EPA has shifted its enforcement strategy from a quantitative pursuit of as many indictments and convictions as possible to a more qualitative pursuit of egregious conduct and environmental damage.

(3) EPA has shifted its focus from corporate liability to personal liability.

c. Although the number of DOD personnel criminally prosecuted for violations of environmental statutes has been few compared with the overall number of federal and state prosecutions, to date sixteen DOD personnel have been prosecuted. Thirteen of the prosecutions were federal, and ten of the thirteen were convicted. Of the three prosecuted in state courts, two were convicted; the complaint against the third was dismissed after removal to Federal Court.

(1) United States v. Dee, 912 F.2d 741 (4th Cir. 1990), *cert. denied*, 499 U.S. 919 (1991) (the "Aberdeen Case"). In May 1989, three civilians (SES, GM-15, GM-14) of the Army Chemical Research and Development Command, Aberdeen Proving Ground, were convicted of various RCRA violations involving illegal treatment, storage, and disposal of hazardous wastes. The three were sentenced to three years of probation and 1,000 hours of community service. DOJ denied requests to reimburse them for attorney fees of about $108,000 each. Matter of: William Dee, et al. -- Requests for Payments of Attorneys' Fees, Comp. Gen. Op. B-242891 (Sep. 13, 1991).

(2) United States v. Carr, 880 F.2d 1550 (2d Cir. 1989). Mr. David Carr, a civilian range foreman at Fort Drum, was initially charged with 37 counts of violation of the Clean Water Act, four counts of illegal disposal of hazardous wastes in violation of RCRA, and the two CERCLA counts for which he was convicted. The indictment charged Carr with the supervision and direction of other civilian employees in the disposal of about 100 to 150 five-gallon cans of paint into a pond on the base. In December 1988, Carr was sentenced for two violations of CERCLA for twice failing to report a spill of hazardous substances. On each count, imposition of a prison sentence was suspended. Carr was given one year of probation; he also paid $300 in fines and assessments.

(3) United States v. Bond, Cr. 91-0287-GT, S.D. Cal (Apr. 9, 1991). Mr. Cletus Bond, a civilian employee of the Navy, pled guilty to one count of negligent discharge of pollutants (radiator fluid contaminated with anti-freeze) in violation of the Clean Water Act. He was sentenced to one year of probation and a $500 fine. Mr. Bond was a supervisor at the Navy Exchange Auto Repair Facility, San Diego, California. The radiator fluid was discharged into a storm drain and flowed into a nearby Creek.

(4) United States v. Pond, Cr. S-90-0420, D. Md. (Apr. 17, 1991), 21 Env. L. Rep. 10444 (1991). Mr. Richard Pond, civilian manager of the wastewater treatment plant at Fort Meade, was convicted in January 1991 of one felony count of violating a Clean Water Act permit, eight felony counts of making false statements on discharge monitoring reports, and a misdemeanor violation for theft of government property by using government lab equipment to analyze water samples for a privately owned wastewater treatment plant. Pond was sentenced to eight months in prison, followed by one year of supervised release (including four months of home detention), 60 hours of community service, and restitution of $99.99.

(5) United States v. Curtis, 988 F.2d 946 (9th Cir. 1993), *cert. denied*, 114 S. Ct. 177 (1993). From 1986 to 1989, John Curtis was the director of the fuels division at Adak Naval Air Station, Alaska. Among his responsibilities was the operation of several miles of pipelines. Over a five-month period spanning from October 1988 to February 1989, Curtis ignored repeated employee warnings of a pipeline leak. As a result, thousands of gallons of fuel flowed into an inlet of the Bering Sea. The employees finally took Curtis to the site of the leak, but the pipeline was not turned off until the base environmental manager was told what was happening. In October 1991, Curtis was indicted on five felony counts for knowing violations of the CWA. He was convicted in March 1992 of three violations of the CWA, one felony count for a knowing violation, and two lesser-included misdemeanor counts for negligent violations. Curtis was sentenced to serve 10 months in jail.

(6) United States v. Dunn, Larimore, and Divinyi, Cr. No. 92-117-COL (JRE) (M.D. Ga. 1992). Three civilian employees (two GS-12s and one GS-11) at Fort Benning, Georgia, were indicted on 29 January 1992 for one count of conspiracy to violate the Endangered Species Act. Two of the individuals (the chief of the natural resources management division and the forestry supervisor) were also indicted on six counts of making false official statements. The chief of the environmental management division was also indicted on one count of making a false official statement. The offenses revolved around requests submitted from 1985-1989 for commercial timber harvesting at Fort Benning, on which requests defendants are alleged to have knowingly failed to note habitat of the red-cockaded woodpecker, an endangered species.

(7) California v. Hernandez, No. 25148 (Riverside Mun. Ct. May 11, 1992). In March 1991, Mr. Andy Hernandez, sewage treatment plant foreman at March AFB, changed sludge test results for biochemical oxygen demand to bring the results within the level authorized by the plant discharge permit. Hernandez made these changes without doing any additional tests. In May 1992, Hernandez pled guilty to falsifying a wastewater test record. He was given a suspended sentence to pay a $5,000 fine and placed on probation for 18 months.

(8) United States v. Lewis, Cr. 3-88-50, S.D. Ohio (Dec. 14, 1988). Mr. Lewis, an Army employee and former Radiation Protection and Safety Officer at Wright Patterson Air Force Base, pled guilty to unlawful possession of a radioactive byproduct material.

(9) United States v. Shackelford, E.D Va. (Feb. 27, 1992). Mr. Henry E. Shackelford, Jr., an employee at Langley Air Force Base, pled guilty to improper use and disposal of a pesticide.

(10) United States v. Ferrin, S.D. Cal. (Aug. 15, 1994). Mr. James A. Ferrin, a supervisor at San Diego Naval Station, was convicted of disposing hazardous waste, treatment without a permit, and false statement.

(11) California v. Lam, (Cal. State) (May 29, 1992). Mr. Sam Lam, an environmental manager at the Marine Corps' El Toro Air Station, was initially charged with felonies based on reports he caused to be dumped in a municipal landfill ninety 55-gallon drums containing leaded paint waste and heavy metals. In May 1992, Lam was convicted of five misdemeanor counts each for unlawful transportation and disposal of hazardous waste. He was sentenced on one count to pay a $5,000 fine, ordered to complete a hazardous materials handling course, and placed on probation for three years. Sentencing on the remaining nine counts was suspended for the period of probation. The Navy/USMC concluded that while Lam's conduct was negligent, he had acted in good faith and, therefore, was within the scope of his employment. As a result, they supported his request that DOJ pay his private attorney's fees. DOJ approved Lam's request, authorizing payment of attorney's fees of up to $90.00 per hour.

3. Representation. If a federal employee is indicted for an environmental crime, and it is a:

a. Federal prosecution: representation will normally be provided by a private attorney hired at the employee's expense. *See* 28 C.F.R. § 50.15.

b. Representation by the U.S. Army Trial Defense Service (TDS).

(1) Military personnel facing a criminal investigation conducted by EPA or other federal law enforcement agencies may request representation by TDS but "representation and advice will be limited to that required to protect the client from pending or potential judicial, nonjudicial or adverse administrative actions within DA." TDS counsel are not authorized to advise military clients concerning concurrent civilian court or grand jury proceedings. *See* Standard Operating Procedures, U.S. Army Trial Defense Service (USATDS SOP), para. 1-6 (1 June 1994).

(2) TDS counsel are able to provide "suspect counseling" in the critical period when an investigation is in its early stages; but once it is clear that adverse actions are going to be pursued outside the military; TDS counsel must withdraw from representation. *See* USATDS SOP, para. 1-5b(1)(j).

c. State prosecution: representation by DOJ is possible if it is in the government's best interests (i.e., acting within scope of duties and not in violation of federal law). *See* 28 C.F.R. § 50.15.

(1) Satisfying the second prong of the test (not in violation of federal law), however, may prove especially difficult since many state environmental statutes are modeled after federal statutes.

(2) The Marine Corps, however, was recently able to persuade DOJ to pay (up to $90.00 per hour) to represent a civilian employee charged with criminal violations of California environmental law. *See* discussion of California v. Lam at page 31 of this chapter.

4. Attorney-client privilege.

a. There is no attorney client privilege between an attorney and a commander on environmental compliance issues -- at least in cases involving federal investigations and prosecutions.

b. Note, however, that the initial communication between a service member and a legal assistance or TDS attorney is privileged, but once it is determined that representation by a military attorney will no longer be available, the attorney-client relationship ends and further communications will not be covered by the privilege.

5. Official immunity in the environmental arena.

a. Basic requirements.

(1) Actions are necessary and proper; i.e., they are reasonably required to accomplish a government objective, task, or mission and they are taken with due regard for the safety, well-being, and property interests of others.

(2) The actions that were taken did not violate federal law.

b. Immunity is not available in federal criminal prosecutions; it is theoretically available in state prosecutions. Because most state environmental requirements are based on federal requirements, however, immunity will likely be precluded.

CHAPTER II

THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

I. REFERENCES.

A. Federal Regulations and Statutes.

1. 42 U.S.C. §§ 4321-4370d (NEPA).

2. 40 C.F.R. Parts 1500-1508 (CEQ Regulations).

3. 46 Fed. Reg. 18026 (March 23, 1981), Council on Environmental Quality, Forty Most Asked Questions Concerning National Environmental Policy Act Regulations.

B. Executive Orders.

1. Executive Order 11514, Protection and Enhancement of Environmental Quality, March 5, 1970, *reprinted at* Appendix E, AR 200-2.

2. Executive Order 12114, Environmental Effects Abroad of Major Federal Actions, January 4, 1979, *reprinted at* 42 C.F.R. § 4321.

C. Service Regulations, Instructions, and Policy Guidance.

1. DOD Dir. 6050.1, Environmental Effects in the United States of DOD Actions (30 July 1979).

2. DOD Dir. 6050.7, Environmental Effects Abroad of Major DOD Actions (31 March 1979).

3. AR 200-2, Environmental Effects of Army Actions, (23 December 1988), superceded by New Final Rule published at 67 Fed. Reg. 15291 (March 29, 2002) (to be codified at 32 C.F.R. pt. 661). Revised AR 200-2 pending.

4. SECNAVINST 5090.6, Subj: Evaluation of Environmental Effects From Department of the Navy Actions.

5. OPNAVINST 5090.1B, Chapter 2, Procedures for NEPA.

6. MCO P5090.2, Subj: Environmental Compliance and Protection Manual, Ch 5.

7. AFR 19-2, Environmental Impact Analysis Process.

8. AFI 32-7061, Environmental Impact Analysis.

9. AR 210-20, Master Planning for Army Installations (12 June 1987).

II. KEY DEFINITIONS.

A. **[The] Council on Environmental Quality (CEQ)** is a staff office of the Executive Office of the President created by NEPA. 42 U.S.C. § 4342. The purpose of the CEQ is to "provide a consistent and expert source of review of national policies, environmental problems and trends, both long-term and short-term" 115 Cong. Rec. 26572 (1969) (statement of Rep. Dingell). NEPA is implemented through the CEQ regulations and agency regulations that are consistent with the CEQ regulations.

B. **Human environment** means the natural and physical environment and the relationship of people with that environment. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment. It should be noted, however, that economic or social effects are not intended by themselves to require preparation of an environmental impact statement**.** 40 C.F.R. § 1508.14.

C. **Impacts** and **effects** are synonymous under the CEQ regulations.

1. **Effects** include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial. 40 C.F.R. § 1508.8.

2. As defined by 40 C.F.R. § 1508.7, **impacts** include direct, indirect, and cumulative impacts.

   a. Direct impacts are caused by an action and occur at the same time and place as the action.

   b. Indirect impacts are caused by an action but occur later in time or distance from the action that caused them, but are still reasonably foreseeable.

   c. Cumulative impacts result from the incremental impact of an action when added to past, current, or reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

   d. An agency need not consider impacts or effects that are highly speculative or indefinite in nature. Sierra Club v. Marsh, 769 F.2d 868, 875 (1st Cir. 1985). As seen from the different regulations, an agency need only consider those effects that are reasonably foreseeable. An agency does not have to let "its imagination run wild as to whether there will be **any** environmental impact." First National Bank of Homestead v. Watson, 363 F. Supp. 466, 473 (D.D.C. 1973) (emphasis in original).

D. **Mitigation** consists of actions that reduce the severity or intensity of impacts of other actions. 40 C.F.R. § 1508.20.

E. **Categorical Exclusions (CXs)** are actions, which under normal circumstances, do not have, individually or cumulatively, a significant effect on the quality of the human environment and for which neither an environmental assessment nor an environmental impact statement is required. 40 C.F.R. § 1508.4.

F. **Environmental Assessments (EAs)** are concise public documents that provide sufficient evidence and analysis to determine if an Environmental Impact Statement is required and which aid an agency's compliance with NEPA when no environmental impact statement is necessary. 40 C.F.R. § 1508.9.

G. **Finding of No Significant Impact (FONSI)** is a document prepared by a Federal agency briefly presenting the reasons why an action will have no significant effect on the human environment and for which an environmental impact statement will not be prepared. It is a possible finding resulting from an environmental assessment. 40 C.F.R. § 1508.13.

H. **Environmental Impact Statements (EISs)** are detailed written statements, whose purpose is to: 1) serve as an action- forcing device to insure that the policies and goals defined in NEPA are infused into the ongoing programs and actions of the Federal Government; 2) provide full and fair discussion of significant environmental impacts; and 3) inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment. 40 C.F.R. § 1502.1.

I. A **proponent** is the lowest level decision-maker for the proposed action in question. A proponent is the unit, element, or organization that is responsible for initiating and/or carrying out the proposed action. **The proponent has the responsibility for preparing and/or securing funding for the preparation of any necessary environmental documentation**. 67 Fed. Reg. 15332 (2002) (to be codified at 32 C.F.R. § 651 (Appendix F).

J. A **proposal** exists at that stage in the development of an action when an agency subject to NEPA has a goal and is *actively* preparing to make a decision on one or more alternative means of accomplishing that goal and the effect can be meaningfully evaluated. 40 C.F.R. § 1508.23.

III. OVERVIEW.

A. History -- In 1969, Congress enacted NEPA. The Act was intended by Congress:

> To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the nation; and to establish a Council on Environmental Quality. 42 U.S.C. § 4321.

This national policy pledges:

> To use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans. 42 U.S.C. § 4332 (a).

B. Requirements.

1. NEPA imposes two basic requirements on federal agencies.

   a. First, it requires the agency to consider every significant aspect of the environmental impact of a proposed action.

   b. Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decision making process.

2. NEPA does not, however, require agencies to elevate environmental concerns over other appropriate considerations. Rather, it requires that agencies take a "hard look" at the environmental consequences before taking a major action.

C. NEPA was not designed to prevent all possible harm to the environment, but rather to influence the decision making process by making government officials notice environmental considerations and take them into account.

1. **NEPA does not mandate particular results, but simply prescribes a decision making process**.

2. "[I]f the adverse environmental effects of the proposed action are adequately identified and evaluated, the agency is not constrained by NEPA from deciding that other values outweigh the environmental costs. . . NEPA merely prohibits uninformed -- rather than unwise -- agency action." Robertson v. Methow Valley Citizens Council, 109 S. Ct. 1835, 1846 (1989).

D. The scope of NEPA is further limited given the fact that **economic or social effects of federal actions are not intended by themselves to require preparation of an EIS.** 40 C.F.R. § 1508.14.

1. "Socio-economic, or secondary, effects alone are not protected by NEPA." National Ass'n of Government Employees v. Rumsfeld, 413 F. Supp. 1224 (D.C. 1976), *aff'd*, 556 F.2d 76. *See also* Como-Falcon Community Coalition, Inc. v. United States Department of Labor, 609 F.2d 348, 345 (8th Cir. 1979), *cert. denied*, 446 U.S. 936 (1980).

2. The primary concern of NEPA is with the physical environmental resources of the nation, and secondary socio-economic effects may be considered only when an action will have a primary impact on the *natural* environment. Image of Greater San Antonio v. Brown, 570 F.2d 517, 522 (5th Cir. 1978).

IV. TYPES OF ACTIONS COVERED BY NEPA.

A. *Major Federal Actions*. NEPA applies only to actions with effects that may be major and which are potentially subject to federal control and responsibility. 40 C.F.R. § 1508.18. Actions include:

1. Projects and programs partly or entirely financed, assisted, conducted, regulated, or approved (issued permit) by federal agencies.

2. New or revised federal agency rules, regulations, plans, policies, or procedures, as well as legislative proposals.

B. General Guidance. Federal actions tend to fall within one of the following categories: 40 C.F.R. § 1508.18(b).

1. Adoption of official policy (rules regulations, agency interpretations).

2. Adoption of formal plans or official documents prepared or approved by federal agencies, which guide future uses of federal resources.

3. Adoption of programs to implement a specific policy or plan.

4. Approval of, or issuing a permit for, specific projects located in a defined geographic area.

C. Army Guidance. Excerpt from 67 Fed. Reg. 15299-152300 (2002) (to be codified at 32 C.F.R § 651.10 (Actions requiring environmental documentation).

1. Policies, regulations, and procedures (for example Army and installation regulations).

2. New management and operational concepts and programs (in areas such as logistics, R&D, procurement, personnel assignment).

3. Projects involving facilities construction.

4. Activities (e.g., individual and unit training, flight operations, and facility test and evaluation programs).

5. Activities involving radioactive materials.

6. Leases, easements, permits, licenses, and other forms of permission for use of Army land.

7. Research and development in such areas as genetic engineering, laser testing, and electromagnetic pulse generation.

8. Federal contracts, grants, subsidies, and loans.

V. EXCEPTIONS TO THE REQUIREMENT FOR NEPA COMPLIANCE.

A. Proposed Actions Involving Classified Information -- 40 C.F.R. § 1507.3(c); 67 Fed. Reg. 15302 (2002)(to be codified at 32 C.F.R § 651.13).

1. "[Classified information] does not relieve a proponent [of an action] of the necessity to assess and document the environmental effects of the proposed action." 67 Fed. Reg. 15302 (2002)(to be codified at 32 C.F.R § 651.13(b)).

2. However, where classified information would be compromised, a full EIS need not be produced. *See, e.g.,* Weinberger v. Catholic Action of Hawaii, 454 U.S. 139 (1981); Laine v. Weinberger, 541 F. Supp. 599 (C.D. Cal. 1982).

3. Possible approach--segregate classified data and process unclassified material routinely.

B. Statutory Exemptions.

1. Congress must explicitly excuse noncompliance.

2. Few such exemptions have been enacted that impact on the military. Two examples, however, are the 1988 and 1990 Base Realignment and Closure Acts. These Acts specifically exempted the Commissions on Base Realignment and Closure from having to prepare an EIS concerning their selection of bases for closure or realignment.

C. Statutory Conflicts.

1. If the requirements of another federal statute make NEPA compliance impossible, then NEPA compliance is excused.

2. Interpreted narrowly by the courts; compliance must be **impossible**, not merely inconvenient. *See, e.g.*, Flint Ridge Development Co. v. Scenic Rivers Ass'n, 426 U.S. 776 (1976); U.S. v. Students Challenging Regulatory Agency Procedures (SCRAP I), 412 U.S. 669, 694-95 (1973); *Cf.* Weinberger v. Catholic Actions of Hawaii, 454 U.S. 139 (1981).

D. Emergency Actions--40 C.F.R. § 1506.11; 67 Fed. Reg. 15300 (2002)(to be codified at 32 C.F.R § 651.11(b)).

1. The NEPA decision making process need not precede actions taken in response to emergencies.

2. Emergencies are situations requiring immediate action to--

a. Protect life and property.

b. Protect national defense and national security.

3. Exemption from NEPA process only applies to actions necessary to control the immediate effects of the emergency.

4. Even when granted an emergency exemption, agency must still develop an alternative to the proposed action. *See*, Valley Citizens for a Safe Environment v. Vest, 1991 WL 330963 (Civ-A No. 3077-F) (D. Mass. May 30, 1991).

VI. NEPA DOCUMENTATION REQUIREMENTS.

A. General Requirements for Analyzing Environmental Impacts of Major Federal Actions.

1. "[All agencies must] utilize a systematic, interdisciplinary approach to insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making, which may have an impact on man's environment." 42 U.S.C. § 4332(2)(A).

2. "[All agencies must] identify and develop methods and procedures which will insure that presently unqualified environmental amenities and values will be given appropriate consideration in decision making along with economic and technical considerations." 42 U.S.C. § 4332 (2)(B).

B. In determining what type of documentation is necessary for a particular action, it first must be determined whether the action: 1) qualifies for a categorical exclusion, 2) normally requires an environmental assessment, or 3) normally requires an environmental impact statement.

VII. CATEGORICAL EXCLUSIONS (CXS).

A. CXs reduce unnecessary paperwork and delay by eliminating EA and EIS procedures when clearly not necessary. Currently, the Army has identified 29 types of activities that qualify as CXs. *See* 40 C.F.R. § 1508.4; 67 Fed. Reg. 15300(2002)(to be codified at 32 C.F.R. § 651.11(c)); 67 Fed. Reg. 15309-15310 (2002)(to be codified at 32 C.F.R. Subpart D); 67 Fed. Reg. 15324-15326 (2002)(to be codified at 32 C.F.R. § 651 Appendix B). Subordinate commands cannot modify this CX list. They can, however, request modifications of the CX list through the Army Environmental Office. AR 200-2, para. 4-4.

B. Criteria for Establishing CX Categories.

1. Minimal or no individual or cumulative effect on the quality of the environment.

2. No environmentally controversial change to existing conditions.

3. Similar actions have been examined and qualify for CX treatment.

C. CX treatment is inappropriate where:

1. The project is greater in scope or size than that normally encompassed in the CX category.

2. Poor environmental conditions may be degraded. *See* Hanly v. Kleindienst (Hanly II), 471 F.2d 823 (2d Cir. 1972).

3. The proposal will initiate degrading influence in areas still in substantially natural condition.

4. Unproven technology will be employed.

5. Threatened or endangered species, archeological or historic sites, or other protected resources are present.

6. Hazardous or toxic substances will be used with risk of exposure to the environment.

7. The project will affect prime or unique agricultural land, wetlands, coastal zones, wilderness areas, floodplains, or "Wild and Scenic River" areas.

D. Many federal agencies do not require any formal documentation if a proposed action qualifies as a CX. The Army, however, requires a "Record of Environmental Consideration" (REC) for some CX actions. *See* Figure 3, 67 Fed. Reg. 15308 (2002)(to be codified at 32 C.F.R. § 651.19). While a particular format is not absolutely prescribed, the format illustrated at Figure 3 cited above is recommended.

VIII. ENVIRONMENTAL ASSESSMENTS (EAs).

A. EAs are primarily intended to determine whether an EIS must be prepared and to provide a public record of environmental considerations. Secondarily, EAs aid NEPA "compliance" (environmental consideration) when no EIS is required and also facilitate the preparation of an EIS if one is necessary. 40 C.F.R. § 1508.9.

B. Under 67 Fed. Reg. 15310, (2002)(to be codified at 32 C.F.R. § 651.32) an EA will be prepared if a proposed action:

1. Is not an emergency.

2. Is not exempt from or an exception to NEPA.

3. Does not qualify as a Categorical Exclusion.

4. Is not adequately covered by existing NEPA analysis and documentation.

5. Does not normally require an EIS.

C. Actions normally requiring an EA are listed at 67 Fed. Reg. 15310 (2002)(to be codified at 32 C.F.R. § 651.33) include, among other things:

1. Special field training or testing on the installation, beyond the scope of the annual training cycle.

2. Military construction that exceeds 5 contiguous acres on Army land of a nature or magnitude not within the annual installation training cycle or installation master plan..

3. Herbicide, insecticide, or rodenticide use programs. *But note,* Society for Animal Rights v. Schlesinger, 512 F.2d 915 (D.C. Cir. 1975) (uncontested CEQ decision that EIS was required for extermination of 10 million blackbirds at Fort Campbell).

4. Substantial proposed changes in Army-wide doctrine or policy that potentially have an adverse effect on the environment.

5. Changes to established installation land use that generate impacts on the environment.

6. Repair or alteration which affects historically significant structures.

7. Development of a laboratory using dangerous or hazardous chemicals, drugs, and other materials.

8. Actions which could cause soil erosion or potentially affect prime or unique farm land, wetlands, floodplains, coastal zones, wilderness areas, "Wild and Scenic River" areas, or areas of critical environmental concern.

9. New weapon systems development and acquisition.

10. Significant alterations of the installation master plan and land and natural resource management plans.

11. Actions which take place in or adversely affect important wildlife habitats, including wildlife refuges.

12. Timber management and harvesting programs.

13. Field activities on land not controlled by the military, including firing missiles and weapons over navigable waters of the U.S. *See* Citizens for Reid State Park v. Laird, 336 F. Supp. 783 (S.D. Me. 1972).

14. Actions with significant local or regional effects on energy or water availability.

15. Actions that affect any species on, or proposed to be placed on, federal lists of endangered or threatened species, or are on applicable state or territorial lists of endangered or threatened species.

16. Production of hazardous or toxic materials.

D. Proponents may, but need not, follow the format established for EISs in preparing an EA. (*See* 67 Fed. Reg. 15328-15330 (2002)(to be codified at 32 C.F.R. Part 651 Appendix E). At a minimum, however, 67 Fed. Reg. 15310-15311 (2002)(to be codified at 32 C.F.R. § 651.34 requires that each EA:

1. Have a Signature (Review and Approval) Page.

2. Describe the proposed action.

3. Discuss the purpose of, and need for, the proposed action.

4. Identify appropriate and reasonable alternative actions that have been considered, including the no-action alternative and alternatives eliminated from consideration.

5. Describe the affected environment.

6. Discuss the environmental impacts of the proposal and the alternatives in comparative form.

   a. The no-action alternative serves as the baseline for comparison of environmental effects of the proposed action and other alternatives.

   b. The no-action alternative may result in degraded environmental conditions over time due to predictable consequences from not fulfilling the proponent's need.

7. List the agencies and persons consulted in preparing the EA. While scoping (a determination of overall extent of project and potential of its cumulative environmental effects) is not absolutely required for an EA, some facsimile of scoping should be used to identify relevant environmental concerns.

8. Contain an explicit "Finding of No Significant Impact" (FONSI) or a conclusion that an EIS is necessary and a statement that a notice of intent will be published prior to preparation of the EIS.

   a. Specific guidance on preparing FONSIs can be found at 67 Fed. Reg. 15311 (2002)(to be codified at 32 C.F.R. § 651.35).

   b. A FONSI must include a discussion of: (40 C.F.R. § 1508.13).

      (1) The reasons why the action will not have a significant impact.

      (2) The mitigation necessary to reduce significance of impacts to insignificance (mitigated FONSI). (Not preferred method).

      (3) The public review of a FONSI. (There is no requirement for agency to provide a written response to specific public comments as is required with draft EISs).

9. Contain evidence that the decision-maker has reviewed the EA along with other appropriate planning documents.

E. As of 26 October 1991, there are additional processing requirements for processing and signing EAs.

1. **All EAs must be reviewed by the installation or activity SJA or chief legal advisor before submission to the commander**.

2. All EAs must be signed by the project's decision-maker. **In no case will this approving official be lower than the installation or activity commander.**

3. If the scope of the project is local in nature, the FONSI will be published in the local media. If the project is:

a. Of national interest, or

b. A base realignment and closure action, or

c. A HQDA sponsored action,

Then the proponent will submit the EA and FONSI to HQDA before public release.

F. Common EA Shortfalls are listed below.

1. An EA must be a planning document. As such, an EA must be prepared before work on the project is begun. Doing EA documentation after the fact is an invitation for a lawsuit from a concerned/disgruntled individual or citizen group.

2. The EA must be prepared using an "interdisciplinary approach."

a. Find and use experts. Experts can, of course, be hired. The Army has diverse experts available to it internally through such agencies as United States Army Environmental Center (AEC), Army Center for Health Promotion and Preventative Medicine (CHPPM), and the Corps of Engineers.

b. Other federal and state agencies should also be consulted in order to take advantage of their expertise.

3. As the proposal gets amended, the EA must be reevaluated to ensure it covers the pertinent aspects of the current project.

4. Provide for public participation to the "extent practicable." *See* 67 Fed. Reg. 15312 (2002)(to be codified at 32 C.F.R. § 651.36(b)).

5. Ensure discussions are not simply conclusory statements without any analytical data to support a FONSI. Protect Key West v. Cheney, 795 F. Supp. 1552 (S.D. Fla. 1992).

6. Ensure cumulative impacts are considered, i.e., specific impacts of the project when combined with other past, present and reasonably foreseeable future actions that are related to the proposed project. Fritiofson v. Alexander, 772 F.2d 1225 (5th Cir. 1985).

7. An Administrative Record (AR) must be compiled to support the EA. The Administrative Record must thoroughly document all records, resources, and information on which the decision-maker is expected to make his decision. Use of the scoping process assists in compiling the AR.

8. The EA must actually be considered by the decision-maker prior to any irretrievable commitment of resources being made to the proposed action. The decision-maker must either review the AR or a carefully prepared executive summary of the AR prior to signing the Record of Decision (ROD).

IX. ENVIRONMENTAL IMPACT STATEMENTS (EISs).

A. General. "[An EIS is required in] every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(C). Socioeconomic impacts alone do not necessitate the preparation of an EIS. *See* Tongass Conservation Society v. Cheney, 924 F.2d 1137 (D.C. Cir. 1991).

B. Conditions Requiring an EIS. 67 Fed. Reg. 15312-15313 (2002)(to be codified at 32 C.F.R. § 651.41), requires the preparation of an EIS by the proponent when a proposed action has the potential to:

1. Significantly affect environmental quality or public health or safety.

2. Significantly affect historic or archaeological resources, and recreational or ecologically significant areas.

3. Significantly impact prime and unique farmlands located off-post, wetlands, floodplains, coastal zones, or ecologically important areas, or other areas of unique or critical environmental sensitivity.

4. Result in significant or uncertain environmental effects, or unique or unknown environmental risks.

5. Significantly affect a federally listed threatened or endangered plant or animal species, a federal candidate species, a species proposed for federal listing, or critical habitat.

6. Either establish a precedent for future action or represent a decision in principle about a future consideration with significant environmental effects.

7. Adversely interact with other actions with individually insignificant effects so that cumulatively significant environmental effects result.

8. Involve the production, storage, transportation, use, treatment, and disposal of hazardous or toxic materials that may have a significant environmental impact.

9. Be highly controversial from an environmental standpoint.

10. Cause loss or destruction of significant scientific, cultural, or historical resources.

11. Several sections in the CEQ regulations clarify when a proposed action is one which significantly affects [impacts on] the human environment. 40 C.F.R § 1508.3 defines "affecting" as "will or may have an effect on." "Effects" include:

    a. Direct effects, which are caused by the action and occur at the same time and place.

b. Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

12. The determination of whether an effect is "significant" requires an analysis of both context and intensity:

a. Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the local rather than in the world as a whole. Both short- and long-term effects are relevant.

b. Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:

(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect will be beneficial.

(2) The degree to which the proposed action affects public health or safety.

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively notable impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act.

(10) Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.

40 C.F.R. § 1508.27.

C. Actions normally requiring an EIS according to 67 Fed. Reg. 15313 (2002) (to be codified at 32 C.F.R. § 651.42) are :

1. Significant expansion of a military facility (such as a depot or major training installation).

2. Construction in an environmentally sensitive area (e.g., wetlands, coastal zone).

3. Disposal of nuclear materials and other hazardous or toxic waste (except, in most routine cases, when a RCRA permit has been obtained).

4. Land acquisition, outleasing, and other actions that may lead to a significant change in land use.

5. CONUS realignment of brigade or larger units in peacetime (unless the only impacts are socioeconomic).

6. Closure of a major installation (unless the only impacts are socioeconomic).

7. Training exercises conducted outside the installation when significant environmental damage might occur.

8. Major changes in the installation's mission affecting areas of critical environmental concern.

D. Key Steps in the EIS Process:

1. Scoping. Scoping is a mandatory process designed primarily to identify environmental, social, and economic impacts of and alternatives to a complex or segmented proposed project through public participation.

a. Tests to determine the extent of the scoping requirement:

(1) Would it be irrational and unwise to implement the proposal unless further steps were to be pursued later? Trout Unlimited v. Morton, 509 F.2d 1276, 1285 (9th Cir. 1974); Thomas v. Peterson, 753 F.2d 754 (9th Cir. 1985).

(2) Does the proposal have an "independent utility" apart from possible related future actions? Daly v. Volpe, 514 F.2d 1106, 1110 (9th Cir. 1975).

(3) CEQ Tests. 40 C.F.R. § 1508.25(a).

(a) Connected actions are closely related actions if they:

(i) Automatically trigger other actions which require an EIS, or

(ii) Cannot or will not proceed unless other actions are taken, or

(iii) Are interdependent parts of a larger action or depend on the larger action for their justification.

(b) Cumulative actions are those that when viewed with other proposed actions have cumulatively significant impacts.

(c) Similar actions are those that when viewed with other reasonably foreseeable agency actions, have similarities that provide a basis for evaluating their environmental consequences.

(d) Through the scoping process, the following questions should be answered:

(i) What alternative actions should be evaluated?

(ii) What environmental impacts should be evaluated?

(iii) What evidence is available?

(iv) Who will be responsible for obtaining the data and preparing the EIS?

(v) What time limits should be established?

b. A good scoping process is not a defense when an EIS fails to address an important point, but a good faith effort may lead a court to be favorably disposed to the agency's position.

c. Starting points.

(1) Develop a coherent statement of the proposal and alternative courses of action to achieve the proposal.

(2) Conduct preliminary research regarding potential environmental impacts, and identify potentially interested parties and groups.

d. Determine how the public will participate.

(1) Public notice is required.

(a) Make a concerted, good-faith effort to reach potentially interested parties.

(b) Publication of notice in the Federal Register may be required.

(2) Invite written comments.

(3) Invite telephonic input.

(4) Conduct one or more public meetings or hearings. Arguably, this is the best approach--it allows the development of working relationships, and it lets people see that their input is being considered. In conducting a public meeting, however, it is **very important** to keep an open mind while also focusing on gathering specific input from attendees and not debating or defending the proposed action or any alternative.

e. Prepare and distribute information packets.

(1) Briefly explain the proposal.

(2) Identify alternatives the agency proposes to consider.

(3) Identify environmental issues and impacts.

(4) Explain the purpose of the scoping process--i.e., to gather *specific* comments to guide preparation of an EIS.

(a) What environmental impacts should be addressed?

(b) What alternatives should be evaluated?

(c) What resources should be consulted?

(5) Explain that no decision has been made on the contents of the EIS, or whether to proceed with the proposal, or how to proceed it if it is pursued.

(6) Explain how the public can participate in the process.

2. Prepare a Preliminary Draft EIS (PDEIS).

a. Follow the format described at 67 Fed. Reg. 15313-15314 (2002)(to be codified at 32 C.F.R. § 651.45).

b. Identify environmental issues and adequately evaluate environmental impacts.

c. Address all concerns raised during the scoping process. Explain why comments received lack relevance or significance if it is appropriate to do.

d. Discuss the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity.

e. Consider all reasonable alternative courses of action, including--

(1) The alternative of "no action."

(2) Reasonable alternatives beyond the decision-maker's authority.

f. Identify irreversible commitments of resources.

g. Identify unavoidable adverse consequences if the proposal is implemented.

h. If there is one, identify the preferred alternative.

i. Identify mitigation measures that will be implemented and discuss how mitigation will be ensured.

j. Distribute copies of the PDEIS to HQDA agencies for review and comment.

3. Prepare the Draft EIS (DEIS).

a. Incorporate comments and suggestions, as appropriate, from the PDEIS review.

b. Submit to HQDA for approval.

c. Have Notice of Availability published in the Federal Register.

d. Allow for the required public comment period.

4. Prepare the Final EIS (FEIS).

a. Acknowledge and address public comments on the DEIS.

b. Make corrections or additions as necessary.

c. Prepare Notice of Availability (NOA) for publication by the EPA in the Federal Register.

d. Take **no action** for 30 days following publication of the NOA.

e. Prepare a ROD, which becomes part of the EIS documentation.

5. Issue the ROD. The ROD must include:

a. A concise statement of the final decision.

b. An identification of all alternatives to the proposed action and the preferred alternative.

c. A statement of any mitigation adopted, or reasons why mitigation was not adopted.

E. Mitigation Plans.

1. NEPA requires federal agencies to mitigate the adverse effects of their actions to the extent possible.

2. Agencies must include in an EIS a reasonably detailed discussion of possible mitigation measures. While discussion is required, agency implementation is not. Robertson v. Methow Valley Citizens Council, 490 U.S. 332 (1989).

3. 67 Fed. Reg. 15315 (2002) (to be codified at 32 C.F.R. § 651.45(m)) emphasizes the need to develop and implement mitigation plans. *See also* 67 Fed. Reg. 15326-15327 (2002)(to be codified at 32 C.F.R. Part 651 Appendix C).

F. Supplemental EISs. Agencies are required to supplement an EIS or DEIS if there "are significant new circumstances or information relevant to environmental concerns and bearing on the proposed actions or its impacts." 40 C.F.R. § 1502. Courts are, however, required to defer to an agency's determination regarding the significance of new information unless the agency has acted arbitrarily or capriciously. Marsh v. Oregon Natural Resources Council, 109 S. Ct. 1851, 1961 (1989).

G. Common Shortcoming of EISs.

1. Failure to compile an adequate administrative record detailing all information relied on in reaching a decision regarding the proposed action.

2. Sweeping conclusions unsupported by facts.

3. Vagueness regarding important issues.

4. Internal contradictions.

5. Disregard for local land use plans.

6. Inadequate treatment of secondary and cumulative environmental impacts.

7. Failure to adequately address realistic alternatives.

8. Failure to make an unbiased comparison between realistic alternatives.

X. NEPA COMPLIANCE OVERSEAS.

A. In 1979, President Carter issued Executive Order 12114 formally adopting the position that NEPA does not apply to the actions of federal agencies overseas. Nevertheless environmental groups have steadily challenged federal actions overseas for failing to abide by the EIS requirement of NEPA.

1. The most significant challenge to date came in the case, Environmental Defense Fund v. Massey, 986 F.2d 528 (D.C. Cir. 1993). The court in this case held that the National Science Foundation should have complied with NEPA before deciding to build an incinerator to burn refuse in Antarctica. The Court's holding relied on:

a. The determination that NEPA only regulates domestic procedural decision making,

b. Antarctica has no sovereign, thus there can be no conflicts-of-laws dilemma, and

c. The U.S. exercises extensive legislative control over Antarctica anyway.

2. The next court to review NEPA's extraterritorial reach, however, viewed the Massey decision as being limited to its unique facts. Additionally, the court in NEPA Coalition of Japan v. Aspin, 837 F. Supp. 466 (D.D.C. 1993), followed previous court rulings on this issue and found that since Congress has not clearly expressed an intent to apply NEPA abroad, the presumption against the extraterritorial application of statutes clearly applied. S*ee* Greenpeace U.S.A. v. Stone, 748 F. Supp. 749 (D. Haw. 1990); and Nuclear Resource Defense Council (NRDC) v. Nuclear Regulatory Commission, 647 F.2d 1345 (D.C.Cir. 1981). *See also,* E.E.O.C. v. Arabian American Oil Co. (ARAMCO), 111 S. Ct. 1227 (1991); and Smith v. United States, 113 S. Ct. 1178 (1993)). This was especially true in Aspin since the plaintiffs were attempting to force DOD to prepare EISs for the operation of U.S. military installations in Japan, and these operations are governed by complex and long standing treaty arrangements. The court felt that any requirement to prepare these EISs would risk intruding upon a security relationship between the United States and a sovereign power.

B. Notwithstanding the position in Executive Order 12114 that NEPA does not apply overseas, the Executive Order still requires consideration of environmental impacts of actions taken abroad in certain circumstances. These requirements, as they apply to DOD, are set out in DOD Dir. 6050.7, Environmental Effects Abroad of Major DOD Actions (31 March 1979), and at 67 Fed. Reg. 15323 (2002)(to be codified at 32 C.F.R. Part 651 Subpart H).

1. DOD Dir. 6050.7 (Enclosure 1) requires that proposed **actions affecting "global commons"** be subject to a documented decision making process. "Global commons" are areas outside the jurisdiction of any nation, including such areas as the oceans and Antarctica. DOD Dir. 6050.7 para. 3.3.

   a. The focus is not on the place of action -- instead, the focus is on the location of the environment with respect to which there is significant harm.

   b. An EA and/or EIS styled documentation requirement exists. Public comment is required. DOD Dir. 6050.7 (Enclosure 1).

2. DOD Dir. 6050.7 (Enclosure 2) requires that proposed actions significantly harming the environment of a **foreign nation or a protected "global resource"** be subject to a documented decision making process.

a. Focus is on major Federal actions that harm the environment of a foreign nation, which is not participating with the U.S. in the action, or a protected global resource in a manner that is strictly regulated or prohibited under U.S. law.

b. Documentation requirements.

(1) Environmental Studies (ES) - conducted bilaterally or multilaterally. The ES should contain a review of the affected environment, significant actions taken to avoid environmental harm, and a description of other significant environmental considerations as appropriate.

(2) Environmental reviews - prepared unilaterally by the U.S. This is supposed to be a case specific document. In general, however, it should include a description of the affected environment, predicted effect of the proposed action on the affected environment, and significant actions being taken to protect or improve the environment in light of the proposed action.

c. General Exemptions from the Document Requirements. DOD Dir. 6050.7(Enclosure 2, para. E2.3.3).

(1) Actions that DOD components concerned determine do not create significant environmental harm outside the U.S.

(2) Actions taken by the President.

(3) Action taken by or pursuant to the President, or a cabinet officer, in the course of armed conflict, or when the national security or the national interest is involved. The determination that the national security or interest is involved must be made in writing by the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics).

(4) The activities of the intelligence components utilized by the Secretary of Defense and arms transfers.

(5) Disaster and emergency relief actions.

d. Limitations on Document Requirements. DOD Dir. 6050.7 para. E2.4.6.

(1) The requirements with respect to the preparation, content, and distribution of environmental studies or reviews must remain flexible, and be determined on a case-by-case basis, where necessary to:

(a) Enable the component to act promptly.

(b) Avoid adverse impacts on relations between the U.S. and foreign governments and international organizations.

(c) Avoid infringement or the appearance of infringement on the sovereign responsibilities of another government.

(d) Ensure considerations of governmental confidentiality, national security requirements, and the availability of meaningful information on foreign environmental circumstances.

XI. ADDITIONAL NEPA ISSUES.

A. Remedies for Violations.

1. NEPA itself provides no remedy for failing to meet its requirements. Suits must be brought under the Administrative Procedure Act (APA) alleging the agency acted in an arbitrary and capricious manner, in preparing the EA or EIS, or issuing a FONSI. Challenges may also be brought to the agency decision not to prepare an EA or EIS on the same, or a "reasonableness" basis (see below). The most common remedy sought is an injunction, which stops further agency action until it fully complies with NEPA's mandates.

2. Upon proving a violation has occurred, the plaintiff is entitled to *some* remedy. Tennessee Valley Authority v. Hill, 437 U.S. 153 (1978).

3. There is, however, precedent suggesting that courts still can apply equitable principles in deciding whether to enjoin the violation.

   a. Amoco Production Co. v. Village of Gambell, Alaska, 480 U.S. 531 (1987) (The Court overruled the 9th Circuit's opinion that a violation of an environmental statute almost automatically requires an injunctive remedy).

   b. Weinberger v. Barcelo-Romero, 465 U.S. 305 (1982) (The Court refused to enjoin a Clean Water Act violation, instead ordering the Navy to apply for a discharge permit).

   c. Wisconsin v. Weinberger, 745 F.2d 412, 424-28 (7th Cir. 1984) (In dicta, the court states that an injunction should not be the automatic remedy when NEPA is violated).

   d. Concerned About Trident v. Rumsfeld, 555 F.2d 817 (D.C. Cir. 1976) (The court fashioned a remedy other than an injunction for a violation of NEPA).

e. *But see*, Sierra Club v. Marsh, 872 F.2d 497 (1st Cir. 1989) (The court distinguished Amoco Production Company, and found that unimpeded bureaucratic inertia may foreclose serious re-evaluation of a project after a NEPA violation has been identified, and held that the resulting commitment to the project may constitute the irreparable harm to the decision making process that NEPA requires.)

B. Judicial Review.

1. Standing. A person seeking judicial review under the general review provisions of the APA must identify some final agency action that has injured him in a manner that falls within the "zone of protected interests" sought to be protected by the statute. Lujan v. National Wildlife Federation, 110 S. Ct. 3177 (1990).

2. Standard for reviewing decision not to prepare an EIS.

a. There is a split of authority on the applicable standard of review. *See* River Alliance, Inc. v. Corps of Engineers, 475 U.S. 1055, 106 S. Ct. 1283 (1986) (White, J, dissenting from denial of *certiorari*); and Gee v. Boyd, 471 U.S. 1058, 105 S. Ct. 2123 (1985) (White, J, dissenting from denial of *certiorari*).

b. Arbitrary, capricious, or abuse of discretion--1st, 2d, 4th, and 7th Circuits.

c. Reasonableness--5th (and probably 11th), 8th, 9th, and 10th Circuits, and possibly the 3d Circuit.

d. Hybrid--Court of Appeals for the District of Columbia Circuit; *See* Sierra Club v. Peterson, 717 F.2d 1409, 1413 (D.C. Cir. 1983).

e. The Supreme Court probably answered the question in Oregon Natural Resources Council v. Marsh, 109 S. Ct. 1851 (1989) when it ruled that the arbitrary and capricious standard should be used in reviewing an agency decision not to prepare a supplemental EIS.

CHAPTER III

THE CLEAN WATER ACT

I. REFERENCES.

A. Federal Statutes and Regulations.

1. Federal Water Pollution Control Act (commonly known as the Clean Water Act (CWA)), 33 U.S.C. §§ 1251-1387.

2. Refuse Act of 1899, 33 U.S.C. § 407.

3. Implementing Regulations.

a. 40 C.F.R. Parts 100-140.

(1) Part 116 - Designation of hazardous substances.

(2) Part 117 - Determination of reportable quantities of hazardous substances.

(3) Part 121 - State certification of activities requiring a federal license or permit.

(4) Part 122 - Permit programs.

(5) Part 123 - State program requirements.

(6) Part 125 - Criteria and standards for the National Pollutant Discharge Elimination System (NPDES).

(7) Part 129 - Toxic pollutant effluent standards.

(8) Part 131 - Water quality standards.

(9) Part 133 - Secondary treatment.

(10) Part 135 - Prior notice of citizen suits.

b. 40 C.F.R. Parts 400-471 - Effluent guidelines and standards.

c. 40 C.F.R. Parts 501-503 - Sewage sludge.

d. 33 C.F.R. Parts 320-330; 40 C.F.R. Parts 22 and 230-233 - Dredged or fill material; includes wetlands protection.

B. Executive Branch Guidance.

1. Exec. Order No. 11,990, Protection of Wetlands, 24 May 1977.

2. White House Office on Environmental Policy, Protecting America's Wetlands: A Fair, Flexible, and Effective Approach, 24 August 1993.

C. State and Local Statutes and Regulations.

Federal facilities must comply with all state and local laws and regulations regarding the control and abatement of water pollution. 33 U.S.C. § 1323.

D. Army Regulations.

AR 200-1, Environmental Protection and Enhancement, 21 February 1997. Chapter 2 addresses water resources management programs and mandates that the Army comply with all requirements, both substantive and procedural, as outlined in the CWA.

E. Related Legislation.

1. Safe Drinking Water Act. *See* section X.A, *infra*.

2. Oil Pollution Act. *See* section X.B, *infra.*

II. CWA OVERVIEW.

A. History of Water Pollution Control.

1. The Refuse Act.

a. The grandfather of water pollution control laws in the United States is the Refuse Act. This Act was the earliest law affecting water pollution in the United States, and it remains in effect today.

b. The Refuse Act prohibits discharges of "any refuse matter of any kind or description" into navigable waters without a permit issued by the Army Corps of Engineers. 33 U.S.C. § 407. The Act's original purpose was to protect navigation and promote commerce. In the late 1960's, however, federal regulators began to use the statute to establish water pollution control programs aimed at improving the quality of the nation's water.

c. The Refuse Act proved to be an unsatisfactory mechanism for controlling water pollution, however, primarily because:

(1) There were no standards for granting or denying permits.

(2) Environmental impact statements had to be prepared for every permit decision.

(3) Penalties for noncompliance were inadequate.

d. In practice, the Refuse Act has largely been displaced by the CWA. Dischargers who operate in compliance with a National Pollutant Discharge Elimination System (NPDES) permit (*see* section V., *infra*) are effectively exempt from the permitting requirements of the Refuse Act. Although it is no longer a major element of the federal water pollution control program, the Refuse Act is still used to reach activities not covered by more recent statutes. *See, e.g.,* United States v. Hercules, Inc., 961 F.2d 796 (8th Cir. 1992); United States v. Ashland Oil Inc., 705 F. Supp. 270 (W.D. Pa. 1989).

2. The Federal Water Pollution Control Act.

a. Congress enacted the original Federal Water Pollution Control Act in 1948.

(1) The Act of 1948 attempted to control pollution by focusing on the development and maintenance of specific water quality standards for rivers, lakes, and streams.

(2) Enforcement was difficult because of the difficulties inherent in proving a direct link between a specific industrial discharge and overall water quality impairment.

b. Congress significantly amended the Act in 1972. The current CWA has its genesis in the Federal Water Pollution Control Act of 1972.

c. The 1972 Act established a basic framework for protecting our nation's waters. This framework remains in place today and consists of the following major elements:

(1) Effluent limitations guidelines.

(2) Water quality requirements.

(3) A permit program.

d. In carrying out the mandates of the 1972 Act, EPA focused almost exclusively on controlling conventional, as opposed to toxic, pollutants. In 1977, Congress amended the Federal Water Pollution Control Act and refocused the federal water pollution program on strengthening the regulation of toxic pollutants. The 1977 amendments also allowed states to assume responsibility for federal programs.

e. Congress enacted subsequent CWA amendments in 1987 and 1990.

(1) Significant changes in the 1987 amendments included establishment of the following:

(a) A "Toxic Hot Spots" program to identify and improve waterways expected to remain polluted with toxic pollutants even after meeting the strictest technology-based requirements.

(b) A timetable for regulation of storm water.

(c) Stricter water quality-related requirements.

(d) Revolving loan funds to provide ongoing support for the construction of treatment plants.

(e) Programs to protect estuaries of national importance.

(f) Enhanced EPA enforcement tools.

(2) The 1990 amendments were enacted essentially as a response to the Exxon Valdez oil spill. Congress strengthened federal regulation of oil spills by revising the Federal Water Pollution Control Act's oil spill provisions and creating a new statute on oil spill liability and compensation. *See* section X.B., *infra.*

f. Recent Congressional Activity in the CWA Arena.

The 102d, 103d, and 104th Congresses all tried, but failed, to reauthorize the CWA. There is legislation pending in the 105th Congress to further amend the CWA by broadening the statute's waiver of sovereign immunity and subjecting federal facilities to state-imposed punitive fines and penalties for CWA violations. *See* House Resolutions (H.R.) 1194 and 2222 and section II.C.5., *infra*.

B. Objectives, Goals, and Policies of the CWA.

1. The stated objective of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a).

2. To achieve this objective, the Act establishes the following goals:

a. Elimination of discharges of pollutants into the navigable waters of the United States. 33 U.S.C. § 1251(a)(1).

b. Attainment of a level of water quality that "provides for the protection and propogation of fish, shellfish, and wildlife and . . . recreation in and on the water." 33 U.S.C. § 1251(a)(2).

3. These goals are supplemented by the following "national policies:"

a. Prohibitions on discharges of "toxic pollutants in toxic amounts." 33 U.S.C. § 1251(a)(3).

b. Federal financial assistance to construct publicly owned waste treatment works. 33 U.S.C. § 1251(a)(4).

c. Development of "areawide waste treatment management planning processes" to guarantee control of pollution sources in each state. 33 U.S.C. § 1251(a)(5).

d. Development of technology to eliminate pollutant discharges. 33 U.S.C. § 1251(a)(6).

e. Development of programs to control nonpoint source pollution. 33 U.S.C. § 1251(a)(7).

4. The Act's objectives, goals, and policies are not legal mandates. Target dates for achieving the statute's goals of eliminating discharges of pollutants into surface waters and achieving interim water quality levels have long since passed. Nonetheless, EPA and the courts rely on the Act's stated objectives, goals, and policies to interpret Congressional intent when resolving CWA controversies.

C. Federal Compliance. 33 U.S.C. § 1323.

1. Under the CWA's current sovereign immunity waiver, federal agencies (including the Army) must comply with all federal, state, and local laws "respecting the control and abatement of water pollution," including permitting, recordkeeping, and reporting requirements.

2. Federal agencies must pay "reasonable service charges" to include fees associated with obtaining any required permits.

3. Federal agencies are also liable for payment of so-called "coercive fines;" i.e., those designed to induce compliance with injunctions or other judicial orders aimed at modifying future behavior.

4. The current statute does not waive federal sovereign immunity from punitive fines, however. Department of Energy v. Ohio, 503 U.S. 607 (1992).

III. KEY DEFINITIONS. 33 U.S.C. § 1362.

A. Pollutant.

1. "[D]redged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water." 33 U.S.C. § 1362(6).

2. This definition has been broadly interpreted to include virtually all waste material.

B. Navigable Waters.

1. "[W]aters of the United States, including the territorial seas." 33 U.S.C. § 1362(7).

2. EPA regulations further define the term "waters of the United States." 40 C.F.R. § 122.2; 33 C.F.R. § 328.3(a).

a. The regulatory definition is exceedingly broad and was intended to cover virtually all waters in the United States.

b. It encompasses any body of water or water course that could remotely affect interstate commerce and all waters that are, ever were, or could be used for interstate commerce, including their tributaries and all adjacent wetlands.

c. Few exclusions to the definition have been recognized. Those which have been accepted seem to be limited to situations where the waterway in question is wholly confined on the discharger's property, does not result in any flow beyond the property line, and is not available for significant public use.

d. Recently, however, the Fourth Circuit concluded that 33 C.F.R. § 328.3(a)(3), defining "waters of the United States" to include those waters whose degradation **could** affect interstate commerce, is "unauthorized by the [CWA] as limited by the Commerce Clause and, therefore, is invalid." *See* United States v. Wilson, 133 F.3d 251 (4th Cir. 1997), *reh'g denied*, ___ F.3d ___ (4th Cir. 1998).

(1) Wilson involved the ACOE's exercise of federal jurisdiction over isolated wetlands. *See* section III.B.3. below.

(2) In Wilson, the court was troubled by the fact that the regulatory definition of the term "'waters of the United States' requires neither that the regulated activity have a substantial affect on interstate commerce, nor that the covered waters have any sort of nexus with navigable, or even interstate, waters."

(3) The court stated that "one would expect that the phrase 'waters of the United States' when used to define the phrase 'navigable waters' refers to waters which, if not navigable in fact, are at least interstate or closely related to navigable or interstate waters."

(4) Although the full implications of the decision remain unclear, it is probably safe to assume that the court's holding in Wilson requires the federal government to **actually show** that the wetland in question **will** affect interstate commerce, rather than **assume** that because it is a wetland it **could** affect interstate commerce.

(a) EPA and the ACOE are drafting guidance to clarify issues posed in the wake of the Wilson decision.

(b) For now, the ACOE has issued informal guidance to its districts within the jurisdiction of the Fourth Circuit (Maryland, Virginia, West Virginia, North Carolina, and South Carolina) instructing them to document any connection between isolated wetlands and interstate commerce before exerting jurisdiction over a wetland.

3. Isolated Wetlands.

a. Some courts have held that isolated wetlands can be "waters of the United States" on the grounds that their potential use by migratory waterfowl or interstate travelers constitutes a sufficient nexus to interstate commerce. *See* Leslie Salt Co. v. United States, 55 F.3d 1388 (9th Cir. 1995), *cert. denied sub nom*, Cargill, Inc. v. United States, 516 U.S. 955 (1995).

b. Other courts view such an approach with disfavor. *See* Tabb Lakes Limited v. United States, 10 F.3d 796 (Fed. Cir. 1993).

c. In Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 121 S. Ct. 675 (2001), the U.S. Supreme Court struck down the Army Corps of Engineers "Migratory Bird Rule," holding that the ACOE exceeded its statutory authority by asserting CWA jurisdiction over an abandoned sand and gravel pit in Northern Illinois that provided habitat for migratory birds. The Court ruled that 33 C.F.R. § 328.3(a)(3) (1999), which describes a subset of waters of the United States (intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, etc. the use, degradation, or destruction of which could effect interstate of foreign commerce) as applied to the site by the Migratory Bird Rule (an explanation in the preamble to the 1986 ACOE Regulations and the 1988 EPA Regulations, that waters that are or may be used as habitat for migratory birds are an example of waters whose use, degradation or destruction could affect interstate or foreign commerce and therefore are "waters of the United States." 51 Fed. Reg. 41217 (1986); 53 Fed. Reg. 20765 (1988)) exceeded the statutory authority granted to the Corps of Engineers under § 404(a) of the CWA. The Court did not invalidate §328.3(a)(3) or any other component of the regulations defining "waters of the United States." The ACOE will consider asserting CWA jurisdiction over non-navigable, isolated, and intrastate waters on a case-by-case basis if a significant nexus between the water in question and other "waters of the United States" can be shown.

4. Groundwater.

a. Aquifers are a class of water bodies that the Act's definition of "waters of the United States" does not clearly include. Attempts to regulate groundwater discharges pursuant to the CWA have met with mixed results. EPA relies primarily on the authority of RCRA and the SDWA to regulate underground discharges.

b. Groundwater Closely Connected to Surface Water.

(1) Some courts have held that the CWA applies to groundwater discharges when the groundwater in question has some connection to or affects surface water. *See* Friends of Santa Fe County v. LAC Minerals, Inc, 892 F. Supp. 1333 (D.N.M. 1995); Washington Wilderness Coalition v. Hecla Mining Co., 870 F. Supp. 983 (E.D. Wash. 1994); Sierra Club v. Colorado Refining Co., 838 F. Supp. 1428 (D. Colo. 1993); McClellan Ecological Seepage Situation v. Weinberger, 707 F. Supp. 1182 (E.D. Cal. 1988), *vacated on other grounds*, 47 F.3d 325 (9th Cir. 1995), *cert. denied*, 516 U.S. 807 (1995).

(2) Other courts disagree, however, finding that the CWA does not regulate **any** discharges into groundwater. *See* United States v. ConAgra, Inc., 1997 U.S. Dist. LEXIS 21401 (D. Idaho Dec. 31, 1997); Umatilla Waterquality Protective Association, Inc. v. Smith Frozen Foods, Inc., 962 F. Supp. 1312 (D. Or. 1977); Town of Norfolk v. United States Army Corps of Engineers, 968 F.2d 1438 (1st Cir. 1992); Kelley v. United States, 618 F. Supp. 1103 (W.D. Mich. 1985); United States v. GAF Corp., 389 F. Supp. 1379 (S.D. Tex. 1975).

c. Wetlands Connected to Navigable Waters Via Groundwater.

(1) Also in dispute is the issue of whether the CWA regulates discharges into wetlands connected to navigable waters via groundwater rather than surface water.

(2) In the most recent case on the subject, United States v. Banks, 115 F.3d 916 (11th Cir. 1997), the Eleventh Circuit held that a Florida Keys landowner violated the CWA by discharging fill materials into wetlands connected to navigable water via groundwater only. *See also* United States v. Tilton, 705 F.2d 429 (11th Cir. 1983).

(3) On 20 January 1998, the United States Supreme Court declined the opportunity to decide whether the CWA regulates the discharge of pollutants into groundwater. *See* Banks v. United States, 118 S. Ct. 852 (1998), where the court denied certiorari in the Banks case.

C. Point Source. "[A]ny discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." 33 U.S.C. § 1362(14).

1. Like "navigable waters," the definition of the term "point source" is extremely broad.

2. In United States v. West Indies Transport, Inc., 127 F.3d 299 (3rd Cir. 1997), *cert. denied,* 118 S. Ct. 700 (1998), the Third Circuit held that a barge is a "point source" for an illegal discharge under the CWA, even when what was discharged was part of the barge itself. In reaching this conclusion, the court rejected petitioner's argument that the "central principle" of a point source is "the concept of a physical structure designed to collect or discharge pollutants in the course of waste-generating activity." The court, citing United States v. Earth Sciences, Inc., 599 F.2d 368 (10th Cir. 1979), stated that the concept of a "point source" was designed to further the CWA's regulatory scheme "by embracing the broadest possible definition of any identifiable conveyance from which pollutants might enter the waters of the United States." *See also* Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897 (5th Cir. 1983), *vacated on other grounds*, 786 F.2d 631 (5th Cir. 1986)("point source" includes a bulldozer discharging dredged material into a wetland).

3. The definition is not broad enough to encompass human beings, however. In United States v. Plaza Health Labs, Inc., 3 F.3d 643 (2d Cir. 1993), *cert. denied*, 512 U.S. 1245 (1994), the Second Circuit concluded that the co-owner of a blood-testing laboratory who dumped vials of human blood into the Hudson River was not a "point source" under the CWA. In so ruling, the court stated: "We find no suggestion either in the [A]ct itself or in the history of its passage, that Congress intended the CWA to impose criminal liability on an individual for the myriad, random acts of human waste disposal; for example, a passerby who flings a candy wrapper into the Hudson River, or a urinating swimmer. Discussions during the passage of the 1972 amendments indicate that Congress had bigger fish to fry."

D. Discharge of a Pollutant: "[A]ny addition of any pollutant to navigable waters from any point source." 33 U.S.C. § 1362(12).

E. Effluent Limitation. "Any restriction established by a [permit] . . . on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters . . . ." 33 U.S.C. § 1362(11).

F. Nonpoint Source Pollution. Pollution "caused by diffuse sources that are not regulated as point sources and normally associated with agricultural, silvicultural and urban runoff, [and] runoff from construction activities." EPA Nonpoint Source Guidance Document, December 1987.

G. Person. "An individual, corporation, partnership, association, State, municipality, commission, or political subdivision of a State or any interstate body." 33 U.S.C. § 1362(5). Any responsible corporate officer is also considered a "person" for enforcement purposes. 33 U.S.C. § 1319(c)(6).

H. Wetlands. *See* section VIII., *infra*.

IV. GENERAL REGULATORY SCHEME.

A. The CWA sets out to achieve its primary objective (i.e., restoring and maintaining "the chemical, physical, and biological integrity of the Nation's waters") by prohibiting the discharge of pollutants into navigable waters of the United States, except in compliance with the Act itself.

B. The CWA regulates the discharge of pollutants into navigable waters in several different ways. The most important regulatory scheme under the Act, however, is the National Pollutant Discharge Elimination System (NPDES) permitting program. 33 U.S.C. § 1342 (more commonly referred to as § 402 CWA).

C. The CWA also protects wetlands by controlling the discharge of dredged or fill material into navigable waters. 33 U.S.C. § 1344 (more commonly referred to as § 404 CWA).

V. THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM – § 402 CWA.

A. This regulatory scheme is the heart of the CWA. The NPDES permit program implements the CWA's prohibition on unauthorized discharges by requiring a permit for every **discharge** of **pollutants** from a **point source** into **waters of the United States**. (*See* section III., *supra* for definitions of bolded terms.)

1. Discharges that require an NPDES permit include such waste streams as industrial process water, noncontact cooling water, and collected or channeled storm runoff.

2. Excluded from the NPDES permitting requirement are:

a. Nonpoint source discharges (e.g., sheet runoff).

b. Discharges into wholly intrastate waters (i.e., those not falling within the definition of "waters of the United States").

c. Indirect discharges (i.e., discharges into wastewater treatment systems). Note, however, that the wastewater facility must obtain an NPDES permit before discharging pollutants into waters of the United States. *See* section VI., *infra*.

d. Discharges of dredged or fill material into waters of the United States. S*ee* section VIII., *infra*.

e. *See* 40 C.F.R. § 122.3 for a complete list of exempt activities.

B. Permitting Authority.

1. NPDES permits are issued either by EPA or by states/territories with EPA-approved § 402 permit programs.

2. State-Run Programs.

a. Most states run their own permitting programs. Some states/territories still do not have § 402 permitting authority, however. They are: Alaska; Arizona; Idaho; Maine; Massachusetts; New Hampshire; New Mexico; Texas; the District of Columbia; Puerto Rico; the Pacific territories; and federal Indian reservations.

b. State-run programs must be at least as stringent as the federal program. States may (and often do) implement stricter requirements, however.

c. EPA has the power to withdraw its approval of a state permit program and take over the program if it determines that the state is not administering the program in accordance with CWA requirements.

d. Further, EPA has the authority to review individual state-issued permits. If EPA objects to a state permit and the state does not change the permit to address EPA's concerns, EPA may issue its own permit.

e. State-issued permits are not considered federal actions and, as such, are not subject to the requirements of NEPA.

3. EPA-Administered Programs.

a. In states that are not authorized to administer their own NPDES program, permits are issued by the EPA Regional Office with jurisdiction over the state in question.

b. Even if EPA is the permitting authority, it may not issue an NPDES permit until the state in which the discharger is located certifies that the discharge will comply with state water quality standards and other requirements. *See* 33 U.S.C. § 1341(a), commonly referred to as § 401 certification. This effectively gives states veto power over EPA permitting decisions. Note, however, that states may waive § 401 certification by failing to certify or deny certification within a reasonable time.

C. Permit Functions.

1. NPDES permits regulate discharges with the goals of protecting public health and aquatic life and assuring that all point source dischargers treat their waste before emptying it into the nation's waters.

2. To achieve these ends, NPDES permits contain a number of terms and conditions. Generally, if the discharger complies with the limitations and conditions of its NPDES permit, neither a state nor EPA can bring an enforcement action against it. On the other hand, if a discharger violates a permit condition, the discharger also violates the CWA and is subject to civil and criminal penalties under the Act.

3. NPDES permit terms and conditions include:

a. A stated duty to comply with all permit terms and conditions.

b. Effluent Limitations. *See* section V.F., *infra.*

c. Monitoring and Reporting Requirements.

(1) Effective implementation and enforcement of the § 402 permit program depends largely on self-monitoring.

(2) Permits require dischargers to monitor their compliance with permit terms and conditions on a regular basis and to periodically report the results (including any evidence of noncompliance) to the permit issuing authority on standardized discharge monitoring reports (DMRs). DMRs must be certified under oath as accurate records of the type and quantity of effluent discharged during the reporting period.

(a) Generally, specifics regarding monitoring method and frequency are left to the discretion of the permit writer.

(b) Regardless of monitoring frequency, monitoring results must be reported at least once per year.

(c) Dischargers must report any noncompliance that may endanger health or the environment within 24 hours of discovering the violation. *See* 40 C.F.R. § 122.41(l)(6).

(3) Dischargers who knowingly tamper with monitoring equipment or submit false DMRs face potential criminal liability under the CWA. 33 U.S.C. § 1319(c)(4).

d. A duty to properly operate and maintain systems.

e. Upset and Bypass Provisions. 40 C.F.R. §§ 122.41(m) and (n).

(1) Bypass.

(a) A "bypass" is the intentional diversion of waste streams from any portion of a treatment facility and is allowed only in very limited circumstances.

(b) During "essential maintenance," bypasses are permitted, as long as effluent limitations are not exceeded.

(i) "Essential maintenance" does not include routine maintenance that can be performed during periods of nonprocess operations.

(ii) "Essential maintenance" only includes repairs and maintenance that cannot wait until the production process is shut down to be performed – e.g., a pipe burst during normal production hours.

(c) Bypasses that exceed effluent limitations are prohibited except in circumstances where they are necessary to avoid severe property damage, personal injury, or loss of life.

(d) If the discharger knows in advance of the need for a bypass, it must submit prior notice, if possible, at least ten days before the date of the bypass. Unanticipated bypasses must be reported within 24 hours.

(e) If dischargers meet the conditions discussed above, bypasses will not constitute permit violations.

(2) Upset.

(a) An **upset** is an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations (*see* section V.F.2., *infra*) because of factors beyond the reasonable control of the permittee. It does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. 40 C.F.R. § 122.41(n).

(b) An upset is an affirmative defense to an enforcement action for noncompliance with **technology-based limitations**, if the discharger can demonstrate:

(i) An upset occurred.

(ii) The cause of the upset.

(iii) The facility was operating properly at the time of the upset.

(iv) The facility submitted proper notice of the upset.

(v) The facility complied with any required remedial measures.

40 C.F.R. § 122.41(n)(3).

(c) The permittee seeking to establish the occurrence of an upset has the burden of proof. 40 C.F.R. § 122.41(n)(4).

(d) The upset defense is available to a permittee only if it is incorporated into the permit expressly or by reference to relevant state or EPA regulatory provisions. Since state permit programs are often more stringent than federal programs, states can choose not to allow the upset defense.

(e) Upsets do not excuse violations of **water quality** standards (*see* section V.F.3., *infra*).

f. Recordkeeping Requirements.

g. Inspection and Entry Requirements.

The permit must give regulators the right to enter the discharger's premises to examine records, inspect monitoring equipment, and take samples to verify monitoring results. 33 U.S.C. § 1318(a); 40 C.F.R. § 122.41(i).

h. Best Management Practices (BMPs).

(1) NPDES permits may require dischargers to perform best management practices (BMPs). 33 U.S.C. § 1314(e).

(2) BMPs are procedures designed to prevent or minimize the release of toxic or hazardous pollutants and often consist of simple measures, such as requirements to store drums in specific locations or to clean up spills promptly.

i. Compliance Schedules.

(1) If a discharger is not able to immediately comply with permit terms and conditions, the permit may contain a compliance schedule.

(2) Compliance schedules usually contain interim limitations, as well as dates for the submission of compliance plans designed to achieve full compliance by a specific date identified in the schedule.

j. Enforcement Provisions.

For a complete list of permit conditions, *see* 40 C.F.R. Part 122, Subpart C.

D. Permit Procedures. 40 C.F.R. Parts 122 (Subpart B) and 124 (including flow charts at Appendix A).

1. Permitting procedures for state-issued permits normally follow the EPA procedures described below.

2. Permit Applications.

a. Applications must be submitted at least 180 days prior to the date the discharge is expected to commence. 40 C.F.R. § 122.21(c)(1).

b. All permit applications require extensive information about the facility and the nature of its discharges. *See* 40 C.F.R. § 122.21(f) for a complete list of information requirements.

c. The permit application must be signed by a responsible official as set forth at 40 C.F.R. § 122.22(a). For military installations, this

usually means the installation commander.

(1) The person signing the application must certify as follows:

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

40 C.F.R. § 122.22(d).

(2) Protecting the Commander --"The Signing Ceremony."

(a) Since the person signing the application may have little, if any, direct knowledge of the application's contents, he or she should consider conducting a "signing ceremony."

(b) During the "ceremony," the signatory can question those directly responsible for the application in order to ensure the correctness of its contents.

(c) The "ceremony" should be summarized in a memorandum or other writing so that a record of the inquiry will exist if the accuracy of the application becomes an issue at some future date.

d. When EPA is the permit-issuing authority, the application must be accompanied by a certification from the state in which the discharge will occur that the proposed discharge complies with state water quality requirements. 33 U.S.C. § 1341.

3. Review and Comment. 40 C.F.R. Part 124.

a. The permitting authority will not begin processing an application unless it is complete and otherwise complies with all applicable application requirements.

b. If an applicant fails or refuses to provide necessary information or correct deficiencies in an application, the permit may be denied.

c. Informal Discussions and Pre-Draft Permits.

(1) In some cases (especially those involving complicated or unusual features), the permitting authority (whether EPA or a state) will initiate early informal discussions with the discharger about permit terms.

(2) The permitting authority may also issue a "pre-draft" permit upon which the permit applicant can submit comments.

d. Draft Permits. 40 C.F.R. §§ 124.6 through 124.8.

(1) Generally, once the permitting authority receives a complete application, it will either prepare a draft permit or deny the application.

(2) If the permitting authority decides to deny the application, it will issue a notice of intent to deny. 40 C.F.R. § 124.6(b).

(3) If the permitting authority decides to issue a draft permit, the draft permit must contain the information set forth at 40 C.F.R. § 124.6(d) and (e).

(4) Draft permits, when issued, must be accompanied by a "fact sheet" or "statement of basis" explaining how the permit terms and conditions were calculated and developed. 40 C.F.R. §§ 124.7 and 124.8.

(5) The permitting authority must publish notice of its issuance of a draft permit and allow a comment period of at least 30 days. 40 C.F.R. §§ 124.10 and 124.11.

(6) If there is a "significant degree of public interest," the permitting authority must conduct public hearings on the draft permit. 40 C.F.R. § 124.12. The permitting authority must give at least 30 days' notice of such hearings.

(7) All persons, including permit applicants, must raise all "reasonably ascertainable issues" and submit all "reasonably available arguments" supporting their position before the close of the comment period (including any time necessary to conduct public hearings). 40 C.F.R. § 124.13. Failure to do so prevents such issues or arguments from being raised during subsequent administrative or judicial proceedings. Mueller v. EPA, 993 F.2d 1354 (8th Cir. 1993).

(8) Bear in mind that proposed permit terms and conditions are often negotiable. It is incumbent upon judge advocates to work closely with regulators throughout the process (but especially during the comment period) to ensure permit provisions are appropriate and do not unfairly discriminate against the installation. This is particularly important in cases where the permitting authority is a state, and the state has a record of regulating or attempting to regulate federal facilities more stringently than similarly situated private entities. Remember, the current CWA sovereign immunity waiver clearly states that federal facilities are to be regulated "in the same manner and to the same extent as any other person." 33 U.S.C. § 1323.

4. Appeals. 40 C.F.R. Part 124, Subparts E and F.

a. After accepting and reviewing comments, the permitting authority will issue a final NPDES permit that, generally, becomes effective within 30 days. *See* 40 C.F.R. § 124.15(b) for exceptions.

b. Any person may appeal a final NPDES permit by requesting an evidentiary hearing within 30 days of the permit's issuance. (Note, however, that some states do not provide for evidentiary hearings to review permit decisions.)

c. The permitting authority must grant or deny the hearing request within 30 days. 40 C.F.R. § 124.16(a). If the request is granted and a hearing is held, all contested provisions in the permit are stayed pending the outcome of the appeal.

d. Evidentiary hearings are trial-like proceedings presided over by an administrative law judge. The administrative law judge's ruling (or the permitting authority's decision to deny a hearing) may be appealed to the EPA Environmental Appeals Board (EAB). The EAB's decision is a "final agency action" subject to judicial review.

(1) Where EPA is the permitting authority, judicial review is in the Federal Courts of Appeal.

(2) Where a state issues the permit, judicial review is in accordance with state procedures.

(3) Judicial review normally consists of a review of the administrative record only. The standard of review is whether the decision was arbitrary and capricious, an abuse of discretion, contrary to a constitutional right, or otherwise not in accordance with law. *See* 5 U.S.C. § 706.

e. EPA has announced plans to streamline NPDES permit procedures, including those related to appeals. *See* 61 Fed. Reg. 65268. Under EPA's proposal, evidentiary hearings would be eliminated, allowing interested persons to appeal directly to the EAB. The proposed changes became effective on 14 June 2000.

E. Duration of Permits. 40 C.F.R. § 122.46.

1. NPDES permits are issued for a maximum period of 5 years.

2. They can, however, be revoked or modified for cause at any time. 40 C.F.R. § 122.62.

3. Timely (at least 180 days prior to expiration) submission of a complete application for renewal of EPA-issued permits automatically extends the existing permit until EPA takes action on the permit renewal application. A majority of state-run permitting programs also provide for permit continuance in renewal situations.

F. Effluent Limitations.

1. Generally.

a. Normally, the primary purpose of an NPDES permit is to establish enforceable effluent limitations.

b. Effluent limits specify the types and amounts of pollutants that may be discharged.

(1) Most limitations are expressed either as a mass limitation (e.g., two pounds per day or two pounds per "x" units of production) or a concentration limitation (e.g., 50 parts per million).

(2) Some include visual observations (e.g., no visible sheen, foam, or floating solids), pH range limits, and temperature limitations.

(3) Most permits impose both maximum limitations (i.e., the discharge may not exceed the limit during any monitoring event during the permit period) and monthly average limitations (i.e., the average of discharge levels as revealed in daily, weekly, or monthly monitoring throughout the month may not exceed the limitation).

c. The CWA mandates a two-part approach to establishing effluent limitations – technology-based limitations and water quality-based controls.

2. Technology-Based Limitations.

a. Generally.

(1) Under the CWA, the universe of industrial operations is divided into over 50 categories, which in turn encompass more than 700 subcategories. For each industrial category subject to regulation, a base level of treatment is required. The level of treatment depends on the type of pollutant involved and whether the source is new or existed at the time the regulations were promulgated. *See* 40 C.F.R. Parts 403-471.

(2) Industrial categories that often apply to Army installations include:

(a) Electroplating -- 40 C.F.R. Part 413.

(b) Steam Electric Power Generating -- 40 C.F.R. Part 423.

(c) Metal Finishing -- 40 C.F.R. Part 433.

(d) Photography -- 40 C.F.R. Part 459.

(e) Hospitals -- 40 C.F.R. Part 460.

b. EPA's regulations do not mandate the use of specific pollution control equipment. Instead, they specify maximum levels of permissible pollution based on the performance of equipment identified as meeting the appropriate technological requirement for each industrial category. EPA is required to periodically review, pursuant to a published schedule, effluent guidelines for industrial categories as technology improves and the economics of pollution control change. 33 U.S.C. § 1314(b) and (m).

c. Standards. 40 C.F.R. § 125.3.

(1) Best Professional Judgment (BPJ).

(a) For dischargers in industrial categories for which EPA has not yet issued effluent guidelines and for types of discharges not covered by an applicable effluent guideline, permit writers apply "best professional judgment" (BPJ) to establish permit limitations.

(b) In applying BPJ, the permit writer will assess potentially applicable technologies applied to similar discharges in other industrial categories and may evaluate effluent treatability and analytical methods to develop limitations roughly equivalent to what an applicable effluent guideline would prescribe.

(c) Effluent limitations based on BPJ are subject to EPA's "anti-backsliding" policy. 33 U.S.C. § 1342(o). This policy prohibits (with minor exceptions) the relaxation of BPJ limitations in subsequent permits, even if subsequently promulgated effluent guidelines would allow less stringent limitations.

(2) Best Practicable Control Technology (BPT)/Best Available Technology (BAT).

(a) The 1972 CWA established a two-phase program for reducing pollution through the imposition of technology-based controls.

(i) In the first phase, industrial dischargers were required to meet a level of pollutant control based on the application of the “best practicable control technology currently available” (BPT) by 1 July 1977. 33 U.S.C. § 1311(b)(1)(a).

(ii) Phase two required application of an enhanced level of pollution control; i.e, the “best available technology economically achieveable" (BAT). Initially, BAT was to be in place by 1 July 1983. The deadline was later extended to 31 March 1989. 33 U.S.C. § 1311(b)(2).

(b) BPT.

(i) BPT is the "average of the best existing performance by well operated plants within each industrial category or subcategory." In determining BPT standards, EPA is required to balance cost against the benefits realized from effluent reduction. 33 U.S.C. § 1314(b)(1)(B).

(ii) EPA sets BPT standards by surveying the particular industry, determining the types of treatment facilities typical of the industry, and determining the levels of pollution control achieved by the better run facilities using typical technologies. EPA then considers the category-wide or subcategory-wide cost of applying the technology in relation to the effluent reduction benefits.

(c) BAT

(i) BAT controls are intended to represent the maximum feasible pollution reduction for an industry.

(ii) Although EPA is required toconsider cost in determining BAT standards (i.e. the standards must be "economically achievable"), it is not required to use a cost-benefit balancing test. 33 U.S.C. §1314(b((2)(b). According to EPA, BAT standards are "economically achievable" if they would not force the closure of a large portion of the plants in an industrial category or subcategory.

(iii) In setting BAT standards, EPA looks beyond the technologies usually employed by the industry in question, basing its standards instead on technologies used in other industries or on pilot plant data.

(3) Best Conventional Pollutant Control Technoloty (BCT).

(a) BAT standards do not apply to conventional pollutants. Conventional pollutants include:

(i) Suspended solids.

(ii) Fecal coliform.

(iii) Extreme pH level pollutants (i.e., acidity/alkalinity balance).

(iv) Biological oxygen demanding (BOD) pollutants.

(v) Oil and grease.

33 U.S.C. § 1314(a)(4); 40 C.F.R. § 401.16.

(b) Conventional pollutants are controlled by a more lenient "best conventional pollutant control technology" (BCT). Sources of conventional pollutant effluent were required to achieve compliance with EPA BCT regulations by 31 March 1989 (or within three years of promulgation of such regulations, whichever was sooner).

(c) Despite the existence of BCT standards, EPA continued to promulgate BPT standards for conventional pollutants. EPA's position is that Congress intended to supplement BPT with BCT, not displace it.

(4) New Source Performance Standards (NSPS).

(a) The BPT/BAT/BCT system does not apply to "new sources."

(b) "New sources" are subject to "new source performance standards" (NSPS).

(c) Determining whether a facility is a "new source" is extremely complicated. *See* 33 U.S.C. § 1316(a)(2) and 40 C.F.R. § 122.2 for statutory and regulatory definitions of the term. Simply stated, a "new source" is any facility that is constructed or modified in a major way after the publication of proposed regulations prescribing an applicable standard of performance.

(d) NSPS are intended to reflect "the greatest degree of effluent reduction . . . achievable through application of the best available demonstrated control technology, processes, operating methods and other alternatives, including, where practicable, standards permitting no discharge of pollutants." 33 U.S.C. § 1316(a)(1).

(e) Although often very similar to BAT standards, NSPS can be more stringent. For example, EPA's position is that under NSPS, it can require dischargers to install state-of-the-art treatment technology in new facilities. (NOTE: EPA would not have this authority under BAT, since the cost of requiring existing sources to retrofit their processes and systems to include such technology would be economically unreasonable.)

(f) Unlike BAT and BPT standards, NSPS standards:

(i) Consider alternative production processes and operating techniques in addition to pollution control techniques.

(ii) Do not take into account cost or other technological standards.

(iii) Generally, cannot be changed to moderate their impact on a specific facility (i.e., no variances).

(g) Significantly, where EPA is the permit authority for a new source, that action is subject to scrutiny under the provisions of NEPA. Accordingly, installations seeking to permit a new source should anticipate a lengthy review process.

d. Variances and Modifications.

(1) Although the CWA contains provisions authorizing variances from technology-based standards, such provisions are few and far between. Further, requests for variances are rarely granted.

(2) Fundamentally Different Factors Variance (33 U.S.C. § 1311(n) . A given point source may use a process different from that normally employed within its industry. As a result, the EPA's model control technology may be inapplicable to that particular point source. Where this is the case, it may be possible to obtain a "fundamentally different factors" modification to BPT, BCT, and BAT requirements if achieving the specified level of pollution control would:

(a) Result in a cost wholly out of proportion to the cost EPA considered in developing the regulation for the industry group; or

(b) Create nonwater quality environmental impacts fundamentally more adverse than those that EPA considered in developing the regulation for the industry group.

40 C.F.R. § 403.13.

(3) Economic Variance (33 U.S.C. § 1311(c)). Modification of BAT requirements may also be obtained if a lower level of control represents the "maximum use of technology within the economic capability of the owner or operator" and will result in "reasonable further progress toward the elimination of the discharge of pollutants."

(4) Modification for Nonconventional Pollutants (33 U.S.C. § 1311(g)). For certain nonconventional, nontoxic pollutants, the BAT requirement can also be reduced if a lower level of control presents no unacceptable impacts on water quality, human health, or the environment. Reduced requirements under this provision are only applicable for ammonia, chlorine, color, iron, and total phenols. The variance cannot result in a requirement lower than BPT.

(5) Credits. A source of effluent may receive a "credit" for pollutants in its intake water, thus allowing a greater effluent level in the outflow into the same body of water. Regulations outlining the procedures and requirements for obtaining credits are promulgated at 40 C.F.R. § 122.45(g).

(6) Section 316(a) Variances. If a source can demonstrate that technology-based or NSPS limitations on thermal discharges are more stringent than necessary to protect and assure propagation of indigenous wildlife in and around the body of water where the discharge occurs, the source can receive a thermal pollution variance. 33 U.S.C. § 1326(a); 40 C.F.R. § 125.70-73.

3. Water Quality-Based Controls.

a. By themselves, technology-based effluent limitations are sometimes inadequate for bodies of water whose natural ability to assimilate pollution has been reduced or, because of their intended or designated use(s), require higher water quality standards. In those cases, water quality standards are established and imposed as NPDES permit conditions in addition to the technology-based effluent limitations.

b. Water quality standards consist of two elements:

(1) Use classification.

(2) Water quality criteria that, if not exceeded, will protect that use.

Normally, the standard will identify the use of the water body in question, then identify a pollutant and establish a numeric level of that pollutant that cannot be exceeded in order to protect the designated use of that water body (e.g., in streams designated for trout propagation (use classification), arsenic levels may not exceed 0.2mg per liter (water quality criteria)).

c. Use Classifications.

(1) The CWA requires all states to classify the waters within the state according to intended use (e.g., public water supplies, protection and propagation of fish, shellfish, and wildlife, recreation, and agricultural, industrial and other purposes (including navigation)). 33 U.S.C. § 1313; 40 C.F.R. § 131.10.

(2) State water quality standards must achieve the CWA's goal of fishable, swimmable waters wherever possible and maintain both the uses designated in the standards and current uses unless the designated use is unattainable or unfeasible because:

(a) Naturally occurring pollutant concentrations or natural conditions or water levels prevent attainment of the use.

(b) There are human causes of the pollution that cannot be remedied.

(c) Dams or other diversions preclude the attainment of water quality standards.

(d) Natural features of the body of water preclude attainment of the water standards.

(e) Attainment of standards in excess of those required by 33 U.S.C. §§ 1311(b) and 1306 of the CWA would result in widespread economic or social impact.

40 C.F.R. § 131.10(g).

d. Water Quality Criteria.

(1) Water quality criteria quantitatively describe the physical, chemical, and biological characteristics of waters necessary to support designated uses.

(2) Most states base their criteria on federal water quality criteria. States are not required to use the federal criteria to establish their own criteria, however. Federal water quality criteria are merely guidelines that states may use to determine appropriate numerical criteria for water bodies within the state.

4. Individual Control Strategies for Toxic Pollutants.

a. The CWA requires states to identify "impaired" water bodies within their boundaries. For water bodies on the "impaired list," states must identify specific sources of toxic pollutants preventing or impeding the achievement of water quality standards. Thereafter, states must develop "individual control strategies" (ICSs) to regulate such pollutants and achieve water quality standards established for the water body in question.

b. Section 304(l) of the CWA (33 U.S.C. § 1314(l)) governs ICSs for toxic pollutants. Under § 307(a) of the CWA (33 U.S.C. § 1317(a)), EPA has identified over one hundred toxic pollutants as "priority pollutants." It is these priority pollutants that have become the primary focus of § 304(l) regulation.

c. Pursuant to § 304(l), states must submit four lists to EPA. They are the:

(1) "A(i)" List – A list of state waters that (after the application of technology-based effluent limits) cannot reasonably be anticipated to attain or maintain water quality standards adopted pursuant to § 1313(c)(2)(B) of the CWA, due to the presence of one or more priority pollutants. This list is referred to as the "mini list."

(2) "A(ii)" List – A list of state waters that (after application of technology-based effluent limits) cannot reasonably be expected to attain or maintain a level of water quality that will assure protection of public health, public water supplies, agricultural and industrial uses, recreational uses, and the propagation of shellfish, fish, and other wildlife. This list is referred to as the "long list."

(3) "B" List – A list of all state navigable waters that (after application of technology-based effluent requirements) will not meet state water quality standards due entirely or substantially to point source discharges of priority pollutants. This list is referred to as the "short list."

(4) "C" List – A list of point sources of priority pollutants which are believed to be preventing or impairing water quality for water bodies on the mini, long, and short lists. The "C" List also identifies the amount of each priority pollutant discharged by each listed point source. This list is referred to as the "facility list."

d. Each state authorized to issue NPDES permits is required to identify the waters within the state that did not meet numerical water quality standards established by EPA or the state for toxic pollutants. Where there are no numerical criteria, states must adopt criteria based on "whole effluent toxicity testing." If a state fails to adopt either numerical standards or mathematical methods to calculate toxic effluent limitations, EPA water quality guidelines become the enforceable state water quality standard.

e. States must develop ICSs to bring waters on the short list into compliance. An ICS is "a final NPDES permit . . . [with] effluent limits [that] are consistent with an approved wasteload allocation . . . which shows that applicable water quality standards will be met not later than three years after the individual control strategy is established." 40 C.F.R. § 123.46(c).

(1) As a result, point source discharge limitations into impaired waters will be significantly more stringent for toxins and, as a matter of EPA policy, any pollutants that could cause toxic effects (e.g., ammonia).

(2) Revised NPDES permits have been issued to over 800 point sources identified under the § 304(l) ICS process.

(3) Nonpoint discharge control strategies are also supposed to become more stringent.

G. Storm Water.

1. Background.

a. One of the greatest challenges in the water pollution control arena generally, and under the NPDES permit program specifically, has been how to effectively regulate storm water discharges (i.e., "storm water runoff, snow melt runoff, and surface runoff and drainage." 40 C.F.R. § 122.26(b)(13)).

b. Initial efforts to improve water quality under the NPDES permit program were primarily focused on reducing pollutants in industrial process wastewater and municipal sewage. The reason for this focus was two-fold: first, industrial process wastewater and municipal sewage represented some of the most immediate and pressing environmental problems; and second, such discharges were the easiest to identify.

c. As pollution control measures for industrial process wastewater and municipal sewage were further developed, refined, and implemented, it became increasingly evident that more diffuse sources of water pollution, including storm water runoff, were significant causes of water quality impairment.

d. For over twenty years, EPA and the courts grappled with the practical difficulties of regulating what amounted to millions of diverse point source discharges of storm water. Ultimately, Congress stepped in and attempted to resolve the problem in the 1987 CWA amendments.

2. Storm Water Regulation Under the 1987 CWA Amendments.

a. In 1987, Congress amended the CWA to require implementation of a comprehensive approach for addressing storm water discharges under the NPDES permit program. The 1987 CWA Amendments set forth a two-phase approach to storm water regulation.

(1) Phase I regulates and requires permits for storm water discharges "associated with industrial activity" as well as discharges from municipal separate storm sewer systems serving more than 100,000 people. 33 U.S.C. § 1342 (p)(2).

(2) Phase II addresses remaining storm water discharges, including small municipal storm systems, commercial facilities, retail and residential activities, institutional facilities, some light industrial facilities, and construction activities involving less than five acres of land. Over 7.5 million dischargers are potential targets of Phase II regulation. 33 U.S.C. § 1342(p)(6).

b. Storm Water Phase I.

(1) Development of Phase I of the CWA's storm water program is complete and the program is currently being implemented.

(2) Discharges "Associated With Industrial Activity."

(a) Storm water discharges associated with industrial activity must comply with all applicable provisions of §§ 301 and 402 of the CWA, including technology-based requirements and any more stringent requirements necessary to meet water quality standards. 33 U.S.C. § 1342(p)(3)(A).

(b) The difficult issue is determining which storm water discharges constitute discharges "associated with industrial activity."

(c) The definition is long and complex, but generally means "the discharge from any [point source] . . . used for collecting and conveying storm water . . . which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant." 40 C.F.R. § 122.26(a)(14). *See also* 55 Fed. Reg. 48,007-15. Regulated "industrial activities" include:

(i) Hazardous waste treatment, storage, and disposal facilities.

(ii) Landfills and open dumps that receive or have received any industrial wastes.

(iii) Recycling facilities, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards.

(iv) Steam electric power generating facilities, including coal handling sites.

(v) Construction activities involving five or more acres.

On military installations, facilities engaged in vehicle maintenance, painting, fueling, and lubrication (e.g., motor pools) are among those "industrial" facilities regulated.

(d) Not included are discharges from facilities engaged in wholesale, retail, service, or commercial activities (e.g., AAFES gas stations). The definition also excludes discharges from areas that are separate from industrial activities, such as office buildings and parking lots, unless the drainage is combined with storm water from regulated industrial activities. 55 Fed. Reg. 48,007.

(e) Note, however, that even if a discharge is not "associated with industrial activity," the discharge may still be subject to EPA and state regulation. Section 1342(p)(2)(E) of the CWA authorizes EPA and the states to require permits for any storm water discharge that "contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States."

(3) Municipal Separate Storm Sewer Systems.

(a) A municipal separate storm sewer system is a conveyance or system of gutters, ditches, manmade channels or storm drains, which is owned by a state, county, municipality, or other public entity; is designed or used for conveying storm water; and is not a combined sewer or part of a publicly-owned treatment works. 40 C.F.R. § 122.26 (b)(8).

(b) Section 1342(p)(3)(B) of the CWA establishes NPDES permit standards for discharges from municipal separate storm sewer systems.

(c) Municipal separate storm sewer system permits:

(i) May be issued on a system- or jurisdiction-wide basis;

(ii) Shall include a requirement to effectively prohibit nonstorm water discharges into the storm sewers; and

(iii) Shall require controls to reduce the discharge of pollutants to the "maximum extent practicable."

33 U.S.C. § 1342 (p)(3)(B)(i-iii).

c. Storm Water Phase II.

(1) Phase II of the CWA's storm water program is still under development.

(2) Section 1342(p)(6) of the CWA requires EPA (in consultation with states and local officials) to issue regulations to control storm water discharges not covered by Phase I of the storm water program. Under § 1342 (p)(6), EPA must designate which discharges will be regulated under Phase II and establish a comprehensive program for regulating such discharges. At a minimum, the program must:

(a) Establish priorities;

(b) Establish requirements for state storm water management programs; and

(c) Establish expeditious deadlines.

(3) EPA issued a "final" rule regulating Phase II discharges on 7 August 1995. *See* 60 Fed. Reg. 40,230. Under the rule, if a storm water discharger is identified as one that significantly contributes to water quality problems, it must apply for a discharge permit within 180 days of receiving notice that it has been so identified. All other storm water dischargers are required to apply for permits not later than six years after the effective date of the Phase II permit regulation.

(4) EPA was subject to a consent order to propose and finalize supplemental Phase II rules. In December 1999 EPA issued a Final Phase II Rule (64 Fed. Reg. 68,722). The rule requires additional operators of MS4s in urban areas and operators of small construction sites (1<5 acres) to implement programs and practices to control stormwater runoff through NPDES permits.

(a) Documents related to Phase II storm water regulations are available on EPA's Internet site (Office of Wastewater Management page) at http://www.epa.gov/OW-OWM.html/wgen.htm.

d. Storm Water Permit Process.

(1) On 16 November 1990, EPA published NPDES permit requirements for storm water discharges. *See* 55 Fed. Reg. 47,990. *See also* 40 C.F.R. § 122.26.

(2) Under these regulations, dischargers have three options for obtaining coverage under a storm water permit:

(a) Filing a notice of intent to be covered by a general permit.

(b) Obtaining an individual permit.

(c) Participating in a group and applying for a group permit. (NOTE: Although group applications are still listed as a permit option under the storm water discharge regulations (*see* 40 C.F.R. § 122.26(c)(2)), most dischargers are covered under either general or individual storm water permits.)

(3) General Permits.

(a) General permits can be issued by either EPA or an authorized state.

(b) EPA issued general permits for storm water discharges associated with industrial activity and discharges associated with construction activity on 9 September 1992. *See* 57 Fed. Reg. 41,178 and 41,236.

(c) Although EPA's general permits apply only in those states and territories where EPA is the NPDES permitting authority, many states with authority to run their own permit programs have adopted EPA's permits. Others have developed general permits of their own.

(d) Multi-Sector General Storm Water Permits.

(i) On 29 September 1995, EPA issued a multi-sector general storm water permit that applies to 11,000 facilities in 29 industrial segments. 60 Fed. Reg. 50,804. EPA is encouraging states that run their own NPDES permitting programs to adopt EPA's multi-sector permit as a model for state-issued general permits.

(ii) In states where EPA is the NPDES permitting authority (or in states that have adopted EPA's multi-sector permit), any facility that falls within one of these 29 industrial sectors can apply for coverage under the multi-sector permit.

(iii) EPA's multi-sector permit does not set numeric, water quality-based effluent limitations for storm water discharges. Rather, it requires all covered facilities to prepare and implement a storm water pollution prevention plan (SWPPP). States, however, are free to establish more stringent standards, to include numerical effluent limitations.

(iv) SWPPPs.

(a) SWPPPs require the identification of potential pollution sources.

(b) Following identification, dischargers are required to evaluate and select pollution prevention measures based on industry-specific best management practices specified in the permit.

(v) In most cases, regulation under an industry-specific multi-sector permit is less stringent than under an ordinary general storm water permit.

(4) Individual Permits.

(a) If a facility cannot seek coverage under a general permit, then it must apply for an individual permit.

(b) The process of applying for an individual permit is very burdensome and costly.

(i) The discharger must provide detailed information about the facility, including a topographic map and a narrative description of certain activities, such as materials and waste management practices. 40 C.F.R. § 122.26(c)(1)(i)(A)-(D).

(ii) In addition, dischargers seeking individual permits must present quantitative data, based on samples of storm water discharges collected during storm events. The sampling must be conducted in accordance with elaborate regulations spelled out at 40 C.F.R. §§ 122.21 and 122.26(c)(i)(E).

VI. INDIRECT DISCHARGERS – THE CWA PRETREATMENT PROGRAM.

A. Background.

1. For a variety of regulatory purposes under the CWA, there are two types of point source dischargers – publicly owned treatment works (POTWs; a.k.a. sewage treatment plants) and all others.

2. Municipalities operate most sewage treatment plants (POTWs). Some sewage treatment facilities (including those located on military installations) are federally owned and operated, however. Generally, federally owned and operated sewage treatment plants (FOTWs) are treated as POTWs if they treat only domestic sewage or treat domestic sewage and hazardous waste that has been "pre-treated" pursuant to 33 U.S.C. § 1317 before being introduced into the FOTW.

3. POTWs, like any other point source discharger, must have an NPDES permit to legally discharge pollutants into navigable waters of the United States.

4. What distinguishes POTWs from other point source dischargers, however, is the fact that they receive pollutants from indirect dischargers (i.e., industrial facilities that discharge into the POTW rather than directly into the waters of the United States) before releasing their own effluent.

5. Because POTWs must comply with the effluent limitations of their own NPDES permits, they must, in turn, have some control over the types and amounts of pollutants received from indirect dischargers. Section 1317(b) of the CWA establishes a pretreatment program designed to ensure that POTWs can effectively process the effluent received from indirect dischargers.

B. The CWA Pretreatment Program.

1. Under the CWA's pretreatment program, POTWs (or the municipalities that own and operate the POTW) issue permits, orders, or contracts that impose limitations on industrial users of the POTW.

2. General pretreatment regulations are at 40 C.F.R. Part 403. The objectives of these regulations are:

   a. To prevent the introduction of pollutants into POTWs that will interfere with the operation of the POTW, including interference with its use or disposal of municipal sludge.

   b. To prevent the introduction of pollutants into POTWs which will pass through the treatment works or otherwise be incompatible with such works.

   c. To improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges.

   40 C.F.R. § 403.2.

3. The CWA's pretreatment program involves a three-part system for controlling the pollution introduced into POTWs by indirect dischargers. The system includes:

   a. National General and Specific Discharge Prohibitions.

   b. National Categorical Standards.

   c. Local Limits.

4. National General and Specific Discharge Prohibitions.

   a. General Prohibitions.

      (1) General prohibitions forbid indirect dischargers from introducing into a POTW any pollutant that causes "pass through" or "interference." 40 C.F.R. § 403.5(a)(1).

      (2) "Pass throughs" are discharges which exit a POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, cause a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation). 40 C.F.R. § 403.3(n).

      (3) "Interference" is a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

         (a) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

(b) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations):

(i) Section 405 of the CWA.

(ii) The Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA).

(iii) The Clean Air Act.

(iv) The Toxic Substances Control Act.

(v) The Marine Protection, Research, and Sanctuaries Act.

40 C.F.R. § 403.3(i).

b. Specific Prohibitions.

(1) 40 C.F.R. § 403.5(b) identifies eight specific pollutants that may not be introduced into a POTW.

(2) The prohibition on introducing these pollutants is generally intended to prevent interference with the POTW's operations.

(3) The eight pollutants are:

(a) Pollutants which create a fire or explosion hazard in the POTW.

(b) Pollutants which will cause corrosive structural damage to the POTW.

(c) Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference.

(d) Any pollutant, including oxygen demanding pollutants, released in a discharge at a flow rate and/or pollutant concentration that will cause interference with the POTW.

(e) Heat in amounts which will inhibit biological activity in the POTW resulting in interference.

(f) Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through.

(g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems.

(h) Any trucked or hauled pollutants, except at discharge points designated by the POTW.

5. National Categorical Standards.

a. The prohibition on discharges that "pass through" POTWs is implemented through categorical effluent guidelines.

b. National categorical standards apply only to "incompatible" pollutants - i.e., pollutants other than biochemical oxygen demand, suspended solids, pH, and fecal coliform bacteria - which are not adequately treated in the POTW treatment process.

c. The standards establish specific numerical limitations on incompatible pollutants. Generally, indirect dischargers must treat such pollutants to the same level that would have been required had the industrial facility discharged those pollutants directly to the receiving waters rather than a POTW. Accordingly, the indirect discharger must meet the equivalent of BAT control unless the stringency of the standard is reduced through the mechanism of "removal credits."

(1) "Removal credits" give indirect dischargers "credit" for the actual level of removal of a pollutant consistently achieved by a POTW.

(2) "Removal" does not include dilution that occurs on the way to the POTW.

(3) "Removal credit" regulations are at 40 C.F.R. § 403.7.

d. Industrial activities on military installations likely to be subject to categorical discharge limitations include:

(1) Electroplating -- 40 C.F.R. Part 413.

(2) Steam Power Generating -- 40 C.F.R. Part 423.

(3) Metal Finishing -- 40 C.F.R. Part 433.

6. Local Limits.

a. Both the CWA and the implementing federal regulations authorize more extensive pretreatment regulation based on state and local law. *See* 33 U.S.C. § 1317(b)(4) and 40 C.F.R. § 403.4.

b. POTWs may establish local limits that are more stringent than federal standards, including regulation of pollutants not controlled by the federal standards. If the local limit is more stringent than the federal standard, the local limit supersedes the federal standard. If local limits are more lenient, however, industrial users of the POTW must still meet federal standards.

VII. NONPOINT SOURCE POLLUTION.

A. Background.

1. Nonpoint source pollution is defined as the introduction of toxic, nonconventional, and conventional pollutants into surface waters from a source other than a point source.

2. Nonpoint source pollution includes runoff from construction sites, streets, parking lots, mining, and agricultural activities. The largest nonpoint source contributor of pollutants (including pesticides and nutrient discharges) is agricultural runoff.

3. Nonpoint source pollution is a major source of pollution – it contributes to failure of about half of the water bodies that do not meet water quality standards.

B. The Section 319 Program.

1. Section 319 of the CWA (part of the 1987 amendments) addresses nonpoint source pollution. 33 U.S.C. § 1329. It creates a system for controlling nonpoint sources of water pollution. Under § 319, virtually all responsibility for regulating nonpoint source pollution is left to the states.

2. Under § 319, each state must submit to EPA for approval:

a. An assessment of those navigable waters within its boundaries which, without additional action to control nonpoint source pollution, cannot reasonably be expected to attain or maintain the state's water quality standards. 33 U.S.C. § 1329(a)(1). As part of the assessment, states must identify categories and subcategories of nonpoint sources which add significant pollution to each portion of the navigable waters that have been marked as failing to attain or maintain the state's water quality standards.

b. A management program that identifies measures to be undertaken by the state to reduce pollutants from each category and subcategory of nonpoint source pollution and a schedule for implementing the measures. 33 U.S.C. § 1329(b).

3. To date, § 319 has not resulted in any significant reduction in nonpoint source pollution.

a. Part of the problem is funding – although Congress **authorized** $400 million through fiscal year 1991 to fund state nonpoint source management programs, it failed to **appropriate** the money.

b. Additionally, states have no real incentive to submit adequate management plans or devote considerable resources to nonpoint source pollution programs since § 319, as currently written, is devoid of provisions that sanction them for failing to do so. This may be changing, however. The Clinton/Gore Clean Water Initiative places greater emphasis on nonpoint source pollution. Further, any reauthorization of the CWA will certainly include new initiatives to strengthen nonpoint source pollution control requirements.

VIII. WETLANDS PROTECTION –§ 404 CWA.

A. Overview.

1. The NPDES permit program (§ 402 CWA) does not apply to the disposal or placement of dredged or fill material into waters of the United States.

2. Section 404, CWA, establishes a program to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. Regulated activities include fills for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands for farming and forestry.

3. Generally, any discharge or placement of dredged or fill material from a point source into any surface water is prohibited unless carried out under a permit issued by the U.S. Army Corps of Engineers (ACOE) under § 404 of the CWA.

4. The basic premise of the program is that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded.

5. Exempt Activities.

   a. The CWA exempts a number of activities from § 404 regulation. *See* 33 U.S.C. § 1344 (f). These include:

      (1) Normal farming, silviculture, and ranching activities, such as plowing, seeding, cultivating, minor drainage, harvesting, and water conservation practices.

      (2) Maintenance activities (e.g., emergency reconstruction of structures such as dikes, dams, levees, breakwaters, causeways, bridge abutments and transportation structures).

      (3) Construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance of drainage ditches.

      (4) Construction of certain sedimentation basins.

      (5) Construction of or maintenance of certain farm, forest, and mining roads.

b. Note, however, that these activities will lose their exempt status if:

(1) The purpose of the activity is to bring an area of navigable waters into a use to which it was not previously subject.

(2) The activity impairs the flow or circulation of navigable waters.

(3) The activity reduces the reach of navigable waters.

See 33 U.S.C. § 1344(f)(2) (commonly referred to as the "recapture provision," because it recaptures apparently exempt activities and brings them back under the § 404 CWA permit requirement).

B. Significance of Wetlands.

Greater familiarity with marshes on the part of more people could give man a truer and more wholesome view of himself in relation to Nature. In marshes, Life's undercurrents and unknowns and evolutionary changes are exemplified with a high degree of independence from human dominance as long as the marshes remain in marshy condition. They have their own life-rich genuineness and reflect forces that are much older, much more permanent, and much mightier than man.

Paul L. Errington, Of Men and Marshes

1. Wetlands are an important habitat for fish and wildlife, particularly as nesting, spawning, and rearing sites for aquatic and land species (including many that are listed as either threatened or endangered under the Endangered Species Act).

2. Wetlands are critical to food chain production.

3. Wetlands protect nonwetland areas from wave action and shoreline erosion.

4. Depending on their location, wetlands can serve important flood attenuation functions.

5. Wetlands provide natural purification and filtration. For example, forested streamside wetlands in predominantly agricultural watersheds have been shown to remove approximately 80% of the phosphorous and 90% of the nitrogen from agricultural runoff. Note, however, that the beneficial water quality properties of wetlands are extremely complex and variable within and between individual wetlands and wetland systems. Water quality properties also depend on environmental factors, such as hydrology, season, position in the landscape, soils, and geology.

6. Depending on site-specific conditions, some wetlands can "recharge" underground aquifers.

7. Wetlands provide recreational opportunities.

C. Problem.

1. Approximately 50% of the wetlands that once existed in the continental U.S. have been destroyed. Seven states (California, Illinois, Indiana, Iowa, Missouri, Kentucky, and Ohio) have lost more than 80% of their original wetlands. About 100 million acres of wetlands remain in the lower 48 states, representing less than 5% of the land mass in the continental U.S.

2. From the mid-1970's to the mid-1980's, wetlands were lost at an annual rate of 290,000 acres per year. Recent estimates of wetlands trends on nonfederal lands indicate a loss rate of between 70,000 and 90,000 acres annually. In addition to these losses, many other wetlands have suffered degradation of functions.

3. Major causes of wetland loss and degradation include both human actions and natural threats.

a. Human actions. Drainage; dredging and stream channelization; deposition of fill material; diking and damming; tilling for crop production; levees; logging; mining; construction; runoff; air and water pollutants; changing nutrient levels; toxic chemical releases; introduction of nonnative species; grazing by domestic animals.

b. Natural threats. Erosion; subsidence; sea level rise; droughts; hurricanes and other storms.

D. Delineating Wetlands.

1. The definition of the term "wetland" is broad and controversial. *See* United States v. Riverside Bayview Homes, Inc., 474 U.S. 121 (1985).

2. EPA and ACOE regulations define "wetlands" as ". . . areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." 33 C.F.R. § 328.3(b); 40 C.F.R. § 122.2.

a. In plain language, wetlands are areas where the frequent and prolonged presence of water at or near the soil surface drives the natural system, meaning the kinds of soils that form, the plants that grow, and the fish and wildlife communities that use the habitat.

b. The definition clearly encompasses swamps, bogs, and marshes.

c. Many important wetland types have drier or more variable water systems, however. Accordingly, "wetlands" can also include bottomland forests, pine savannahs, meadows, vernal pools, playas, and prairie potholes.

3. Wetlands Delineation Manual.

a. EPA and the ACOE use the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (January 1987) (hereinafter *1987 Manual*) to identify wetlands for the § 404 permit program. (NOTE: The *1987 Manual* is available on the Internet at http://www.wes.army.mil/el/wetlands/wlpubs.html.)

(1) There are conflicting manuals and wetlands delineation studies, however.

(a) *See* Federal Interagency Committee for Wetland Delineation, *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (January 1989) (hereinafter the *1989 Manual*). This manual revised the *1987 Manual* and was sharply criticized by industry groups who complained that it would block development in many areas. Nevertheless, the ACOE, EPA, the Department of Agriculture, and the U.S. Fish and Wildlife Service relied on the *1989 Manual* until late 1991 when federal law prohibited its use without landowners' consent.

(b) Thereafter, a new document called the *Proposed Revisions* (56 Fed. Reg. 40,446 (1991)) (a.k.a the *1991 Manual*) surfaced and was circulated for comment. Environmentalists blasted the *1991 Manual*, charging that it would open millions of acres of wetlands to development. Wetlands scientists labeled the manual as "scientifically flawed." Because of their controversial nature, the *Proposed Revisions* have not been implemented.

(c) The preparation and withdrawal of the *1989 and 1991 Manuals* created confusion and uncertainty about the scientific and technical validity of federal regulatory practice in the identification and delineation of wetlands. As a result, Congress directed the National Research Council of the National Academy of Sciences to prepare a report on the delineation of wetlands.

(i) The report, *Wetlands: Characteristics and Boundaries,* published in 1995, concluded that federal agencies that oversee wetlands should adopt a single new manual (drawing freely from the strengths of each of the existing manuals) to make identification and regulation of wetlands more consistent.

(ii) Key features of the report include:

(a) A reference definition of wetlands.

(b) An overview of wetland functions as they relate to the protection of wetlands.

(c) Recommendations and conclusions related to criteria and indicators. These recommendations and conclusions do not in themselves constitute a new delineation manual. Rather, they specify the essential framework and principles around which a new universal federal manual can be prepared.

(2) The *1987 Manual* will remain in use pending development of a new delineation manual. (NOTE: The Department of Agriculture does not use the *1987 Manual.* Implementing the 1985 Food Security Act, the Department of Agriculture prepared a separate delineation manual for use on agricultural lands. The existence of this manual added to the confusion and uncertainty that prompted Congress to order the National Academy of Sciences study.)

b. Under the *1987 Manual*, wetlands are characterized by the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.

(1) "Hydrophytic vegetation."

(a) Plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

(b) There are approximately 7,000 types of plants that may occur in wetlands. Approximately 27% of these species are "obligates," meaning they almost always grow in wetlands under normal conditions.

(c) The U.S. Fish and Wildlife Service (FWS) maintains a list of such plants. It is titled "The National List of Plant Species That Occur in Wetlands."

(2) "Hydric soils."

Soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation.

(3) "Wetland hydrology."

Permanent or periodic inundation or prolonged soil saturation sufficient to create anaerobic conditions in the soil. The soil must be inundated or saturated to the surface for at least 5% of the growing season in most years. Indicators include:

(a) Water logged soil.

(b) "Drift lines" or small piles of debris oriented in the direction of water movement through an area.

(c) Debris lodged by the water in or against trees or other objects.

(d) Water marks on trees or other erect objects.

(e) Thin layers of sediment deposits on leaves or other objects.

c. Under the *1987 Manual*, there must be at least one positive indicator of all three criteria for an area to be classified as a wetland. (NOTE: Under the *1989 Manual*, one criterion's existence could be presumed based on the presence of another criterion.)

E. Other Key Definitions.

1. Waters of the United States. *See* section III.2., *supra.*

2. Point Source. *See* section III.3., *supra*.

3. Dredged material. Material that is excavated or dredged from waters of the United States. 33 C.F. R. § 323.2 (c); 40 C.F.R. § 232.2.

4. Discharge of Dredged Material. 33 C.F.R. § 323.2 (d); 40 C.F.R. § 232.2.

a. Any addition of dredged material into, including any redeposit of dredged material within, the waters of the United States. The term includes, but is not limited to, the following:

(1) The addition of dredged material to a specified discharge site located in waters of the United States;

(2) The runoff or overflow from a contained land or water disposal area; and

(3) Any addition, including any redeposit, of dredged material, including excavated material, into waters of the United States which is incidental to any activity, including mechanized landclearing, ditching, channelization, or other excavation.

(a) This provision is part of what is known as the Tulloch Rule, implemented by the ACOE and EPA in 1993 to limit excavations in wetland areas. (NOTE: The CWA limits discharge of dredged or fill material into waters of the U.S. It does not address excavation activities.)

(b) The Tulloch Rule provides that the incidental fallback that accompanies landclearing, ditching, channelization, and other excavation operations in waters is a "discharge" requiring a § 404 CWA permit. Conversely, a § 404 permit is not required under the Tulloch Rule if:

(i) The person preparing to undertake landclearing, ditching, channelization, or other excavation activity demonstrates to the satisfaction of the ACOE or EPA that the activity would not have the effect of destroying or degrading waters of the U.S; or

(ii) The incidental movement of dredged material occurs during normal dredging operations, defined as dredging for navigation in navigable waters of the U.S. (except wetlands) with proper authorization.

(c) In American Mining Congress v. United States Army Corps of Engineers, 951 F. Supp. 267 (D.D.C. 1997), the U.S. District Court for the District of Columbia overturned the Tulloch Rule, stating that had Congress intended to regulate excavation activities under § 404 it would have done so expressly. The court also found that Congress understood the term "discharge" to have a very definite meaning, i.e., "open water disposal of material removed during the digging or deepening of navigable waterways." The court pointed out that this "understanding" excludes the "small-volume incidental discharge that accompanies excavation and landclearing activities," encompassing instead the notion of "moving . . . material from one place to another."

(d) The Final "Tulloch Rule" (66 Fed. Reg 4450 (17 January 2001)) became effective on 16 April 2001. The new rule defines incidental fallback as "…the redeposit of small volumes of dredged material that is incidental to excavation activities in waters of the U.S. when such material falls back to substantially the same place as the initial removal." The ACOE consider redeposit of large volumes jurisdictional. The distinction appears to center on the amount of the redeposit and whether there has been movement of dredged material away from the place of initial removal. Another factor is whether the activity results in a release of pollutants that were formerly physically or chemically bound to the bottom. The rule also provides that the ACOE and EPA regard the use of mechanized earth moving equipment to conduct dredging or excavation as resulting in a discharge of dredged material unless project-specific evidence shows that the activity results in only incidental fallback.

b. The term discharge of dredged material does not include the following:

(1) Discharges of pollutants into waters of the United States resulting from the onshore subsequent processing of dredged material that is extracted for any commercial use (other than fill). These discharges are subject to § 402 of the CWA even though the extraction and deposit of such material may require a permit from the ACOE or applicable state § 404 program.

(2) Activities that involve only the cutting or removing of vegetation above the ground (e.g., mowing, rotary cutting, and chainsawing) where the activity neither substantially disturbs the root system nor involves mechanized pushing, dragging, or other similar activities that redeposit excavated soil material.

5. Fill material. Any material used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of a waterbody. The term does not include any pollutant discharged into the water primarily to dispose of waste, as that activity is regulated under § 402 of the CWA. 33 C.F. R. § 323.2 (e); 40 C.F.R. § 232.2.

6. Discharge of Fill Material. 33 C.F.R. § 323.2 (f); 40 C.F.R. § 232.2.

a. The addition of fill material into waters of the United States. The term generally includes, without limitation, the following activities:

(1) Placement of fill that is necessary for the construction of any structure in a water of the United States;

(2) The building of any structure or impoundment requiring rock, sand, dirt, or other material for its construction;

(3) Site-development fills for recreational, industrial, commercial, residential, and other uses;

(4) Causeways or road fills;

(5) Dams and dikes;

(6) Artificial islands;

(7) Property protection and/or reclamation devices, such as riprap, groins, seawalls, breakwaters, and revetments;

(8) Beach nourishment;

(9) Levees;

(10) Fill for structures, such as sewage treatment facilities, intake and outfall pipes associated with power plants and subaqueous utility lines; and

(11) Artificial reefs.

b. The term does not include plowing, cultivating, seeding, and harvesting for the production of food, fiber, and forest products.

7. Individual Permit. A Department of the Army authorization that is issued following a case-by-case evaluation of a specific project involving the proposed discharge(s) and a determination that the proposed discharge is in the public interest. 33 C.F.R. § 323.2(g).

8. General Permit. A Department of the Army authorization that is issued on a nationwide or regional basis for a category or categories of activities when:

a. Those activities are substantially similar in nature and cause only minimal individual and cumulative environmental impacts; or

b. The general permit would result in avoiding unnecessary duplication of regulatory control exercised by another federal, state, or local agency, provided it has been determined that the environmental consequences of the action are individually and cumulatively minimal

33 C.F.R. § 323.2(h); 40 C.F.R. § 232.2.

F. Section 404 Permits.

1. Unless exempted by statute or regulation, all discharges of dredged or fill material into waters of the United States must be pursuant to a permit issued by the ACOE or a state with permitting authority. 33 U.S.C. § 1344; 33 C.F.R. § 323.3.

2. Generally, federal agencies are subject to the requirements of § 404 and must obtain permits when discharging dredged or fill material into waters of the United States, including wetlands. For exceptions, *see* 33 U.S.C. § 1344(r) and 33 C.F.R. § 323.4.

3. Types of Permits.

a. General Permit.

(1) For discharges that will have only minimal individual or cumulative adverse effects, the ACOE usually grants general permits. General permits are issued (after notice and opportunity for public hearing) on a nationwide, regional, or state basis for specific categories of activities that are similar in nature as a means to expedite the permitting process.

(2) The purpose of the general permit program is to eliminate the need for an individual permit application if the activity is one covered by a general permit.

(3) Nationwide Permits.

(a) A type of general permit that authorizes activities on a nationwide basis.

(b) The types of activities covered by nationwide permits are such things as survey activities, outfall structures, oil and gas structures, mooring buoys, bank stabilization, road crossings, hydropower projects, minor dredging, oil spill cleanup, boat ramps, and maintenance.

(c) Issuance, Reissuance, and Modification of Nationwide Permits.

(i) On 18 March 2002, the ACOE reissued all nationwide permits (several with modifications) and issued one new General Condition. *See* 67 Fed. Reg. 2020. The reissued permits became effective on 18 March 2002. These nationwide permits will expire on March 19, 2007.

(ii) Military attorneys should pay particular attention to Nationwide Permit 39. This permit could apply to construction projects disturbing less than one-half acre of wetlands or less than 300 linear feet of a streambed.

(d) Where a nationwide permit is applicable, an individual permit need not be obtained, and the ACOE generally need not be notified as long as **all** of the conditions of the nationwide permit are observed.

(i) Only a fraction of the forty-four nationwide permits require that special notice be given to the ACOE before proceeding with the activity.

(ii) It is best, however, to contact the ACOE before conducting any activity in a wetland to ensure that the nationwide permit in question indeed applies.

(e) Conditions.

(i) Each nationwide permit contains conditions specific to that permit. For example, Nationwide Permit No. 36 (Boat Ramps) authorizes construction of boat ramps without an individual permit, provided that:

(a) The discharge into waters of the United States does not exceed 50 cubic yards of concrete, rock, crushed stone or gravel into forms, or placement of pre-cast concrete planks or slabs.

(b) The ramp does not exceed 20 feet in width.

(c) The base material is crushed stone, gravel, or other suitable material.

(d) The excavation is limited to the area necessary for site preparation and all excavated material is removed to the upland.

AND

(e) No material is placed in special aquatic sites, including wetlands.

(ii) In addition to the conditions spelled out in each nationwide permit, there are twenty-seven additional "general conditions." *See* 67 Fed. Reg. 2089-2094.

(4) Regional Permits.

(a) These permits are similar to nationwide permits except that they only apply to similar activities within specific regions.

(b) Unlike nationwide permits that are issued by the Chief of Engineers, regional permits are issued by district or division engineers.

(5) Programmatic Permits.

Programmatic permits are a type of general permit based "on an existing state, local, or other federal agency program and are designed to avoid duplication with that program." 33 C.F.R. Part 325.5(c)(3).

b. Individual Permits.

(1) Individual permits are issued for specific dredge and fill activities not covered by general permits.

(2) Obtaining individual permits can be a time-consuming exercise. If an Environmental Impact Statement is required, it can take as long as three years to get an individual permit. *See* 33 C.F.R. Part 325 and section VIII.F.5., *infra,* for a detailed description of the § 404 permitting process.

4. Permitting Authority.

a. ACOE.

(1) The ACOE issues § 404 permits.

(2) Section 404 permits can be issued either by a division engineer, a district engineer, or the Chief of Engineers. *But see* United States v. Mango, No. 96-CR-327, 1998 WL 106238 (N.D.N.Y. Mar. 5, 1998) (a dredge and fill permit issued by a district engineer could not be enforced by federal prosecutors, because the statutory language and legislative history of the CWA authorize the Secretary of the Army to delegate responsibility for issuing § 404 permits to the Chief of Engineers, but nowhere allows for the further delegation of that authority to district engineers).

(a) In general, the more controversial the proposed project, the higher the approval authority.

(b) The Chief of Engineers issues all nationwide permits through publication in the *Federal Register.*

(c) District engineers issue most permits, however. That being the case, if other courts follow the holding in United States v. Mango, most dredge and fill permits ever issued under the CWA will be unenforceable.

(3) The ACOE must follow certain EPA guidelines in deciding whether to issue or deny § 404 permits. *See* 40 C.F.R. Part 230 and section VI.F.5.a.(3)(h)(ii), *infra,* for additional information about these guidelines.

(4) The ACOE must also consult with EPA and other agencies (e.g., the U.S. Fish and Wildlife Service when the proposed activity may affect an endangered or threatened species or their critical habitat), as required, before issuing § 404 permits.

(5) Additionally, permits issued under § 404 of the CWA are subject to the requirements of the National Environmental Policy Act (NEPA). *See* 42 U.S.C. §§ 4321-4370d. For most § 404 permit applications, the ACOE will require only an Environmental Assessment, reserving the requirement of a full Environmental Impact Statement for large projects with considerable federal involvement.

b. EPA.

(1) Although the ACOE actually grants § 404 permits, EPA retains an oversight function and may, under certain circumstances, overrule the ACOE's permit decisions. *See* *Memorandum of Agreement Between the Department of the Army and the Environmental Protection Agency Concerning the Determination of the Section 404 Program and the Application of the Exemptions under Section 404(f) of the Clean Water Act*, 19 January 1989 (available on the EPA Homepage at http://www.epa.gov/owow/wetlands/404f.html).

(2) Section 404(c) of the CWA allows the EPA Administrator to veto ACOE permits by denying or restricting the use of any area as a disposal site for dredged or fill material. 33 U.S.C. § 1344(c). *See also* 40 C.F.R. Part 231.

(3) The ACOE will not issue a § 404 permit where the regional administrator of EPA has notified the regional engineer in writing that he intends to issue a public notice of a proposed determination to deny, restrict, or withdraw an area from consideration for use as a disposal site. 33 C.F.R. § 323.6(b).

(4) The proposed decision to veto a permit must occur after a public comment period of between 30-60 days. If the regional administrator determines that there is "significant public interest" in the proposed determination, a public hearing shall be held. 40 C.F.R. § 231.4.

c. State Involvement.

(1) Section 404 Permitting.

(a) Section 404(g) of the CWA allows states to run § 404 permit programs for navigable waters within their jurisdiction. 33 U.S.C. § 1344(g). Currently, only Michigan and New Jersey have assumed administration of the § 404 program within their borders.

(b) When states assume administration of the § 404 program, the ACOE no longer processes § 404 permits in waters under state jurisdiction. The state assumes responsibility for the program, determines what areas and activities are regulated, processes individual permits for specific proposed activities, and carries out enforcement activities.

(c) EPA reviews state-run programs annually to ensure the state is operating its program in compliance with requirements of the law and regulations. In addition, for some activities, which generally include larger discharges with serious impacts, EPA and other federal agencies review the permit application and provide comments to the state. In these cases, the state cannot issue a permit over EPA's objection.

(d) *See* 40 C.F.R. Part 233 for the procedures and criteria used by EPA in assessing state assumption of § 404 programs.

(2) Section 401 - State Certification.

(a) All applicants for a federal permit to discharge into navigable waters (including wetlands) must certify that the discharge will meet applicable state water quality standards. 33 U.S.C. § 1341.

(b) In most cases, § 401 certification review is conducted at the same time as the ACOE review.

(c) Although states may waive their § 401 certification authority, public interest groups have pushed states to use this authority more aggressively. In response, in 1989, EPA issued guidance to states on applying § 401 certification to protect wetlands. A year later, EPA issued guidance on developing water quality standards specifically for wetlands.

(3) Coastal Zone Management Program.

(a) In states that have a coastal zone management program, the Coastal Zone Management Act requires § 404 CWA applicants to furnish the ACOE with a certification that the proposed activity will comply with the state's coastal zone management program. 16 U.S.C. § 1456(c).

(b) The applicant submits a certification statement directly to the ACOE. Thereafter, the ACOE sends a copy to the relevant state coastal zone management agency requesting concurrence or objection. 33 C.F.R. § 325.2(b)(2)(ii).

(c) If the applicant is a federal agency and the application involves a federal activity in or affecting the coastal zone, the district engineer shall forward a copy of the public notice (*see* section VI.F.5.a.(3)(d), *infra*) to the state agency responsible for reviewing the consistency of federal activities. If the state coastal zone agency objects to the proposed federal activity on the basis of its inconsistency with the state's coastal zone management program, the ACOE cannot make a final decision on the § 404 permit application until the issue is resolved using the dispute resolution procedures spelled out in the Coastal Zone Management Act. 33 C.F.R. § 325.2(b)(2)(i).

5. Permitting Procedures.

a. National Regulations.

(1) A number of general policies apply to the review of all applications for Department of the Army permits. These policies are published at 33 C.F.R. § 320.4 and include:

(a) Public Interest Review. 33 C.F.R. § 320.4(a)

(i) The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest.

(ii) Evaluation of the probable impact that the proposed activity may have on the public interest requires a careful weighing of all factors that become relevant in each particular case.

(iii) The benefit which reasonably may be expected to accrue from the proposed action must be balanced against its reasonably foreseeable detriments.

(b) Effect on Wetlands.

(c) Fish and Wildlife.

(d) Water Quality.

(e) Historic, Cultural, Scenic, and Recreational Values.

(f) Consideration of Property Ownership.

(g) Floodplain Management.

(h) Water Supply and Conservation.

(i) Energy Conservation and Development.

(j) Navigation.

(k) Environmental Benefits.

(l) Economics.

(m) Mitigation. *See* 33 C.F.R. § 320.4(r) and section VIII.G., *infra*.

(2) Additional policies specifically applicable to certain types of activities are at 33 C.F.R. Parts 321-324.

(a) Part 321 – Dams and Dikes in Navigable Waters of the United States.

(b) Part 322 – Structures or Work in or Affecting Navigable Waters of the United States.

(c) Part 323 – Discharges of Dredged or Fill Material into Waters of the United States.

(d) Part 324 – Ocean Dumping of Dredged Material.

(3) Regulations governing the processing of Department of the Army permits are at 33 C.F.R. Part 325. For § 404 permits, the process typically involves the following steps:

(a) The potential applicant and the district engineer's office enter into pre-application consultations. The purpose of such consultations is to provide the potential applicant with all "helpful information necessary in pursuing the application." 33 C.F.R. § 325.1(b).

(b) The applicant submits an application form (unless the activity is covered by a general permit).

(i) At a minimum, the application must include the following:

(a) A complete description of the proposed activity, including necessary drawings, sketches, or plans.

(b) The location, purpose, and need for the proposed activity.

(c) Scheduling of the activity.

(d) The names and addresses of adjoining property owners.

(e) The location and dimensions of adjacent structures.

(f) A list of authorizations required by other federal, interstate, state, or local agencies for the work, including all approvals received or denials already made.

33 C.F.R. § 325.1(d)(1).

(ii) *See* 33 C.F.R. § 325.1(d)(2-9) and (e) for additional application content requirements.

(c) When the ACOE receives the application, the district engineer acknowledges receipt and assigns the application an identification number. If the application is incomplete, the district engineer will request additional information from the applicant. The request for additional information is supposed to be made within 15 days of receipt of the original, incomplete application.

(d) Within 15 days of the ACOE's receipt of a complete application, the district engineer will issue public notice of the application. The public notice describes the permit application, including the proposed activity, its location, and potential environmental impacts. *See* 33 C.F.R. § 325.3 for more detailed information about public notices.

(e) A 15- to 30-day public comment period follows. The length of the comment period will vary, depending on the proposed activity. The public notice identifies the precise length of the comment period and invites comments within the time specified.

(f) After the period for submitting comments has expired, the ACOE reviews the application and comments and consults with other federal and state agencies and organizations, as required. Further, the ACOE determines if NEPA documentation is required.

(g) Public Hearings.

(i) Citizens may request that the ACOE conduct public hearings.

(ii) Public hearings must be held upon the request of any interested person, unless the concerns stated as reasons for having the hearings are determined to be "insubstantial."

(iii) In case of doubt, the hearings "shall" be held.

(iv) In most cases, public hearings are not held, however.

(h) After all public comment is submitted and any necessary NEPA documentation is completed, the ACOE will review and consider all information before it and make a decision either issuing the permit or denying the application.

(i) Issuing Official.

(a) Many permit decisions are made at the district or division engineer level.

(b) If the district or division engineer makes a final decision on a permit application in accordance with the procedures and authorities contained in 33 C.F.R. Parts 320-330, there is no administrative appeal of that decision.

(ii) EPA Guidelines for Specification of Disposal Sites for Dredged or Fill Material. 40 C.F.R. Part 230.

(a) Issuing officials must prepare a statement of findings (SOF) or, where an Environmental Impact Statement has been prepared, a record of decision (ROD).

(b) The SOF or ROD must include the issuing official's views on the probable effect of the proposed work on the public interest including conformity with EPA's guidelines for the discharge of dredged or fill material into waters of the United States (40 C.F.R. Part 230). Under these guidelines:

(i) No discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem.

(ii) An alternative is practicable if it is capable of being done, taking into account "cost, technology and logistics in light of overall project purposes." 40 C.F.R. § 230.10(a).

(iii) If the project is not water dependent, the ACOE presumes that practicable alternatives are available, unless it is clearly demonstrated otherwise. 40 C.F.R. § 230.10(a)(3).

(iv) Practicable alternatives that do not require discharges into wetlands or special aquatic areas are presumed to have less adverse impact on aquatic ecosystems, unless clearly demonstrated otherwise. 40 C.F.R. § 230.10(a)(3).

(v) The practicable alternatives analysis requires consideration of the project's economics as well as the use of sites not presently owned by the applicant, if they can be reasonably obtained.

(vi) A discharge may not cause or contribute to "significant degradation" of the aquatic ecosystem. 40 C.F.R. §§ 230.1 (c) and (d); 230.10(c).

b. Local Regulations.

In addition to the national regulations, there are local procedures and policies developed and implemented by the ACOE's district engineers. (NOTE: The ACOE is a highly decentralized organization. Most of the authority for administering the § 404 regulatory program has been delegated to the district and division engineers.)

G. Mitigation.

1. EPA's Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 C.F.R. Part 230; § 230.70-230.77) require § 404 permit applicants to take all practicable steps to minimize the adverse effects of proposed filling activities. *See also* 33 C.F.R. § 320.4(r). Once the amount of wetland damage has been reduced to its barest minimum, the remaining damage must be mitigated.

2. Implementation of this requirement is facilitated through use of the *Memorandum of Agreement Between the EPA and the Department of the Army Concerning the Determination of Mitigation Under the CWA Section 404(b)(1) Guidelines,* February 7, 1990 (hereinafter MOA). (Available on the EPA Internet Homepage at http://www.epa.gov/OWOW/wetlands/regs/mitigate.html.).

   a. The MOA expresses the EPA's and the ACOE's intent to implement the CWA's objective to restore and maintain the chemical, physical, and biological integrity of the nation's waters, including wetlands.

   b. Further, the MOA commits the ACOE to strive to achieve a goal of "no overall net loss of wetlands" as a result of its permitting decisions.

   c. The MOA also provides guidance on the type and level of mitigation which demonstrates compliance with EPA's Guidelines for Specification of Disposal Sites for Dredged or Fill Material.

   d. Under the MOA, mitigation consists of three general types:

      (1) Avoidance. Focuses on issuing permits only for the least environmentally damaging practicable alternatives. *See* section VI.F.5.a.(h)(ii)*(b)(i-v), supra*.

      (2) Minimization. Focuses on project modifications and permit conditions that will minimize adverse impacts. *See* 40 C.F.R. § 230.70-230.77.

      (3) Compensatory Mitigation.

(a) Required for unavoidable adverse impacts that remain after all appropriate and practicable minimization has been accomplished.

(b) Compensatory mitigation includes restoration of existing degraded wetlands or creation of man-made wetlands.

(i) The concept of creating new wetlands is extremely controversial. Scientists, regulators, environmentalists, and the regulated community disagree about the issue of whether a method truly exists for successfully replicating natural wetlands. Further, the costs of wetland creation can be staggering.

(ii) Accordingly, restoration is the preferred compensatory mitigation tool.

(c) Generally, a minimum of 1:1 acreage replacement of wetlands will be required to achieve no net loss values.

(d) Mitigation banking may also be an acceptable form of compensatory mitigation under certain circumstances.

(i) A wetlands mitigation bank is a wetland area that has been restored, created, enhanced, or preserved. The "bank" is then set aside to compensate for future conversions of wetlands for development activities. The "bank's" value is determined by quantifying the wetland values restored or created in terms of "credits."

(ii) *See* 60 Fed. Reg. 58,605 for guidance on the establishment, use, and operation of mitigation banks.

IX. CWA ENFORCEMENT.

A. Federal v. State Enforcement.

1. In states where EPA retains permitting authority, EPA is the primary CWA enforcer. States may enforce state statutes and regulations in their own courts, but only if such statutes and regulations are not inconsistent with or duplicative of federal statutes and regulations.

2. In states with authority to run their own permit programs, the Act's enforcement mechanisms allow states to assume a rather active enforcement role. Even in these states, however, the federal government has usually taken the enforcement lead, as it has more enforcement resources at its disposal than most state governments.

3. State Enforcement Program Requirements.

a. At a minimum, state enforcement programs must have civil and criminal enforcement authority.

b. Although state environmental control agencies must have enforcement powers roughly equivalent to those exercised by EPA, state enforcement programs need not be identical to the federal enforcement program. *See* 33 U.S.C. § 1342(b)(7) and 40 C.F.R. § 123.27(a).

(1) States may impose maximum civil and criminal penalties that are less than those established under the federal program. 40 C.F.R. § 123.27(a)(3).

(2) Further, state enforcement programs need not contain citizen suit provisions. (NOTE: States must allow citizens to intervene in enforcement actions, however. They must also investigate and respond in writing to citizen complaints and provide notice and opportunity for comment on proposed settlements of state enforcement actions. *See* 40 C.F.R. § 123.27(d)).

4. Federal Intervention.

a. In states with authority to run their own permit programs, EPA retains the power to initiate enforcement action, even if the state has decided that enforcement is not warranted. 33 U.S.C. § 1319(a). EPA must give the state 30 days notice of its intent to commence enforcement, however. During that 30 days, the state can reconsider its earlier determination and bring its own enforcement action.

b. Further, EPA may "overfile" by commencing a federal enforcement action even though a state with permitting authority and its own enforcement program has initiated an enforcement action in state court.

c. Finally, if EPA determines that a state with permitting authority is routinely failing to enforce it permits, EPA must step in and assume enforcement authority. 33 U.S.C. § 1319(a)(2). Before doing so, however, EPA must notify the state of its intent and allow the state 30 days to begin adequate enforcement.

B. Federal Criminal Penalties - Section 309(c). 33 U.S.C. § 1319(c).

1. Negligent Violations.

a. Fines of not less than $2,500 nor more than $25,000 per day of violation.

b. Up to one year's imprisonment.

c. Fines and length of imprisonment are doubled for a second offense.

2. Knowing Violations.

a. Fines of not less than $5,000 nor more than $50,000 per day of violation.

b. Up to three year's imprisonment.

c. As with negligent violations, fine and imprisonment levels double for subsequent convictions.

3. Knowing Endangerment.

a. Relatively new offense.

b. Committed when a person knowingly violates a permit or other requirement and knows at the time that he thereby places another person in imminent danger of death or serious bodily injury.

c. Conviction requires proof of "actual awareness or actual belief" which may be shown by circumstantial evidence, including evidence that the defendant took affirmative steps to shield himself from relevant information.

d. Penalties for Knowing Endangerment.

(1) Fines of up to $250,000.

(2) Imprisonment for up to 15 years.

(3) Organizations can be fined up to $1,000,000.

(4) Penalties are doubled for second offenses.

4. False Statements.

a. Committed by falsifying reports or knowingly falsifying, tampering with, or rendering inaccurate any monitoring device or method.

b. Penalties.

(1) Fines of up to $10,000.

(2) Imprisonment for up to two years.

(3) Again, penalties double for second offenses.

C. Federal Civil Enforcement Options.

1. Injunctive Relief.

a. Section 504. Applies to discharges which present an imminent and substantial endangerment to the health, welfare, or livelihood of persons. 33 U.S.C. § 1364.

b. Section 309(b). To restrain and abate violations of the statute, regulations, and permits, including state NPDES permits.

2. Civil Penalties.

a. Up to $25,000 per day for each violation.

b. Civil penalties may be imposed without a showing of negligence or fault on the part of the violator.

D. Federal Administrative Orders.

1. Orders Assessing Administrative Penalties.

a. The 1987 CWA amendments authorized EPA to issue administrative orders assessing penalties for CWA violations.

b. Class I Penalties – Not more than $10,000 per violation, up to a maximum of $25,000.

c. Class II Penalties – Not more than $10,000 per day for each violation, up to a maximum of $125,000.

d. Class I and II penalties may be imposed only after notice and hearing (informal hearings in the case of Class I penalties; full adjudicatory hearings in the case of Class II penalties).

2. Compliance Orders.

a. EPA may also issue administrative orders requiring compliance with the CWA.

b. Compliance orders are administrative commands. They do not impose sanctions for the underlying violation or for violation of the compliance order itself. Nevertheless, those who ignore compliance orders may risk criminal prosecution for "knowing" violations of the Act.

E. Federal Citizen Suits. 33 U.S.C. § 1365.

1. The CWA allows any person "having an interest which is or may be adversely affected" to bring a civil action against any person for violation of any effluent standard, limitation, or order. The CWA's citizen suit provision also allows citizens to bring suit against EPA for failure to perform nondiscretionary duties.

2. Citizens may bring suit only for continuing or intermittent violations, as opposed to wholly past violations. *See* Gwaltney of Smithfield Limited v. Chesapeake Bay Foundation, Inc., 484 U.S. 49 (1987).

3. If EPA or a state is "diligently prosecuting" a violation, the CWA bars citizen suits. 33 U.S.C. § 1365(b). Naturally, citizens and regulators disagree as to what constitutes a "diligent prosecution," leaving it to the courts to settle the issue. *See, e.g.,* Natural Resources Defense Council, Inc. v. Fina Oil and Chemical Company, 806 F. Supp. 145 (E.D. Tex. 1992) (holding that an EPA or state enforcement action that results in a compliance order and not a penalty assessment does not constitute a diligent prosecution that would foreclose a citizen suit).

4. In most cases, plaintiffs must give the alleged violator, EPA, and the state 60 days notice before filing suit.

X. RELATED LEGISLATION.

A. Safe Drinking Water Act (SDWA), 42 U.S.C. § 300f-300j-26.

1. The CWA is primarily concerned with the protection of surface water. Through its regulation of contaminants in "public drinking water systems," the SDWA, to some extent, fills a regulatory gap regarding the protection of underground water supplies. *See also* Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901-6992k.

2. On 6 August 1996, the Safe Drinking Water Act Amendments of 1996 were signed into law. The amendments are substantial, effecting major changes in the statute.

3. The most significant impacts of the Amendments upon the Army are expansion of the waiver of sovereign immunity and changes in the Act's public notice provisions.

a. Expansion of the waiver of sovereign immunity. 42 U.S.C. § 300j-6.

(1) Under the SDWA's amended waiver of sovereign immunity, federal agencies that engage in certain "triggering" activities must comply with all federal, state, and local safe drinking water laws. These activities are as follows:

(a) Owning or operating any facility in a wellhead protection area.

(b) Engaging in any activity that results or may result in contamination of water supplies in a wellhead protection area.

(c) Owning or operating any public water system.

(d) Engaging in any activity that results in or may result in underground injection which endangers drinking water.

(2) Under the 1996 amendments, DOD installations are now subject to punitive and coercive fines. Further, EPA now has authority to issue administrative penalty orders, not to exceed $25,000 per day per violation. Finally, federal employees are now subject to criminal sanctions, including fines and imprisonment.

b. Changes in the public notice provisions. 42 U.S.C. § 300g-3.

(1) Under the 1996 amendments, EPA and the states must amend their regulations to require notification within 24 hours of any violation that could have a "serious adverse effect" on human health.

(2) The amendments also require owners or operators of public water systems to notify persons served by the system of the following:

(a) Any failure on the part of the system to comply with an applicable maximum contaminant level or treatment technique requirement of, or a testing procedure prescribed by, a national drinking water regulation.

(b) Failure to perform required monitoring.

(c) The existence of a variance or exemption.

(d) Failure to comply with a schedule prescribed in accordance with any variance or exemption.

(e) The concentration level of any unregulated contaminant for which the EPA requires public notice.

(3) Under § 300g-3(c)(2), EPA is required to promulgate regulations that prescribe the manner, frequency, form, and content for giving public notices. The target date for completion of these regulations is 6 August 1998. The 1996 Amendments also authorize states to adopt their own regulations.

c. *See* the Environmental Law Division's August 1996 *Environmental Law Bulletin* for a detailed discussion of the 1996 SDWA Amendments.

4. EPA continues to work on regulations implementing new requirements under the 1996 SDWA Amendments. New developments include the following:

a. Regulations to control microbial contaminants, disinfectants, and disinfection byproducts. (63 Fed. Reg. 69,389, revised at 66 Fed. Reg 3769, effective date 15 February 2001).

b. EPA Rule on MCLs of arsenic in drinking water. (66 Fed. Reg. 6976).

c. Regulations specifying the contents of "customer confidence reports;" i.e., the annual reports that water systems must send to customers disclosing information about the quality of their water. EPA published a final rule on 19 August 1998 (63 Fed. Reg. 44,512).

d. Publication of the first "contaminant candidate list;" i.e., a list of contaminants known or anticipated to occur in drinking water supplies that are not currently subject to regulation.

(1) This list will be used to select contaminants for future regulation, to develop health advisories and guidance, and to determine research priorities.

(2) EPA published a draft of the first Drinking Water Contaminant Candidate List (CCL) on 6 October 1997 (62 Fed. Reg. 52,193). The final CCL was published on 2 March 1998 (63 Fed. Reg. 10,274).

(3) By 2001, EPA must select five or more contaminants from the list and determine whether to regulate them.

(4) A new CCL must be published every five years.

B. Oil Pollution Act of 1990 (OPA), Pub. L. No. 101-380.

1. The OPA is a comprehensive statute that is much more stringent than any previous U.S. or international oil pollution control law. Although the Exxon Valdez and several subsequent accidents are generally viewed as the driving force behind the OPA, the statute is actually the product of nearly 20 years of congressional debate on oil pollution liability and tanker safety.

2. The OPA is divided into nine titles.

a. Title I creates a new section on oil pollution liability and compensation in Title 33 of the U.S. Code. 33 U.S.C. §§ 2701-2761.

b. Title IV amends provisions of the CWA concerning oil spills. Subtitles B and C of Title IV significantly changed section 311 of the CWA. 33 U.S.C. § 1321.

c. Title III concerns the implementation of international treaties.

d. Titles II, VI, and IX contain technical and conforming amendments to other laws.

e. Titles V, VII, and VIII address subjects primarily concerned with Alaska (i.e., provisions on oil spill prevention and removal in Prince William Sound; provisions establishing an oil pollution research and development program; and amendments to the Trans-Alaska Pipeline System Act).

3. Title IV, OPA – Prevention and Removal.

a. Title IV is divided into three subtitles.

(1) Subtitle A deals with prevention, changing many of the laws governing the manning and operation of tank vessels to prevent oil spills.

(2) Subtitle B focuses on cleanup, establishing a national planning and response system to ensure the prompt and effective removal of spills that do occur.

(3) Subtitle C addresses enforcement, substantially increasing the severity of criminal and civil penalties that can be imposed on vessel and facilty owners and operators for discharges of oil under the OPA and the CWA.

b. Significant Title IV Requiremnts.

(1) Reporting Spills.

(a) If a "reportable quantity" of oil or a hazardous substance is spilled or discharged into navigable waters, the discharge must be reported. 33 U.S.C. § 1321(b)(5).

(b) What constitutes a reportable quantity depends on the material spilled.

(i) For oil, a reportable quantity is enough oil to:

(a) Violate applicable water quality standards; or

(b) Cause a sheen on the surface of the water, or a discoloration of the water, or sludge on the shore.

40 C.F.R. § 110.3.

(ii) Reportable quantities for other hazardous substances are divided into five categories. The categories, and their associated reportable quantities, are as follows:

(a) "X" -- 1 pound.

(b) "A" -- 10 pounds.

(c) "B" -- 100 pounds.

(d) "C" – 1,000 pounds.

(e) "D" – 5,000 pounds.

Specific substances, with their respective categories, appear in a table at 40 C.F.R. § 117.3.

(c) Responsible persons must immediately notify the National Response Center (NRC), U.S. Coast Guard, 2100 Second Street, SW., Washington, D.C. 20593 (1-800-424-8802) of all reportable spills. 33 C.F.R. § 153.203.

(d) Failure to report spills as required is a criminal offense under Title 18 of the U.S. Code and could result in imprisonment of up to five years. 33 C.F.R. § 153.205.

(2) Spill Prevention Control and Countermeasure Plan.

(a) Installations with tanks containing oil or hazardous substances that, because of their location, could reasonably be expected to cause substantial harm to the environment by discharging their contents into navigable waters, adjoining shorelines, or the exclusive economic zone of the United States are required to have a spill prevention control and countermeasure plan (SPCC). 33 U.S.C. § 1321(j)(5)(A) and (B).

(b) The SPCC must:

(i) Be consistent with the National Contingency Plan (40 C.F.R. Part 300) and Area Contingency Plans.

(ii) Identify the person at the facility who is in charge of and who has the authority to implement the plan.

(iii) Require immediate communication between the person in charge and appropriate federal officials and response action contractors.

(iv) Ensure that sufficient personnel and equipment will be available to remove a worst case spill to the maximum extent practicable.

(v) Require testing and training to ensure that the plan can be complied with.

(vi) Be updated periodically.

(vii) Be resubmitted for approval upon each significant change in the plan.

33 U.S.C. § 1321(j)(5)(C).

(c) Ordinarily, facilities required to prepare an SPCC may not handle, store, or transport oil unless they have an approved SPCC and are operating in compliance with it. 33 U.S.C. § 1321 (j)(5)(E).

(d) Once a facility that is required to have an SPCC has submitted it for approval, however, the facility may be permitted to operate (for up to two years) pending approval of the plan. 33 U.S.C. § 1321 (j)(5)(F).

4. Fines and Penalties.

a. Unlawful Discharges.

(1) Administrative penalties.

(a) Class I. Up to $10,000 per violation, not to exceed a total of $25,000. 33 U.S.C. § 1321(b)(6)(B)(i).

(b) Class II. Up to $10,000 per day for each day of violation, not to exceed a total of $125,000. 33 U.S.C. § 1321(b)(6)(B)(ii).

(2) Civil fines.

(a) May be imposed instead of administrative penalties in an amount up to $25,000 per day of violation or an amount up to $1,000 per barrel of oil or unit of hazardous substance discharged. 33 U.S.C. § 1321(b)(7)(A).

(b) If the spill was the result of gross negligence or willful misconduct, the civil penalty will be not less than $100,000 and not more than $3,000 per barrel of oil or unit of hazardous substance spilled. 33 U.S.C. § 1321(b) (7)(D).

b. Failure to Remediate.

Subjects violators to civil penalties in an amount up to $25,000 per day of violation or an amount up to three times the cost incurred by the Oil Spill Liability Trust Fund as a result of such failure. 33 U.S.C. § 1321(b)(7)(B).

CHAPTER IV

THE CLEAN AIR ACT

I. REFERENCES.

A. Federal Statutes and Regulations.

1. Clean Air Act, 42 U.S.C. §§ 7401-7671q, *as amended* by the Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399.

2. 40 C.F.R. pt. 51, Requirements for Preparation, Adoption, and Submittal of Implementation Plans.

3. 40 C.F.R. pt. 52, Approval and Promulgation of Implementation Plans.

4. 40 C.F.R. pt. 60, Standards of Performance for New Stationary Sources.

5. 40 C.F.R. pt. 61, National Emission Standards for Hazardous Air Pollutants.

6. 40 C.F.R. pt. 63, National Emission Standards for Hazardous Air Pollutants from Source Categories.

7. 40 C.F.R. pt. 70, State Operating Permit Programs.

8. 40 C.F.R. pt. 71, Federal Operating Permit Programs.

9. 40 C.F.R. pt. 81, Designation of Areas for Air Quality Planning Purposes.

10. 40 C.F.R. pt. 82, Protection of Stratospheric Ozone.

11. 40 C.F.R. pt. 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans.

12. 40 C.F.R. pt. 372, EPA Toxic Chemical Release Reporting: Community Right-To-Know.

B. State Regulatory Authority. Federal facilities are subject to state and local air pollution regulations pursuant to the waiver of sovereign immunity found in Section 118 of the Clean Air Act (CAA). 42 U.S.C. § 7418.

C. Related DOD Guidance.

1. DOD Directive 6050.9, Ozone Depleting Substances (13 February 1989).

2. DOD Instruction 4120.14, Environmental Pollution Prevention and Control (30 August 1977).

D. Related Service Regulations.

1. AR 200-1, Environmental Protection and Enhancement, 21 February 1997.

2. AR 40-5, Preventive Medicine, paragraph 11-4 (Air Emission Inventories).

3. AFI 32-7040.

4. OPNAVINST 5090.1B.

II. KEY DEFINITIONS.

A. **Air Quality Control Regions (AQCRs)**. Geographical subdivisions established pursuant to CAA § 107 for coordinated planning of air pollution control activities. 42 U.S.C. § 7407.

B. An **Attainment Area** is an area considered to have air quality as good as or better than the National Ambient Air Quality Standards.

C. **Criteria Pollutants** are those compounds regulated under §§ 108 & 109. EPA has listed six which are currently being regulated (Particulates, Sulfur Dioxide, Carbon Monoxide, Nitrogen Oxides, Lead, Ozone).

D. **Federal Implementation Plan (FIP)**, § 110(c)(1), § 302(y), is a plan EPA must promulgate pursuant to § 110 if a state fails to develop a State Implementation Plans (SIP), or if EPA disapproves the SIP.

E. **Lowest Achievable Emission Rate (LAER)** is the degree of control required pursuant to § 173 on new major sources and major modifications in nonattainment areas; technology must be best in use or most stringent in any SIP (cost not taken into account). 42 U.S.C. § 7501(3).

F. **Major source.**

1. Any stationary source or group of stationary sources within a contiguous area and under common control that emits, or has the potential to emit, in the aggregate, 10 tons per year of any hazardous air pollutant or 25 tons, or more, per year of any combination of hazardous air pollutants. CAA § 112(a)(1), 42 U.S.C. § 7412(a)(1).

2. Any stationary source that emits, or has the potential to emit, 100 tons or more per year of any air pollutant. CAA § 302(j), 42 U.S.C. § 7602(j).

3. Other definitions come into play in CAA § 501, 42 U.S.C. § 7661(2). The Act contains 15 different definitions of a "major" source.

G. **National Ambient Quality Standards (NAAQS)** are standards that EPA sets under § 109 to protect public health with an adequate margin of safety (primary standards) and to protect the environment (secondary standards). 42 U.S.C. § 7409.

H. **National Emissions Standard for Hazardous Air Pollutants (NESHAP)**. Program established under § 112 to regulate hazardous air pollutants. CAA Title III. 42 U.S.C. § 7412.

I. A **new source** is a stationary source; the construction or reconstruction of which is commenced after the EPA Administrator first proposes regulations establishing an emission standard applicable to such a source. CAA §§ 111(a)(2), 112(a)(4); 42 U.S.C. §§ 7411(a)(2), 7412(a)(4).

J. **Notice of Violation (NOV)** is a formal notice of a CAA violation that is a prerequisite to many enforcement actions. CAA § 113(a), 42 U.S.C. §7413(a).

K. **PM_{10}** and **$PM_{2.5}$** mean particulate matter less than 10 micrometers and fine particulate matter (less than 2.5 micrometers) in diameter, respectively. Particulates are regulated as a criteria pollutant under § 109. CAA § 302(t), 42 U.S.C. § 7602(t). (Includes such matter as dust, dirt, sand, and airborne compounds formed by chemical reactions).

L. A **State Implementation Plan (SIP)**, is the plan states must develop pursuant to § 110 and Part D of Title I to provide for attainment and maintenance of NAAQS.

M. A **stationary source** is not a mobile source. It can be any building, structure, facility, or installation that emits, or may emit, any air pollutant. CAA § 111(a), 42 U.S.C. § 7411(a)(3); CAA § 112(r)(2)(C), 42 U.S.C. § 7412(r)(2)(C); and CAA § 302(z), 42 U.S.C. § 7602(z).

III. OVERVIEW OF THE CAA.

A. The original Clean Air Act (CAA) (Pub. L. No. 87-761) has been revised several times, most recently by the Clean Air Act Amendments of 1990 (CAAA) (Pub. L. No. 101-549).

B. The CAAA strengthened and broadened the earlier legislation by setting specific goals and timetables for reducing urban smog, airborne toxics, acid rain, and stratospheric ozone depletion throughout this decade and beyond.

C. The CAA, as amended by the 1990 Amendments, contains six Subchapters, each addressing a particular aspect of the national air quality program:

1. Subchapter I – Programs and Activities.

    a. Part A – Air Quality and Emission Limitations.

    b. Part B – Ozone Protection (repealed).

    c. Part C – Prevention of Significant Deterioration of Air Quality.

2. Subchapter II – Emission Standards for Mobile Sources.

    a. Part A – Motor Vehicle Emission and Fuel Standards.

    b. Part B – Aircraft Emission Standards.

    c. Part C – Clean Fuel Vehicles.

3. Subchapter III – General Provisions.

4. Subchapter IV.

    a. Subchapter IV – Noise Pollution.

    b. Subchapter IV-A – Acid Deposition Control.

5. Subchapter V – Permits.

6. Subchapter VI – Stratospheric Ozone Protection.

D. The CAA has been described as a "partnership" between federal and state government and as an "experiment in cooperative federalism." The CAA, however, gives most of the power to the EPA and places most of the responsibility on the states to achieve compliance with the air quality standards. The prime vehicle for implementation is known as the State Implementation Plan or "SIP," which outlines how states plan to establish, regulate, and enforce air pollution standards.

E. Waiver of sovereign immunity.

1. The Federal Government has generally waived its immunity to enforcement under the CAA.

2. Military installations must comply with all federal, state, and local air pollution control requirements "in the same manner and to the same extent as any nongovernmental entity." CAA § 118(a), 42 U.S.C. § 7418(a). This broad waiver of sovereign immunity requires federal facilities to comply with states' EPA-approved SIPs.

3. Military facilities pay all nondiscriminatory administrative fees and assessments imposed by state and local governments to defray costs of their air regulatory programs.

4. Military facilities do not, however, pay civil fines or penalties assessed by state or local authorities.

a. DOD takes the position that the CAA does not waive the government's sovereign immunity with respect to fines and penalties.

b. The Federal District Court for the Northern District of Georgia upheld this view in United States v. Georgia Department of Natural Resources, 897 F. Supp. 1464 (N.D. Ga. 1995).

c. Recently, however, the Federal District Court for the Middle District of Tennessee reached a different conclusion and held that the CAA does waive the government's sovereign immunity with respect to fines and penalties. United States v. Tennessee Air Pollution Control Board, No. 3:96-0278 (M.D. Tenn. 10 April 1997) (U.S. Army appeal of an administrative order issued by the Tennessee Air Pollution Control Board, rejecting the Army's assertion of sovereign immunity in defense of a $2,500 fine for violations of the CAA regulations involving the removal of asbestos at the Milan Army Ammunition Plant). On appeal the 6th Circuit found that the CAA's savings clause for its citizen suit provision contains an independent waiver of sovereign immunity authorizing punitive fines against federal facilities. This ruling applies to states in the 6th Circuit (KY, OH, MI, TN). (No. 97-5715 *1999, U.S. App. LEXIS 16863; 1999 Fed. App. 0266P (6th Cir.*), June 11, 1998, Argued July 22, 1999, Decided July 22, 1999). The above rationale was followed recently by the U.S. District Court in the Middle District of Florida, which held that the CAA did contain a waiver of sovereign immunity for the payment of civil penalties for air pollution control violations. City of Jacksonville v. U.S. Department of Navy, Case No. 3:01-cv-368-J-20HTS (Feb 5, 2002).

d. Given the conflicting positions taken by the courts, it is especially important that environmental law specialists (ELSs) to immediately contact the Environmental Law Division of the Office of The Judge Advocate General upon notification that a state agency is proposing/issuing a civil fine or penalty for a violation of the CAA. Military facilities should not, absent explicit approval from higher headquarters, pay civil fines or penalties assessed by state or local authorities.

F. Two types of emission sources are regulated under the CAA: stationary sources and mobile sources. Pollutants regulated under the CAA are characterized as either: criteria or hazardous.

IV. AIR QUALITY STANDARDS.

A. General. Air quality standards for stationary sources are found at Subchapter I of the CAA. The primary focus of this Subchapter is to ensure that all geographic areas in the United States meet established National Ambient Air Quality Standards (NAAQS). These standards are the basic barometers against which our conventional air pollution problems are measured. Urban areas that do not meet NAAQS for ozone, carbon monoxide (CO), or particulates [**note**, currently, only PM_{10} is considered for area compliance designation; the implementation of $PM_{2.5}$ standards will not occur for several more years] are placed in nonattainment areas. "Areas" are often portions of an AQCR. The NAAQS are limits placed on the level of six air pollutants known as criteria pollutants. These areas are further classified based on the degree of nonattainment for ozone, CO, or particulates.

B. Criteria Pollutants. EPA is required to publish and periodically revise a list of pollutants which "may reasonably be anticipated to endanger" public health or welfare and which are emitted from numerous or diverse stationary or mobile sources. CAA § 108, 42 U.S.C. § 7408. These substances are called criteria pollutants, because after compiling its list, EPA issued criteria documents describing the harmful effects of each of these substances. Currently, there are six criteria pollutants plus one "unlisted" criteria pollutant. (The designation of "unlisted" criteria pollutant is not a technical designation, but one coined by Professor Arnold Reitze of George Washington University). They are:

1. **Sulfur Dioxide**. Produced by the combustion of fossil fuels.

   a. 66% fossil fuel power plants.

   b. 16% industrial processes.

   c. 14% nonutility stationary source fuel combustion.

   d. 4% transportation sources.

2. **Particulates**. On 18 July 1997, EPA issued new standards for particulate matter (62 Fed. Reg. 38,652).

   a. The new standard retains the existing annual PM_{10} standard of 50 $\mu g/m^3$, and slightly adjusts the PM_{10} 24-hour standard of 150 $\mu g/m^3$.

   b. EPA has established two new particulate matter standards for fine particles ($PM_{2.5}$): an annual $PM_{2.5}$ standard set at 15 $\mu g/m^3$, and a 24-hour $PM_{2.5}$ standard of 65 $\mu g/m^3$.

   c. Sources of particulate matter:

      (1) 67% stationary sources.

      (2) 20% vehicles.

      (3) 5% solid waste disposal.

      (4) 5% natural sources.

3. **Nitrogen Oxides**. A product of complete combustion.

   a. 45% vehicular.

   b. 35% industrial and commercial boilers.

   c. 14 % "area" sources.

4. **Carbon Monoxide**. A product of incomplete combustion due to cold weather, high altitudes.

   a. 84% vehicular.

b. 2% stationary sources.

5. **Lead**.

a. Gasoline was the primary source.

b. Only unqualified success of the CAA.

6. **Ozone** (primary constituent of smog).

a. On 18 July 1997, EPA issued new standards for ozone (62 Fed. Reg. 38,856).

(1) The existing 1-hour standard will be phased out and replaced by the new 8-hour standard. Areas not meeting the current standard will be given an interim period to reach attainment before the new 8-hour standard will apply.

(2) Nonattainment area designations will be completed by 2000. States will then have up to three years to develop State Implementation Plans (SIP), and up to ten years to reach attainment.

(3) Special "transitional" classifications will be assigned to eligible areas participating in regional emission control strategies.

b. Ozone is regulated via "ozone precursors." The regulated precursors are:

(1) Nitrogen Oxides.

(2) Volatile Organic Compounds (VOCs).

7. Volatile Organic Compounds (considered the "unlisted criteria pollutant").

a. 45% vehicular sources.

b. 40% small "area" sources.

c. 15% large stationary sources.

d. VOC sources in the military sources include:

(1) Fuel storage and dispensing facilities.

(2) Spray painting and coating operations.

(3) Organic solvent degreasing operations.

(4) Dry cleaners.

(5) Vehicles.

C. National Ambient Air Quality Standards (NAAQS).

1. EPA is required to establish primary and secondary NAAQS for each criteria pollutant. CAA § 109, 42 U.S.C. § 7409. The NAAQS are published at 40 C.F.R. Part 50.

2. Primary standards must be set at a level, with an adequate margin of safety, which will protect human health. 42 U.S.C. § 7409(b)(1).

3. Secondary standards must be set at levels that protect public welfare (i.e., agriculture, property, aesthetics, etc.) from known and anticipated adverse impacts resulting from the presence of the pollutant in the ambient air. 42 U.S.C. § 7409(b)(2). (After the CAAA, only one secondary standard remained which is the 3-hour standard for SO_2).

4. EPA must review all NAAQS for adequacy every 5 years. 42 U.S.C. § 7409(d).

5. Primary NAAQS must be established using only health protecting criteria. Cost, technical feasibility, or other factors cannot be considered when setting primary NAAQS. NRDC v. EPA, 902 F.2d 962, 973 (D.C. Cir. 1990).

D. Air Quality Control Regions (AQCRs).

1. The country is divided into 263 AQCRs. 42 U.S.C. § 7407; 40 C.F.R. Part 81. Compliance with NAAQSS is typically assessed under 42 U.S.C. § 7407 within each state on an area-by-area basis. Some AQCRs, however, are multi-state, such as the Northeast Transport Region, consisting of states along the East Coast from Maine to the District of Columbia. Additionally, the CAAA expanded the geographic scope of serious, severe, and extreme ozone nonattainment areas to include an entire metropolitan statistical area (MSA) or a consolidated metropolitan statistical area (CMSA).

2. Because NAAQSS establish ceilings for individual pollutant concentrations throughout the United States, their impact in a given locality depends on the existing air quality in that location. Where air quality is deficient, significant restrictions can be imposed on new and existing air pollution sources based on NAAQSS driven emission limitations.

3. AQCRs are further broken down into smaller parts called "areas." Areas are now the basic unit for control. Areas are evaluated for compliance with NAAQS for each criteria pollutant and designated as either:

   a. Attainment,

   b. Nonattainment, or

   c. Unclassified.

4. Nonattainment areas.

a. Ozone areas divided into five categories based on the degree of contamination:

(1) Marginal,

(2) Moderate,

(3) Serious,

(4) Severe, and

(5) Extreme.

b. Carbon Monoxide and PM_{10} are classified as either:

(1) Moderate, or

(2) Serious.

V. STATE IMPLEMENTATION PLANS (SIPs).

A. SIPs are the primary regulatory mechanism used by states to ensure emissions of stationary sources comply with the NAAQS. 42 U.S.C. § 7410. EPA must approve SIPs.

B. SIPs are the blueprints for a geographical region to achieve primary and secondary NAAQS.

C. Each state has a complicated array of SIPs. A SIP is required to address each criteria pollutant in each air pollution control region within the state. Moreover, state law may require SIPs for additional pollutants beyond the federal criteria pollutants.

D. Once approved by the EPA, SIPs become enforceable by the EPA as federal pollution control law. They remain state laws as well. States can attempt to modify SIPs and waive SIP requirements, but the original SIP remains federally enforceable until the EPA approves the change.

E. Failure of a state to develop a SIP that meets the NAAQS requires EPA to develop a Federal Implementation Plan (FIP) within two years of when the state SIP was due. Failure of a state to develop an adequate SIP can subject a state to various sanctions, including the cutoff of federal highway money and the imposition of more stringent standards for new or modified sources. 42 U.S.C. §§ 7410, 7509. As a result of the CAAA, state SIPs must include a requirement that all major sources within their jurisdiction obtain a permit and pay permit fees sufficient to cover the costs of issuing and enforcing the conditions of a permit. 42 U.S.C. § 7410(a)(2)(L).

VI. NEW SOURCE PERFORMANCE STANDARDS (NSPS).

A. States are required to establish minimum control technology for categories of new and modified pollutant sources. These standards are referred to as NSPS. 42 U.S.C. § 7411(c). The degree of control depends on whether or not the new or modified source is located in a nonattainment area or a prevention of significant deterioration (PSD) area. States **may** also develop programs for control of hazardous air pollutants (National Emission Standards for Hazardous Air Pollutants (NESHAP)). 42 U.S.C. § 7412.

B. NSPS apply to all new facilities or modified facilities whose construction or modification begins after the date of **proposal** of the NSPS by EPA. 42 U.S.C. § 7411. Currently, EPA has set NSPS for 75 categories of new or modified stationary sources. 40 C.F.R. Part 60. Additional NSPS will be set over the coming years according to a schedule at 42 U.S.C. § 7411(f).

C. States develop control strategies in their SIPs to achieve compliance with the NAAQS, but the federal government promulgates nationally uniform NSPS. These standards are developed independently of the local air and they take into consideration cost.

D. NSPS are designed to achieve two major goals.

1. They place a special burden on new and modified plants on the theory that they have the greatest flexibility to incorporate the newest pollution control technology into their construction plans.

2. They ensure that the same degree of technological control is exercised over all new sources of air pollution. This prevents jurisdictions from competing with each other for industry through adoption of more lenient air pollution requirements.

E. States are also required to regulate emissions from existing sources in any source category for which EPA sets a NSPS for new and modified sources if the emissions include pollutants not covered by NAAQS or are hazardous air pollutants (air toxics) listed at 42 U.S.C. § 7412.

VII. PREVENTION OF SIGNIFICANT DETERIORATION.

A. The Prevention of Significant Deterioration (PSD) program applies in "attainment areas," i.e., geographic regions which have achieved the NAAQS or for which there is insufficient data to determine whether the NAAQS have been achieved (unclassified). Its purpose is to keep clean areas clean. Each area is designated as either attainment or nonattainment for each criteria pollutant. In any given AQCR, therefore, there will be both nonattainment and PSD requirements. Rarely are any areas designated for nonattainment for more than two criteria pollutants.

B. Areas designated as "attainment" for any given criteria pollutant are subject to the PSD requirements. These areas are then further divided into one of three classes, depending on the extent of additional particulate matter, sulfur dioxide, and nitrogen oxides pollution to be allowed under the PSD program. Each area then has a separate "increment" of allowable pollutant increases.

C. Generally "nonattainment" rules apply where the primary or secondary NAAQS have not been achieved. The consequences include more stringent permitting and control requirements for new and modified sources of pollution.

D. Under the PSD program:

1. All new or modified sources considered a major emitting facility (larger than certain thresholds) must use best available control technology (BACT) which is at least as stringent as NSPS for the applicable source category. Modified sources include those sources where there has been a physical change or change in operating procedures that would result in a significant net emissions increase. 40 C.F.R. § 52.21(b)(2).

2. Major new or modified sources are those sources that:

   a. Fall into one of 28 specifically designated industrial categories that have the potential to emit more than 100 tons per year of any pollutant regulated by the CAA; or

   b. Outside of the 28 designated industrial sources are those sources that have the potential to emit 250 tons or more of any air pollutant regulated under the CAA.

These major new or modified sources must undergo a rigorous air quality review that is administered by a state pursuant to a SIP (or an EPA FIP if no SIP exists). This review results in a permit.

3. The "source" regulated is the largest grouping of pollutant-emitting activities located on contiguous or adjacent properties that are under the control of the same person and that fall within the same Standard Industrial Classification (SIC) code major group. 40 C.F.R. § 52.21(b)(6). **The definition of the source is important because a new source review is necessary only if there is a net increase in emissions from that source**. In other words, reducing emissions from other emitting activities at a source so that total emissions of CAA regulated pollutants are reduced below 100 tons per year (tpy) at designated facilities and 250 tpy at non-designated facilities ("netting") can result in avoidance of new source review procedures.

4. A **new major source** seeking a PSD permit must demonstrate pursuant to 42 U.S.C. § 7475 that:

   a. It will use "Best Available Control Technology" (BACT). BACT is defined as "the maximum degree of [emissions] reduction . . . which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility" and is as stringent as the NSPS. 42 U.S.C. § 7479(2)(C)(3).

   b. It will not violate any NAAQS.

   c. It can satisfy all statutory requirements for new and modified sources in PSD areas that are at 42 U.S.C. §§ 7470-7491 and the statutory requirements for new and modified sources in nonattainment areas that are at 42 U.S.C. §§ 7501-7514.

   d. It can satisfy permit conditions required by the SIP.

   e. It can satisfy permit requirements that are part of state law or regulations that are not required by the SIP.

VIII. NONATTAINMENT AREAS--CRITERIA POLLUTANTS.

A. Areas with air quality violating the NAAQS are "nonattainment areas." Prior to construction or modification of a major source in a nonattainment area, that source must obtain a permit. 42 U.S.C. § 7502(c)(5).

B. Traditionally, States reviewed air quality data and asked EPA to designate areas as not meeting air quality standards. These areas were called "nonattainment" areas because they were violating the NAAQS. The CAAA gave EPA the authority to modify an area's nonattainment boundary. In addition, for areas with serious ozone or carbon monoxide problems, the entire metropolitan area will be included in the nonattainment area unless the state shows why a smaller boundary is more appropriate. These boundaries are important because more stringent control requirements apply within nonattainment areas. The type of controls imposed depends on the severity of the problem and which of the NAAQS the area does not comply with.

C. Ozone Nonattainment Areas.

1. Ozone is currently the most pervasive nonattainment pollutant in the United States. It is the least tractable pollutant in terms of attainment of the ambient standard and, therefore, receives the most attention. Ozone is an elusive pollutant because it is not emitted directly from any source, such as a stack; and it is considered a secondary pollutant because it is formed in the atmosphere. It is a measurement pollutant that is a surrogate for photochemical oxidants that can be formed by thousands of complex organic chemicals. The interaction of nitrogen oxide (NOX) and hydrocarbon (HC) heated by sunlight form ozone (smog) in the lower atmosphere. A subset of hydrocarbons, called "volatile organic compounds" (VOCs), which are highly reactive, are the primary chemicals controlled to reduce ozone.

2. The CAA divides the ozone nonattainment areas into five classifications based on the severity of their pollution and the time given to meet NAAQS requirements for ozone.

   a. The pre-July 1997 standard of 0.12 parts per million (ppm) measured as a 1-hour average will be phased out and replaced by the new standard of 0.08 ppm as measured as an 8-hour standard. The 1-hour standard will continue to apply to areas not attaining it for an interim period to ensure an effective transition to the new 8-hour standard.

   b. Special “transitional” classifications will be assigned to eligible areas participating in regional emission control strategies.

3. EPA designates cities that only slightly exceed the federal air quality standards as "Marginal" or "Moderate" areas, depending on how far beyond the standard their air quality measures. Cities furthest from the standard, thus having the highest pollution, are designated as "Serious," "Severe" or, in the case of Los Angeles, "Extreme." The Act requires "Marginal" areas to do very little beyond what they are already doing, while "Moderate" through "Extreme" areas must adopt gradually tighter requirements.

4. Some of the major specific requirements for the five categories of ozone nonattainment are:

a. Installations located in **marginal ozone nonattainment areas** which have major sources (defined as a source with the potential to release 100 tons per year or more of any pollutant) are subject to emission controls and specific requirements.

(1) The state must promulgate revisions to its SIP designed to meet the deadline for attainment. Such SIP revisions must include, at a minimum, the implementation of Reasonably Available Control Technology (RACT), permit programs for new and modified sources, and the retention of any vehicle inspection and maintenance program previously required for the area. 42 U.S.C. § 7511a(a)(1), (2).

(2) These installations are required to submit comprehensive emissions inventories. They must ensure that new or modified sources obtain permits and undergo new source review as required in sections 172 and 173 of the CAA (42 U.S.C. §§ 7502 and 7503). All new or modified major VOC sources must offset all new VOC emissions 1.1 to 1. 42 U.S.C. § 7511a(a)(4).

b. Installations located in **moderate ozone nonattainment areas** are subject to all requirements in marginal nonattainment ozone areas.

(1) In addition, these installations must install RACT for each category of VOC sources covered by an existing Control Technique Guideline (CTG) issued by EPA as well as all other major stationary sources of VOCs. RACT is not defined in the statute. It is implemented at the state level, but is essentially a national standard. EPA has issued a number of CTGs and other documents to assist the state in identifying RACT for particular sources and categories of sources. CTGs are used by EPA to define reasonably available control technology that must be applied to existing emission facilities to reduce VOC emissions. 42 U.S.C. § 7511a(b)(2)(A) & (B). The general offset requirement for new sources and modification is increased to 1.15 to 1. 42 U.S.C. § 7511a(b)(5).

(2) All large service stations, including retail gasoline stations and fleet fueling facilities, dispensing more than 10,000 gallons per month of gasoline, or distributing more than 50,000 gallons per month for independent small business marketers, must install and operate a system for recovery of gasoline vapor emissions from the refueling of motor vehicles. This system captures and prevents volatile gasoline components from entering the atmosphere. 42 U.S.C. § 7511a(b)(3).

(3) All moderate areas are required to establish an inspection and maintenance (I&M) program meeting EPA specifications. 42 U.S.C. § 7511a(b)(4). Section 118(c) of the CAA requires all government vehicles, except tactical vehicles, to be inspected and to comply with state inspection and maintenance programs. Additionally, section 118(d) requires that all employees who operate motor vehicles on a federal property or facility must furnish proof of compliance with vehicle I&M program requirements for the state in which the facility or government property is located, "without regard to whether such vehicles are registered in the State." The requirements of this section are determined by the location of the federal property or facility, not the place the employees live and garage their cars at night.

c. Installations in **serious ozone nonattainment areas** must meet all the requirements imposed with respect to a moderate area as well as additional requirements.

(1) For the serious areas, a "major" source is redefined to include any stationary source or group of sources located within a contiguous area and under common control that emits, or has the potential to emit, at least fifty tons per year of VOCs. 42 U.S.C. § 7511a(C). The state must also revise its SIP to require an enhanced vehicle I&M program for urban areas with a population of 200,000 or more. 42 U.S.C. § 7511a(c)(3)(A) & (B).

(2) Serious, severe, or extreme ozone nonattainment areas having a 1980 population of 250,000 or more, or any carbon monoxide nonattainment area having a 1980 population of 250,000 or more, are subject to the clean fuel fleet provisions of Title II. Federal owners of vehicle fleets are required to purchase increasing numbers of alternative fuel vehicles (AFVs) over the next decade which use clean alternative fuels. 42 U.S.C. § 7586. "Covered fleets" are 10 or more motor vehicles that are owned or operated by a single person. This includes motor vehicles owned or operated, leased, or otherwise controlled by a single person. "Covered fleet vehicles" are motor vehicles that are centrally fueled. 42 U.S.C. § 7581(5), (6).

(3) Federal facilities have an additional requirement under section 246 of the CAA. Section 246 requires federal facilities to make clean fuels available to the public, unless there is a commercial alternative fuel facility within the vicinity that sells the same type of clean fuel. 42 U.S.C. § 7586.

(4) Serious ozone nonattainment areas are also subject to transportation control measures. Congress recognized in the CAA that motor vehicles are the single largest source of ozone and carbon monoxide pollution, and that a solution to reduce these emissions is to reduce vehicle miles traveled.

(5) The CAA mandated that each state containing all or part of a serious ozone nonattainment area revise its SIP to include an "attainment demonstration"--that the revised plan "will provide for attainment of the ozone NAAQS by the applicable attainment date." 42 U.S.C. § 7511a(c)(2)(A). If actual emissions exceed projected emission levels, the state must submit a SIP revision that includes a "transportation control measures" program based on measures from, but not limited, to those set out in section 108(f) of the CAA. Transportation control measures (TCM) are also required for serious carbon monoxide nonattainment areas. 42 U.S.C. § 7512a(a)(2)(B). Some popular measures are:

(a) On-site carpool and ride-sharing measures.

(b) Preferred parking for carpools and vanpools.

(c) Guaranteed ride home.

(d) Bicycle racks and lockers.

(e) Flexible work schedules.

(f) Elimination of free parking.

(g) Public transportation subsidies to employees.

(h) Subsidies for employees not utilizing public transportation and not using privately owned transportation.

d. In **severe ozone nonattainment areas**, all requirements applicable to serious areas are also applicable to severe areas to include additional requirements.

(1) A "major source" or "major stationary source" is redefined as any stationary source or group of sources located within a contiguous area and under common control that emits or has the potential to emit 25 tons or more of VOCs. 42 U.S.C. § 7511a(d).

(2) TCMs must be developed to offset any growth in emissions resulting from growth in vehicle miles traveled since enactment. 42 U.S.C. § 7511a(d)(1)(A). In addition, employers of 100 employees or more must increase average employee vehicle occupancy during commuting hours by at least 25 percent. 42 U.S.C. § 7511a(d)(1)(B).

(3) An important provision that applies in severe areas is section 211(k) of the CAA, which governs the use of reformulated gasoline. Reformulated gasoline is expected to provide the greatest reduction in emissions of ozone-forming VOCs (during the high-ozone season) and emissions of toxic air pollutants (during the entire year). 42 U.S.C. § 7545(k)(10)(E). To achieve this goal, section 211(k) requires the use of reformulated gasoline in the nine worst ozone nonattainment areas in the country. The nine areas are: Los Angeles, California; Baltimore, Maryland; Chicago, Illinois; Indiana; Wisconsin; Houston, Texas; Milwaukee, Wisconsin; Muskegon, Michigan; New York City, New York; New Jersey; Delaware; Maryland; San Diego, California. The Act makes it unlawful to sell *conventional* gasoline in any of these affected areas. 42 U.S.C. § 7545(k)(5). This provision makes the use of reformulated gasoline optional in the remaining 86 ozone nonattainment areas.

e. In an **extreme ozone nonattainment area**, sources must implement all of the requirements applicable to all of the other areas. In addition:

(1) A "major source" is now defined as one that has the potential to emit at least 10 tpy of VOCs. The offset requirement for new sources and modifications is 1.5 to 1. Any change that causes any increase in emissions from a discrete operation, unit, or activity will be considered a modification, whether or not the increase in emissions might otherwise be characterized as de minimis. 42 U.S.C. § 7511a(e)(2).

(2) SIPs for extreme areas must be revised to provide that all electric utilities and commercial boilers that emit more than 25 tpy of NOX either burn, as a primary fuel, natural gas, methanol, ethanol, or a comparably low polluting fuel, or use advanced control technology. Such SIPs must also provide for additional TCMs during heavy traffic hours. 42 U.S.C. § 7511a(e)(3) & (4).

5. In some regions of the U.S., cities are so closely spaced and aligned with prevailing wind patterns that it is difficult to identify a particular city with a downwind ozone level. For ozone control of a super region, CAA § 184 established a "transport region." It is located in the northeast U.S. extending from the Washington, DC, metropolitan area to Maine and includes the major cities of Washington, Baltimore, Philadelphia, New York, and Boston, as well as 11 entire states from Maryland to Maine. 42 U.S.C. § 7511c. Each state in the transport region is required to submit a revised SIP that includes:

    a. An enhanced vehicle I&M program for metropolitan statistical areas with a population over 100,000; and

    b. RACT for sources of VOCs covered by EPA CTGs.

6. In addition, stationary sources that emit 50 tpy of VOCs are considered to be major stationary sources and are subject to the requirements of major stationary sources in moderate nonattainment areas. EPA has also instituted stringent refueling controls for these areas.

7. All areas in the transport region are required to adopt control measures on hydrocarbon sources, including some of the requirements that apply to the moderate ozone areas.

8. These minimum control measures extend beyond the nonattainment boundary and include the entire state. States in transport regions are also required to install controls on NOX sources unless the area can prove to the EPA's satisfaction that NOX control does not help to reduce ozone pollution.

9. Finally, § 184(c) allows the interstate transport commission created under § 176 to impose additional control measures necessary to bring any area in the region into attainment.

10. Interstate transport commissions can be established for other regions when the interstate transport of air pollutants causes a violation of a NAAQS in one or more states.

11. The transport requirements are in addition to any requirements that may apply to nonattainment areas within the transport region. This means that a marginal area in a transport region would have more stringent requirements than a marginal area outside of the region.

D. Carbon Monoxide Nonattainment Areas.

1. The CAA classifies carbon monoxide (CO) nonattainment areas according to pollution level. Unlike ozone, however, the CAA does not require CO areas to achieve a specified level of annual reductions in emissions.

2. CO nonattainment areas are either classified as being moderate or serious. 42 U.S.C. § 7512. Even though the CAAA sets out the two designations, it effectively subdivides moderate areas into two subcategories:

   a. Areas having design values of 9.1 to 12.7 ppm ("good quality moderate" areas [not a technical term]); and

   b. Areas having design values greater than 12.7 ppm ("poor quality moderate" areas [not a technical term]).

3. "Good quality moderate" carbon monoxide nonattainment areas have only three requirements:

   a. Submission of an accurate inventory within two years of designation;

   b. Compilation of a revised inventory; and

   c. Continuation of any existing I&M program. If the area was not previously required to have a vehicle I&M program, there is no requirement to start one. 42 U.S.C. § 7512a(a)(4).

4. "Poor quality moderate" carbon monoxide nonattainment areas must meet four requirements:

a. They must compile forecasts of vehicle miles traveled;

b. Devise contingency provisions;

c. Develop enhanced vehicle I&M programs (even if one was not previously required); and

d. Provide an attainment demonstration. 42 U.S.C. § 7412a(a)(6).

5. Serious carbon monoxide nonattainment areas must meet three major requirements.

a. They must implement TCMs (42 U.S.C. § 7511a(d)(1));

b. They must provide for the use of oxygenated gasoline during periods of the year when the area is prone to high CO concentrations (the winter months) (42 U.S.C. § 7512a(b)); and

c. They must demonstrate that the area has achieved a reduction in carbon monoxide emissions "equivalent to the total of the specific annual emission reductions required by December 31, 1995 (42 U.S.C. § 7512(d)(1)). If these areas fail to meet the air quality standard by the deadline, they must achieve a five- percent reduction in CO emissions per year (42 U.S.C. § 7512a(g)).

E. Particulate Matter Nonattainment Areas. (Currently, implementing regulations have only been developed for PM_{10}).

1. Particulate matter is the term used to describe a mixture of solid particles and liquid droplets found in the air. The chemical and physical composition of these particles vary widely; and, although individual particles cannot be seen with the naked eye, collectively they appear as black soot, dust clouds, or gray hazes.

a. "Coarse" particles, those larger than 2.5 micrometers (microns) in diameter, come from a variety of sources including windblown dust, and crushing and grinding operations. A micrometer is 1/1,000,000th of a meter (the thickness of a human hair is between 70 and 100 microns).

b. "Fine" particles, those less than 2.5 microns in diameter, result from fuel combustion (from motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. Fine particles can also be formed as a result of chemical interaction between gases in the atmosphere.

2. Particulate matter poses a serious health threat and is also a major cause of visibility impairment in many parts of the U.S. In the eastern states, for example, current visibility ranges have been reduced from a natural range of up to 90 miles to ranges between 14 and 24 miles. In the west, visibility has been reduced from 140 miles to 33-90 miles.

3. The particulate matter standards were last revised in 1987, and only governed coarse particles (PM_{10}). The standards included both a short-term limit (24-hour standard) of 150 micrograms per cubic meter ($\mu g/m^3$); and a long-term limit (an annual 24-hour standard) of 50 $\mu g/m^3$. Fine particles, ($PM_{2.5}$), were not regulated. The new PM_{10} standards retain the existing annual PM_{10} standard of 50 $\mu g/m^3$, and slightly adjusts the PM_{10} 24-hour standard of 150 $\mu g/m^3$. EPA has also established two new particulate matter standards for fine particles: an annual $PM_{2.5}$ standard set at 15 $\mu g/m^3$, and a 24-hour $PM_{2.5}$ standard of 65 $\mu g/m^3$.

a. A minimum of five years of monitoring and assessment will be conducted before areas will be evaluated for $PM_{2.5}$ classification.

b. Areas classified as nonattainment for $PM_{2.5}$ will then have up to three years to develop SIPs, and up to ten years to reach attainment.

4. PM_{10} nonattainment areas are classified based on their level of non-compliance with the NAAQS and also on whether the area can achieve the NAAQS in six years or less. They are either "Moderate" or "Serious." 42 U.S.C. § 7513.

5. Areas which EPA determines can practicably attain the NAAQS in six years or less are classified Moderate. These areas must meet three relatively easy requirements.

   a. The revised SIP must include a nonattainment permit program covering the construction and operation of new and modified major stationary particulate sources. 42 U.S.C. § 7513(a)(2)(B);

   b. These areas must adopt reasonably available control measures (RACM) for particulate-emitting sources such as wood stoves, urban road dust, and agricultural burning. 42 U.S.C. § 7513a(a)(1)(C); and

   c. These areas must demonstrate that attainment deadlines will be met. Presumably, if they cannot, the area should be reclassified as "Serious."

6. Areas which cannot practicably attain the NAAQS in six years or less are classified Serious.

   a. These areas must adopt BACM for controlling particulates within four years of being designated a Serious area. 42 U.S.C. § 7513a(b)(1)(B).

   b. Serious areas that fail to reach attainment by the applicable attainment date must achieve five-percent reduction in PM_{10} emissions per year. 42 U.S.C. § 7513(d).

   c. The terms "major stationary source" and "major source" are statutorily redefined for Serious areas to include sources emitting or having the potential to emit "at least 70 tpy of PM_{10}."

F. Sulfur Dioxides, Lead and Nitrogen Oxides Nonattainment Areas. States with nonattainment areas for sulfur dioxide, lead, and nitrogen oxides are required to submit SIP revisions within 18 months after EPA designates nonattainment areas. 42 U.S.C. § 7514. Under 42 U.S.C. § 7514a, the revised SIP must require that the nonattainment area will achieve compliance as soon as possible, but not later than five years from the date of classification.

G. New Source Review (NSR). NSR is the name of the permit construction applicable to nonattainment area. In order to obtain a permit to construct and operate new or modified major stationary sources in a nonattainment area, 42 U.S.C. § 7503 requires that the owner or operator of the new source demonstrate that:

1. The source will meet lowest achievable emission rates (LAER) in addition to the NSPS.

2. Construction or modification of the source is compatible with NAAQS attainment.

3. By the time the source is to commence operation, sufficient offsetting emission reductions will have been obtained. 42 U.S.C. § 7503(c).

   a. Offsets are obtained by reducing emissions from existing sources.

   b. These offsets can come from operations owned or operated by the party seeking to construct and/or operate the new facility.

   c. Offsets can be bought and sold within nonattainment areas.

4. All other major emitting sources in the state that are subject to emission limitations are in compliance with those limitations or are on a schedule to achieve compliance.

5. An analysis of alternative sites, sizes, production processes, and environmental control techniques shows that the benefits of the source outweigh its environmental and social costs.

IX. HAZARDOUS AIR POLLUTANTS (AIR TOXICS).

A. As a result of the CAAA, 189 toxic air pollutants are regulated under 42 U.S.C. § 7412(a)(1).

B. Pursuant to the CAAA, EPA was required to publish a list of source categories that emit certain levels of these hazardous air pollutants. The list of source categories was required to include major sources and area sources. 42 U.S.C. § 7412(a). EPA must subsequently promulgate routine emission standards for each source category and subcategory. These uniform emission standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPS). EPA hopes to have NESHAPS for 173 industrial categories in place by May 2002.

1. A major source of hazardous air pollutants (HAPs) is defined as a stationary source, or group of stationary sources within a contiguous area under common control which emits or has the potential to emit:

   a. 10 or more tons of any HAP; or

   b. 25 tons per year or more of any combination of HAPs. 42 U.S.C. § 7412(a)(1).

2. An area source means any stationary source of HAPs other than a major source, excluding vehicles (e.g., a dry cleaner).

C. The heart of the Air Toxics program is the technology-based standards required by 42 U.S.C. § 7412(d). EPA must issue "Maximum Achievable Control Technology" (MACT) standards for each listed source category according to a prescribed schedule.

1. EPA will define "major source categories" which emit at least one of these pollutants in threshold quantities.

2. The technology standards will be based on the best demonstrated control technology or practices within the regulated industry.

3. EPA was required by the CAAA to issue MACT standards for 40 source categories by 1993, and to issue the remaining standards by 2000. Currently, standards have been issued for 173 industrial categories with the remaining standards expected by May 2002. 42 U.S.C. § 7412(e)(1).

4. Owners or operators that voluntarily reduce emissions according to certain conditions can get a six-year extension from meeting the MACT requirements. These source categories may receive an extension if they committed to the reductions before the proposal. 42 U.S.C. § 7412(i)(5).

5. MACT standards cannot be less stringent than those imposed under any other provision of the CAA. 42 U.S.C. § 7412(e)(7).

6. Standards for HAPs promulgated prior to the 1990 CAA Amendments (including asbestos, arsenic, mercury, beryllium, vinyl chloride, benzene, and radionuclides) are preserved. 42 U.S.C. § 7412(q)(1). New MACT standards are effective upon promulgation. 42 U.S.C. § 7412(e)(10).

D. EPA is allowed to distinguish between new and existing major sources and to set less stringent technologically based standards for existing sources compared to those imposed on new sources. 42 U.S.C. § 7412(d)(3)

1. A **new source** is any source for which construction or reconstruction commenced after the proposal of emission standards applicable to the source. 42 U.S.C. § 7412(a)(3).

2. An **existing source** is any source that is not a new source. 42 U.S.C. § 7412(a)(10).

3. **New source MACT** must equal emission reduction achieved by the best-controlled similar source. It is applicable immediately after EPA adopts the standard.

4. For source categories or subcategories with less than 30 sources, the emission standard for an *existing source* must be at least as stringent as the average limitation achieved by the five best performing sources for which EPA has obtained emission data. 42 U.S.C. § 7412(d)(3)(B).

5. For source categories or subcategories with more than 30 sources, existing source emission standards must be at least as stringent as the best performing twelve percent of *existing source* for which EPA has data. 42 U.S.C. § 7412(d)(3)(A).

E. After the effective date of an EPA-approved state air pollution permit program, no construction or reconstruction of a source of hazardous air pollutants will be allowed unless the state determines that the new or modified source will comply with MACT standards. 42 U.S.C. § 7412(g)(2).

1. If EPA has not yet promulgated applicable MACT standards, the state is to make a case-by-case determination.

2. A physical change in, or modification of, the method of operation of a major source that results in more than a de minimis increase in actual hazardous pollutant emissions constitutes a modification. 42 U.S.C. § 7412(g)(1).

3. A major source can keep changes in its operations from constituting a modification if it offsets its emissions of hazardous pollutants with decreases in emissions from elsewhere. The offset pollutant being reduced must be at least as dangerous to human health as the one whose emissions are increasing. 42 U.S.C. § 7412(g)(1)(A).

F. Accidental Releases of Hazardous Air Pollutants.

1. To address the potentially serious problem of accidental releases into the environment, EPA has established a *reportable quantity* for accidental releases of 77 toxic substances and 63 flammable substances (40 C.F.R. § 68.130).

2. Owners of storage or operating facilities which possess in excess of a threshold quantity of a listed substance must prepare a Risk Management Plan, which must include:

a. A Hazard Assessment detailing possible releases and potential downward impacts;

b. A release prevention program; and

c. An emergency response program. 42 U.S.C. § 7412(r)(7)(B)(ii).

3. Essentially, these plans constitute an audit of the hazardous chemicals stored at the installation. This audit helps predict where accidents might occur, and outlines appropriate accident-prevention and response measures to be employed at the facility. Guidelines for Risk Management Plans are provided at 40 C.F.R. Part 68 Subpart H.

X. TITLE V STATE PERMIT PROGRAM.

A. General.

1. Prior to the 1990 Amendments, the CAA required a construction permit for certain air pollution sources. In addition, approximately 35 states had their own laws requiring operating permits for sources of air pollution. The CAAA changed this by requiring that all states have an operating permit program modeled after the one used for the Federal National Pollution Elimination Discharge System (NPDES) of the Clean Water Act.

2. Section 502 of the CAA requires each state to establish an EPA approved operating permit program for regulated sources of air pollution. EPA is responsible for issuing the permit program regulations and is responsible for reviewing each state's proposed program and overseeing the state's efforts to implement any approved program. EPA must also develop and implement a federal permit program if a state fails to adopt and implement its own program.

3. The permit program ensures that all of a source's obligations with respect to its pollutants will be contained in one permit document and that the source will file periodic reports identifying the extent to which it has complied with those obligations. These requirements have greatly enhanced the ability of federal and state agencies to evaluate air quality and have provided citizens an extremely effective mechanism to enforce CAA requirements.

B. Sources Regulated Under Title V.

1. All major sources under 42 U.S.C. § 7412 (hazardous air pollutants) if the source emits or has the potential to emit at least:

a. 10 tpy of any single hazardous air pollutant, or

b. 25 tpy of any combination of hazardous air pollutants.

2. Affected sources under the Acid Rain Program.

3. NSR/PSD permitted sources.

4. All major stationary air pollution sources, meaning:

a. Those with the potential to emit at least 100 tpy of any regulated air pollutant. 42 U.S.C. § 7602(j).

b. 50 tpy sources in severe ozone nonattainment areas.

c. 10 tpy sources in extreme ozone nonattainment areas.

d. 70 tpy sources of PM_{10} in serious PM_{10} nonattainment areas.

5. The "major sources" referenced above include all stationary sources of emissions, located on contiguous or adjacent properties; under the common control of the same person; and belonging to a singular major industrial group are considered a single "major source" once they emit pollutants in excess of a specified quantity. 40 C.F.R. pt. 70.2.

a. As originally interpreted by EPA, military installations were considered a single source for permitting purposes. Consequently, each installation would have to total all air emissions within its boundaries to determine whether it qualified as a "major source."

b. In response to a request by DOD to reexamine this interpretation, EPA has issued guidance that more accurately reflects the operational realities applicable to military installations. Under this guidance, only those sources belonging to the same service on the installation will be aggregated as a single source. In addition, installations may now segregate out other emission sources that qualify as separate industrial sources and commercial entities on the installation that do not directly support the DOD mission.

C. Minimum Elements of a Permit Program.

1. Permits must be issued for fixed term not exceeding 5 years. 42 U.S.C. § 7661a(b)(5)(B). A source may continue to operate under the terms of an expired permit if a timely and complete renewal application has been submitted and the permitting authority has not acted on the renewal application. 42 U.S.C. § 7661b(d).

2. Permits must contain sufficient limits and conditions to assure compliance with all applicable requirements under the CAA (including requirements of the applicable SIP). It must also include a schedule of compliance.

3. A single permit can also be obtained for emissions from similar operations at multiple temporary locations. 42 U.S.C. § 7661c(e).

4. EPA may exempt a source category if it is determined that permits for that category are "impracticable, infeasible, or unnecessarily burdensome." Under no circumstances, however, can EPA exempt a major air pollution source. 42 U.S.C. § 7661a(a).

5. The permittee must make available to the public all applications, permits, and monitoring and compliance certification reports.

6. The permit must include provisions providing for judicial review in a state court for actions subject to the permit.

7. The program must have a permit fee system.

a. The program must collect an annual fee (or the equivalent over some other period) sufficient to cover all "reasonable (direct and indirect) costs required to develop and administer the permit program requirements."

b. The fee must be at least $25 per ton of regulated pollutant (except CO) up to 4,000 tons per year, unless EPA determines that a lesser amount adequately reflects the reasonable cost of the permit program. The established fee amount will be adjusted according to the Consumer Price Index (CPI).

c. If a state does not collect fees, EPA may collect the amount needed to cover reasonable costs of administering the program.

d. Any source failing to pay a permit fee must be penalized 50% of the fee amount, plus interest. Federally collected fees will go to a special U.S. Treasury fund for permitting activities.

8. Monitoring and reporting requirements.

9. Provisions for adequate personnel and funding to administer the program.

10. Enforcement authority to recover civil penalties in a maximum amount of not less than $10,000 per day for each violation and appropriate criminal penalties.

11. Procedures providing that failure of the permitting authority to act on a permit application or a permit renewal application shall be treated as a final permit only for the purposes of judicial review.

12. Provisions for permit term extensions pending action on renewal applications.

13. Provisions for public availability of permit applications, compliance plans, permits, and monitoring or compliance reports.

14. A requirement that the permitting authority require revisions to the permit to incorporate applicable standards promulgated under the CAA after the permit was issued for major sources with a term of three or more years. The revisions must occur within 18 months of promulgation of the standards.

15. Provisions for allowing a source to make certain changes within its facility without revising its permit. Specifically, facilities would be allowed to make changes in operations without a permit revision if:

    a. The changes are not "modifications" under Title I of the CAA;

    b. The changes would not result in emissions that exceed emissions allowable under the permit; and

    c. The facility provides EPA and the permitting authority seven days' written notice in advance of the changes (or such other advance notice as the permitting authority might require for emergency situations).

D. Permit Applications.

1. Sources must submit completed permit application by the applicable state deadline.

2. An "Application Shield" allows sources submitting a timely and complete application to continue operation pending issuance of the permit.

3. The permitting authority must approve or disapprove a complete permit application within 18 months of the date it receives the application.

4. EPA has the authority to review each permit and to object to permits that violate the CAA. 42 U.S.C. § 7661d(b). EPA is allowed 45 days to review and object to the permit. EPA must provide a statement of reasons for the objections to both the permitting authority and the applicant.

a. If EPA fails to object to a permit that violates the Act, any person may petition EPA and to make an objection to the permit within 60 days after the expiration of EPA's review period. The petition must be based on grounds that were raised during the comment period on the permit, unless the petitioner demonstrates that it was impracticable to raise the objections or unless the grounds for the objections arose after the comment period. Once the objections have been filed with EPA, EPA must grant or deny the petition within 60 days.

b. If EPA concludes that the petitioner has met its burden of demonstrating that the permit is not in compliance with the CAA, EPA must then object to the permit being issued and modify, terminate, or revoke the permit.

c. Permitting authorities have 90 days to revise permits to meet an EPA objection. If the permitting authority fails to revise the permit, EPA must issue or deny the permit. If the permitting authority issued the permit after the 45-day review period but prior to receiving an EPA objection, EPA must modify, terminate, or revoke the permit. The state is then given 90 days to revise the permit. If the state fails to revise the permit, EPA may issue or deny it.

d. If EPA terminates or revokes the permit, the source can continue to operate, under the conditions of the previous permit or the SIP, because it would have filed a complete permit application.

e. Judicial review of the Administrator's decision on an applicant's or citizen's petition will occur in the appropriate federal court of appeals.

E. Application Content (Section 70.5(c)).

1. No standard format is specified by the regulation, but EPA has issued policy guidance.

a. Memorandum, EPA Office of Air Quality, subject: EPA White Paper for Streamlined Development of Part 70 Applications (July 10, 1995); and Memorandum, EPA Office of Air Quality, subject: White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program (March 5, 1996).

b. These memoranda address concerns raised by states and regulated sources about EPA's expectations relative to required elements of a satisfactory permit application.

c. The white papers may be downloaded from the EPA Technology Transfer Network (TTN), CAAA Information Area, file names FNLWTPPR.WPF and WTPPR-2.WPF. The TTN can be accessed by dialing (919) 541-5742. Those lacking capability to retrieve the documents from the TTN may request copies from EPA's Office of Air Quality Planning and Standards, (919) 541-3790/5281.

2. Typical permit application contents.

a. Emissions Inventory. Information on all emissions and emission units for "regulated air pollutants" and pollutants for which source is major.

b. Compliance Plan.

(1) For sources in compliance with applicable requirements, a statement assuring continued compliance.

(2) For sources not in compliance with all applicable requirements, a plan detailing procedures and milestones for achieving compliance.

c. Compliance Assessment. A listing of applicable federally enforceable requirements (e.g., NSR, PSD, SIP).

d. Monitoring, Recordkeeping, and Reporting Procedures.

e. Fee Calculation and Payment.

3. All applications must contain a statement by the "responsible official" (in most cases, the installation commander for federal installations), certifying compliance with all applicable requirements. A false or negligent certification is subject to civil and criminal penalties.

F. Permits.

1. Enforceable by EPA and/or delegated state authorities and citizens.

2. Must incorporate approved monitoring and test methods. Where applicable requirements do not specify periodic monitoring, the permit must provide monitoring sufficient to yield reliable data representative of source's compliance with the permit. Monitoring reports must be submitted every 6 months and deviations promptly reported.

3. Permit must incorporate all recordkeeping requirements and require retention of monitoring data for 5 years.

4. Compliance certification (Section 70.6(c)).

a. Permit must contain inspection and entry requirements.

b. Compliance certifications must be submitted by the "responsible official" (the installation commander on federal installations) at least annually.

G. State permitting authorities must provide EPA with a copy of each permit application and permit issued. In addition, the permitting authority must notify all contiguous states whose air quality may be affected or that are within 50 miles of the source whose permit the state intends to issue. Such states must be provided a copy of the proposed permit and an opportunity to comment on the permit decision. The permitting authority must respond to the comments and provide EPA with a copy of its response. 42 U.S.C. § 7661(d).

XI. CONFORMITY DETERMINATIONS.

A. Section 176(c) of the CAAA (42 U.S.C. § 7506) provides that a federal agency will not engage in any way or provide financial assistance for, license or permit, or approve, any activity which does not conform to an applicable SIP (after it has been approved by EPA) or FIP. The assurance of certification is an affirmative responsibility of the head of each department, agency, or instrumentality.

B. Conformity is defined as <u>not</u>:

1. Causing or contributing to any new violation of any standard in any area,

2. Increasing the frequency or severity of any existing violation of any standard in any area, or

3. Delaying timely attainment of any standard or any required interim emission reductions or other milestones in any area.

C. Conformity decisions basically require that the federal agency either demonstrate that any new emissions caused by the action are already budgeted for in the SIP emission inventory, or if not budgeted, that the plan will be revised specifically to allow for the increase in emissions. If the SIP does not, or cannot accommodate increases, the federal agency must abandon the action or obtain offsets from either local sources or from an emissions trading bank.

D. The regulations governing conformity determinations applicable to nonattainment areas are found at 40 C.F.R. Parts 51 and 93.

1. The regulations mandate an opportunity for public participation in the process:

a. The agency must make public its draft conformity determination and provide 30 days for written public comment prior to taking formal action on the draft determination.

b. The agency must also document its response to all comments on the draft determination.

c. Moreover, the agency must make public its final conformity determination.

2. The regulations also require that the agency notify the appropriate EPA regional office and state and local air quality agencies within 30 days of making a final conformity determination.

3. The regulations exempt certain classes of federal activities from conformity requirements, e.g., actions where the total direct and indirect emissions will be clearly de minimis, and actions in response to emergencies and natural disasters.

4. Sample activities subject to a conformity determination include:

a. Major construction projects.

b. Major training exercises.

c. Leasing of federal land.

d. Pipeline construction.

E. Frequency of Conformity Determinations.

1. The conformity status of a federal action automatically lapses 5 years from the date a final conformity determination is made unless the action is completed or is a continuous program.

2. If, after the conformity determination is made, the action is changed, increasing total direct and indirect emissions above stated thresholds, a new determination is required.

F. Army Guidance Policy General Conformity.

1. Memorandum by HQDA, Director of Environmental Programs (DAIM-ED-C), 27 Jun 95, subject: General Conformity under the Clean Air Act.

2. Provides detailed explanation of conformity requirements and establishes Army processing procedures.

3. Requires that installations prepare a Record of Nonapplicability (RONA) to document a decision not to prepare a written conformity determination for an action.

4. If a conformity determination is required, installations must forward the draft conformity determination to the Army Environmental Center for review prior to offering the document for public comment.

5. The Deputy Assistant Secretary of the Army (Environment, Safety, and Occupational Health) must sign final conformity determinations.

G. NEPA Interface. Draft conformity determinations should be released along with a draft Environmental Impact Statement (EIS) (if one is required).

XII. TITLE VI: STRATOSPHERIC OZONE PROTECTION.

A. The CAAA adopted the approach of the Second Montreal Protocol to reduce production of Chlorofluorocarbons (CFCs) and halons.

1. Title VI requires the phaseouts of CFCs and halons by the years 2000 and 2002, respectively.

2. Hydrogen substituted CFCs (HCFCs) are an authorized replacement until 2030.

3. An annually renewable "National Security Exception" allowing continued use of CFC-114 and some halons until adequate substitutes are available. This exception, however, does not extend to most installation operations.

4. There are also limited medical, aviation, and fire safety exceptions available. (42 U.S.C.A. § 7671(c)).

B. Impacted operations include:

1. Cleaning of electronic circuits.

2. Metal parts degreasing.

3. Refrigerant substitution.

C. Refrigeration Systems.

1. It is unlawful to allow refrigerants to escape into the atmosphere during service or repair of home or industrial appliances.

2. Refrigerants must be removed prior to their disposal.

3. Automotive shops servicing vehicle refrigeration systems must use EPA approved containment and recycling equipment.

4. Servicing personnel must be trained and certified in the use of CFC capture and recycling equipment.

XIII. ENFORCEMENT.

A. The Clean Air Act includes a comprehensive range of criminal and civil penalties. The sanctions range from misdemeanor penalties up to six months' imprisonment and $10,000 fine for the knowing falsification of records, to 15 years and $1,000,000 for "knowing endangerment."

B. Enforcement of environmental laws on a federal facility involves both state and federal enforcement issues because both entities are responsible for enforcement. The state issues revolve around the extent of the congressional waiver of sovereign immunity with respect to state-imposed civil penalties and criminal prosecution. The CAA's clear waiver of sovereign immunity for criminal violations means that federal employees (such as military officers in positions of responsibility, i.e., the installation commander or civil engineers) or federal contractors, who violate state criminal environmental provisions, may be subject to state prosecution--not the federal agency.

C. Implementation.

1. The first step in implementation is determining compliance. Section 114 of the CAA authorizes the Administrator to establish recordkeeping, monitoring, and reporting requirements for stationary sources. Stationary sources are monitored by the states that submit emission data to EPA. When necessary, EPA and its authorized representative can enter a source's premises to inspect and copy its records and reports and to conduct sampling of the emissions or discharges of the source.

2. When a source does not achieve initial compliance or falls out of compliance, EPA has a broad range of remedies to consider. They include:

a. Informal resolution.

b. Notices of violation.

c. Administrative Orders.

d. Assessment of administrative penalties.

e. Initiation of a civil or criminal action.

f. Contractor debarment.

3. EPA's primary enforcement objective has been to bring all major stationary sources into final compliance. If the state has not taken adequate action, EPA's regional office prepares and forwards to headquarters a litigation report. These reports describe the violation and request the filing of a civil action pursuant to § 113, seeking, as appropriate, injunctive relief and civil penalties.

4. Successful conclusion of a civil action usually involves a Consent Decree or a judgment establishing a compliance schedule and setting forth both civil penalties and stipulated penalties; the latter penalties are established in the event the source does not achieve interim or final compliance. EPA and DOJ headquarters must review all consent decrees and authorize and concur in all settlements.

D. Criminal Action. As discussed in detail below, EPA can bring a criminal action against a person who "knowingly" violates an enforceable provision of the Clean Air Act. Section 113(c) also makes it a crime to knowingly make any false statement, representation, or certification in any required document or to render inaccurate any monitoring device or method.

E. Overview of Available Enforcement Actions.

1. Informal Actions. These actions consist of informal discussions between EPA and the source to address the perceived compliance problem, its seriousness, and the actions the source can take to bring itself into compliance.

2. Notice of Violation (NOV).

a. Under § 113(a)(1) of the CAA, an NOV is the first formal step in the process of enforcing the statutory requirements.

b. Notice to the source and to the state is a prerequisite before commencing a civil action. If the violation continues for 30 days, the Administrator may proceed with further remedies. Issuance of an NOV is NOT discretionary, and the Administrator is obligated to make a finding regarding an alleged implementation plan violation when such information is presented to him.

c. Section 113(b) requires the Administrator to commence a civil action against major stationary sources in violation of the Act's provisions. For minor sources, further action is still a discretionary decision.

3. Administrative Orders.

a. Section 113(a)(1) authorizes the Administrator to issue an order requiring a source to comply with the applicable SIP if it is still not in compliance 30 days after issuance of an NOV. Section 113(a)(3) authorizes immediate issuance of compliance orders for violations of §§ 111 (New Source Performance Standards), 112 (hazardous emissions), and 114 (data maintenance and disclosure and inspections).

b. Section 113(a)(4) requires that the source be given an opportunity to confer with EPA concerning the alleged violations prior to issuance of an order; except orders relating to a hazardous emission violation.

c. A copy of any order must be sent to the state, and the order must identify the nature of the violation along with specifying a time for compliance, taking into account the seriousness of the violation and good faith efforts of the source.

d. Under § 113(d), the only sources eligible for extended Compliance Orders are stationary air pollution sources that have had less than three years to meet the requirements in the applicable implementation plan.

4. Administrative Penalties.

a. The CAA has provisions for the collection of administrative penalties for certain violations.

b. The Agency issues notices of noncompliance that trigger the administrative penalty liability.

5. Injunctive Relief.

a. Stationary Sources.

(1) Section 113(d) requires EPA to bring an action for a permanent or temporary injunction against the owner or operator of a major stationary source whenever such person:

(a) Violates or fails to comply with a § 113(a) Order; or

(b) Violates any requirements of an applicable implementation plan (A) during any period of federally assumed enforcement, or (B) more than 30 days after having been notified by the Administrator under subsection (a)(1) of this section of a finding that such person is violating such requirement; or

(c) Violates §§ 111(e), 112(c), 119(g), or 113(d((5); or

(d) Fails or refuses to comply with any requirement of §§ 114 or 113(d); or

(e) Attempts to construct or modify a major stationary source in any area where the Administrator has found the state is not acting in compliance with the requirements of § 110(a)(2)(1) of Part D of the Act.

6. Civil Penalties. Section 113(b) authorizes the Administrator to bring a civil action against a violating major stationary source for a civil penalty of not more than $25,000 per day per violation of the Act's provisions.

7. Criminal Actions.

a. Section 113(c)(1) provides criminal sanctions for any person who knowingly violates orders issued under § 113(a) or the other enforceable provisions of the Act.

b. A criminal action can also be taken under Section 113(c)(2) against one who knowingly makes any false statement, representation, or certification in any application, report, plan, or other document filed or required to be maintained under the Act or who falsifies, tampers with, or knowingly renders inoperative any monitoring devices or method required to be maintained under the Act.

c. The term "person" has a broad definition including any responsible corporate officers as set forth in §§ 113(c)(3) and 302(e).

d. EPA cases have not been limited to the criminal sanctions contained in environmental statutes since violations of EPA's environmental statutes can also trigger provisions of Title 18. Two statutes which have been used are 18 U.S.C. §§ 1001 and 371. Section 1001 prohibits the submittal of false information to a government agency. This section also prohibits the concealment of information within the jurisdiction of a governmental agency. Section 371 makes it a crime to conspire to defraud the United States Government.

8. Listing.

a. A facility which is in noncompliance with Clean Air standards and which satisfies one of several minimal criteria will be placed, following notice and comment, on the EPA List of Violating Facilities.

b. A listed facility is ineligible to receive any nonexempt federal contract, grant, or loan involving that facility.

c. A facility is listed until it comes into, or agrees to come into, compliance.

F. Range of Remedies by Section.

1. Section 113(a)(1). When a person violates a requirement of an applicable SIP or a permit, EPA must notify the violator and the state. Thirty days after the notice, EPA can exercise its enforcement options. The options are:

   a. Issue a compliance order;

   b. Issue an administrative penalty order; [Note § 113(d) provides for two kinds of administrative orders--*See* discussion below.]; or

   c. Bring a civil action under § 113(b).

   (Thus EPA has four choices: a or b, or a and b, or c.)

2. EPA can also pursue:

   a. Criminal penalties under § 113.

   b. Noncompliance penalties under § 120.

   c. Seek an emergency order under § 303.

3. Section 113(a)(2) provides for federally assumed enforcement. If the Administrator finds widespread violations of either an applicable SIP or an approved permit program under Title V, public notice must be given. Thirty days after the notice of SIP violations or 90 days after notice of permit program violations, EPA can take over the state program.

4. Section 113(a)(3) provides EPA with the authority to enforce most other provisions of the CAA with the approaches provided under § 113(a)(1) or criminal actions under § 113(c). Note, however, that Title II has its own enforcement mechanisms for mobile source requirements and is not enforced using § 113.

5. Section 113(a)(4) requires EPA to provide a violator with an opportunity for a conference before an administrative order takes effect except for hazardous emissions covered by § 112.

6. Section 113(a)(5) deals with violations of a new source performance standard. If a state is not enforcing a new source requirement, EPA can issue an order, issue an administrative penalty, or bring a civil action. They can also seek criminal penalties.

7. Section 113(b): Civil Judicial Enforcement. EPA can use the courts to seek an injunction and civil penalties of up to $25,000 per day for each violation. Most of the requirements of the CAA are subject to this section except for Title II requirements. Jurisdiction is placed in the Federal District Courts and a number of venues are specified. If the government brings an unreasonable action, the court may award costs of litigation including reasonable attorney and expert witness fees to the defendant.

8. Section 113(c) provides criminal sanctions for a variety of CAA violations. After a first conviction, subsequent similar convictions result in both the maximum fines and imprisonment period doubling.

    a. Section 113(c)(1). Generally, a knowing violation of the CAA after federally assumed enforcement, or more than 30 days after a § 113(a)(1) notice of violation, subjects the violator to fines provided in Title 18 of the United States Code and/or imprisonment for not more than five years.

    b. Section 113(c)(2). Knowingly making a false statement, representation, certification, or failing to file a required document or falsifying data required by the CAA exposes the violator to Title 18 U.S.C. fines and/or imprisonment for up to two years.

    c. Section 113(c)(3). Failure to pay a fee owed to the United States under the CAA Titles III, IV, V, VI, or VII brings fines under 18 U.S.C. and/or up to one year in prison.

    d. Section 113(c)(4). A negligent release of a hazardous air pollutant listed under CAA § 112, or one that is on the extremely hazardous list under CERCLA (42 U.S.C. 11002(a)(2)), that places another person in imminent danger of death or serious bodily injury is punished by a fine under 18 U.S.C. and/or imprisonment for not more than one year.

e. Section 113 (c)(5). A knowing endangerment because of the release of hazardous air pollutants as described in (c)(4) can result in an 18 U.S.C. fine and/or imprisonment for not more than 15 years. However, § (c)(5)(B) limits the imposition of penalties for knowing endangerment to those with actual knowledge or who take "affirmative steps to be shielded from relevant information." Section 113(c)(5)(C) provides additional affirmative defenses, and § 113(c)(5)(D) allows all defenses under criminal law.

9. Section 113(d) provides for two types of civil penalties.

a. Section 113(d)(1) provides for a civil penalty of up to $25,000 per day per violation with a cap of $200,000. To impose this penalty, the Administrator must provide an opportunity for a hearing on the record subject to APA requirements in 5 U.S.C. §§ 554 and 556. Before imposing a civil penalty order, EPA must give notice of the proposed penalty and provide a 30-day period for the person to request a hearing. Under § 113(d)(2)(B), the Administrator may compromise, modify, or remit any administrative penalty.

b. Section 113(d)(3). For minor violations, the CAAA added the field citation program.

(1) Penalties not to exceed $5,000 per day per violation can be assessed by EPA. A person receiving a field citation can pay it or request a hearing. The hearing is an informal one, not subject to the APA requirements in 5 U.S.C. §§ 554 or 556. The payment of the penalty does not preclude other EPA or state enforcement action if the violation continues.

(2) Application to federal agencies.

(a) When EPA proposed its field citation rules (59 Fed. Reg. 22,776, 3 May 1994), DOD provided comments opposing EPA's authority to issue field citations against federal agencies. In response, EPA requested a legal opinion from the Department of Justice (DOJ) on this issue.

(b) On 16 July 1997, the Department of Justice issued a memorandum opining that EPA has the authority to issue field citations to federal agencies for CAA violations.

c. Section 113(d)(4). A civil penalty under (d)(1) or (d)(3) can be reviewed in a Federal District Court by filing within 30 days following the date the administrative order becomes final. Venue is in the Federal District Court for the District of Columbia or the place of violation, residence, or the principal place of business of the defendant. The scope of review limits a set aside or remand by the court to cases where EPA has no substantial evidence in the record or has abused its discretion. A penalty assessment is not subject to any other court review according to the statute.

d. Section 113(d)(5). If a person fails to pay a civil penalty or to comply with a penalty order, a civil action can be brought in the appropriate district court to recover the penalty, interest, and additional costs and penalties specified in this subsection. Precluded from judicial review are the validity, amount, and appropriateness of the assessment or order.

10. Section 113(e). The penalty under §§ 113 or 304(a) will be based on the: size of the business; economic impact of the penalty; violator's compliance history; good faith efforts to comply; duration of the violation; economic benefit of noncompliance; and seriousness of the violation.

11. Section 113(e)(2) provides each day is a violation; and after EPA has notified the source of a violation, the burden of proof shifts to the source to show the violation is not continuing.

12. Section 113(f) authorizes EPA to pay up to $10,000 to any person who furnishes information that leads to a criminal conviction or civil penalty for violating Titles III through VII of the CAAA.

13. Section 113(g) provides for public notice by DOJ and public participation before a consent order or settlement agreement is signed to which the United States is a party (other than because the U.S. is enforcing the CAA).

14. Section 113(k): "Operator" is defined to limit liability to senior management personnel or corporate officers unless a knowing or willful violation is involved.

G. Citizen Suits.

1. Under the citizen suit provisions of the CAA, any person can sue the federal government. EPA can only be sued for nondiscretionary actions, but all other federal agencies can be sued for any violation, i.e., violating SIP requirements, violating permit requirements, violating emissions requirements.

2. *Any person* has been interpreted by a number of courts to mean a state government. Usually, when a state government cannot reach the federal agency by any other means, it can become a citizen and seek equitable relief and other similar orders (no money damages).

3. A plaintiff must give 60 days' notice to EPA prior to filing suit; and citizens may receive costs, including attorney fees.

CHAPTER V

THE ENDANGERED SPECIES ACT

I. REFERENCES.

A. Federal Statutes and Regulations.

1. The Endangered Species Act (ESA), 16 U.S.C. §§ 1531-1544.

2. The National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321-4370d.

3. The Sikes Act, 16 U.S.C. § 670a-f, *as amended by* The Sikes Act Improvement Act of 1997, Pub. L. No. 105-85, sec. 2901-2914.

a. Requires each military department to manage the natural resources at its installations to provide for "sustained multiple purpose uses" and public access "necessary or appropriate to those uses."

b. Natural resource planning and management must occur through a statutorily mandated process that establishes time lines, prescribes necessary elements, and requires open and coordinated preparation.

(1) Most DOD installations must prepare and begin implementing formal integrated natural resource management plans (INRMPs) not later than 18 November 2001. Installations with existing "cooperative plans" must negotiate with the U.S. Fish and Wildlife Service (FWS) and the appropriate state fish and wildlife agency regarding changes necessary to ensure such plans meet the INRMP requirements of the 1997 Sikes Act amendments.

(2) Each INRMP must reflect the "mutual agreement" of the FWS and the state fish and wildlife agency concerned.

(a) Only those portions of the INRMP that concern "conservation, protection, and management of fish and wildlife resources" are subject to "mutual agreement."

(b) DOD need not reach agreement with the FWS and state fish and wildlife agencies on INRMP provisions that address military training and land use planning areas beyond fish and wildlife.

(3) When developing INRMPs, installations must consider other statutory mandates; e.g., necessary levels of NEPA analysis/documentation and consultation under section 7 of the ESA.

4. Title 50, Code of Federal Regulations.

a. Part 17 - Endangered and threatened wildlife and plants.

b. Part 402 - Interagency cooperation. Subpart B addresses consultation procedures.

c. Part 424 - Listing endangered and threatened species and designating critical habitat.

d. Parts 450-453 - Endangered species exemption process.

B. State Authority.

1. 16 U.S.C. § 1535(f) provides that state laws that prohibit the "taking" of endangered or threatened species may be more, but not less, restrictive then federal law.

2. 10 U.S.C. § 2671 requires that all hunting, fishing, and trapping on military installations be in accordance with state law, and that appropriate state licenses be obtained for such activities on the installation.

C. Related DOD Directives.

DOD Dir. 4700.4, Natural Resources Management Program, 24 January 1989. Requires that natural resources be utilized and cared for in a manner best serving the present and future needs of the United States. Installations are directed to regard conservation as a vital element of the military mission.

D. Related Army Regulations.

AR 200-3, Natural Resources—Land, Forest, and Wildlife Management, 28 February 1995. Chapter 11 contains guidelines on management of endangered and threatened species, requiring that Army actions not jeopardize the continued existence of endangered or threatened species or damage their critical habitat.

II. INTRODUCTION.

A. Purpose.

1. Congress' purpose in enacting the ESA was to:

a. Establish a program for the conservation of endangered and threatened species; and

b. Create a means whereby the ecosystems upon which endangered and threatened species depend may be conserved. 16 U.S.C. § 1531(b).

2. In interpreting Congressional intent, the U.S. Supreme Court declared that the statute's purpose is "to halt and reverse the trend toward species extinction, whatever the cost." Tennessee Valley Authority v. Hill, 437 U.S. 153 (1978).

B. Applicability.

1. Often referred to as the "pit bull" of environmental legislation, the ESA is a broad and powerful statute.

2. Recent federal circuit litigation highlights the ESA's wide-sweeping scope. *See* National Association of Home Builders v. Babbitt, 130 F.3d 1041 (D.C. Cir 1997), where the District of Columbia Circuit held that the ESA's prohibition against the "taking" of an endangered species of fly found **only** in California was a constitutional exercise of Congress' Commerce Clause power.

a. Commerce Clause Background.

(1) Congress' constitutionally based power to regulate commerce has given rise to most environmental protection statutes, including the ESA.

(2) Congress' Commerce Clause power extends to the regulation of:

(a) The use of channels of interstate commerce;

(b) The instrumentalities of interstate commerce, or persons or things in interstate commerce; and

(c) Those activities that substantially affect interstate commerce.

U.S. v. Lopez, 514 U.S. 549 (1995).

b. Reasoning in National Association of Home Builders.

(1) Majority. The majority found that the ESA's "takings" prohibition (contained in section 9 of the statute) is a constitutional regulation of both "the use of channels of interstate commerce" and "activities that substantially affect interstate commerce."

(a) Use of Channels of Interstate Commerce. The majority reasoned that the ESA's prohibition on "takings" is necessary to enable the government to control the transport of endangered species in interstate commerce (also prohibited by section 9 of the Act) and keep interstate commerce channels free of "immoral and injurious uses."

(b) Activities Substantially Affecting Interstate Commerce.

(i) The majority concluded, first, that the "takings" prohibition prevents the destruction of biodiversity and, thereby, protects the current and future interstate commerce that relies on it. In so finding, the majority cited the economic value of plants and animals to medical, pharmaceutical, and genetic research.

(ii) The majority also reasoned that the "takings" prohibition prevents destructive interstate competition by preventing states from lowering their standards for endangered species protection in order to attract development.

(2) Concurrence.

Agreed with the majority's conclusion, but not its rationale, concluding that loss of biodiversity itself has a substantial effect on interstate commerce, even where it is impossible to know if any given species may have some future medical, genetic, or economic value.

(3) Dissent.

Killing of flies is not "commerce," and killing of flies that occurs only in California is not "interstate."

c. Bottom Line – After yet another judicial challenge, the ESA remains as strong, if not stronger, than ever. (Note, however, that on 5 March 1998, two trade associations and several local governments petitioned the U.S. Supreme Court seeking to overturn the District of Columbia Circuit's decision in National Association of Home Builders.)

III. KEY DEFINITIONS.

A. Endangered Species. A species in danger of extinction throughout all or a significant portion of its range. 16 U.S.C. § 1532(6); 50 C.F.R. § 424.02(e). Listing is based solely on biological criteria derived from scientific and commercial data. 16 U.S.C. § 1533(a)(1) and (b)(1)(A).

B. Threatened Species. A species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. 16 U.S.C. § 1532(20); 50 C.F.R. § 424.02(m). Listing is based solely on biological criteria derived from scientific and commercial data. 16 U.S.C. § 1533(a)(1) and (b)(1)(A).

C. Listed Species. Any species of fish, wildlife, or plant which has been determined to be endangered or threatened. 50 C.F.R. § 402.02.

D. Proposed Species. Any species of fish, wildlife, or plant that is proposed in the Federal Register to be listed under the ESA. 50 C.F.R. § 402.02.

E. Candidate Species. Any species being considered for listing as an endangered or threatened species, but not yet the subject of a proposed rule. 50 C.F.R. § 424.02(b). Such species are not protected by the ESA, but are subject to conservation requirements under AR 200-3.

F. State-listed Species. Those species listed as endangered or threatened under state law. Such species are not protected by the ESA, but are subject to conservation requirements under AR 200-3.

G. Critical Habitat. Specific areas in which are found those physical or biological features essential to the conservation of a species and which may require special management consideration or protection. Critical habitat may include areas outside the geographical area occupied by the species at the time it is listed. 16 U.S.C. § 1532(5)(A); 50 C.F.R. § 424.02(d). The designation of critical habitat must take into consideration the economic impact of the designation. 16 U.S.C. § 1533(b)(2).

H. Proposed Critical Habitat. Habitat proposed in the Federal Register to be designated or revised as critical habitat under the ESA for any listed or proposed species.

I. Take. To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct. 16 U.S.C. § 1532(19).

J. Harass. An intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. 50 C.F.R. § 17.3.

K. Harm. An act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. 50 C.F.R. § 17.3.

L. Conserve. To use all means necessary to bring an endangered or threatened species to the point where the protection of the ESA is no longer needed. 16 U.S.C. § 1532(3); 50 C.F.R. § 424.02(c).

M. Action. All activities or programs of any kind authorized, funded, or carried out, in whole or in part, by federal agencies in the United States. 50 C.F.R. § 402.02.

N. Jeopardize. To engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. 50 C.F.R. § 402.02.

O. Destruction or Adverse Modification. A direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. 50 C.F.R. § 402.02.

P. Confer. Informal discussions between a federal agency and the Fish and Wildlife Service (FWS or the "Service") or National Marine Fisheries Service (NMFS or the "Service") regarding the impact of an action on proposed species or proposed critical habitat and recommendations to minimize or avoid the adverse effects. 50 C.F.R. § 402.02.

Q. Informal Consultation. An optional process that includes all discussions, correspondence, etc., between the FWS or NMFS and the federal agency prior to formal consultation, if required. 50 C.F.R. § 402.02.

R. Formal Consultation. A process between the FWS or the NMFS and the federal agency that commences with the federal agency's written request for consultation and concludes with the Service's issuance of a biological opinion. 50 C.F.R. § 402.02.

S. Person. An individual, corporation, partnership, association, or any other private entity; any officer, employee, agent, department, or instrumentality of the federal government; any state, municipality, or political subdivision of a state; or any other entity subject to the jurisdiction of the United States. 16 U.S.C. § 1532(13).

T. Biological Opinion. The document that states the opinion of the FWS or NMFS as to whether a federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. 50 C.F.R. § 402.02.

U. Major Construction Activity. A construction project or other similar activity on a scale that would trigger the requirement for an Environmental Impact Statement (EIS) by significantly affecting the quality of the human environment. 50 C.F.R. § 402.02.

V. Biological Assessment. The information prepared by or under the direction of the federal agency concerning listed and proposed species and designated and proposed critical habitat that may be present in the action area and the evaluation of potential effects of the action on such species and habitat. 50 C.F.R. § 402.02.

IV. KEY PROVISIONS GENERALLY.

A. The FWS and the NMFS administer the ESA. Terrestrial biology is primarily the responsibility of the FWS. Marine biology is primarily the responsibility of the NMFS.

B. Endangered and threatened wildlife species (including mammals, birds, reptiles, amphibians, fish, clams, snails, insects, arachnids, and crustaceans) are listed at 50 C.F.R. § 17.11.

C. Endangered and threatened plant species are listed at 50 C.F.R. § 17.12.

D. The ESA requires federal agencies to act to "conserve" endangered and threatened species. In furtherance of those goals, the ESA prohibits the "taking" of any endangered fish or wildlife species and the removal or destruction of any endangered plant species. 16 U.S.C. § 1538. Further, when a federal agency proposes taking any action that would affect an endangered or threatened species or result in the destruction or adverse modification of its critical habitat, the agency must "consult" with the Service. 16 U.S.C. § 1536(a)(2) & (3). Where agency action would affect a proposed species or result in the destruction or adverse modification of proposed critical habitat, the agency must "confer" with the Service. 16 U.S.C. § 1536 (a)(4).

E. When a proposed agency action cannot be undertaken without jeopardizing an endangered species or its habitat, the preservation of the species must be accorded priority. *See, e.g.,* Tennessee Valley Authority v. Hill, 437 U.S. 153 (1978). Once it is determined that the agency's action would harm a listed species, there is no balancing of competing interests, unless those interests are between or among endangered species. *See, e.g.,* Palila v. Hawaii Dep't of Land and Natural Resources, 852 F.2d 1106 (9th Cir. 1988).

F. As of 30 April 2002, 1070 animal species have been listed as either endangered or threatened. Listed endangered and threatened plant species total 746. Installations are increasingly having to cope with the presence of indigenous endangered species (e.g., the desert tortoise at Fort Irwin and the red-cockaded woodpecker at Forts Benning, Bragg, Polk, and Stewart). Moreover, there has been increased pressure by environmentalists to use military installations as habitat for endangered species being reintroduced into the wild from captive breeding programs. This trend culminated in litigation, which may require the Department of the Interior to introduce Mexican grey wolves onto White Sands Missile Range, New Mexico, although this possibility currently appears less likely.

V. ESA MECHANICS.

A. Listing Endangered or Threatened Species.

1. The Secretaries of the Interior and Commerce determine whether a species is endangered or threatened. This determination must be based solely on the best scientific and commercial data regarding a species' status available at the time. 16 U.S.C. § 1533(b)(1)(A); 50 C.F.R. § 424.11(b). Economic considerations may not be considered.

2. Once a species is determined to be either endangered or threatened, a final rule to implement such determination is published in the Federal Register.

a. Generally, listing decisions must be accomplished within one year from the date either Secretary proposes a species be listed. Oregon Natural Resources Council, Inc. v. Kantor, 99 F. 3d 334 (9th Cir. 1996). This period can be extended by up to six months if there is substantial disagreement among scientists knowledgeable about the species concerned regarding the sufficiency or accuracy of information relevant to the listing determination. 16 U.S.C. § 1533(b)(6); 50 C.F.R. § 424.17(a).

b. The ESA does not prevent the Secretaries of the Interior or Commerce from listing a species as endangered simply because the 12 or 18 month time limit has expired. Congress established these time limits to speed up the listing process so that more species would be listed. The time limits were designed merely as an impetus to act rather than a bar on subsequent action. Idaho Farm Bureau Fed'n v. Babbitt, 58 F.3d 1392 (9th Cir. 1995).

3. After a species has been listed, it may be removed only if the Secretary concerned finds that:

a. The species has become extinct;

b. The species has recovered to a point that the best scientific and commercial data available indicate that it is no longer endangered or threatened; or

c. The original listing was in error. 50 C.F.R. § 424.11.

B. Designating Critical Habitat.

1. The Secretaries of the Interior and Commerce must also make critical habitat determinations "to the maximum extent prudent and determinable" at the same time a species is listed as endangered or threatened. 16 U.S.C. § 1533(a)(3)(A).

2. In most cases, concurrent critical habitat determinations are rarely made. Political, commercial, and economic interests lobby the FWS and NMFS to avoid making such determinations out of fear that critical habitat designations will negatively impact on property use or otherwise restrict activities in the affected area. Unlike species listing decisions, critical habitat designations must take into consideration economic as well as any other relevant impact of the designation. 16 U.S.C. § 1533(b)(2).

3. The Secretaries of the Interior and Commerce may exclude any area from critical habitat if it is determined that the benefits of such exclusion outweigh the benefits of inclusion, unless the failure to include the area will result in the extinction of the species concerned. 16 U.S.C. § 1533(b)(2).

4. Maps of critical habitat for fish and wildlife and plants are listed at 50 C.F.R. §§ 17.95 & 17.96, respectively.

C. Recovery Plans.

Once a species is listed, the Secretary concerned must develop and implement a recovery plan for the conservation and survival of that endangered or threatened species, unless he finds that such a plan will not promote the conservation of the species. These plans detail passive as well as affirmative steps required to save a species from extinction. 16 U.S.C. § 1533(f). Like designation of critical habitat, the development of recovery plans for endangered and threatened species has not kept pace with the listing of such species. As of 6 August 2001, 975 species have recovery plans. (NOTE: Some recovery plans cover more than one species.)

VI. AFFIRMATIVE DUTIES OF FEDERAL AGENCIES UNDER SECTION 7 OF THE ESA -- 16 U.S.C. § 1536.

A. Section 7 (16 U.S.C. § 1536) of the Act applies only to federal agencies. Often described as "the heart of the ESA," section 7 imposes a number of affirmative obligations on federal agencies, including the Army.

B. Conservation.

1. Federal agencies are required to carry out programs for the conservation of listed species. 16 U.S.C. § 1536(a)(1). Agencies will, however, be given some discretion in carrying out their duties to conserve listed species. *See* Pyramid Lake Paiute Tribe of Indians v. Navy, 898 F.2d 1410 (9th Cir. 1990).

2. The Army has determined that in order to discharge its conservation responsibilities under the ESA it will take affirmative measures to

increase, as well as to avoid actions likely to jeopardize, endangered and threatened species. Chapter 11, AR 200-3, implements the ESA's mandate to conserve listed species, primarily through its requirement that installations prepare Endangered Species Management Plans (ESMPs).

C. Avoid Actions That Jeopardize Species or Habitat.

1. Federal agencies are required to ensure that agency actions are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. 16 U.S.C. § 1536(a)(2).

2. If an area on the installation is designated as critical habitat for an endangered or threatened species, the commander has a duty to protect that habitat even if the species itself is not present on the installation.

D. Consult.

1. Federal agencies, including the Army, must consult with the appropriate Service (FWS or NMFS) whenever the agency carries out required programs for the conservation of listed species, or anticipates taking any action that may affect a listed species or critical habitat. 16 U.S.C. § 1536(a).

2. The term "action" is very broadly defined and includes virtually any conceivable activity which could affect, beneficially or adversely, a listed species. *See* 50 C.F.R. § 402.02. *See also* Lane County Audubon Society v. Jamison, 958 F.2d 290 (9th Cir. 1992), where the court held that the Bureau of Land Management's strategy for managing 1,149,954 acres of old-growth timber associated with the endangered northern spotted owl constituted "agency action" requiring consultation.

3. Upon initiation of consultation, an agency is not permitted to make an irretrievable commitment of resources which has the effect of foreclosing the formulation or implementation of reasonable and prudent alternatives. 16 U.S.C. § 1536(d).

4. Consultation can be either "formal" or "informal."

a. Informal consultation, consisting of discussions and exchange of correspondence, is an optional process. 50 C.F.R. § 402.02. It should be used when it is unclear whether or not the proposed agency action will affect a listed species. Installations can and should enter into early informal consultations with the FWS or NMFS to determine if anticipated or ongoing actions will result in effects that may trigger the formal consultation requirement.

b. The informal consultation process will result in a decision by the agency on whether or not it is appropriate to engage in formal consultation with the FWS or NMFS.

c. If, during informal consultation, the agency, with the written concurrence of the FWS or NMFS, determines that the proposed action is not likely to affect listed species or critical habitat, the consultation process is terminated and no further action is necessary.

d. Formal consultation is mandatory where it is determined that a protected species or critical habitat may be affected by the proposed action. Formal consultation procedures are explained in detail at 50 C.F.R. § 402.14.

E. Confer.

1. Federal agencies must confer with the Service whenever any agency action is likely to jeopardize a proposed species or result in the destruction or adverse modification of proposed critical habitat. 16 U.S.C. § 1536(a)(4).

2. A conference generally consists of informal discussions resulting in the FWS or NMFS making recommendations on appropriate agency actions. These discussions can be used to assist in:

a. Preparing agency comments on the economic impact of designating an area as critical habitat.

b. Pre-planning for agency actions necessary if the species is listed.

c. Deciding whether or not consultation will be required if the species is listed.

3. Unlike the consultation process, federal agencies are not prohibited from making irretrievable commitments of resources after beginning a conference.

F. Conduct Biological Assessments.

1. 16 U.S.C. § 1536(c) requires federal agencies to conduct biological assessments for major construction and other activities having similar physical impacts on the environment, if any listed or proposed species is present in the area directly or indirectly affected by the action.

2. In the Army, installation wildlife and operational personal should prepare the biological assessment. Outside experts and consultants should be retained as appropriate to ensure that the assessment is thorough and scientifically defensible. The contents of a biological assessment are at the discretion of the federal agency and will depend on the precise nature of the federal action. 50 C.F.R. § 402.12(f). At a minimum, however, the assessment should contain:

a. A description of the proposed action to include any appropriate environmental enhancements/mitigation to be conducted concurrently.

b. A description of the affected environment (to include the listed or proposed species).

c. A description of how the proposed action will affect the species, including consideration of cumulative effects, if applicable.

3. Although technically required only when major construction is involved, biological assessments should be prepared whenever possible. Doing so:

   a. Satisfies the agency's obligation to use the best scientific and commercial data in fulfilling its section 7 consultation responsibilities. (NOTE: 50 C.F.R. § 402.14(d) requires that federal agencies requesting formal consultation provide the FWS or NMFS with the best scientific and commercial data available or which can be obtained during the consultation for an adequate review of the effects that an action may have upon listed species or critical habitat.)

   b. Helps address the practical problems caused by lack of Service expertise concerning a particular listed species and the Service's lack of interest in finding creative solutions which will protect the species and still allow for completion of the military mission.

4. If the biological assessment results in a determination that the proposed action may affect a listed species or result in the destruction or adverse modification of critical habitat, formal consultation with the FWS or NMFS Service is required.

5. If the biological assessment results in a determination that the proposed action may affect a proposed species or result in the destruction or adverse modification of proposed critical habitat, a conference with the FWS or NMFS is required.

G. Overseas Applicability of Section 7 Requirements.

1. Section 7 does not contain any express language indicating whether Congress intended that it apply to federal agency actions overseas.

2. Several other provisions of the ESA do expressly relate to government action designed to protect endangered species overseas, however. These provisions caused one court in Defenders of Wildlife v. Lujan, 911 F.2d 117 (8th Cir. 1990), to conclude that section 7 consultation requirements also apply overseas. The U.S. Supreme Court overturned the 8th Circuit in Lujan v. Defenders of Wildlife, 504 U.S. 555 (1992), holding that the plaintiffs did not have proper standing to challenge this issue. The Supreme Court, however, did not address the extraterritorial applicability issue, which undoubtedly will be raised in a later case.

VII. THE BIOLOGICAL OPINION.

A. Based on consultation with the agency and the biological assessment (if any), the Service will issue a biological opinion. 16 U.S.C. § 1536(b)(3)(A). The purpose of the biological opinion is to advise the agency on how the proposed action will affect listed species or critical habitat.

B. There are three possible findings in a biological opinion:

1. The proposed action is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat (a "no jeopardy" biological opinion).

2. The proposed action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat, but there are reasonable and prudent alternatives to the proposed action (a "jeopardy with reasonable and prudent alternatives" biological opinion).

3. The proposed action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat, and there are no reasonable and prudent alternatives to the proposed action (a "jeopardy" biological opinion).

C. Incidental Takes. 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i).

1. In cases involving “no jeopardy” and “jeopardy with reasonable and prudent alternatives” biological opinions, proposed federal actions are likely to proceed and may result in the loss of individual members of an endangered or threatened species population incidental to such agency action.

2. If the FWS or NMFS determines that such “incidental takes” will not violate the ESA, the Service concerned will provide an “incidental take statement” with the biological opinion. The “incidental take statement” specifies:

   a. The impact of the incidental taking on the species;

   b. The measures necessary or appropriate to minimize the impact of the taking;

   c. The terms or conditions with which the agency must comply to implement the measures necessary to minimize the impact of the taking; and

   d. The procedures to be used to handle or dispose of any individuals actually taken.

D. A federal agency is not absolutely bound by the Service’s biological opinion. If it deviates from any recommended alternatives, however, it has no protection from the opinion’s incidental take statement. Any taking without the protection of an incidental take statement or a permit will be a violation of the ESA and could result in criminal or civil penalties. So long as there is no incidental taking as a result of the agency’s deviation from the biological opinion, the agency will not be in violation of the ESA if it takes "alternative, reasonably adequate steps to ensure the continued existence of any endangered or threatened species." Village of Akutan v. Hodel, 869 F.2d 1185 (9th Cir. 1988), *cert. denied*, 493 U.S. 873 (1989).

E. Courts will review biological opinions based on an arbitrary and capricious standard. *See* Greenpeace Action v. Franklin, 982 F.2d 1342 (9th Cir. 1992), *amended opinion and order*, 14 F.3d 1324 (9th Cir. 1993). Also, an agency may not blindly rely on the biological opinion if such reliance is arbitrary and capricious. *See* Pyramid Lake Paiute Tribe of Indians v. Navy, 898 F.2d 1410 (9th Cir. 1990).

VIII. PROHIBITED ACTS -- 16 U.S.C. § 1538 (SECTION 9).

A. Section 9 of the ESA prohibits a wide range of conduct deemed threatening to species, including importing, exporting, removing, taking, damaging, destroying, possessing, selling, carrying, transporting, shipping, delivering, and receiving. 16 U.S.C. § 1538(a).

B. The most important prohibitions are phrased in terms of endangered species only. Implementing regulations have extended most of the section 9 prohibitions to threatened species as well, however.

C. The section 9 prohibitions apply to "any person subject to the jurisdiction of the United States." This includes individuals as well as federal agencies. Violators are subject to criminal and civil liability.

D. Takings.

1. Arguably, the most significant of the section 9 prohibitions for the Army and its personnel.

2. In recent years, one of the most hotly contested issues in the takings arena has been whether adverse habitat modification constitutes an unlawful section 9 taking.

a. Section 9 does not expressly forbid adverse habitat modification. It does, however, forbid the taking of endangered fish and wildlife species, which the Act defines to include the harming of such species. 16 U.S.C. § 1532(19).

b. The ESA itself does not define the term "harm." Under the implementing Interior and Commerce Department regulations, however, "harm" includes "significant habitat modification or degradation [that] actually kills or injures wildlife by significantly impairing essential behavioral patterns . . .." 50 C.F.R. § 17.3.

c. In Palila v. Hawaii Dep't of Land and Natural Resources, 852 F.2d 1106 (9th Cir. 1988), the Ninth Circuit upheld this regulatory expansion of the concept of "takings." The court concluded that when Congress used the term "take" in the ESA, it intended to define the term broadly; and, therefore, the regulatory interpretation embodied in 50 C.F.R. § 17.3 followed the plain language of the Act by protecting ecosystems on which endangered species depend as part of the overall scheme to conserve listed species. The District of Columbia Circuit disagreed, finding that the regulatory definition of "harm" was "neither clearly authorized by Congress nor a 'reasonable interpretation' of the statute." Sweet Home Chapter of Communities for a Great Oregon v. Babbitt, 17 F.3d 1463 (D.C. Cir. 1994), *rev'd*, Babbitt v. Sweet Home Chapter of Communities for a Great Oregon, 515 U.S. 687 (1995).

d. In 1995, the United States Supreme Court resolved the issue, holding that the Secretary of the Interior reasonably construed Congress' intent when he defined "harm" to include habitat modification. Accordingly, habitat modification or degradation that indirectly kills or injures a species can constitute "harm" and, therefore, a taking of the species under section 9 of the Act. Babbitt v. Sweet Home Chapter of Communities for a Great Oregon, 515 U.S. 687 (1995).

E. Plant Species.

1. Section 9 protects plants as well as fish and wildlife. 16 U.S.C. § 1538(a)(2).

2. Under section 9 of the ESA, it is unlawful for any person subject to the jurisdiction of the United States to remove and reduce to possession any endangered plant from areas under federal jurisdiction or to maliciously damage or destroy any endangered plant in such areas. It is also a violation of the ESA to remove, cut, dig up, damage, or destroy endangered plants in any other area in knowing violation of state law or in the course of any violation of a state criminal trespass statute. 16 U.S.C. § 1538(a)(2)(B).

3. Most section 9 prohibitions regarding endangered plant species have also been extended to threatened plant species via implementing federal regulations.

IX. EXCEPTIONS AND EXEMPTIONS.

A. Permits. 16 U.S.C. § 1539(a).

The FWS or NMFS can issue permits for takings of protected species for scientific purposes or to enhance the propagation or survival of the affected species. Permittees must submit a conservation plan that specifies:

1. The impact resulting from such takings;

2. The mitigating steps that will be taken to minimize the effects of the taking, including the funding that will be available to implement such steps; and

3. What alternatives to taking were considered and why they could not be utilized. 16 U.S.C. § 1539(a)(2)(A).

B. Endangered Species Committee. 16 U.S.C. § 1536 (e) - (i).

1. Background.

a. In 1978, the United States Supreme Court enjoined the Tennessee Valley Authority from finishing construction on a virtually completed $100 million dam project, because the reservoir created by the dam would completely inundate a portion of the Little Tennessee River that had been designated as critical habitat for the snail darter, a small fish listed as endangered under the ESA. Tennessee Valley Authority v. Hill, 437 U.S. 153 (1978).

b. In so ruling, the Court commented as follows:

It may seem curious to some that the survival of a relatively small number of three-inch fish among all the countless millions of species extant would require the permanent halting of a virtually completed dam for which Congress has expended more than $100 million . . .. We conclude, however, that the explicit provisions of the Endangered Species Act require precisely that result . . .. One would be hard pressed to find a statutory provision whose terms were any plainer than those of § 7 of the Endangered Species Act. This language admits of no exceptions (emphasis added).

c. Astonished by the plain language of its own statute, Congress responded to Tennessee Valley Authority v. Hill by extensively amending the ESA. Among the changes, Congress established the Endangered Species Committee (ESC) and created a complex exemption process under section 7 of the Act.

2. The ESC and the section 7 exemption process.

a. The ESC (a.k.a. "The God Squad") is composed of seven members, including the Secretary of the Army. 16 U.S.C. § 1536(e)(3). The ESC can grant federal agencies an exemption from the section 7 requirement to ensure that agency actions are not likely to jeopardize an endangered or threatened species or result in the destruction or adverse modification of critical habitat. 16 U.S.C. § 1536(e)(2).

b. Normally, ESC exemptions are permanent with respect to all endangered or threatened species associated with the federal action (16 U.S.C. § 1536 (h)(2)(A) and are considered final agency actions for purposes of citizen suits. 16 U.S.C. §§ 1536(h)(1) and (n).

c. Criteria for granting an exemption. 16 U.S.C. § 1536(h)(1).

The Committee shall grant an exemption if it determines that:

(1) There are no reasonable and prudent alternatives to the agency action.

(2) The benefits clearly outweigh the benefits of alternative courses of action consistent with preserving the species or critical habitat.

(3) The action is of regional or national significance.

(4) There has been no irretrievable commitment of resources.

(5) Necessary and appropriate mitigation and enhancement measures are established.

(6) It is determined that consultation was carried out in good faith and any required assessments were completed.

C. National Security Exemption. 16 U.S.C. § 1536(j).

1. 16 U.S.C. § 1536(j) provides that the ESC "shall grant an exemption for any agency action if the Secretary of Defense finds that such an exemption is necessary for reasons of national security."

2. Congress intended, however, that this exemption only be used in cases of imminent danger to the United States. Under normal circumstances, the agency should first seek a routine exemption from the Committee.

X. PENALTIES AND ENFORCEMENT -- 16 U.S.C. § 1540 (SECTION 11).

A. Violations of the ESA can result in either civil or criminal sanctions.

1. Civil penalties.

a. Each knowing violation can result in penalties of up to $25,000.

b. Other violations (negligence) can result in penalties of up to $500 per violation.

c. Government employees are not immune.

2. Criminal penalties.

a. Any person can face criminal charges for a knowing violation of the ESA. The government need only prove the person had the general intent to commit the act which constituted a violation of the ESA. Specific intent to actually harm or kill an endangered or threatened species is not required. *See* United States v. Billey, 667 F. Supp. 1485 (S.D. Fla. 1987); United States v. St. Onge, 676 F. Supp. 1044 (D. Mont. 1988); United States v. Ivey, 949 F.2d 759 (5th Cir. 1991), *cert. denied*, 506 U.S. 819 (1992).

b. The maximum penalty for knowing violations is imprisonment for not more than one year, a fine of up to $50,000, or both.

c. Negligent violations can result in confinement for not more than six months, a fine of not more than $25,000, or both.

B. Civil and criminal sanctions can be sought for violations of omission (e.g., failing to carry out programs to conserve an endangered species or to confer with the FWS or NMFS), as well as for commissions of prohibited acts (takings or importing and/or exporting listed species).

C. "Citizen suits" can also be brought against a federal agency for violations of the ESA.

1. Under the ESA, "any person may commence a civil suit . . . to enjoin any person, including the United States" from violating the Act. 16 U.S.C. § 1540(g)(1)(A).

   a. A common issue in citizen suit cases is whether the plaintiff has standing to litigate. Traditionally, courts have applied a "zone of interests" test to resolve standing controversies. The "zone of interests" test requires that a plaintiff's grievance arguably fall within the zone of interests protected or regulated by the statutory provision or constitutional guarantee invoked in the suit. Ass'n of Data Processing Service Organizations, Inc. v. Camp, 397 U.S. 150 (1970).

   b. In Bennett v. Spear, 117 S. Ct. 1154 (1997), the U.S. Supreme Court held that the "zone of interest" test does not apply to suits brought under the ESA's citizen suit provision since Congress expressly negated application of the test by providing in § 1540(g) that "any person may commence a civil suit." The Court further concluded that plaintiffs who suffer economic harm as a result of ESA jeopardy determinations have standing to bring suit under the Administrative Procedure Act (APA).

2. Plaintiffs must give written notice of their intent to sue. Such notice must be served on the Secretary concerned and all alleged violators at least 60 days before any lawsuit is filed. 16 U.S.C. § 1540(g)(2). The 60-day notice requirement does not apply to suits brought under the APA.

3. The standard of review of an agency's action is the APA's "arbitrary or capricious standard." Application of the APA standard, however, must be accomplished consistent with the commander's responsibility to use "all methods and procedures which are necessary to prevent the loss of any endangered species, regardless of cost." Tennessee Valley Authority v. Hill, 437 U.S. 153 (1978).

4. Significantly, the ESA provides that courts may award the costs of litigation (including reasonable attorney and expert witness fees) to either party. 16 U.S.C. § 1540(g)(4). For suits brought under the APA,

successful plaintiffs may be able to recover attorney fees under the Equal Access to Justice Act.

XI. ARMY ENDANGERED SPECIES GUIDANCE.

A. The Army will be a leader in conserving and protecting endangered species. Mission requirements do not justify violating the ESA. Commanders will engage in proactive planning and management to prevent conflicts between the Army's missions and endangered species.

B. Preserving biodiversity is an important goal of Army land stewardship.

1. The Army will work closely with FWS. Installations will engage in early informal consultations when planning actions.

2. The primary planning tool to assist in meeting the Army's obligations under the ESA is the Endangered Species Management Plan (ESMP).

a. Installations will prepare ESMPs for listed species and critical habitat present on the installation, including areas used by tenant organizations.

b. MACOMS and HQDA will also prepare ESMPs when the species has or could have a significant impact on the Army's mission.

c. Elements of the ESMP:

(1) Specific management guidelines and actions necessary to achieve survival and recovery of the species and conservation of critical habitat.

(2) Objective, measurable criteria which, would meet the installation's conservation goals, and milestones for achieving those goals.

(3) Estimates of the time and cost to carry out those measures needed to achieve the conservation goals.

(4) A checklist for use by those monitoring installation compliance with ESMPs. The checklist should identify actions, tasks, and steps required to effectively implement the ESMP over its projected life. It should also include milestones for achieving conservation goals, and the key conservation measures specified in the ESMP.

CHAPTER VI

THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT

I. REFERENCES.

A. Federal Statutes, Regulations, and Executive Orders.

1. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), 42 U.S.C. §§ 9601 - 9675.

2. Emergency Planning and Community Right to Know Act of 1986 (EPCRA), 42 U.S.C. §§ 11001 - 11050.

3. Defense Environmental Restoration Program (DERP), 10 U.S.C. §§ 2701-2707.

4. 40 C.F.R. Part 300, National Oil and Hazardous Substance Pollution Contingency Plan (National Contingency Plan or NCP).

5. 40 C.F.R. Part 302, Designation, reportable quantities, and notification (requirements for hazardous substances governed by CERCLA).

6. 40 C.F.R. Part 355, Emergency planning and notification.

7. 40 C.F.R. Part 370, Hazardous chemical reporting: Community right-to-know.

8. 40 C.F.R. Part 373, Reporting hazardous substance activity when selling or transferring federal real property.

9. Executive Order 12,580, Superfund Implementation, January 23, 1987, 52 Fed. Reg. 2,923, as amended by Executive Order 12,777, § 1(a), October 18, 1991, 56 Fed. Reg. 54,757 (reprinted, as amended, 42 U.S.C. § 9615).

B. Related Army Regulations.

1. AR 200-1, Environmental Protection and Enhancement, 21 February 1997.

2. AR 200-2, Environmental Effects of Army Actions (23 December 1988). *See* para. 2-2(a)(8) for coordination of National Environmental Policy Act (NEPA) and CERCLA requirements.

II. KEY DEFINITIONS.

A. **Response actions** include both remedial and removal actions. *See* 42 U.S.C. § 9601(25).

B. **Removal actions** are those actions taken to clean up or remove hazardous substances from the environment or monitor, evaluate, and access the release or threat of release of hazardous substances into the environment. 42 U.S.C. § 9601(23). Removal actions include such actions as security fencing, provision of alternate water supplies, and temporary evacuation and housing of individuals threatened by the release of hazardous substances. Removal actions are generally considered more temporary in nature and limited in expense than remedial actions. Superfund financed removal actions are limited to 12 months in duration and $2 million in expenditures. 40 C.F.R. § 300.415. (Note, however, that response actions performed by DOD agencies are not financed through the Superfund, thus not subject to the 12 month/$2 million limitation).

C. **Remedial actions** are those actions consistent with the permanent remedy taken instead of, or in addition to, a removal action, in the event of a release of a hazardous substance into the environment. Remedial actions include such actions as storage, confinement, perimeter protection, groundwater treatment, incineration, neutralization, and cleanup of hazardous substances. 40 C.F.R. § 300.5.

D. **Remedial Project Manager (RPM)** is the person designated by the lead agency to coordinate, monitor, or direct remedial or response actions. Sometimes the RPM is referred to as the "on-scene coordinator (OSC)." The OSC, however, can also be a person appointed by the Environmental Protection Agency (EPA) or the United States Coast Guard (USCG) to supervise operational response phases for oil removal. 40 C.F.R. § 300.5.

E. **Lead agency** is the agency that provides the RPM or OSC to implement response actions. Where the release of a hazardous substance is on, or the sole source of the release is from, a facility or vessel under the jurisdiction, control, or custody of the DOD [Army] . . . then the DOD [Army] is the lead agency. 40 C.F.R. § 300.5.

F. **Hazardous substances** include any substance designated pursuant to:

1. 33 U.S.C. §§ 1317(a), 1321(b)(2)(A) (Clean Water Act (CWA)).

2. 42 U.S.C. § 9602 (CERCLA).

3. 42 U.S.C. § 6921 (Resource Conservation and Recovery Act (RCRA) - including both listed and hazardous characteristic wastes).

4. 42 U.S.C. § 7412 (Clean Air Act (CAA)).

5. 13 U.S.C. § 2606 (Toxic Substances Control Act (TSCA)).

The term does not include natural gas or petroleum, including crude oil or any fraction thereof, even if the petroleum contains hazardous substances, as long as the hazardous substance was part of the original product as sold on the market. *See* Wilshire Westwood Associates v. Atlantic Richfield Corp., 881 F.2d 801 (9th Cir. 1989). *See also* 42 U.S.C. § 9601(14).

G. **Formerly used defense site (FUDS)** are properties previously owned, leased, or used by DOD for military purposes; or other properties conveyed to a military contractor for industrial purposes and later legally disposed of. AR 200-1, Glossary Section II.

H. **Release** "means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment of or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant) . . . ." Exclusions include:

1. Releases that result in exposure to persons solely within a work place.

2. Engine emissions.

3. Releases caused by response actions taken pursuant to CERCLA § 104 (42 U.S.C. § 9604).

4. Normal applications of fertilizer. 42 U.S.C. § 6901(22).

I. **Pollutants** or **contaminants** include any substances which after their release into the environment cause death, disease, behavioral abnormalities, cancer, genetic mutation, or physiological mutations in any organism or offspring of such organism that is exposed to the substance either directly or indirectly by ingestion through food chains. In general, neither petroleum nor natural gas is considered a pollutant or contaminant. 42 U.S.C. § 9601(33).

J. **National Priority List (NPL)** is the list, compiled by the EPA, of uncontrolled hazardous substance releases in the United States that are priorities for long-term remedial evaluation and response. 40 C.F.R. § 300.5. The NPL is found at 40 C.F.R. Part 300, Appendix B. Federal facilities on the NPL are listed separately from nonfederal facility NPL sites.

K. **Base Realignment and Closure (BRAC) Environmental Restoration Program.** This program governs the environmental restoration activities at closing and realigning installations affected by 10 U.S.C. § 2687 and funded by the DOD Component BRAC accounts. This program is analogous to the DERP and funds the same activities that are eligible under the DERP. It does not include building demolition/debris removal or ordnance and explosive waste activities. Closure-related environmental compliance requirements are not included in this program.

L. **Defense Environmental Restoration Program (DERP).** A program established by Congress in 1986 under § 211 of SARA (10 U.S.C. §§ 2701 – 2707 and § 2810) to provide funding for the cleanup of contaminated DOD sites in a manner consistent with the requirements of CERCLA.

M. **Federal Facilities Agreement (FFA).** An agreement between regulators and DOD for the accomplishment of all necessary remedial actions at contaminated sites. Agreements signed in accordance with CERCLA § 120 are referred to as Interagency Agreements (IAGs).

N. **Site.** An area containing one or more releases or threatened releases of hazardous substances that, for response purposes, is treated as a discrete entity, including any building, impoundment, landfill, storage container, or other site or area where a hazardous substance has or had come to be located and including formerly used defense sites.

O. **Third party sites.** A site where DOD has no current or past ownership interest and where DOD has a responsibility for cleanup under CERCLA.

P. **Facility.** 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 any other 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.

Q. **Applicable requirements**. Those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those state standards that are identified in a timely manner and that are more stringent than federal requirements may be applicable.

R. **Relevant and appropriate requirements.** Those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site, address problems or situations sufficiently similar to those encountered at a CERCLA site that their use is well suited to the particular site. Only those state standards that are identified in a timely manner and that are more stringent than federal requirements may be relevant and appropriate.

III. INTRODUCTION.

A. In late 1980, Congress passed CERCLA to meet the perceived threat to the country's environment resulting from an estimated 30,000 to 50,000 improperly managed hazardous waste sites that existed nationwide. Where RCRA is commonly thought of as a "cradle to grave" mechanism for safely managing hazardous wastes from generation through disposal, CERCLA's focus is the remediation of past "releases" of "hazardous substances, pollutants, or contaminants" posing a threat to human health or the environment. Often these releases began or occurred decades ago and were the result of accepted industrial disposal practices.

B. CERCLA requires that abandoned and inactive hazardous waste sites be identified, evaluated, and assigned a numerical score under the Hazard Ranking System (HRS). Once evaluated, sites scoring 28.5 or higher are placed on the National Priority List (NPL). 40 C.F.R § 300.425(c)(1). Sites on the NPL are then targeted for further study and cleanup by the EPA or parties responsible for contamination at the sites. This process is implemented through the National Oil and Hazardous Substance Pollution Contingency Plan (NCP), which is found at 40 C.F.R. Part 300.

C. CERCLA was initially ineffective. As one court stated: "CERCLA is a hastily drawn statute quickly passed through a lame-duck Congressional session. '[It] has acquired a well-deserved notoriety for vaguely-drafted provisions and an indefinite, if not contradictory, legislative history.'" Violet v. Picillo, 648 F. Supp. 1283 (D.R.I. 1986) (citations omitted).

1. Congress responded to some of CERCLA's shortcomings in 1986 by passing the Superfund Amendments and Reauthorization Act of 1986 (SARA). SARA substantially strengthened CERCLA by providing mandatory schedules for the completion of various phases of response activities and by establishing more detailed cleanup standards.

2. As part of SARA, Congress also created the Defense Environmental Restoration Program (DERP). The DERP, operating within the CERCLA framework, provides for the cleanup of inactive hazardous waste sites at DOD facilities. *See* 10 U.S.C. §§ 2701-2707.

D. The EPA is charged with the overall administration of CERCLA. CERCLA, unlike most other statutes dealing with hazardous materials, has no provision for the delegation of the EPA's regulatory authority to states. As a result, the EPA makes the final decision regarding remedial actions at NPL sites.

1. **NPL Sites.** State and local requirements are integrated into the process of selecting a remedial action at an NPL site if the standards are determined to be applicable or relevant and appropriate requirements (ARARs). 42 U.S.C. § 9621(f).

2. **Non-NPL Sites.** State and local hazardous waste requirements control response actions at non-NPL sites. 42 U.S.C. § 9620(a)(4). Many states have their own programs for hazardous waste sites (mini-Superfunds), and some are using their RCRA permitting authority to regulate inactive waste site cleanups at facilities that have ongoing hazardous waste operations. 42 U.S.C. § 6924(u).

E. Funding CERCLA Actions.

1. Nonfederal sites. Money for CERCLA remedial actions conducted by the EPA comes from the Hazardous Substance Superfund (Superfund). 26 U.S.C. § 9507. **Only nonfederal sites on the NPL are eligible for Superfund financing of remedial actions**. 40 C.F.R. § 300.425(b)(1). Superfund consists primarily of general tax revenues and taxes imposed on the manufacturers of chemicals and generators of hazardous wastes. The fund is replenished with amounts recovered by the EPA from parties responsible for the release of hazardous wastes at sites where Superfund is used to finance the cleanup. Money recovered is then returned to Superfund where it is used to fund response costs incurred by the EPA at other hazardous waste sites. Today, the American public routinely refers to the entire CERCLA program as "the Superfund program."

2. DOD Facilities.

a. Superfund cannot be used to fund response actions at federal facilities. Initially, funds for the DERP were provided by a DOD transfer account, the Defense Environmental Restoration Account (DERA), established by SARA § 211 (10 U.S.C. § 2703). Beginning in FY 97, Congress devolved the DERP, authorizing and appropriating funds for individual transfer accounts for the Army, Navy, Air Force, Defense Agencies, formerly used Defense sites (FUDS), and the Office of the Deputy Under Secretary of Defense for Environmental Security (ODUSD (ES)).

b. The Army's transfer account is the Environmental Restoration, Army (ER, A) account.

c. ODUSD (ES) establishes DERP goals for the Services and provides program management oversight; however, the individual Services program, budget, and manage its respective transfer accounts.

d. Although the United States Army Environmental Center (USAEC) develops the Army's installation restoration budget, ER, A funds are managed and distributed by the MACOM.

F. The Army's Cleanup Programs.

1. The Installation Restoration Program.

a. The Army's program under the DERP for active sites is the Installation Restoration Program (IRP). The IRP is a comprehensive program to identify, investigate, and clean up contamination at active Army installations.

b. The IRP is conducted consistent with the NCP and, if applicable, the substantive requirements of RCRA's corrective action process.

c. The USAEC is the Army's program manager for the IRP. The USAEC develops the IRP budget, prepares the IRP Work Plan, reports on progress to the ODUSD (ES), develops Army-wide guidance, and coordinates program activities and requirements with the MACOMs.

d. The MACOMs and, if applicable, their MSCs are responsible for direction and management of the IRP for installations under their command. The MACOM prioritizes IRP requirements, distributes funds to installations and executors, consolidates and reports technical and financial installation data to the USAEC, and provides technical and financial guidance to installations under its command.

e. Installations. The installation commander (IC) is responsible for executing the IRP at his/her installation. Installations are responsible for tasking their IRP executor(s), reporting to their MACOM/MSC, and coordinating regulatory and community involvement. For Army National Guard (ARNG) facilities, the IC is state-employed and is not responsible for executing the Army IRP. The Army National Guard Bureau (NGB), a MACOM, is the designated lead agency for the IRP at ARNG facilities and is responsible for execution of the IRP.

2. The BRAC environmental restoration program. Similar to the IRP, this program addresses the cleanup of contaminated sites at BRAC sites. Unlike the IRP, however, the BRAC program does not include buildings demolition/debris removal or ordnance and explosive waste activities. In addition, the program does not address closure-related environmental compliance requirements.

3. Formerly used Defense sites (FUDS).

   a. FUDS are real property that were formerly used by, leased to, or otherwise under the operational control of the DOD.

   b. The Secretary of the Army is the DOD Executive Agent for the FUDS program. The restoration program at FUDS properties is conducted by the Corps of Engineers regardless of which DOD component formerly used, leased, or otherwise controlled the site.

   c. Funding for the remediation of FUDS is provided separately by ODUSD (ES) from the Defense-wide environmental restoration account. Funding of response actions occurring outside the boundaries of Army installations or FUDS are permitted only where it is reasonably certain that the installation is the sole or major source of the release which is at issue.

4. Installation Action Plans (IAPs).

   a. The IAPs are the key document in the management and execution of the IRP. The IAP outlines the installation's program to achieve its restoration goals. The USAEC, MACOMs/MSCs, and the installation also use the plan to monitor requirements, schedules, and budgets.

   b. Each installation receiving IRP funds is required to prepare an IAP annually. The reports are required to be submitted through the MACOM to the USAEC annually, but should be updated whenever a change to the installation program occurs or as needed for presentation to regulators and the public. IAPs are a key document in determining IRP budget allocations.

5. Relative Risk Site Evaluations (RRSEs).

a. The ODUSD (ES) establishes restoration goals for the DERP using a risk management philosophy that calls for the remediation of sites that pose the greatest threat to human health first. To accomplish this goal, DOD rates contaminated sites using a RRSE.

b. The RRSE uses common standards and rating definitions for all the military Services in order to ensure uniform categorization DOD-wide and ensure funds are prioritized based on the risk to human health and the environment.

c. The categorization of IRP sites into relative risk groups is based on an evaluation of contaminants, pathways, and human and ecological receptors in ground water, surface water, sediment, and surface soils. Evaluations of these factors at a site are combined to place the site in an overall category of "high," "medium," or "low" relative risk.

d. Per DOD guidance and Army policy, installations should solicit stakeholder involvement throughout the RRSE process. The IAPs, together with the RRSE can serve as the basis for objective dialogue with stakeholders (local community and regulators) on sequencing work at sites.

IV. LIABILITY UNDER CERCLA.

A. Under CERCLA, "responsible parties" are held liable for the costs associated with releases of hazardous substances, pollutants, and contaminants. Responsible parties include:

1. The current owner and operator of the facility.

2. Any person who at the time of disposal of any hazardous substance owned or operated the facility. *See* Kelley v. United States EPA, 15 F.3d 1100 (D.C. Cir. 1994); United States v. Fleet Factors Corp., 901 F.2d 1550 (11th Cir. 1990, *cert denied,* 498 U.S. 1046 (1991).

3. Any person who by contract, agreement, or otherwise, arranged for the disposal, treatment, or transportation for disposal or treatment of hazardous substances owned or possessed by such person or by any other party or entity.

4. Any person who accepted any hazardous substances for transport to the disposal or treatment facility, if such person selected the facility. 42 U.S.C. § 9607(a).

B. Responsible parties can be required to pay:

1. All costs of removal and remedial action incurred by the U.S. government, or a state, or an Indian tribe, which are not inconsistent with the NCP.

a. Response costs (costs of removal/remedial actions) are not specifically defined but can include the costs of investigations, monitoring, testing, legal costs, and expert witness fees, as well as cleanup costs. *See, e.g.,* U.S. v. Northeastern Pharmaceutical & Chemical Company (NEPACCO), 579 F.2d 823 (W.D. Mo. 1984).

b. Remediation oversight costs are generally recoverable under CERCLA. *See* Colorado v. U.S. and Shell Oil Company, 867 F. Supp. 948 (D. Colo. 1994). *But see* United States v. Rohm & Haas Co., 2 F.3d 1265 (3rd Cir. 1993).

2. Any necessary response costs, consistent with the NCP, incurred by any other person.

3. Damages for injury to, destruction of, or loss of natural resources.

4. Costs of any health assessment or health effects study carried out under 42 U.S.C. § 9604(i). 42 U.S.C. § 9607(a)(4).

C. Response costs are recovered through negotiations or by "cost recovery actions." Elements for establishing liability in a cost recovery action are:

1. There is a release or threatened release . . .

2. Of a hazardous substance . . .

3. From a vessel or a facility . . .

4. And the defendant is a "responsible party" . . .

5. And the plaintiff has incurred necessary "response costs" because of the release or threatened release. *See* 42 U.S.C. § 9607.

D. Liability. Liability of responsible parties is joint and several, unless the PRP can prove that the harm is divisible. In re Bell Petroleum Services, Inc., 3 F.3d 889 (5th Cir. 1993); United States v. Alcan Aluminum Corp., 990 F.2d 711 (2d Cir. 1993). *See also* New York v. Shore Realty Corp., 759 F.2d 1032 (2d Cir. 1985); NEPACCO, *supra. But see* United States v. Chem-Dyne Corp., 572 F. Supp. 802, 808 (S.D. Ohio 1983) (joint and several liability principles from the Restatement (Second) of Torts §§ 433A, 881 (1976) apply); *cf.* United States v. Stringfellow, 20 ERC 1905, 1910 (C.D. Cal. 1984) and United States v. A & F Materials, Inc., 578 F. Supp. 1249 (S.D. Ill. 1984) (courts have power to apportion damages, even if the harm is indivisible). Responsible parties, however, have the right to seek contribution from other responsible parties. 42 U.S.C. § 9613.

E. Liability is strict. Good faith efforts to preclude releases, the absence of fault, the legality of the acts at the time, and the exercise of due care are all irrelevant. *See* Shore Realty and NEPACCO, listed above; *see also* Violet v. Picillo, 648 F. Supp. 1283 (D. R.I. 1986) (generator held liable for cleanup even though its waste was improperly diverted to a disposal site not chosen by the generator).

F. So far, cases have apportioned liability based on respective volumes of hazardous substances at the site. CERCLA states, however, that costs may be allocated "using such equitable factors as the court determines are appropriate." 42 U.S.C. § 9613(f)(1). Possible factors that a court could use in apportioning response costs include:

1. Toxicity of the various wastes at the site.

2. Persistence of the various chemicals.

3. Mobility of the various chemicals.

4. Care exercised in preventing leaks.

5. Length of time the waste has been stored.

6. Legality of deposit at the time of disposal.

7. Reasonableness of using the disposal site for the wastes involved.

8. Other aggravating factors.

G. Defenses.

1. There are few statutory defenses to a CERCLA response cost action. 42 U.S.C. § 9607(b). They are:

a. Acts of God.

b. Acts of war.

c. Act of a third party (not directly or indirectly contractually related to the defendant), if defendant took all reasonable precautions against actions of a third party and if defendant exercised due care. *See, e.g.,* Violet v. Picillo, 648 F. Supp. 1283 (D. R.I. 1986) (third party defense disallowed).

d. Any combination of 1-3.

2. These defenses are narrowly construed and are interpreted as to being identical to the defenses available under § 311 of the Clean Water Act (33 U.S.C. § 1321). Other defenses, such as: laches, waiver, and unclean hands; and affirmative defenses, such as: *res judicata* and payment, might be available in an appropriate case. *See, e.g*., U.S. Conservation Chemical Co., 619 F. Supp. 162, 205 (W.D. Mo. 1985); Mardan Corp. v. C.G.C. Music, Ltd., 600 F. Supp. 1049, 1056 n.9 (D. Ariz. 1984). Most likely, however, they will not provide a defense to liability, but instead will go to the issue of damages. *See* Southland Corp v. Ashland Oil, Inc., 696 F. Supp 994 (D. N. J. 1988).

H. Third Party Sites. At third party (i.e., nonfederal sites) the EPA and the Army negotiate over the amount of liability the Army must bear if Army owned or generated wastes are present. *See* Tenaya Associates Limited Partnership v. United States Forest Service, No. CV-F-92-5375 REC, 1995 WL 433290 (E.D. Cal. May 19, 1993); Redland Soccer Club, Inc. v. Department of the Army, 801 F. Supp. 1432 (M.D. Pa. 1992). Usually, the amount we pay is proportionate to the volume of hazardous wastes we generated that are found at the site.

I. In response cost actions involving nonfederal parties, however, the Army is placed in a difficult position. To nonfederal plaintiffs, the Army is just another potentially responsible parties (PRP), albeit one with "deep pockets." To other defendants, the Army is "the government" and cannot be trusted. In fact, since the Army is part of "the government," its ability to participate in joint defense arrangements is constrained. While the Army **can** participate in steering committees and shared technical expense arrangements, the Army **cannot** join in shared counsel expense arrangements.

J. Agency Assessment of Responsible Party Liability.

1. Prior to being adjudged a responsible party or admitting responsibility, parties facing CERCLA liability as responsible parties are commonly referred to as PRPs.

2. Once an installation is notified that it is a PRP, the installation's attorney should immediately request from the EPA (or other plaintiff) a copy of all information connecting the installation with the site to be cleaned up. This information will help determine if:

a. The EPA (the plaintiff) has read the records correctly.

b. The installation is listed in the documents as having deposited (through contract or otherwise) waste at the site.

c. The waste the installation is listed as having deposited is hazardous.

3. Army attorneys should also immediately notify The Office of the Judge Advocate General (OTJAG), Environmental Law Division (ELD), that they have been targeted as a PRP.

4. Following receipt and review of records from the EPA or other plaintiffs, the installation's attorney should conduct a command/installation records check to determine what records are available that reflect the installation's use of the site in question. Information should be sought regarding:

a. Amounts of waste deposited at the site.

b. The type of waste actually deposited at the site. In this regard, do not automatically rely on labels found on barrels at the site. Prior to the passage of RCRA, there was no requirement to characterize hazardous wastes being disposed of. As a result, the barrel's label may bear no relationship to what was actually disposed of in the barrel.

c. The completeness of the records.

5. Records should also be screened to determine if there is anyone that the installation could turn to for indemnification (e.g., a transporter who took the waste to the wrong site or who mixed it with someone else's waste without proper authorization).

V. CERCLA CLEANUP ACTIONS.

A. CERCLA is triggered by:

1. The release or substantial threat of a release into the environment of a **hazardous substance**; or

2. The release or substantial threat of release into the environment of any **pollutant or contaminant** which presents an imminent and substantial danger to the public health or welfare. 42 U.S.C. § 9604(a).

B. Under CERCLA, cleanups are accomplished by means of **response actions**. There are two types of response actions that can be taken under CERCLA - removal actions and remedial actions. 42 U.S.C. § 9604. All response actions must be consistent with the National Contingency Plan (NCP).

C. Removal Actions.

1. General.

a. When a release or threat of release poses an imminent threat to public health, welfare, or the environment, the lead agency may take any appropriate removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate the release. The primary justification supporting a removal action over a remedial action is the severity and/or immediacy of the threat.

b. A removal action(s) may also be used in conjunction with a long-term remedial action where it is recognized that the removal action will minimize or prevent further contamination.

c. Removal actions are further classified as either emergency removals, time-critical removals, or removal actions.

d. The EPA may undertake removal actions whether or not the site is on the NPL, but remedial actions cannot be financed with Superfund money unless the site is on the NPL. The Army must, however, (except in rare circumstances) use DERA funds for CONUS-based removal actions regardless of whether the site in question is on the NPL.

2. Emergency removals. These actions essentially apply where an immediate response is required to address a release that poses an imminent threat to human health or the environment and, due to the severe nature of the threat, little, if any, time is available to respond.

3. Time-critical removal actions. These are response actions that need not be commenced immediately, but will begin with less than six months of planning time.

4. Removal actions.

   a. Removal actions are response actions that will be initiated after at least six months of planning time.

   b. Removal actions require the preparation of an engineering evaluation/cost analysis (EE/CA) document. An EE/CA is essentially an analysis of the removal alternatives for a site, the alternative selected, and the justification for the selected alternative.

5. Community relations in removal actions.

   a. The lead agency must designate a spokesperson for all removal actions. The spokesperson is responsible for informing the community as to actions taken, responding to inquiries, and providing information concerning the release.

b. Time-critical removals and removal actions. The lead agency must:

(1) Publish a notice of availability of the administrative record within 60 days of the initiation of the on-site removal action;

(2) Provide a public comment period of not less than 30 days from the time the administrative record file is made available for public inspection; and

(3) Prepare a written response to significant comments received during the public comment period.

c. Removal actions that are anticipated to extend beyond 120 days. By the end of the 120-day period, the lead agency must:

(1) Conduct interviews with local officials, community residents, public interest groups, or other interested or affected parties to solicit their concerns, information needs, and desires regarding how or when citizens would like to be involved in the response process.

(2) Prepare a formal community response plan (CRP) based on the community interviews.

(3) Establish at least one local information repository. The information repository should contain items made available for public information as well as a copy of the administrative record file.

d. Removal actions. The lead agency shall:

(1) Comply with the requirements outlined in paragraph c. above prior to the completion of the EE/CA.

(2) Publish a notice of availability and brief description of the EE/CA.

(3) Provide a public comment period of not less than 30 days from the completion of the EE/CA to solicit comments concerning the EE/CA.

(4) Prepare a written response to significant comments received concerning the EE/CA.

D. Remedial Actions. Remedial actions are long-term actions designed to provide a permanent solution for any releases that have occurred. The remedial action process as it applies to military installations is discussed in section VI below.

VI. THE REMEDIAL ACTION PROCESS.

A. General. Typically, the remedial action process is broken down into three phases, with the end objective being site closeout that can occur at any phase.

1. Identification or Preliminary Assessment/Site Inspection (PA/SI). This phase includes the steps of discovering, assessing, and reporting a potential new installation restoration program (IRP) site.

2. Investigation or Remedial Investigation/Feasibility Study (RI/FS). The steps in this phase include:

a. Analyzing in detail the nature of the site, contaminants, and potential receptors;

b. Determining the regulatory requirements and cleanup objectives to be applied at the site; and

c. Identifying, analyzing, and selecting the remedial action approach for cleaning up the site.

3. Cleanup or Remedial Design/Remedial Action. This phase includes the detailed engineering design step for the selected remedial action, the implementation of that remedial action, and any ongoing post-construction activities necessary to fully meet the cleanup objectives.

B. Identification Phase. This phase consists of the three steps of Discovery and Notification, Preliminary Assessment (PA), and Site Inspection (SI). Once a site is identified, it is formally evaluated and rated during the PA and, if necessary, the SI.

1. Discovery and Notification. Once discovered, all hazardous waste sites on federal properties must be reported to the EPA for inclusion on the Federal Agency Hazardous Waste Compliance Docket (CERCLA § 120(c)).

2. Preliminary Assessment.

a. Purposes of a PA.

(1) Describe the source and nature of a release;

(2) Evaluate the type, magnitude, and likelihood of threats to public health and welfare and/or the environment;

(3) Determine the need for a removal, SI, RI/FS, or no action; and

(4) Gather existing data to facilitate HRS scoring.

b. Information typically used to prepare a PA.

(1) Interviews with currently employed or retired personnel;

(2) Records of past waste generation and site management practices;

(3) Aerial photographs; and

(4) Any previous sampling results.

c. At the conclusion of the PA, the lead agency will either implement a removal action; and/or initiate a SI or RI/FS; and/or closeout the site.

3. Site Inspection. The SI is an optional step that is taken after the PA if new/additional information is needed to decide whether to initiate a removal, begin a RI/FS, or terminate response activities.

C. The National Priorities List (NPL).

1. General.

a. The NPL is, at least in theory, a list of the most contaminated sites in the country. The NPL is found at 40 C.F.R. Part 300, Appendix B.

b. The NPL listing process is essentially an administrative function of the EPA--no hearing is required or provided. Administrative guidelines are published and used to make decisions on NPL listings.

c. "Superfund" funding eligibility and cleanup priority are established through the NPL. 42 U.S.C. § 9605.

2. Background.

a. The original NPL was promulgated on 8 September 1983, and contained 406 sites. As of 1 February 1998, the number of sites on the NPL has increased to 1,246. Estimates on future additions to the NPL range between 1,700 and 6,600.

b. Listing means that the EPA and the Army control the remedy selection; unless there is a disagreement, in which case, the EPA has the ultimate say on how the cleanup will be conducted. Listing also means that CERCLA concepts are more likely to control the cleanup of the site. *But see* United States v. Colorado, 990 F.2d 1565 (10th Cir. 1993), *cert. denied*. 510 U.S. 1092 (1994). If the site is not on the list, state agencies have a greater say in the remedial action selected.

c. Another key distinction regarding NPL sites is that no state permits are necessary to perform remedial actions under CERCLA that occur entirely on an NPL site. 42 U.S.C. § 9621(e)(1).

d. The NPL is comprised of two sections:

(1) The "General Superfund Section" consisting of sites being evaluated and remediated by the EPA (1,095 as of 1 February 1998).

(2) The "Federal Facilities Section" comprised of those sites being addressed by federal agencies other than the EPA (151 as of 1 February 1998).

3. Eligibility for Listing.

a. Discovery.

(1) When a potential hazardous waste site is discovered, the EPA places it in the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS). Hazardous sites located on federal property are also placed on the Federal Agency Hazardous Waste Compliance Docket. 42 U.S.C. § 9620(c).

(2) The CERCLIS was established in 1980 and originally contained 8,000 sites. The number of sites has increased annually by about 2,500.

b. Evaluation.

(1) Once a site has been identified as requiring investigation, it is evaluated to determine its HRS score. The HRS is a modeling system that assigns a point value to contaminated sites based on their relative risk to human health or the environment. The HRS is codified at 40 C.F.R. Part 300, Appendix A.

(2) Data obtained during the PA/SI phase is typically used to determine the HRS score. Sites which score 28.5 or higher qualify for NPL listing.

c. A site can also be placed on the NPL regardless of its HRS score if:

(1) A state has designated the site as its highest priority site; or

(2) The Agency for Toxic Substances and Disease Registry (ATSDR) issues a "Public Health Advisory" against the site, and:

(a) The EPA determines the site poses a significant threat to public health; and

(b) The EPA anticipates it will be more cost-effective to conduct a remedial action than a removal action.

4. Listing sites on the NPL.

a. Sites are placed on the NPL by promulgating a regulation pursuant to notice and comment rulemaking procedures. Upon publication of a notice of intent to list a site on the NPL, interested parties have 60 days to file comments in support of, or in opposition to, the listing.

b. Once formally listed on the NPL, a challenge to such listing must be brought in the U.S. Court of Appeals for the District of Columbia Circuit within 90 days.

5. Delisting sites from the NPL.

a. The EPA will delete a site from the NPL when it determines that no further response is required to protect human health or the environment. The NCP (40 C.R.F. § 300.425(e)) provides that the EPA may delete a site if it determines that one of the following criteria has been met:

(1) The EPA, in conjunction with the state, has determined that all appropriate response actions required have been implemented; or

(2) A remedial investigation has shown that the release poses no significant threat to public health or the environment, and, therefore, remedial measures are not appropriate.

b. Formal delisting occurs upon publication of a deletion notice in the Federal Register.

D. Interagency Agreements.

1. CERCLA § 120(e)(2) requires that federal agencies enter into Interagency Agreements (IAGs) with the EPA within 180 days of the completion of the RI/FS. 42 U.S.C. § 9620(e)(2). Army policy, however, is to negotiate IAGs with the EPA as soon as a site is **proposed** for the NPL. In effect, IAGs govern the coordination process between the EPA and the lead agency. **Note that violation of IAGs can result in the EPA assessing a fine against the signatory federal agency**. 42 U.S.C. § 9609(a)(1)(E).

2. IAGs are negotiated at the installation level. Any proposed deviations from the model language must be coordinated with the ELD. Completed IAGs must be submitted to the ELD for review.

a. It is expected that the negotiations will be conducted in an expedited manner. Disagreements occurring during negotiations that result in delays of more than 45 days must be reported to the ELD.

b. The concurrence of the Deputy Assistant Secretary of the Army (Environment, Safety, and Occupational Health) [DASA (ESOH)] is required prior to the IAG being signed. This concurrence is obtained by the ELD following its review of the document.

c. The installation commander and the DASA (ESOH) will be signatories to all IAGs.

3. Signatories to the IAG. Only the EPA and the lead federal agency must sign an IAG. **Whenever possible, however, state participation in the IAG as a signatory should be encouraged**. Having the state as a signatory lessens the likelihood of a state attempting to use RCRA corrective action authority (42 U.S.C. § 6924(u)) to control response actions at the facility or otherwise later challenging the selected remedy pursuant to 42 U.S.C. § 9613.

E. Investigation Phase. The investigation stage is comprised of the Remedial Investigation (RI) and the Feasibility Study (FS). An RI/FS must be initiated within six months of a federal facility being placed on the NPL. 42 U.S.C. § 9620(e)(1). Together, these two documents are used to determine the cleanup approach that will be used to remediate the hazardous waste site investigated. The proposal as to which cleanup alternative will be employed is published in a Proposed Plan. After an opportunity for public review and comment, the final decision as to the selected remedy is documented in a Record of Decision (ROD) or Decision Document (DD).

1. Remedial Investigation. The RI is conducted to obtain data about the site and waste characteristics, their hazards, and routes of exposure.

a. RI/FS Scoping.

(1) Scoping is the initial planning phase of the RI/FS process. Scoping activities typically begin with the collection of existing site data, including data from previous investigations, such as the PA/SI. Based on this information, site management planning is undertaken to:

(a) Preliminarily identify boundaries of the study area;

(b) Identify likely remedial action objectives;

(c) Determine whether removal or interim remedial actions are necessary; and

(d) Establish whether the site should be remediated as one or several operable units.

(2) Once an overall management plan is established, site specific activities, such as preliminary identification of state and federal ARARs, identification of initial data quality objectives, and preparation of project plans commences.

b. Site Characterization.

(1) During the site characterization, field sampling and laboratory analyses are initiated to assess the nature of any threats the site poses to human health or the environment.

(2) Results from the site characterization are used to produce the baseline risk assessment and may, where the immediacy of the threat warrants such action, trigger removal or interim remedial actions.

c. Baseline Risk Assessment.

(1) One of the key components of the RI is the Baseline Risk Assessment (BRA). The BRA summarizes and interprets the RI data, identifies contaminant transport pathways and receptors, and accesses actual or potential harm to the public or the environment.

(2) The BRA is intended to characterize the risk posed by the site assuming no remedial action, passive or active, is taken. As such, it defines the need for remedial action and serves to focus remedial action alternatives.

(3) If the BRA shows that the site does not pose a significant threat, then a no action Record of Decision (ROD) (NPL site) or site closeout document (non-NPL site) is prepared; and the process terminates.

2. Feasibility Study (FS). During the FS, potential remedial alternatives are developed and screened and the most promising alternatives are evaluated using specific statutory criteria. Although listed as a separate study, the FS is typically done in conjunction with the RI. The major steps in the FS include: development of alternatives, screening of alternatives, and detailed analysis of alternatives.

a. Development of alternatives. In this step, remedial action objectives are developed and potential treatment technologies and/or controls are identified. Technologies that are not appropriate for any site in the RI/FS study area may be eliminated from further consideration.

b. Screening of alternatives.

(1) Alternatives identified in the first step of the FS are screened using three broad criteria in order to select a reasonable number of alternatives for the Detailed Analysis phase. The screening criteria used are: implementability, effectiveness, and cost.

(a) Implementability. Implementability encompasses both the technical and administrative feasibility of implementing a remedial alternative. Factors to be considered include:

(i) Constructability;

(ii) Expected opposition from the public;

(iii) Impact on the installations mission;

(iv) Compatibility with planned land uses; and

(v) Availability of material, equipment, technical expertise, or off-site treatment and disposal facilities.

(b) Effectiveness. Effectiveness relates to the remedial alternative's ability to reduce the threat posed by the site. In addition, adverse environmental impacts that are predictable at this stage should be considered in evaluating the effectiveness of the remedial alternative.

(c) Cost. At this stage, cost plays a limited role in the screening of alternatives, and usually is only a factor when the remedial alternative's cost exceeds other options by orders-of-magnitude.

(2) Alternatives that would provide no clear advantage in cost, implementability, or effectiveness may be eliminated from consideration. However, alternatives that offer significant advantages by one criterion should be retained for Detailed Analysis even if they are inferior by other criteria.

(3) Once the alternatives are identified that will be subjected to a Detailed Analysis, they should be reviewed to identify any federal or state location-specific or action-specific ARARs.

(4) The alternatives should also be reviewed at this point to determine whether any Treatability Investigation efforts are needed to better define or cost an alternative, or to provide information for predicting an alternative's effectiveness and environmental impact.

c. Detailed analysis of alternatives. Once a limited number of viable alternatives have been selected and the ARARs have been identified, the alternatives are evaluated against the nine criteria specified in the NCP (40 C.F.R. § 300.430). These criteria are divided into three groups: Threshold Criteria, Primary Balancing Criteria, and Modifying Criteria.

(1) **Threshold criteria**. These criteria must be satisfied unless, in the case of ARARs, there is an applicable waiver. If a remedial alternative does not satisfy these criteria, it may not be selected as the cleanup remedy.

(a) **Overall protection of human health and the environment**. This criterion describes how the alternative, as a whole, achieves and maintains protection of human health and the environment. In order to be selected as the cleanup remedy, the remedial alternative chosen must satisfy this criterion.

(b) **Compliance with ARARs**. Unless waived in accordance with 40 C.F.R. § 300.430, the remedial alternative selected must comply with all federal and state contaminant-specific, location-specific, and action-specific ARARs. Only five of the six grounds for waiver apply to DOD cleanups, as the sixth waiver applies to Superfund financed cleanups. See section VII *infra* for additional information regarding the ARARs.

(2) **Primary Balancing Criteria**. These criteria form a basis for comparison among the proposed remedies.

(a) **Long-term effectiveness and permanence**. This criterion evaluates the long-term effectiveness of alternatives in maintaining protection of human health and the environment after response objectives have been met. Factors considered in applying this criterion include:

(i) Magnitude of residual risk; and

(ii) Adequacy and reliability of controls.

(b) **Reduction of toxicity, mobility, or volume through treatment**. This criterion reflects the statutory preference for treatment and evaluates the anticipated performance of the specific treatment technologies an alternative may employ. Factors considered include:

(i) Treatment process used and materials treated;

(ii) Amount of hazardous materials destroyed or treated;

(iii) Degree of expected reductions in toxicity, mobility, and volume;

(iv) Degree to which treatment is irreversible; and

(v) Type and quantity of residuals remaining after treatment.

(c) **Short-term effectiveness**. This criterion examines the effectiveness of the alternative in protecting human health and the environment during the construction and implementation of a remedy until response objectives have been met. Factors considered include:

(i) Protection of the community during remedial actions;

(ii) Protection of workers during remedial actions;

(iii) Environmental impacts; and

(iv) Time until remedial action objectives are achieved.

(d) **Implementability**. This criterion assesses the technical and administrative feasibility of alternatives and the availability of required goods and services. Factors considered include:

(i) Ability to construct and operate the technology;

(ii) Reliability of the technology;

(iii) Ability to monitor the effectiveness of the remedy;

(iv) Ability to coordinate and obtain approval from other agencies;

(v) Availability of off-site treatment, storage, and disposal services and capacity;

(vi) Availability of necessary equipment and specialists; and

(vii) Availability of prospective technologies.

(e) **Cost**. This criterion evaluates the capital and operation and maintenance (O&M) costs of each alternative. To account for outyear expenses, costs are calculated in present worth costs.

(3) **Modifying Criteria**. These criteria are considered in the remedy selection process, but are not controlling. Typically, state and community acceptance are evaluated following completion of the RI/FS and publication of the Proposed Plan, and then addressed in the ROD.

(a) **State acceptance**. This criterion addresses the state's apparent preference among or concerns about the alternatives.

(b) **Community acceptance**. This criterion addresses the local community's apparent preference among or concerns about the alternatives.

3. Selection of the Remedy. Upon completion of the Detailed Analysis of alternatives, the lead agency [DOD Service] will identify a preferred alternative from those evaluated. The preferred alternative is then presented to the public and regulatory agencies for review and comment in a document known as the Proposed Plan. Following public and regulatory review, revisions, as necessary, are made to the preferred alternative, which then becomes the selected remedy. The selected remedy is then documented in either a Decision Document or Record of Decision.

a. Proposed Plan.

(1) The Proposed Plan is a short document that identifies the preferred remedy, briefly describes the other alternatives that were considered, and summarizes the information relied upon to select the preferred alternative.

(2) If waivers to ARARs are required in order to implement the preferred alternative, then the basis for the waiver should also be included.

(3) Formal state comments on ARARs or an alternative remedy should also be summarized and included in the Proposed Plan.

(4) After publication, the public and regulators must be provided a reasonable opportunity (minimum of 30 days) to review the Proposed Plan. Upon request, the review period must be extended a minimum of 30 days.

(5) At the conclusion of the review period, a responsiveness summary is prepared to address any comments received from the public or regulatory agencies. The lead agency will then amend or adopt the preferred remedy accordingly to arrive at the selected remedy.

b. Record of Decision (ROD)/ Decision Document (DD). These documents summarize the site, nature of contamination present, threat posed, and remedial alternatives considered. Once signed by all the parties, these documents become legally enforceable contracts outlining the remedial action to be taken at the site.

(1) ROD. RODs are used to document the remedy selection for final remedial actions at NPL sites.

(a) At DOD NPL sites, the EPA and the DOD Service jointly select the final remedy. If mutual agreement on the remedy cannot be reached, the EPA selects the remedy. The DOD Service selects the remedy at non-NPL site.

(b) The ROD must describe:

(i) How the selected remedy is protective of human health and the environment by explaining how the remedy eliminates, reduces, or controls exposure to human and environmental receptors;

(ii) The federal and state ARARs that will be attained;

(iii) The ARARs that have been waived, the waiver invoked, and the justification for invoking the waiver;

(iv) How the remedy is cost-effective;

(v) How the remedy utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable;

(vi) Whether the preference for remedies employing treatment which permanently and significantly reduces the toxicity, mobility, or volume of the contaminant is or is not satisfied by the selected remedy. If this preference is not satisfied, the ROD must explain why such a remedial alternative was not selected;

(vii) The remediation goals the remedy is expected to achieve; and

(viii) Whether the remedy is subject to review no less often than every five years (required when the remedy will, even at successful completion, still leave contaminants on site).

(2) Decision Documents. DDs are used to document response actions at non-NPL sites, for removals and interim remedial actions at NPL sites, and for "no further action" (NFA) determinations at either site. These documents are similar to RODs, but less expansive in their scope.

(a) Purpose. The purpose of the DD is to:

(i) Demonstrate that the response action chosen is consistent with and meets the requirements of CERCLA and the NCP;

(ii) Ensure the evaluation and documentation supporting the response action satisfies the intent of NEPA (codified at 42 U.S.C. §§ 4321-4370d); and

(iii) Document decisions regarding the response action selected.

(b) Content of the DD. The DD should consist of the following six parts:

(i) Purpose of the response action (i.e., removal, interim remedial action, remedial action, or NFA);

(ii) Summary of site risk;

(iii) Summary of remedial alternatives;

(iv) Public/community involvement;

(v) Declaration; and

(vi) Signature page.

c. The Administrative Record. The Administrative Record documents all the information that will be used to select interim response actions (if any) and the final remedy. Privileged documents need not be included in the Administrative Record. 40 C.F.R. § 300.810(c). The Administrative Record must be maintained at or near the facility. In addition, it can be placed at other locations. **In any event, the Administrative Record must be accessible by the public**. The EPA has established detailed requirements for establishing and maintaining the Administrative Record for both remedial and removal actions. See 40 C.F.R. §§ 300.800 - 300.825.

F. Cleanup Phase. This phase consists of the detailed engineering design step for the selected remedial action, the implementation of that remedial action, and any ongoing post-construction activities necessary to fully meet the cleanup objectives.

1. Remedial Design (RD). The purpose of the RD is to convert the conceptual design for the selected remedy into a final design that is biddable and implementable.

a. If during the RD step, new information comes to light that would substantially alter the scope, cost, implementability, or effectiveness of the remedial action, then the selected remedy may have to be reevaluated and an explanation of significant differences (ESD) issued, or the ROD amended.

b. Permits, approvals, and site access agreements, as required, will generally be obtained during the RD step.

2. Remedial Action (RA). The RA step involves the implementation of the plans and specifications prepared during the RD step. The RA starts with the solicitation and award of the contract, continues through the final inspection and certification of project construction activities, and culminates with the acceptance of the final project.

3. Post-project activities.

a. The RA step concludes once the selected remedy is implemented. However, many remedial technologies and control mechanisms will require operation and maintenance after the remediation action is begun. Examples include:

(1) Operation and maintenance of electro-mechanical equipment;

(2) Maintenance of structures and earthworks; and

(3) Periodic monitoring of residual hazardous substances.

b. If hazardous substances, pollutants, or contaminants remain at the site after the RA step, the lead agency [DOD Service] will review monitoring records to ensure that human health and the environment are being protected. This review will be made not less than once every five years until it is determined that the residual contamination at the site has been reduced to levels that allow for unlimited use and unrestricted exposure.

G. Site Closeout.

1. The justification for conducting a cleanup action terminates when the remedial objectives have been met or the site no longer poses an unacceptable risk to human health or the environment, whichever is more stringent.

2. The conditions required to support closeout are site specific, but, in general, can be justified on any of the following findings:

a. No evidence is collected in a PA that indicates releases of hazardous substances at the site, or releases of pollutants or contaminants in concentrations posing an imminent and substantial danger to public health or welfare;

b. An SI or site characterization shows there is no possibility of direct contact, fire, or explosion, and samples taken at the site show that no hazardous substances are migrating or likely to migrate from the site;

c. The public health evaluation or BRA concludes there is no significant threat to human health or the environment;

d. Site closeout is the selected alternative in the ROD or DD; or

e. The response action has been completed and/or the remedial objectives have been attained or determined to be unattainable.

3. Where technological capabilities prevent attainment of the remedial cleanup objectives, the lead agency [DOD Service] must still demonstrate that measures are being taken to ensure that the site does not pose an unacceptable risk to human health or the environment. This may be accomplished by the imposition of deed and access restrictions and/or other institutional controls.

4. Documentation.

a. Non-NPL sites. For non-NPL sites, a DD should be prepared for all sites or groups of sites for which the site closeout decision is made. The DD should:

(1) Clearly identify the site;

(2) Reference the data, studies, and other evidence on which the decision is based;

(3) Describe the rationale for the decision; and

(4) Be signed by the appropriate Service-designated official.

b. NPL site. If the site is on the NPL, then delisting procedures as specified in the NCP must be followed (40 C.F.R. § 300.425(e)).

c. Ongoing responsibilities. Even after a DOD site has been closed or delisted from the NPL, DOD retains responsibility for future remedial actions if conditions or new information suggest such action is necessary. This is true even if the property has been transferred from DOD control as long as it is determined that:

(1) Remedial action is necessary to protect human health and the environment; and

(2) DOD was responsible for the release supporting such a threat.

VII. CLEANUP STANDARDS.

A. Determining "how clean is clean" is addressed by CERCLA § 121. (42 U.S.C. § 9621). CERCLA does not contain any specific cleanup standards. Instead, under § 121, it "borrows" cleanup standards from federal, state, and local environmental laws and regulations. Standards from these environmental regulations that are determined to be applicable, or relevant and appropriate are selected as guidance for the cleanup.

B. The process by which ARARs are selected is detailed at 40 C.F.R. §§ 300.430(d)-300.430(f). The lead agency is primarily responsible for identifying ARARs. Prior to selection of a remedy, states are given an opportunity to comment on the ARARs that have been selected for appropriateness, completeness, etc. 40 C.F.R. § 300.430(e)990(iii)(H)(2).

C. Generally speaking, remedies should attain all ARARs. A remedy not attaining all ARARs can be selected, however, if any of the following applies:

1. The remedial action selected is only a part of a remedy that will attain the ARARs when completed.

2. Compliance with the ARARs would result in a greater risk to human health and the environment.

3. Compliance is technically impracticable from an engineering perspective.

4. The remedial action selected will attain an equivalent standard of performance through an alternative method.

5. In cases involving a state ARAR, the state has not consistently applied the ARAR in similar circumstances.

6. In cases where the Superfund is the source of funding, the cost of the remedial action will not provide a balance between the need for protection of public health and the environment at the site, and the availability of funding for other sites which present or may present a greater threat. This exception is commonly referred to as the "Fund busting" ARAR exception. Note: this exception is not available to DOD as it only applies to Superfund funded sites. 42 U.S.C. § 9621(d)(4).

VIII. COMMUNITY PARTICIPATION IN CLEANUP DECISIONS.

A. General.

1. Local communities are often very interested and concerned about the method and degree of cleanup conducted on military installations because of the potential impact to human health, the environment, and the local economy. These concerns are particularly high for installation cleanup actions at BRAC sites.

2. Pursuant to 10 U.S.C. § 2705(c), as implemented by AR 200-1, commanders were required to establish a technical review committee (TRC), whenever practicable, at installations where response actions were necessary. As a result of a five-part program to expedite the transfer of property and promote the economic recovery of communities near closing military bases announced by President Clinton in July 1993, DOD developed policy and guidance to provide for more active community involvement in cleanup decisions at both IRP and BRAC sites. This program solicits community participation via a body known as a Restoration Advisory Board (RAB). RABs have been deemed to fulfill the same statutory objective as TRCs, thus installations with existing TRCs that desire to convert to RABs are required to do so.

B. Restoration Advisory Boards.

1. A RAB is a forum of representatives from DOD, regulatory agencies, state and local governments, and the affected community. The purpose of the RAB is to provide input to the installation commander concerning environmental cleanup actions on the installation.

2. Each active installation participating in the IRP and each BRAC installation must determine the community interest in establishing a RAB. The installation commander is responsible for educating the community as to the purpose and function of the RAB and encouraging participation in a RAB. RABs must be established at all BRAC sites that involve the transfer of property to the local community. For all other installations, RABs are encouraged only where community interest is sufficient and sustained. Sufficient interest is deemed to exist if:

a. A federal, state, or local governmental agency formally requests that a RAB be established;

b. Fifty local residents sign a petition requesting that a RAB be formed;

c. The installation commander determines that a RAB is needed; or

d. Installation closure involves transfer of property to the community.

3. If there is insufficient interest in establishing a RAB, the installation must document the efforts taken to determine interest and must develop follow up procedures to monitor community interest. Documentation should be attached to the installation's Community Relations Plan and to the Installation Action Plan (active installations) or BRAC Cleanup Plan (BRAC sites).

4. Composition. RABs should include representatives from:

   a. The Army (or appropriate Service charged with the response action);

   b. The EPA and/or state environmental regulatory agency;

   c. The local government; and

   d. The local community.

5. Size. The RAB should normally be no larger than 20 people, but no smaller than is necessary to reflect the diverse community interests regarding installation cleanup and/or closure.

6. Focus. The RAB should focus on environmental cleanup issues only. Additionally, although an important voice in the selection of the response action taken at the installation, it is important to note that the RAB is not the final arbiter of the cleanup decision.

7. Minutes of all meetings must be maintained. These minutes and associated documents must be maintained in a publicly accessible file. Eventually, this file will most likely become part of the response action's administrative record.

IX. EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT OF 1986.

A. The Emergency Planning and Community Right To Know Act (EPCRA) was enacted in 1986 as Title III of SARA. EPCRA is intended to protect communities located near industrial facilities from catastrophic releases of toxic substances, such as that which occurred in Bhopal, India, in 1984.

B. Overview of EPCRA.

1. Four basic components of EPCRA.

a. Community Emergency Planning, Sections 302 and 303 (42 U.S.C. §§ 11002 and 11003).

b. Emergency Notification, Section 304 (42 U.S.C. § 11004).

c. Hazardous Chemical Reporting, Sections 311 and 312 (42 U.S.C. §§ 11021 and 11022).

d. Toxic Chemical Release Inventory (TRI) Reporting, Section 313 (42 U.S.C. § 11023).

C. Emergency Planning. 42 U.S.C. §§ 11001 - 11003; 40 C.F.R. § 355.30.

1. Governors appoint State Emergency Response Commissions (SERC).

2. SERCs divide states into Emergency Planning Districts and appoint Local Emergency Planning Committees (LEPC) in each district.

3. Each facility that uses, produces, or stores any extremely hazardous substance (as defined by the EPA), above a threshold amount, must notify the SERC and the LEPC and provide an Emergency Response Coordinator to participate in the emergency planning process.

4. Each LEPC must develop plans to respond to potential hazardous chemical releases from covered facilities.

D. Emergency Release Notification. 42 U.S.C. § 11004; 40 C.F.R. Part 355.

1. A facility that uses, produces, or stores hazardous substances must immediately report the release of any regulated substances that exceed reportable quantities **and** migrates off-site.

a. Regulated releases. General rule: CERCLA releases = EPCRA releases.

(1) Extremely hazardous substances (EHS), listed at 40 C.F.R. Part 355, Appendices A and B.

(2) CERCLA hazardous substances. Defined in §§ 101(14) and 102 of CERCLA (42 U.S.C. §§ 9601(14), and 9602); and listed at 40 C.F.R. Part 302, Table 302.4.

b. Exempted releases.

(1) General rule. Releases exempted under CERCLA are exempted under EPCRA.

(2) Specifically, as outlined at 40 C.F.R. § 355.40(a)(2):

(a) Releases which result in exposure to persons solely within the boundaries of the facility;

(b) Federally permitted releases as defined in § 101(10) of CERCLA (42 U.S.C. § 9601(10));

(c) Any release that is continuous, stable in quantity, and meets the definitions of 40 C.F.R. § 302.8(b);

(d) Any release of pesticide product exempt from CERCLA § 103(a) reporting under § 103(e) of CERCLA (42 U.S.C. §§ 9603(a) and (e), respectively).

(e) Any radionuclide release which occurs:

(i) Naturally in soil;

(ii) Naturally from the disturbance of land purposes other than mining;

(iii) From the dumping of coal and coal ash at utility and industrial facilities with coal-fired boilers; and

(iv) From coal and coal ash piles at utility and industrial facilities with coal-fired boilers.

c. Reportable quantity.

(1) EHS. Reportable quantities are listed at 40 C.F.R. Part 355, Appendices A and B.

(2) CERCLA hazardous substances. Reportable quantities are listed at 40 C.F.R. Part 302, Table 302.4.

2. Immediate notification must be provided to the SERC and LEPC, and must include the following information. 40 C.F.R. § 355.40.

a. Name of the chemical.

b. Whether it is an extremely hazardous substance.

c. Estimate of quantity released.

d. Time and duration of the release.

e. Medium into which the release occurred.

f. Health risks of release, and advice regarding medical attention for exposed individuals.

g. Proper precautions including, where appropriate, evacuation.

h. Point of contact at the reporting facility.

E. Hazardous Chemical Reporting, 42 U.S.C. §§ 11021 - 11023; 40 C.F.R. Part 370.

1. Facilities must submit to the SERC, LEPC, and local fire departments material safety data sheets (MSDS) of regulated substances produced, used, or stored on the facility in excess of threshold quantities. They must also divide the chemicals into hazard categories based on the type of hazard posed by each chemical.

a. Threshold quantities for hazardous substances equal 10,000 pounds.

b. Threshold quantities for an EHS is the lesser of the substances threshold planning quantity (TPQ) (defined in 40 C.F.R. Part 350), or 500 pounds.

2. In addition to the above requirement, each facility must submit a hazardous chemical inventory (Tier I report). The inventory contains the following information for each hazard category:

a. An estimate of the maximum amount of the hazardous chemicals present on the facility during the previous calendar year;

b. An estimate of the average daily amount of the hazardous chemicals; and

c. The general location of the hazardous chemicals.

3. Upon request of the SERC or LEPC, the facility must supply more detailed information (Tier II report) about the chemicals present on the facility and their precise locations. The public may also request additional information from the SERC or LEPC about specific facilities.

F. Toxic Chemical Release Inventory Reporting. 42 U.S.C. § 11023; 40 C.F.R. Part 372.

1. Certain facilities must submit annual reports on the amount of toxic chemicals that they release to the environment.

2. To be included as a covered facility, the facility must meet **all** of the following qualifications.

a. Have ten or more full-time employees.

b. Have a standard industrial code (SIC) classification between 20 and 39.

c. Have manufactured, processed, or otherwise used a toxic chemical in excess of the threshold-reporting requirement (generally 10,000 or 25,000 pounds/year).

3. Covered facilities must complete a Toxic Chemical Release Inventory Report (Form R). Form R requires disclosure of many details regarding the use of the toxic chemicals. The most important requirements for disclosure are:

a. The off-site location to which any waste containing the toxic chemical is delivered for disposal.

b. The quantity of each toxic chemical entering each media (air, water, soil).

c. Waste treatment and disposal methods for the toxic chemicals and their efficiency.

d. Information on source reduction, recycling, and pollution prevention.

4. Exceptions. 40 C.F.R. § 372.38.

a. *De minimis* concentrations of a toxic chemical in a mixture.

b. Toxic chemicals that are present in an article.

c. Toxic chemicals used for:

(1) A structural component of a facility;

(2) Routine janitorial or facility grounds maintenance;

(3) Facility motor vehicle maintenance;

(4) Personal use by facility personnel; and

(5) Noncontact cooling water or compressed air.

d. Toxic chemicals processed, manufactured, or used in laboratory activities.

e. Certain owners of leased lands.

G. Executive Order 12,856.

1. Application of EPCRA to federal agencies.

a. Before 3 August 1993, federal agencies were not defined as "persons" under EPCRA and were thus not subject to its provisions.

b. DOD policy was to comply with the emergency planning provisions, but not the toxic release inventory provisions.

c. On 3 August 1993, President Clinton issued Executive Order 12,856 requiring federal agencies to comply with EPCRA and the Pollution Prevention Act.

d. Executive Order 12,856 applies to federal agencies that own or operate "covered" facilities under EPCRA. Covered facilities are those that meet the requirements discussed in paragraph F 2 above, except that there is no requirement to have a SIC code between 20 and 39.

2. Major Provisions.

a. **Section 3-301. Pollution Prevention Strategy.** Each federal agency must develop and submit to the EPA a strategy to achieve the agency's goals for pollution reduction.

(1) The agency must designate individuals with responsibility for developing, implementing, and evaluating the strategy.

(2) The agency must include a statement reflecting its commitment to pollution prevention and its pledge to use source reduction as the primary means of achieving environmental compliance.

b. **Section 3-302. Toxic Chemical Reduction Goals.** Each federal agency must develop voluntary goals to reduce the agency's total release of toxic chemicals to the environment by 50 percent. The reduction must occur by 31 December 1999, and be achieved, to the maximum extent practicable, by source reduction.

c. **Section 3-303. Acquisition and Procurement Goals.** Each federal agency must develop a plan to reduce its acquisition of extremely hazardous materials and toxic chemicals.

(1) By September 1995, DOD was required to have reviewed its contract specifications and identified opportunities to reduce or eliminate the use of EHSs and toxic chemicals.

(2) Also by September 1995, DOD was required to make any changes to the Federal Acquisition Regulations needed to implement Executive Order 12,856.

d. **Section 3-304. Toxics Release Inventory/Pollution Prevention Act Reporting.** Each federal agency must comply with EPCRA's TRI rules detailed in paragraph IV F, above. The first year of compliance was 1994; and the first reports were provided by 1 July 1995.

e. **Section 3-305. Emergency Planning and Community Right-to-Know Reporting Responsibilities.** Each federal agency must comply with the EPCRA reporting requirements detailed in paragraphs III D, E, and F, above.

X. RCRA/CERCLA AND STATE/FEDERAL AUTHORITY INTERFACES.

A. Dissatisfaction with CERCLA led, in part, to the extensive revisions to RCRA in 1984. These amendments, collectively referred to as the Hazardous and Solid Waste Act of 1984 (HSWA), created the potential for significant regulatory overlap between RCRA and CERCLA. Under RCRA, the permit authority (usually a state) must require a permitted facility to take "corrective action" regarding any releases of hazardous waste from any solid waste management unit located on the facility or installation. RCRA § 3004(u), 42 U.S.C. § 6924(u). In other words, if an installation has a single permitted treatment, storage, or disposal facility located on it, the permit must include conditions that regulate the cleanup of any release on contiguous property that is under the ownership or control of the permit holder. Corrective action is discussed in greater detail in Chapter VII (RCRA).

B. The significance of overlapping regulatory authority is not academic. The EPA sometimes is more reasonable than state agencies in developing cleanup programs; and, therefore, it is usually better to have a cleanup program under the EPA's control. Moreover, disputes concerning fiscal or legal matters between the DOD and the EPA can be elevated to the OMB or DOJ for resolution pursuant to Executive Orders 12,146 and 12,088.

C. CERCLA suggests that the EPA should control cleanups at NPL sites. *See* 42 U.S.C. 9622(e)(6). But, if a state has authority to issue RCRA permits, it may use this authority to control the cleanup pursuant to RCRA's corrective action provisions. State officials may or may not be reasonable in establishing corrective action requirements or in prioritizing cleanups. As a result, those states that have been delegated corrective action authority can require the immediate cleanup of hazardous waste sites within their boundaries, thereby potentially delaying the cleanup of more hazardous sites located in other states.

D. The EPA's policy is that RCRA's corrective action authority is irrelevant at an NPL site if the RI/FS was initiated prior to the existence of the corrective action provision in the RCRA permit. 42 U.S.C. § 9622(e)(6). If the RI/FS is started after that date, then the federal agency must comply with state corrective action requirements imposed as part of the RCRA permitting process. States, however, are not absolutely bound by this policy.

E. DOD has implemented two initiatives to try and limit the number and severity of problems possible because of overlapping regulatory authority and lack of centralized priority setting on the order of cleanups.

1. The first is the development of the Defense Priority Model (DPM). First implemented during fiscal year 1990, the DPM "is a waste site scoring system that evaluates relative risk based on information gathered during the Preliminary Assessment/Site Inspection and the Remedial Investigation/Feasibility Study." Through the use of risk assessment, the DPM is intended to "help assure that sites are addressed on a "worst first" basis nationwide with the funding available from the Defense Environmental Restoration Account." 54 Fed. Reg. 43,104 (1989).

2. States seeking to enforce their environmental compliance requirements are not bound by the priority the DPM assigns to the installations in their territory. To deal with that problem, DOD has encouraged states to execute DOD and State Memorandum of Agreements (DSMOAs). DSMOAs are negotiated at the DOD level. Once a state executes a DSMOA and its associated Cooperative Agreement, the state is guaranteed the greater of 1 percent of the money expected to be spent out of the DERP within its boundaries or $50,000 dollars to cover reimbursable state expenses associated with a DOD facilities' cleanup. In return, the states agree:

   a. That the use of the DPM "is needed and provides a reasonable basis for allocating funds among sites in the interest of a national worst first cleanup program."

   b. That the state will make every effort to abide by the priorities set by the DPM.

   c. To use bilateral dispute resolution procedures at facilities where an IAG has not been signed.

   d. To settle all of the state's claims for hazardous waste cleanup costs, for those costs that were incurred after 17 October 1986 (the date that SARA was signed into law). *See* 54 Fed. Reg. 31,358 (1989).

F. Additional information regarding the interface between CERCLA and RCRA, and the impact of this interface on federal facilities, may be found in Chapter VII, Section XI.

XI. ENFORCEMENT OF CERCLA.

A. Abatement Actions. Abatement actions can be ordered administratively by the EPA pursuant to CERCLA § 106 (42 U.S.C. § 9606). An abatement action encompasses those actions necessary to protect public health and welfare and the environment from the threat of an "imminent and substantial endangerment to public health or welfare or the environment" from an actual or threatened release of a hazardous substance from a facility. Use of § 106 is not limited to emergency situations. Note that:

1. "Endangerment" has been interpreted to mean "potential harm," assuming that the risk of such harm is imminent. The actual harm need not be felt for years, however. B.F. Goodrich v. Murtha, 697 F. Supp. 89 (D. Conn. 1988).

2. At least one court has held that the substantiveness of the risk need not be quantifiable. United States v. Conservation Chemical Co., 619 F. Supp. 162 (W.D. Mo. 1985).

3. Pursuant to Executive Order 12580, the EPA can issue an administrative abatement orders to other federal agencies after consultation with the Department of Justice.

4. Fines. The statutory sanction for failure to comply with an abatement order is a fine of up to $25,000 per day of violation, plus treble "damages." (The EPA cannot enforce such sanctions directly against federal agencies due to the unitary executive doctrine).

B. Civil Penalties and Awards. A civil penalty of not more than $25,000 per violation per day may be assessed by the EPA for:

1. Failure to report releases of hazardous substances equal to or exceeding "reportable quantities." (Reportable quantities for hazardous substances, typically one pound, are listed at 40 C.F.R. Part 302.4).

2. Knowing destruction, mutilation, concealment, or falsification of records relating to the identity, characteristics, quantity, origin, or condition of any hazardous substances contained or deposited in a facility.

3. A PRP's violations of, or refusal to comply with, an EPA order to investigate, monitor, survey, test, or conduct other information-gathering activities necessary and appropriate to:

   a. Identify the existence and/or extent of a release or threat of release of hazardous substances, and/or

   b. Identify the extent of danger to public health or welfare or to the environment. 42 U.S.C. § 9609.

C. Citizen Suits.

1. CERCLA § 310 authorizes any person to bring a civil suit, on his own behalf, against **any person**, including the United States, who is alleged to be in violation of any standard, regulation, condition, requirement, or order issued pursuant to the Act. 42 U.S.C. § 9659(a)(1).

2. Citizen suits must be brought in the district court for the district in which the alleged violation occurred.

3. The court has jurisdiction to enforce the standard, regulation, condition, requirement, or order concerned, to order such action as may be necessary to correct the violation, and to impose a civil penalty provided for the violation. The court may award costs of litigation (including reasonable attorney and expert witness fees) to the prevailing or substantially prevailing party, as appropriate.

4. Citizen suits challenging ongoing cleanups are prohibited. 42 U.S.C. § 9613(h).

5. Suits seeking "response costs" (private costs incurred responding to contamination like buying bottled water) are recoverable.

D. Criminal Liability. Any person who fails to report releases of hazardous substances equal to or exceeding "reportable quantities" (*see* above for definition), or who knowingly destroys, mutilates, conceals, or falsifies records relating to the identity, characteristics, quantity, origin, or condition of any hazardous substances contained or deposited in a facility, is subject to a maximum punishment of imprisonment for not more than three (five for a second conviction) years and/or a fine of not more than $250,000.

CHAPTER VII

THE RESOURCE CONSERVATION AND RECOVERY ACT

I. REFERENCES.

A. Federal Statutes and Regulations.

1. Solid Waste Disposal Act of 1965 as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), the Hazardous and Solid Waste Amendments of 1984 (HSWA, a/k/a the 1984 RCRA Amendments), and various other statutes. 42 U.S.C. §§ 6901-6991h. The entire body of law is now generally referred to as RCRA.

2. 40 C.F.R. Parts 124, 240-299 (EPA public disclosure regulations and RCRA implementing regulations).

3. 49 C.F.R. Parts 171-180 (Hazardous Materials Transportation Act implementing regulations, which include hazardous waste transportation requirements).

B. State Authority.

1. Federal facilities are subject to state and local laws regulating solid and hazardous waste and pursuant to a waiver of supremacy and sovereign immunity found at 42 U.S.C. § 6961.

2. Federal facilities are subject to state and local laws regulating underground storage tanks pursuant to a waiver of supremacy and sovereign immunity found at 42 U.S.C. § 6991f.

3. Statutory authority for EPA to delegate the RCRA program to the states is at 42 U.S.C. § 6926 (implemented by 40 C.F.R. Parts 271 & 272). As of 1 February 1998, all but three states (Alaska, Hawaii, and Iowa), have EPA-authorized RCRA state programs.

C. Related DOD Directives.

1. DOD Dir. 4715.1, Environmental Security (24 February 1996).

2. DOD Dir. 4165.60, Solid Waste Management - Collection, Disposal, Resource Recovery, and Recycling Program (4 October 1976).

3. DOD Dir. 4210.15, Hazardous Material Pollution Prevention (27 July 1989).

4. DOD Dir. 5030.41, Oil and Hazardous Substance Pollution Prevention and Contingency Planning (1 June 1977) (C1 26 September 1978).

5. DODI 4715.6, Environmental Compliance (24 April 1996).

D. Related Army Regulations and Technical Manuals.

1. AR 200-1, Environmental Protection and Enhancement (21 February 1997), Chapter 5, Hazardous and Solid Waste Management.

2. AR 420-47, Solid and Hazardous Waste Management (1 December 1984).

3. TM 5-634, Solid Waste Management (May 1990). This manual is directed primarily towards engineers. Appendix B, however, contains technical requirements and guidelines for solid waste management contracts. It also includes a complete sample contract.

II. KEY DEFINITIONS.

A. **Solid wastes** include liquid, semi-solid, or containerized gaseous materials that have been discarded, served their intended purpose, or are a manufacturing by-product. Exclusions from solid waste include domestic sewage and discharges from National Pollution Discharge Elimination System (NPDES) point sources. 40 C.F.R. § 261.2.

B. **Hazardous wastes** are *solid wastes* that meet either the following statutory or regulatory definition:

1. Statutory definition. 42 U.S.C. § 6903(5). Essentially, material is a hazardous waste if it is a solid waste that may cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

2. Regulatory definition. 40 C.F.R. § 261.3. A solid waste is a hazardous waste if it is a listed hazardous waste IAW 40 C.F.R. Part 261, subpart D, or a characteristic hazardous waste IAW 40 C.F.R. Part 261, subpart C.

   a. Listed hazardous wastes (40 C.F.R. Part 261, subpart D).

      (1) Hazardous wastes from nonspecific sources; also known as "F" wastes. 40 C.F.R. § 261.31.

      (2) Hazardous wastes from specific sources; also known as "K" wastes. 40 C.F.R. § 261.32.

      (3) Discarded commercial chemical products, off-specification species, container residues, and spill residues. Also known as "P" wastes (acutely hazardous wastes) and "U" wastes (toxic hazardous waste). 40 C.F.R. § 261.33.

   b. Characteristic hazardous waste (40 C.F.R. Part 261, subpart C). A material is a characteristic hazardous waste if it is a solid waste which exhibits any of the following characteristics:

      (1) Ignitability, 40 C.F.R. § 261.21.

      (2) Corrosivity, 40 C.F.R. § 261.22.

      (3) Reactivity, 40 C.F.R. § 261.23.

(4) Toxicity, 40 C.F.R. § 261.24.

3. Mixture Rule. In most cases, mixing a hazardous waste with a solid waste will produce a product that is considered a hazardous waste. There are certain exceptions, the most common being where a characteristic hazardous waste is mixed with a solid waste, and the resulting waste does not exhibit a hazardous waste characteristic. 40 C.F.R. § 261.3(a)(2)(iii-iv).

4. Derived From Rule. A solid waste that is generated from the treatment, storage, or disposal of a hazardous waste is itself considered a hazardous waste, unless specifically exempted. 40 C.F.R. § 261.3(c)(2)(i).

   a. Listed derived from wastes. Considered hazardous waste until de-listing by EPA.

   b. Characteristic derived from wastes. If the waste is derived from a characteristic hazardous waste, it will be considered a hazardous waste until such time as it no longer exhibits the hazardous characteristic.

5. Contained-in Rule. Contaminated media (i.e., soil, groundwater, surface water, and debris) that is contaminated with a listed hazardous waste is subject to regulation as long as it remains contaminated. 40 C.F.R. § 261.3(f)(2).

6. Certain wastes are excluded from the definition of hazardous waste at 40 C.F.R. § 261.4. Three prominent exclusions are household wastes, domestic sewage treated by POTWs, and industrial waste discharges subject to NPDES permitting.

C. **Facility** under the RCRA permit system means any hazardous waste management facility or activity (including land or appurtenances thereto) that is subject to the regulation under RCRA. 40 C.F.R. § 270.2. The term is generally defined to mean all contiguous land and structures, other improvements, and appurtenances on the land used for treating, storing, or disposing of hazardous waste. 40 C.F.R. § 260.10.

D. **Publicly owned treatment works (POTW)** under the RCRA permit system means any device or system used in the treatment of municipal sewage or industrial wastes that is owned by a state or municipality, 40 C.F.R. § 270.2. Sewage treatment plants at Army installations *are not* POTWs. Solid waste does not include solid or dissolved material in domestic sewage going to a POTW. 42 U.S.C. § 6903(27), 40 C.F.R. 261.4(a)(1). Federally owned treatment works (FOTWs) are defined at 42 U.S.C. § 6939e(d). Sewage sludge from FOTWs receives the same exception from RCRA if it meets one of four requirements. *See* 42 U.S.C. § 6939e(a) and Chapter III of this deskbook on the Clean Water Act.

E. **Generator** means any person whose act or process produces hazardous waste or whose act first causes a hazardous waste to become subject to regulation. 40 C.F.R. § 260.10.

F. **Transporter** means any person who transports hazardous waste off-site by air, rail, highway, or water.

G. **Operator** is the person overall responsible for operation of the facility. 40 C.F.R. § 260.10. This definition has led to confusion over who should sign a RCRA permit application at a government owned - contractor operated (GOCO) facility. As a matter of policy, EPA has defined the term to mean those responsible or partially responsible for the operation, management, or oversight of hazardous waste activities at a facility. As such, EPA believes that in most cases both the federal agency owner *and* the contractor operator at a GOCO facility should sign the RCRA permit application.

H. **Treatment** means any method, technique, or process designed to change the physical, chemical, or biological character or composition of waste for virtually any reason, including making it safer or less voluminous. 40 C.F.R. § 260.10.

I. **Storage** means the holding of hazardous waste for a temporary period, after which the hazardous waste is treated, disposed of, or stored elsewhere. 40 C.F.R. § 260.10.

J. **Disposal** means the discharging, depositing, injecting, dumping, spilling, leaking, or placing of hazardous or solid waste into or on land or water so that the waste or constituent thereof can be emitted into the air or discharged into surface or ground water. 40 C.F.R. § 260.10.

K. **Disposal facility** means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water and at which waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed. 40 C.F.R. § 260.10.

L. **Corrective action management unit (CAMU)** means an area within a facility that is designated by the Regional Administrator under Part 264, Subpart S, for the purpose of implementing corrective action requirements under § 264.101 and RCRA § 3008(h). A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility. 40 C.F.R. § 260.10.

M. **Hazardous waste management unit** is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a land fill cell, an incinerator, a tank and its associated piping and underlying containment system and container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed. 40 C.F.R. § 260.10.

N. **Sludge** means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant. 40 C.F.R. § 260.10.

O. **Manifest** means the shipping document EPA form 8700-22 and, if necessary, EPA form 8700-22A, originated and signed by the generator in accordance with the instructions outlined in the Appendix to 40 C.F.R. Part 262. 40 C.F.R. § 260.10.

III. OVERVIEW.

A. RCRA was designed to provide "cradle-to-grave" regulation of solid and hazardous wastes. Generators, transporters, and owners and operators of treatment, storage, and disposal (TSD) facilities are subject to its regulatory scheme. In general, RCRA regulates all wastes that are not subject to regulation under another statute. Subchapter IX of RCRA also regulates underground storage tanks. Those requirements are discussed separately in Chapter VIII. This deskbook discusses federal requirements only, particularly as they impact on the Army and other federal agencies. State requirements for solid and hazardous waste management may be, and often are, more stringent.

B. Army installations are subject to all "Federal, State, interstate and local requirements, both substantive and procedural respecting control and abatement of solid waste or hazardous waste disposal and management." 42 U.S.C. § 6961. As a result of the Federal Facilities Compliance Act (FFCA), Army facilities are subject to fines and penalties under state or local hazardous waste laws. The FFCA also permits EPA to fine the Army for violations of RCRA. In addition, EPA can fine Army contractors if they are the operators of Army owned RCRA regulated facilities. Moreover, the provisions and requirements of RCRA are enforceable through citizen suits that can result in an injunction, enforceable by the court's power of contempt, being issued against the owner or operator. 42 U.S.C. § 6972. Soldiers and DOD civilians are subject to criminal prosecution under RCRA. 42 U.S.C. § 6928(d) & 6928(e). Chapter I further discusses criminal and civil enforcement of RCRA (including the impact of the FFCA) and other environmental statutes.

C. The installation commander (IC) is the person with overall responsibility for an installation's compliance with federal, state, and local solid and hazardous waste laws and regulations. AR 200-1, para. 5-3 d. (2) requires that the IC sign the RCRA hazardous waste permit applications for the installation as the "facility" owner. Tenants will sign the permit application as the "operator." The Defense Reutilization and Marketing Service (DRMS), through field Defense Reutilization and Marketing Offices (DRMOs), is primarily responsible for the reutilization and disposal of hazardous waste generated on DOD installations. AR 200-1, para. 5-3 e. (3). 1-33. Because ICs are considered generators or permit holders, however, a local DRMO's failure to meet regulatory requirements or suspenses can result in adverse actions being taken against the installation or the IC by state or federal regulators.

D. The President can exempt a federal agency from complying with federal, state, or local hazardous or solid waste requirements. 42 U.S.C. § 6961(a). An exemption is good for only one year. It can, however, be renewed. Exemptions are based upon a Presidential determination that such an action is in the "paramount interests of the United States." Lack of funding is a basis for an exemption only if an appropriation has been sought from (i.e., a budget line item) and denied by Congress. To date, only one Army installation has received an exemption from RCRA requirements. It is considered highly unlikely that additional Presidential exemptions will be granted during peacetime.

E. The Federal RCRA program has four functional prongs.

1. Manifests. It provides a system for tracking and preserving a record of hazardous wastes throughout the lifecycle of the wastes through use of a manifest system.

2. Permits. It ensures that wastes are disposed of in a manner calculated to prevent the escape of the waste into the environment through implementation of a "permitting" system for TSD facilities.

3. Corrective Action. It provides a mechanism for correction of historical releases of hazardous materials at permitted facilities.

4. Enforcement. It provides an enforcement mechanism to ensure that the objectives of the first three prongs are satisfied.

F. RCRA is divided into nine subchapters (I through IX). The subchapters and particularly significant sections are as follows:

1. Subchapter I. General Provisions. 42 U.S.C. §§ 6901-6908.

a. Congressional findings, 42 U.S.C. § 6901.

b. Objectives and national policy, 42 U.S.C. § 6902.

c. Definitions, 42 U.S.C. § 6903.

2. Subchapter II. Office of Solid Waste; Authorities of the EPA Administrator. 42 U.S.C. §§ 6911-6917.

3. Subchapter III. Hazardous Waste Management. 42 U.S.C. §§ 6921-6939e.

   a. Identification and listing of hazardous waste, 42 U.S.C. § 6921.

   b. Standards for generators, 42 U.S.C. § 6922.

   c. Standards for transporters, 42 U.S.C. § 6923.

   d. Standards for owners and operators of treatment, storage, and disposal (TSD) facilities, 42 U.S.C. § 6924.

   e. Permits for TSD facilities, 42 U.S.C. § 6925.

   f. Inspections, 42 U.S.C. § 6927.

   g. Federal enforcement, 42 U.S.C. § 6928.

   h. State authority, 42 U.S.C. § 6929.

   i. Restrictions on used oil, 42 U.S.C. § 6935.

   j. Inventory of federal agency hazardous waste facilities, 42 U.S.C. § 6937.

   k. Federally owned treatment works, 42 U.S.C. § 6939e.

4. Subchapter IV. State or Regional Solid Waste Plans. 42 U.S.C. §§ 6941-6949a.

   a. Criteria for sanitary landfills, 42 U.S.C. § 6944.

b. Upgrading of open dumps, 42 U.S.C. § 6945.

5. Subchapter V. Duties of Secretary of Commerce in Resource and Recovery. 42 U.S.C. §§ 6951-6956.

6. Subchapter VI. Federal Responsibilities. 42 U.S.C. §§ 6961-6965.

   a. Application of federal, state, and local law to federal facilities, 42 U.S.C. § 6961 (contains waiver of supremacy and sovereign immunity and provisions for Presidential exemptions).

   b. RCRA impact on federal procurement, 42 U.S.C. § 6962.

   c. Applicability of solid waste disposal guidelines to federal agencies, 42 U.S.C. § 6964.

7. Subchapter VII. Miscellaneous Provisions. 42 U.S.C. §§ 6971-6979b.

   a. Citizen suits, 42 U.S.C. § 6972.

   b. Imminent hazard provisions, 42 U.S.C. § 6973.

   c. Law enforcement authority, 42 U.S.C. § 6979b.

8. Subchapter VIII. Research, Development, Demonstration, and Information. 42 U.S.C. §§ 6981-6987.

9. Subchapter IX. Underground Storage Tanks. 42 U.S.C. §§ 6991-6991i.

   a. Definitions and exemptions, 42 U.S.C. § 6991.

   b. Notification, 42 U.S.C. § 6991a.

c. Release detection, prevention, and correction regulations, 42 U.S.C. § 6991b.

d. Inspections, monitoring, testing, and corrective action, 42 U.S.C. § 6991d.

e. Federal enforcement (including a separate waiver of sovereign immunity), 42 U.S.C. § 6991e.

f. State authority, 42 U.S.C. § 6991g.

G. The RCRA Subtitle C (hazardous waste) regulatory program operates under strict federal supervision. States can, however, be authorized by EPA to run their own hazardous waste program (42 U.S.C. § 6926). To obtain EPA approval, the state program must be no less stringent and consistent with the federal program and other authorized state programs, and must provide adequate enforcement of compliance with RCRA Subtitle C (hazardous waste). As they qualify, states are delegated the authority by EPA to administer portions of the hazardous waste program. *See* 40 C.F.R. Part 272. EPA retains parallel legal authority and responsibility to enforce RCRA at federal facilities even when the program has been delegated to a state (42 U.S.C. § 6928(a)). States, however, can generally exercise a broader range of authorities and enforcement tools at federal facilities than EPA.

H. The RCRA Subtitle D (solid waste) regulatory program is designed to be run by the states. Federal involvement is limited to establishing minimum criteria for siting of solid waste disposal facilities and specifying best practicable controls and monitoring requirements for solid waste disposal units.

1. In general, the federal requirements in this area are designed to ensure that solid waste is not disposed of in "open dumps" that could generate leachate, which, in turn, could contaminate groundwater. Instead, all solid waste is to be disposed of in "sanitary landfills" or recycled. *See* 40 C.F.R. Parts 257 and 258.

2. In general, the following requirements apply to all new, laterally expanded, and existing landfills.

a. The rules prevent or restrict the siting of new landfills in areas that are especially vulnerable to contamination (e.g., 100-year floodplains) unless special features are incorporated into the facility's design.

b. New landfills must have a composite liner or use an approved alternate design that will prevent unacceptable releases from the landfills.

c. Public access to landfills has been sharply curtailed.

d. Daily cover of landfill contents is required.

e. Most open burning at the landfill is prohibited.

f. Methane gas controls must be installed.

g. Eliminate disposal of most liquid wastes.

(1) Household (other than septic) wastes are exempt.

(2) Leachate or gas condensate that is derived from the landfill is exempt.

h. Control discharges to surface water and construct run-on and run-off controls.

i. An extensive groundwater monitoring program must be implemented. The schedule for compliance with the groundwater monitoring requirement will vary depending on the location of the landfill in relation to the nearest drinking water intake.

3. Landfills which receive less than 20 tons of solid waste per day are exempt from these regulations and groundwater monitoring criteria (40 C.F.R. § 258.1(f)), if:

a. There is no evidence of existing groundwater contamination.

b. The community serviced by the landfill has no other practicable alternative to continued use of the landfill.

c. The landfill is located in area that receives 25 inches or less of precipitation on a yearly basis.

4. Landfills that do not meet the requirements outlined above must have quit receiving waste on or before October 9, 1993, or be considered an "open dump."

5. Smaller Army installations can be required to use a municipal waste disposal contractor even if they could contract for cheaper solid waste disposal on their own.

a. The City of Monterey enacted an ordinance designating Monterey City Disposal Services, Inc. (MCDS), as the exclusive agent for trash collection within city limits. As a result, MCDS demanded that it be awarded the contract for disposal of the Presidio of Monterey's trash on a sole-source basis. Citing the breadth of RCRA's waiver of sovereign immunity (42 U.S.C. § 6961), both the GAO and the 9th Circuit ruled that the Army must award the contract to MCDS on a sole-source basis because use of Monterey's agent for trash collection was a valid "local requirement" under RCRA. Using MCDS cost the Army approximately $65,000 extra per year. *See* Monterey City Disposal Service, Inc., 64 Comp. Gen 813 (1985), and Parola v. Weinberger, 848 F.2d 956 (9th Cir. 1988).

b. The GAO has subsequently refined its approach in these situations if a "major installation" is involved. *See* Solano Garbage Company, 66 Comp. Gen. 237 (1987), and the denial of Solano's request for reconsideration (B-225397.2 & B-225398.2 (1987); Waste Management of North America, Inc., Cont. App. Dec. (CCH) 91-1-59 (1991); Oakland Scavenger Company, B-241577; B-241584, 91-1 CPD 166 (1991).

c. These later decisions recognize that under EPA's guidelines at 40 C.F.R. Part 255, a "major federal installation" is to be treated as a separate incorporated municipality for purposes of solid waste disposal.

d. The term "major federal installation" is not defined in the RCRA regulations. As a result, GAO's decisions have focused on:

(1) The size and function of the installation to see if an installation can be reasonably characterized as "major."

(2) The size of the population working on the installation and whether the installation is "self-contained."

(3) Whether the installation has historically provided for its own solid waste disposal is also a critical factor.

IV. REQUIREMENTS FOR GENERATORS OF HAZARDOUS WASTE.

A. As a starting point, generators must determine if they are generating a hazardous waste by:

1. Determining if the material is a solid waste under 40 C.F.R. § 261.2.

2. Determining if the waste is a listed hazardous waste or is a hazardous waste because of its hazardous characteristics (ignitability, corrosivity, reactivity, or toxicity). *See* 40 C.F.R. Part 261, Subparts C & D. To determine if a waste is a characteristic hazardous waste, the generator must either test the waste or apply process knowledge. 40 C.F.R. § 262.11(c).

3. Determining if the waste is excluded from regulation under 40 C.F.R. § 261.4.

B. Upon determining that they are generating hazardous waste, generators must obtain an EPA identification number from EPA prior to treating, storing, disposing of, or offering the hazardous waste for transport. 40 C.F.R. § 262.12(a).

C. Unless they qualify as either conditionally exempt small quantity generators (CESQGs) or as small quantity generators (SQGs), generators usually cannot accumulate hazardous waste for more than 90 days without becoming an operator of a de facto storage facility.

D. CESQGs are generators who generate 100 kg or less of hazardous waste or 1 kg or less of acutely hazardous waste (i.e., P-listed waste and certain F-listed dioxin waste) in a calendar month. If the facility qualifies as a CESQG, other than registering as a generator, few other requirements apply. *See* 40 C.F.R. § 261.5.

E. SQGs are generators who usually produce 100 kg or more, but less than 1,000 kg of hazardous waste in a calendar month.

1. Post-1984 rules now impose nearly all the requirements of larger generators on SQGs. *See* 40 C.F.R. §§ 262.34(d)(2) - 262.34(d)(4).

2. The storage rules differ, however, if special safety rules are met. 40 C.F.R. § 262.34(d)(5). Where those rules are complied with, SQGs can store up to 6,000 kg of hazardous waste for a period of up to 180 days before shipping to a TSD site. 40 C.F.R. § 262.34(d).

3. If the hazardous waste is to be transported 200 miles or more, up to 6,000 kg can be stored for up to 270 days prior to shipment. 40 C.F.R. § 262.34(e).

F. All other generators are known as large-quantity generators. A large-quantity generator is a generator who generates over 1000 kg of hazardous waste, or over 1 kg of acutely hazardous waste. Most Army installations are large-quantity generators. Note, that under the federal rules, a facility can be a large-quantity generator one month and a SQG the next month. Most states' rules dictate, however, that once a large-quantity generator, always a large-quantity generator.

G. Generators can store hazardous wastes without a permit at either satellite accumulation points (SAPs) or accumulation points (APs) (also known as 90-day storage areas. For the purpose of this deskbook, the acronym "AP" will be used).

1. Generators can accumulate not more than 55 gallons of hazardous waste or one quart of acutely hazardous waste at SAPs.

a. A SAP is limited to "containers at or near the point of generation" of the hazardous waste(s) and "at or near the control of the operator process." 40 C.F.R. § 262.34(c)(1). These requirements are open to subjective interpretation by the applicable regulator. Installation environmental personnel should ensure that their interpretation of a SAP coincides with the local regulator's interpretation.

b. Usually, only one hazardous waste will be accumulated at each SAP. Different types of waste cannot be commingled. *See* 40 C.F.R. § 262.34(c)(1). Typically, the container used is a 55-gallon drum, but other size containers can be used. The total amount of hazardous waste at a SAP cannot exceed 55 gallons.

c. On the day the 55-gallon capacity is reached, the date must be annotated on a label as the "accumulation start date; the container must be sealed; and a label with the words "Hazardous Waste" must be affixed to the drum.

d. Amounts in excess of 55 gallons must be moved within three days to the AP, be sent for recycling, or be sent to a permitted treatment, storage, or disposal facility (TSDF).

2. APs are places where generators can store hazardous wastes for up to 90 days from the accumulation start date listed on the container's hazardous waste label. Unlike SAPs, there are no quantity limits on the amount of hazardous waste that can be stored at an AP. Because they can be storage areas for significant quantities of hazardous waste, there are significant regulatory requirements. *See* 40 C.F.R. § 262.34(a).

a. Wastes must be placed in containers, tanks, drip pads, or containment buildings that meet the applicable RCRA or state requirements; and containers must be inspected weekly.

b. The accumulation start date must be marked on each container.

c. The container/tank must be labeled with the words “Hazardous Waste.”

d. Training requirements (40 C.F.R. § 256.16) must be met. Initial training must be conducted within six months of personnel being assigned to or reassigned to duties involving the operation of an AP.

e. A Waste Analysis Plan (40 C.F.R. § 268.7(a)(4) must be provided if the generator is treating the waste.

f. The generator must meet aisle space, equipment, emergency procedures, contingency plan, closure plan, and other requirements in Part 265, Subparts C & D. For example, fire-fighting equipment, as well as internal and external communication systems, must be available.

g. Although not federal requirements, many states require that APs be roofed and have secondary containment systems.

3. Both large-quantity generators and SQGs can obtain extensions of up to 30 days to the allowable storage periods upon a showing of "unforeseen, temporary, and uncontrollable circumstances." 40 C.F.R. §§ 262.34(b) and 262.34(f). The EPA Regional Administrator grants these extensions on a case-by-case basis. Failure to have hazardous waste removed within the regulatory time limits (including any applicable extensions) renders the facility a de facto storage facility subject to the requirements of 40 C.F.R. Parts 264 and 265 and the permitting requirements of 40 C.F.R. Part 270. 40 C.F.R. § 262.34(b).

H. A generator cannot offer hazardous waste to a transporter or TSD facility that does not have an EPA identification number. 40 C.F.R § 262.12(c).

I. Recordkeeping requirements for generators are detailed at 40 C.F.R. Part 262, Subpart D.

1. Generators transporting hazardous waste off-site or offering hazardous waste off-site for transport must prepare a manifest (EPA Forms 8700-22 and/or 8700-22a) according to the instructions in the appendix to 40 C.F.R. Part 262.

2. Both the generator and any initial transporter must sign the manifest. 40 C.F.R. § 262.33.

3. The initial manifest, or a copy of the manifest signed by a representative of the facility designated to receive the waste, must be maintained for at least three years. 40 C.F.R. § 262.40(c). Because these manifests are critical to proving where an installation's waste was disposed of, these manifests and other records documenting the quantity and quality of the waste should be retained indefinitely.

4. Generators of more than 1,000 kg of hazardous waste per calendar month must:

   a. Make inquiries with the waste transporter if they do not receive a copy of the manifest signed by a representative of the designated TSD within 35 days of shipment.

   b. If a signed copy of the manifest is not received from the TSD within 45 days of shipment, the generator must file an Exception Report with the Regional EPA. 40 C.F.R. § 262.42.

5. Under a regulation promulgated 12 February 1997 (40 C.F.R. § 262.20(f), 62 Fed. Reg. 6621), a manifest exemption is available to all generators who move hazardous waste on public roads within or along the border of contiguous property under their control, even if it is divided by a public or private right of way. In this situation, a Hazardous Waste Identification number is not required per 40 C.F.R. § 263.10(a).

J. Generators must package hazardous waste and label and mark those packages, in accordance with Department of Transportation (DOT) regulations found at 49 C.F.R. Parts 172, 173, 178, and 179.

V. REQUIREMENTS FOR TRANSPORTERS.

A. Anyone who transports hazardous waste off the site from which it was generated is subject to regulation as a hazardous waste transporter. Activities as innocuous as transporting used motor oil and dirty solvent from an off the installation field training exercise back to the installation can trigger the transporter regulations. These regulations are set out at 40 C.F.R. Part 263.

B. Requirements for transporters include:

1. Registration with the EPA. 40 C.F.R. § 263.11.

2. Accepting for transport only those hazardous wastes that have been manifested in accordance with 40 C.F.R. § 262.20. (Note that special manifesting requirements apply if the waste is shipped by water or rail or if the waste is transported overseas).

3. Strict compliance with the manifest. 40 C.F.R. § 263.21. The transporter must deliver the entire quantity of waste accepted to either:

   a. The next designated transporter;

   b. The primary TSD facility designated on the manifest; or

   c. In the case of an emergency, to the alternate TSD facility.

4. Keeping a copy of the manifest, signed by the generator, a subsequent transporter, or operator of a TSD facility, for at least three years from the date the hazardous waste was accepted for initial transport. 40 C.F.R. § 263.22.

5. In case of an accidental discharge of hazardous waste during transport, the transporter is required to take immediate and appropriate action to protect human health and the environment. Typically, this includes taking action to contain the spill and notifying local police and fire departments. Discharges of reportable quantities of hazardous waste, as defined at 49 C.F.R. § 171.15, must be reported verbally and in writing to the National Response Center (800-424-8802 or 202-426-2675/Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, D.C. 20590). 40 C.F.R. § 263.31. State and local law may require additional notifications.

C. Transporters may store manifested hazardous wastes without a TSD permit at transfer facilities for up to ten days if the containers in which the wastes are stored comply with DOT packaging requirements set out at 49 C.F.R. Parts 173, 178, and 179. "Transfer facilities" include loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held during the normal course of transportation. 40 C.F.R. § 260.10.

D. Transporters transporting hazardous waste into the United States from abroad or who mix hazardous wastes of different DOT shipping descriptions into the same container must also meet the standards applicable to hazardous waste generators. 40 C.F.R. § 263.10(c).

VI. REQUIREMENTS FOR OPERATORS OF TSD FACILITIES.

A. TSD facilities regulated include containers, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, thermal treatment units, chemical, physical, and biological treatment units, and underground injection wells.

B. Two categories of TSD facilities currently exist -- interim status facilities and permitted facilities. Within these two categories, all TSD facilities are regulated throughout their lifecycle -- from design through post-closure care and monitoring.

C. Pursuant to 42 U.S.C. § 6925(e), interim status facilities are TSD facilities:

1. That were in existence on November 19, 1980, or the effective date of statutory or regulatory changes that subjected the facility to the RCRA permitting scheme; and

2. Whose operator notified EPA pursuant to RCRA § 3010(a) (42 U.S.C. § 6930(a)) of the facility's hazardous waste management activities; and

3. Whose management filed a preliminary permit application. This preliminary permit application is call a "Part A" application.

Interim status continues until a regulator takes final administrative action on the permit or the permittee fails to file a complete Part B application in a timely manner. 40 C.F.R. § 270.73. The permitting process is explained in greater detail at Section VII of this chapter.

D. Interim and permitted status facilities are regulated under separate standards. Regulations for interim status facilities are found at 40 C.F.R. Part 265. Regulations for permitted facilities are found at 40 C.F.R. Part 264.

E. Both interim and permitted facilities are subject to requirements of general applicability and requirements specific to the type of TSD facility being regulated. Owners or operators of all interim and permitted status TSD facilities must:

1. Obtain an EPA identification number. 40 C.F.R. §§ 264.11, 265.11.

2. Notify the EPA Regional Administrator in writing at least four weeks in advance of the anticipated receipt of hazardous waste from a foreign source. 40 C.F.R. §§ 264.12(a), 265.12(b).

3. Obtain or conduct a detailed chemical analysis of the wastes associated with the facility. 40 C.F.R. §§ 264.13, 265.13.

4. Install a security system or barrier system around the facility and post warning signs to prevent unknowing or unauthorized entry of people or livestock onto the active portion of the TSD facility. 40 C.F.R. §§ 264.14, 265.14.

5. Prepare and implement a facility and circumstance specific inspection plan of the TSD facility. 40 C.F.R. §§ 264.15, 265.15.

6. Train TSD facility personnel about RCRA requirements applicable to the functional areas in which they are assigned. Training can be conducted in a classroom or on the job. The training must be directed by an individual trained in hazardous waste management procedures. Initial training must be conducted within six months of personnel being assigned to or reassigned within a TSD and annually updated thereafter. Training records must be maintained and available for inspection upon request. 40 C.F.R. §§ 264.16, 265.16.

7. Take special precautions to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes. Compliance with these precautions must be documented. 40 C.F.R. §§ 264.17. 265.17.

8. Have certain equipment at the TSD facility to minimize the effects of an explosion, fire, or spill. Under 40 C.F.R. §§ 264.30-.49 and 265.30-.49, the following equipment is required, unless it is clearly unnecessary due to the nature of the hazardous waste handled at the TSD facility:

    a. An internal alarm or communications system capable of providing immediate emergency instruction to facility personnel.

    b. A device (e.g., telephone) capable of summoning emergency assistance from police and fire departments and hazardous materials emergency response teams.

    c. Fire extinguisher.

    d. Automatic sprinklers or water spray equipment.

    e. Spill control equipment.

    f. Decontamination equipment.

9. Retain all manifests of hazardous waste handled at the facility for at least three years from the initial date of handling. 40 C.F.R. §§ 264.71, 265.71. Maintenance of these records beyond three years, although not required, is highly advisable.

10. Maintain a complete operating record of the facility's operation pursuant to 40 C.F.R. §§ 264.73 and 265.73. Among other items, this operating record must include:

    a. A description of the type and quantity of each hazardous waste handled at the TSD facility.

    b. The location of each hazardous waste within the TSD facility.

    c. Results of inspections and waste analyses.

    d. Summaries of reports of incidents requiring implementation of the emergency contingency plan.

11. File a number of reports with EPA or an authorized state. These include:

    a. A biennial report of waste management practices for the previous calendar year. 40 C.F.R. §§ 264.75, 265.75.

    b. Reports of receiving unmanifested wastes. 40 C.F.R. §§ 264.76, 265.76.

    c. Incident reports when there is a fire, explosion, or release. 40 C.F.R. §§ 264.77, and 265.77.

12. Have a detailed closure and post-closure plan for the TSD facility. The plan must include a cost estimate. These plans must be amended as necessary to reflect changes in waste handling practices. The cost estimates must be revised annually to account for inflation. 40 C.F.R. §§ 264.110-120, and 265.110-120.

F. Location standards sharply limit the ability to locate new TSD facilities in areas that are floodplains or are subject to seismic activity. 40 C.F.R. § 264.18.

G. Besides standards of general applicability, EPA has issued specific standards for each type of TSD facility and also for certain types of equipment found in a TSD facility. These requirements are summarized as follows:

1. **Containers** (Subpart I, 40 C.F.R. Parts 264 & 265). A container is any portable device used to handle or store a hazardous waste. Containers must be constructed of materials that are compatible with the waste they are designed to hold (i.e., non-reactive). Wastes that are not compatible must not be mixed in containers or placed in unwashed containers that previously held non-compatible wastes. Containers must be in good condition (e.g., not leaking) and always be kept closed unless waste is being added to the container or emptied from the container. Container storage areas must be inspected at least weekly to detect leaks and other potential problems.

2. **Tank systems** (Subpart J, 40 C.F.R. Parts 264 & 265). A tank system is any tank, including its ancillary equipment, that is used to store or treat hazardous waste. Generally, tank systems are required to have a secondary containment system (e.g., an impervious dike or berm and a sump) to collect spills and accumulated rainfall. In addition, they must have leak detection equipment installed. Existing tank systems without secondary containment must be assessed for leakage, general fitness, and compatibility for use with the hazardous waste to be placed in the tank. New tank systems are subject to rigorous design and installation requirements. Tank systems must be checked daily for leaks, corrosion, and other potential problems. Incompatible wastes cannot be stored in the same tank. Except in emergencies, ignitable or reactive wastes cannot be stored in a tank without special treatment of the waste. There are also special requirements for closure and post-closure care of tanks.

3. **Surface impoundment** (Subpart K, 40 C.F.R. Parts 264 & 265). A surface impoundment is any natural or man-made excavation or diked area designed to hold hazardous waste liquids. Examples of surface impoundments include lagoons, ponds, and pits. Since November 1988, all active surface impoundments have been subject to "minimum technological requirements" (MTRs). The MTRs require that the surface impoundments have double liners, leachate collection systems, leak detection, groundwater monitoring systems, and corrective action plans (to control leaks if they are detected). The level of the surface impoundment must be checked daily to ensure there is enough free board to preventing overtopping of the dike by overfilling, wave action, or storm. At least once a week, the surface impoundment and surrounding area must be checked for leaks or deterioration. Use of surface impoundments for storage of ignitable or reactive wastes is restricted by 40 C.F.R. Part 268; in any event, reactive or ignitable wastes must be treated to remove their ignitable or reactive characteristics or managed to prevent ignition or reaction. There are also special provisions dealing with closure and post-closure care of surface impoundments.

4. **Waste piles** (Subpart L, 40 C.F.R. Parts 264 & 265). A waste pile consists of hazardous waste that has been piled for treatment or storage. A waste pile that is used as a disposal facility is a landfill and is governed by Subpart N (40 C.F.R. Parts 264 & 265). No free liquids can be added to a waste pile. Waste piles must be protected from the rain and dispersal by the wind. Incoming wastes must be analyzed prior to being added to the pile unless only known compatible wastes are accepted for piling. Piles that have leachate or run-off that is hazardous must be located on an impermeable base compatible with the waste stored there and have leachate control and collection equipment. There are special requirements for storing incompatible, ignitable, or reactive waste and also for closure and post-closure care.

5. **Land treatment facility** (Subpart M, 40 C.F.R. Parts 264 & 265). A land treatment facility is a facility or part of a facility where hazardous waste is applied onto or incorporated into the soil surface. These facilities are also disposal facilities if the waste remains in the soil after closure. Hazardous waste must not be placed in or on a land treatment facility unless the waste can be made less hazardous by degradation, transformation, or immobilization processes occurring in or on the soil. The effectiveness of this treatment must be demonstrated for each hazardous waste to be treated. Note that a special permit must be obtained before engaging in such a demonstration. 40 C.F.R. § 270.63. Rain run-on and run-off must be controlled through construction of collection basins or other holding facilities. The unsaturated zone must be monitored to detect vertical and horizontal migration of hazardous waste through the soil under the waste pile. There are special requirements for storing incompatible, ignitable, or reactive waste and also for closure and post- closure care.

6. **Landfills** (Subpart N, 40 C.F.R. Parts 264 & 265). A landfill is a disposal facility where hazardous waste is placed in or on the land and which is not a waste pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome or bed formation, or a cave. Typically, a landfill facility is divided into separate "cells." Each cell isolates a discrete portion of hazardous waste from other hazardous waste stored at the facility. Except in unusual cases, neither bulk, containerized, nor noncontainerized liquid hazardous waste can be disposed of in a landfill. Like surface impoundments, landfills are subject to MTRs. The MTRs require that the surface impoundments have double liners, leachate collection systems, leak detection, groundwater monitoring systems, and corrective action plans (to control leaks if they are detected). Landfills must be protected from the rain and dispersal by the wind. Rain run-on and run-off must be controlled through construction of collection basins or other holding facilities. The operating records of the facility must include a map that records the exact location, depth, and contents of each cell and the approximate location of each hazardous waste type within the cell. There are special requirements for storing incompatible, ignitable, or reactive waste and also for closure and post-closure care.

7. **Incinerators** (Subpart O, 40 C.F.R. Parts 264 & 265). An incinerator is an enclosed hazardous waste treatment device using controlled flame combustion that neither meets the criteria for classification as a boiler nor is listed as an industrial furnace. (*See* 40 C.F.R. § 260.10 for the definitions of "boiler" and "industrial furnace" -- when burning hazardous waste boilers and industrial furnaces are regulated at 40 C.F.R. Part 266, Subpart D.) Note that not all hazardous waste burned in an incinerator is subject to strict regulatory requirements. *See* 40 C.F.R. §§ 264.340(b) and 265.340(b). For wastes not exempt, however, owners or operators of incinerators must conduct a detailed waste analysis and conduct trial burns of wastes that are intended to be burned. Note that a special permit is required to conduct trial burns of new hazardous waste incinerators. 40 C.F.R. § 270.62. From these trial burns, a "steady state" (i.e., normal operating condition) is determined that will achieve a destruction and removal efficiency (DRE) rate of 99.9% for the principal organic components of the hazardous waste burned. 40 C.F.R. Part 266 Subpart D. Required automatic operating controls and monitoring equipment must be monitored at least every 15 minutes to ensure that the incinerator operates within the steady state parameters and that air emission standards are complied with. The incinerator and all associated equipment must be inspected daily for leaks, spills, fugitive emissions, and proper operation of emergency shutdown controls and alarms. If residue (ash, etc.) of the incineration process is a hazardous waste, it must be managed in accordance with all applicable requirements of 40 C.F.R. Parts 262-266.

8. **Thermal treatment** (Subpart P, 40 C.F.R. Part 265.) Thermal treatment occurs in facilities that thermally treat hazardous waste in devices other than enclosed devices using controlled flame combustion. As with incinerators, owners or operators of a thermal treatment facility must conduct a detailed waste analysis and conduct trial burns of wastes that are intended to be burned. From these trial burns, a "steady state" (i.e., normal operating condition) is determined that will achieve DRE rate of 99.9% for the principal organic components of the hazardous waste burned. 40 C.F.R. Part 266, Subpart D. Required automatic operating controls and monitoring equipment must be monitored at least every 15 minutes to ensure that the thermal treatment unit operates within the steady state parameters and that air emission standards are complied with. The thermal treatment unit and all associated equipment must be inspected daily for leaks, spills, fugitive emissions, and proper operation of emergency shutdown controls and alarms. Stack plumes (emissions) from the unit must be monitored at least hourly for color and opacity. In general, open burning of hazardous waste is prohibited. Open burning and detonation of waste explosives and propellants are allowed, however, if the wastes can not be safely disposed of through other means of treatment. If residue (ash, etc.) of the thermal treatment process is a hazardous waste, it must be managed in accordance with all applicable requirements of 40 C.F.R. Parts 262-266.

9. **Chemical, physical, and biological treatment** (Subpart Q, 40 C.F.R. Part 264). Treatment facilities that are not tanks, impoundments, or land treatment facilities and that treat hazardous waste through chemical, physical, or biological processes are separately regulated. Wastes treated at these facilities must be tested to ensure that they cannot cause treatment equipment to rupture, leak, corrode, or otherwise fail before the end of its intended life. Equipment used in the treatment process must be equipped with the means to stop the inflow of hazardous waste (e.g., a waste feed cutoff valve or bypass switch). Discharge control and safety equipment must be inspected daily to ensure operational effectiveness. The equipment used in treatment must be monitored daily to ensure that it is being operated as designed. In addition, the equipment must be checked weekly to detect corrosion or leaking of the fixtures or seams. Discharge confinement structures (e.g., dikes) and surrounding areas must be inspected weekly for signs of erosion or leakage. If the residue of the treatment process is a hazardous waste, it must be managed in accordance with all applicable requirements of 40 C.F.R. Parts 262-265.

10. **Miscellaneous units** (Subpart X, 40 C.F.R. Part 264). The requirements of Subpart X are fairly general, reflecting the role that the Subpart plays in the RCRA regulatory scheme. Unlike the other facility specific Subparts, Subpart X gives the regulator substantial discretion on how to regulate the facility, including design, operating, monitoring, and release response requirements so long as the permit contains terms and conditions which "are protective of human health and the environment" in light of the type(s) of hazardous waste(s) being treated at the permitted unit. DOD open-burning/open-detonation (OB/OD) facilities are being regulated under this provision. *See* Section X of this Chapter for further discussion of OB/OD issues.

11. **Drip pads** (Subpart W, 40 C.F.R. Parts 264 & 265). Drip pads are engineered structures at wood preserving plants used to convey preservative drippage from treated wood, precipitation, and surface water to a collection system.

12. **Containment buildings** (Subpart DD, 40 C.F.R. Parts 264 & 265). A containment building is a completely enclosed self-supporting hazardous waste management unit that is used to store or treat hazardous waste. Secondary containment systems are required if the unit manages liquids.

13. **Air emission standards for process vents** (Subpart AA, 40 C.F.R. Parts 264 & 265). Regulatory requirements applying to process vents are very technical. In general, however, owners or operators of TSD facilities are required to severely limit organic emissions from process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations managing hazardous wastes with organic concentrations exceeding 10 ppm. These limitations can be met by installing either a closed vent system or a control device. Methods for testing compliance are mandated. There are very detailed recordkeeping requirements. These include: documenting the location of each facility's process vents; and documenting the design, operation, and monitoring effectiveness of the systems used to control emissions from the vents.

14. **Air emission standards for equipment leaks** (Subpart BB, 40 C.F.R. Parts 264 & 265). These provisions regulate allowable emissions of hazardous wastes from certain equipment located in TSD facilities. Equipment regulated includes certain pumps, valves, and compressors that contain or come into contact with hazardous wastes with organic concentrations in excess of at least 10% by weight. This equipment must be marked in a manner that distinguishes it from other equipment in the facility and monitored for leaks. Initial attempts to stop leaks, once discovered, must be made within five days. Generally, repairs must be completed within 15 days. Repairs can be delayed for up to six months if the repair would require the facility to shut down. Very detailed recordkeeping requirements exist. These include: documenting the types and location of regulated equipment; the existence of leaks; the steps taken to repair leaks; and the efforts to monitor for leaks.

15. **Air emission standards for equipment leaks** (Subpart BB, 40 C.F.R. Parts 264 & 265). These provisions regulate air emissions from all facilities that treat, store, or dispose of hazardous wastes in tanks, surface impoundments, or containers. The subpart also outlines the standards applicable to closed-vent systems and control devices installed to control air emissions. Inspection and monitoring, recordkeeping, and reporting requirements are also detailed in this Subpart.

VII. THE PERMITTING PROCESS.

A. All TSD facilities must obtain a RCRA permit. The permit is issued either by EPA or by an authorized state. The RCRA permit process is detailed at 40 C.F.R. Part 270. Permits are valid for not more than 10 years. 40 C.F.R. § 270.50(a). EPA or an authorized state must review permits for land disposal facilities every five years. 40 C.F.R. § 270.50(d). When an EPA issued permit expires, the permit continues in force until the effective date of a new permit so long as the permittee has submitted a timely and complete application for renewal. 40 C.F.R. § 270.51.

B. Operators of facilities are primarily responsible for obtaining a RCRA permit. If a person other than the operator (e.g., at a government owned - contractor operated facility) owns the facility, however, both the owner and operator must sign the permit application. 40 C.F.R. § 270.10(b).

C. Army Installation Commanders or, where authorized, their designee must sign the RCRA permit as the facility owner. AR 200-1, para. 1-27 a.(11). If a tenant activity (such as DRMO) operates the facility, the tenant signs as the operator. Where a tenant is the operator, the tenant is responsible for preparing the RCRA permit and paying any fees associated with its processing. AR 200-1, para. 5-3d.

D. The RCRA permit application consists of two parts, Part A and Part B.

1. Under 40 C.F.R. § 270.10(e), owners and operators of hazardous waste management units in existence on the effective date of statutory or regulatory amendments to RCRA that subject the facility to permitting requirements must submit Part A of their permit application no later than the earlier of:

   a. Six months after publication of regulations requiring them to comply with the standards of 40 C.F.R. Part 265 or 266, or

   b. Thirty days after the date they first become subject to the standards set forth in 40 C.F.R. Part 265 or 266.

2. Under 40 C.F.R. § 270.10(e)(4), owners and operators of hazardous waste management units in existence on the effective date of statutory or regulatory amendments to RCRA that subject the facility to permitting requirements must submit Part B of their application:

   a. Within six months of EPA "calling" (requesting) their Part B; or

   b. Voluntarily, at any time.

   In any event, however, the permittee must comply with deadlines specified at 40 C.F.R. § 270.73.

3. In general, owners and operators of new TSD facilities must submit both Parts A & B applications and receive a finally effective RCRA permit prior to beginning construction of the TSD facility. 40 C.F.R. § 270.10(f).

E. Part A of the RCRA application process consists of a standard form (EPA Form 3510-1) designed to obtain background information about the facility. The content of the Part A application is detailed at 40 C.F.R. § 270.13. Required information includes the name and address of the facility; identification of the activity requiring the permit; a listing of all hazardous wastes treated, stored, or disposed of at the facility; and a description of the processes used to accomplish any regulated activities.

F. Once the Part A application for an existing TSD facility has been filed with EPA or an authorized state, the facility has "interim status" and can legally be operated. Under 40 C.F.R. § 270.73, interim status continues:

1. Until final administrative action on a permit application is taken; or

2. Unless the permittee fails to timely file or provide complete information for their Part B application. Time limits for submitting Part B applications for various types TSD facilities are listed at 40 C.F.R. §§ 270.3(c) - 270.3(g).

G. There is no standard form used for Part B of the application process. It is designed to provide EPA or an authorized state with detailed information concerning how the owner/operator proposes to operate the TSD facility. Two types of information are provided in the Part B application.

1. Required general information is detailed at 40 C.F.R § 270.14. Information required includes:

a. The facility's physical layout and location.

b. An analysis of the hazardous wastes managed at the facility.

c. Security and emergency (fire, explosion and unplanned release) contingency plans.

d. An internal inspection schedule.

e. Procedures to prevent groundwater contamination.

f. Personnel training programs.

g. Procedures and precautions taken to prevent accidental ignition or reaction of ignitable or reactive hazardous wastes managed at the facility.

h. A vehicular traffic control plan.

i. Closure and post-closure monitoring plans.

j. A description and delineation on a topographic map of any plume of contamination that has entered the groundwater at the time the Part B is submitted.

2. Additional specific information is required for certain types of TSD facilities. Requirements for these specially regulated facilities are found at:

a. Containers -- 40 C.F.R. § 270.15.

b. Tank Systems -- 40 C.F.R. § 270.16.

c. Surface Impoundments -- 40 C.F.R. § 270.17.

d. Waste Piles -- 40 C.F.R. § 270.18.

e. Incinerators -- 40 C.F.R. § 270.19.

f. Land Treatment Facilities -- 40 C.F.R. § 270.20.

g. Landfills -- 40 C.F.R. § 270.21.

h. Miscellaneous Units (e.g., Thermal Treatment Units, or Chemical, Biological, and Physical Treatment Units) (*See* 40 C.F.R. §§ 260.10 - 270.23). These standards are particularly important to the military because they regulate the open-burning/open-detonation of munitions when the munitions are classified as RCRA regulated "waste." *See* Section XII of this Chapter for a discussion of when munitions are to be considered RCRA regulated wastes.

i. Process Vents -- 40 C.F.R. § 270.24.

j. Equipment (pumps or valves) -- 40 C.F.R. § 270.25.

k. Drip pads -- 40 C.F.R. § 270.26.

l. Air emission controls for tanks, surface impoundments, and containers -- 40 C.F.R. § 270.27.

3. Note that the information required by 40 C.F.R. §§ 270.14 - .25 largely mirrors the operating standards specified at 40 C.F.R. Part 264. To ensure that the regulators write the permit as quickly as possible, installations should draft their Part B application so that the regulator can adapt the Part B language for use in the permit or even incorporate the language of the Part B application into the permit by reference.

VIII. RECYCLING.

A. Recycling of solid waste material will not necessarily preclude classifying the material as solid waste. Under 40 C.F.R. § 261.2(e), materials are not treated as solid wastes if they are being recycled by being:

1. Used as a substitute for a commercial product.

2. Used as an ingredient in an industrial process to make a product, provided that the materials are not being "reclaimed."

> A material is "reclaimed" if it is processed to recover a usable product or if it is regenerated (e.g., recovery of lead values from spent batteries and regeneration of spent solvent). 40 C.F.R. § 261.1(c)(4).

3. Returned to the original process from which they are generated without first being reclaimed (the material must be used as a substitute for a raw material feedstock in a process that uses raw materials as principal feedstock).

B. Materials that are always solid waste even if they are recycled include:

1. Materials used in a manner constituting disposal or used to produce products used on the land.

2. Materials burned for energy recovery.

3. Materials accumulated speculatively.

4. Materials that are inherently waste-like (F020, F021, F022, F023, F026, or F028) regardless of use.

C. Certain recyclables are not subject to the generator, transporter, or TSD facility rules. These include:

1. Used oil that is hazardous solely because it exhibits one or more hazardous waste characteristics, but that is recycled in a manner other than being burned for energy recovery.

2. Scrap metal.

D. Note that the “universal waste” rule now regulates the recycling of certain batteries, pesticides, and mercury thermostats. *See* 40 C.F.R. Part 273.

E. Even if a facility recycles hazardous wastes, several RCRA requirements will apply. As a practical matter, the principal advantage to recycling is that recycling of hazardous waste does not constitute "treatment." As result, the recycler does not require a RCRA permit. Recyclers of hazardous waste are, however, required to comply with the RCRA requirements regulating the activities of generators and transporters.

IX. PUBLIC COMMENT PROCEDURES.

A. Under a recently promulgated requirement, prospective TSD permittees must provide for an informal public meeting before submitting a Part B application for a RCRA permit. *See* 60 Fed. Reg. 63417 (Dec. 11, 1995), which became effective 11 June 1996. A summary of the pre-application meeting must be submitted as a component of the Part B permit application. This requirement for a public meeting also applies to facilities that make a significant (Class 3 modification) change upon renewal of their permit. The regulation also requires combustion facilities (i.e., incinerators and boiler and industrial furnaces burning hazardous waste) to notify the public before they hold a trial burn. Additionally, under this regulation, EPA may require a permittee to establish and maintain an information repository.

B. Pursuant to 40 C.F.R. Part 124, once a draft permit is prepared by EPA or an authorized state, or once a tentative decision to deny a permit for a TSD facility is made, the public is generally given an opportunity to comment on the proposed action. The public comment procedures are generally a responsibility of the EPA or state. The impact of the public comment procedures must, however, be carefully considered in planning for new TSD facilities. At a minimum, time delays associated with public comment procedures must be taken into account. Moreover, installations must be prepared to assist regulators in responding to attacks on proposed decisions to issue a permit. Conversely, proposed decisions to deny a permit must be effectively attacked during the public comment period.

C. When required, the public comment period must extend for at least 45 days prior to the final decision concerning issuance of the permit. In practice, this comment period is often extended. At least 30 day's notice must be given prior to any public meeting being held. A public meeting must be held if EPA receives any written opposition to the draft permit during the 45-day comment period. 40 C.F.R. § 124.12. The public comment period is automatically extended to the end of any public hearing and can be extended for an additional period by the presiding hearing officer. Where it is known in advance that the draft permit will be controversial, the installation should consider asking EPA to issue the notice of the public meeting at the same time it issues the notice of the draft permit. Taking this course of action will help to minimize delays.

D. The EPA Regional Administrator has the discretion to order that the public hearing requirements be satisfied through operation of Subpart F, 40 C.F.R. Part 124, which provides for a nonadversarial panel hearing. The panel consists of three or more EPA experts not involved in processing the draft permit and an administrative law judge who presides. A hearing is held in which witnesses are examined by the panel and subject to cross-examination by interested parties. Based on material including the supporting administrative record, public comment on the administrative record, evidence gathered during the hearing, and interested parties' proposed findings of fact and law, the panel proposes a decision that can be adopted, modified, or denied by the EPA Regional Administrator.

X. CORRECTIVE ACTION.

A. All RCRA permits issued since 8 November 1984 must include a requirement that the TSD facility operator or owner take corrective action to stop ongoing releases threatening human health and the environment, or to clean up past releases of hazardous waste or hazardous constituents from any solid waste management unit located on the facility. 42 U.S.C. § 6924(u), 40 C.F.R. § 264.101(a). Corrective action can also be required beyond the facility boundary where the cleanup of the release from a solid waste management unit is necessary to protect human health and the environment. 42 U.S.C. § 6924(v), 40 C.F.R. § 264.101(c). For corrective action purposes, the time at which the waste was placed in a solid waste management unit is irrelevant. Note that under corrective action, the statutory, not the regulatory, definition of hazardous waste is used.

B. The term "facility" has been broadly defined by EPA to include, "all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste." 40 C.F.R. § 260.10.

C. A solid waste management unit (SWMU) is any area on a facility where hazardous waste was collected, separated, stored, transported, processed, treated, recovered, or disposed of.

D. EPA has not issued final implementing regulations for corrective action requirements. In 1990, however, EPA did issue proposed corrective action regulations (55 Fed. Reg. 3,0978 (July 27, 1990)). On 1 May 1996, EPA issued an advanced notice of proposed rulemaking on corrective action (61 Fed. Reg. 1,9431 (May 1, 1996)). While it is anticipated that it will be some time before the corrective action requirements are finalized, the 1990 proposed regulations are being used by the EPA regions as a starting point for drafting the corrective action requirements for TSD facility permits.

E. Highlights of the proposed regulations are as follows:

1. RCRA-regulated facilities will be required to undertake a RCRA Facility Assessment (RFA). The RFA will be analogous to CERCLA Preliminary Assessment/Site Investigation.

2. If the RFA detects solid waste management units that are releasing hazardous wastes or hazardous constituents into the environment, a RCRA facility inspection (RFI) will be undertaken. The permittee will be required to develop an RFI plan and submit it to EPA or an authorized state for approval. The RFI, analogous to a CERCLA Remedial Investigation, will involve:

   a. Characterization of the environmental setting.

   b. Characterization of SWMUs on the facility.

   c. Characterization of human and environmental systems that are, or have been, exposed to releases of hazardous waste from an SWMU.

   d. Developing information to assist the regulators to assess risks to human health and the environment (risk assessment).

   e. Extrapolating the movement of contaminants.

f. Testing data to determine the feasibility or effectiveness of potential treatment technologies.

3. Based on the results of the RFI, a Corrective Measures Study may be conducted to identify and evaluate possible remedial strategies. The CMS, analogous to a CERCLA Feasibility Study, will be conducted by the permittee under the supervision of EPA or an authorized state. CMSs will normally be required if regulatory action levels (e.g., MCLs under the Safe Water Drinking Act) are exceeded. The regulators may require a CMS, however, even if no action levels are exceeded but specific site conditions exist. Cleanup levels will be provided to the permittee by the regulators involved. The CMS concludes with the permittee identifying possible remedies and recommending a remedy (or combination of remedies) to the regulator that:

   a. Protects human health and the environment.

   b. Attains cleanup standards.

   c. To the extent practicable, controls sources of releases to reduce, or eliminate, further releases that may pose a threat to human health or the environment.

   d. Complies with applicable RCRA standards for management of the hazardous wastes.

4. The regulator will then approve, modify, disapprove, or return the proposed action based on its evaluation of the proposed remedy and other remedies identified during the CMS. Factors considered during the evaluation process are:

   a. Long-term effectiveness.

   b. Capability for reduction of the toxicity, volume, or mobility of the hazardous waste.

   c. Short-term effectiveness.

d. Implementability.

e. Cost. Note that cost is used only as a tie-breaker to decide between equally effective remedies.

XI. RCRA/CERCLA INTERFACE (FEDERAL INSTALLATIONS).

A. Areas of Overlap.

1. RCRA. States often have permit authority to take corrective action regarding any releases of hazardous waste from any solid waste management unit (SWMU) located on the facility or installation. 42 U.S.C. § 6924(u). The state does not have to consider cost-effectiveness in taking corrective action. The EPA has similar authority to order corrective action for facilities with interim status. 42 U.S.C. § 6928(h)).

2. CERCLA.

a. If a federal facility is on the National Priorities List (NPL), the EPA has final authority to select a cleanup program. 42 U.S.C. § 9620. The EPA's decision should include cost-effectiveness as a consideration. *See* 42 U.S.C. §§ 9620(a)(2), 9604(a)(1), 9605(a)(7).

b. The EPA and the federal agency enter into an interagency agreement, under CERCLA, that addresses the following areas:

(1) A review of alternative remedial actions and a selection of one of them.

(2) A schedule for completion of the remedial action.

(3) Arrangements for the long-term operation and maintenance of the facility.

(4) DOD takes the position that no state permits are necessary to perform remedial actions at a site governed by CERCLA (42 U.S.C. § 9620).

c. If the facility is not on the NPL, the federal agency is the lead agent; however, state laws governing the removal and remedial action conducted apply. *See* 42 U.S.C. §§ 9620 and 9621.

B. Cases Where Both RCRA and CERCLA Apply.

1. CERCLA suggests that the EPA should control cleanups at NPL sites.

2. States that have authority to issue RCRA permits are using this authority to attempt to control the cleanup.

3. There is no dispute resolution mechanism between federal agencies and the state in RCRA actions, unlike the one established with OMB for federal CERCLA actions.

4. In United States v. Colorado, 990 F.2d 1565 (10th Cir. 1993), *cert. denied*, 510 U.S. 1092 (1994), the court upheld Colorado's right to enforce its RCRA authority on the Rocky Mountain Arsenal (an NPL site). The court held that even though the Arsenal was listed on the NPL, the state's RCRA corrective action order did not constitute an impermissible challenge to the ongoing remedial CERCLA action. The result of this opinion is that states, at least those located within the 10th Circuit, can largely ignore cost-effectiveness and the CERCLA process in enforcing state RCRA cleanup program requirements.

5. For further guidance, see the EPA's 24 September 1996 memorandum entitled "Coordination Between RCRA Corrective Action and Closure and CERCLA Site Activities." This memo recommends that federal agencies specify in an interagency agreement with the regulators which remediation program (i.e., RCRA or CERCLA) controls at a federal facility cleanup. Although this advice is helpful, there is no requirement for state regulatory agencies to enter into interagency agreements, and EPA must only enter into such agreements at NPL sites.

XII. RCRA'S APPLICATION TO MILITARY MUNITIONS AND ORDNANCE.

A. Background.

1. Section 107 of the Federal Facility Compliance Act of 1992 (FFCA) amended RCRA by adding a new section 3004(y) [42 U.S.C. § 6924(y)]. The amendment required the EPA to develop, after consulting with the DOD and appropriate state officials, regulations to identify when conventional and chemical military munitions become hazardous waste subject to Subtitle C of RCRA. The regulations were also required to provide a mechanism for the safe storage and transportation of such waste in a manner deemed to be protective of human health and the environment.

2. On 12 February 1997, EPA published the Military Munitions Rule: Hazardous Waste Identification and Management; Explosives Emergencies; Manifest Exemption for Transport of Hazardous Waste on Right-of-Ways on Contiguous Properties (62 FR 6622) (MMR). The MMR became effective on 12 August 1997.

3. The MMR went into effect on 12 August 1997 in the non-RCRA authorized states of Alaska, Hawaii, and Iowa. The status of the MMR in all other states as of 1 January 1998 was:

   a. Oregon adopted a modified version of the MMR that banned the importation of out-of-state hazardous waste, including munitions;

   b. Georgia adopted the MMR by reference on 3 December 1997, with an effective date of 24 December 1997;

   c. Idaho adopted the rule by reference on 17 November 1997, but the rule is pending ratification by the state legislature; and

   d. Alabama has issued a draft rule (unchanged) for public comment, with adoption anticipated sometime in early 1998.

B. Separate Code of Federal Regulations for Military Munitions.

1. At DOD's request, a separate subpart for military munitions has been created in order to consolidate and simplify the regulations for the military (40 C.F.R. Part 266, subpart M).

2. Requirements applicable, but not unique to military munitions (e.g., treatment and disposal standards), are retained elsewhere and referenced in § 266.200(b) of Subpart M. Some of the cross-references in subpart M are redundant with § 266.200(b), but they have been included for clarity.

C. Uniform National Standards.

1. DOD also requested that the MMR create uniform national standards that would prohibit states from enforcing broader or more stringent requirements with respect to military munitions.

2. EPA declined to honor this request on the basis that it runs counter to the standard federal-state relationship embodied in other parts of the RCRA program.

3. While EPA strongly encourages states to adopt the terms and provisions of the MMR, it acknowledges that states may adopt requirements with respect to military munitions that are more stringent or broader in scope than the federal requirements.

4. There are provisions in the MMR which have been characterized by EPA as "more stringent" than the standards found in most RCRA programs. In regards to these provisions, states will be required to modify their authorized RCRA programs in order to implement the MMR. Those provisions deemed "less stringent" need not, but may, be adopted by states. Finally, as to those provisions believed to be "neither more nor less stringent," states will not need to modify their programs as to these provisions in order to implement the MMR.

D. Key Terms. Definitions are from 40 C.F.R. § 260.10 or 266.201 (except as otherwise noted).

1. **Active range** means a military range that is currently in service and is being regularly used for range activities.

2. **Chemical agent and munition** means an agent or munition that, through its chemical properties, produces lethal or other damaging effects on human beings, except that such term does not include riot control agents, chemical herbicides, smoke, and other obscuration materials. (50 U.S.C. § 1521(j)(1)).

3. **Explosives or munitions emergency** means a situation involving the suspected or detected presence of unexploded ordnance (UXO), damaged or deteriorated explosives or munitions, an improvised explosive device (IED), other potentially explosive material or device, or other potentially harmful military chemical munitions or device that creates an actual or potential imminent threat to human health, including safety, or the environment, including property, as determined by an explosives or munitions emergency response specialist. Such situations may require immediate and expeditious action by an explosives or munitions emergency response specialist to control, mitigate, or eliminate the threat.

4. **Explosives or munitions emergency response** means all immediate response activities by an explosives and munitions emergency response specialist to control, mitigate, or eliminate the actual or potential threat encountered during an explosives or munitions emergency. An explosives or munitions emergency response may include in-place render-safe procedures, treatment or destruction of the explosives or munitions, and/or transporting those items to another location to be rendered safe, treated, or destroyed. Any reasonable delay in the completion of an explosives or munitions emergency response caused by a necessary, unforeseen, or uncontrollable circumstance will not terminate the explosives or munitions emergency. Explosives and munitions emergency responses can occur on either public or private lands and are not limited to responses at RCRA facilities.

5. **Explosives or munitions emergency response specialist** means an individual trained in chemical or conventional munitions or explosives handling, transportation, render-safe procedures, or destruction techniques. Explosives or munitions emergency response specialists include DOD emergency explosive ordnance disposal (EOD); technical escort unit (TEU); DOD-certified civilian or contractor personnel; and other federal, state, or local government or civilian personnel similarly trained in explosives or munitions emergency responses.

6. **Inactive range** means a military range that is not currently being used, but that is still under military control and considered by the military to be a potential range area and that has not been put to a new use that is incompatible with range activities.

7. **Military** means DOD, the U.S. Armed Services, Coast Guard, National Guard, Department of Energy (DOE), or other parties under contract or acting as an agent for the foregoing, who handle military munitions.

8. **Military range** means designated land and water areas set aside, managed, and used to conduct research on, develop, test, and evaluate military munitions and explosives, other ordnance, or weapon systems, or to train military personnel in their use and handling. Ranges include firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, and buffer zones with restricted access and exclusionary areas.

9. **Military munitions** means all ammunition products and components produced or used by or for DOD or the U.S. Armed Services for national defense and security, including military munitions under the control of DOD, the U.S. Coast Guard, DOE, and National Guard personnel. The term military munitions includes: confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by DOD components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. Military munitions do not include wholly inert items, improvised explosive devices, nuclear weapons, nuclear devices, and nuclear components thereof. The term does, however, include non-nuclear components of nuclear devices, managed under DOE's nuclear weapons program after all required sanitization operations under the Atomic Energy Act of 1954, as amended, have been completed.

10. **Unexploded ordnance (UXO)** means military munitions that have been primed, fused, armed, or otherwise prepared for action and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installation, personnel, or material and remain unexploded either by malfunction, design, or any other cause.

E. Defining When Military Munitions Become a Solid Waste. The MMR addresses this issue in three contexts: (l) unused munitions, (2) munitions being used for their intended purpose, and (3) used or fired munitions.

1. Unused munitions become a solid waste when:

a. Abandoned by being disposed of, burned, or incinerated, or treated prior to disposal (40 C.F.R. § 266.202(b)(1)), or

b. Removed from storage in a military magazine or other storage area for the purpose of being disposed of, burned, or incinerated or treated prior to disposal (40 C.F.R. § 266.202(b)(2)), or

c. Deteriorated, leaking, or damaged to the point that it can no longer be returned to serviceable condition and cannot be reasonably recycled or used for other purposes (40 C.F.R. § 266.202(b)(3)), or

d. The munition has been determined by an authorized military official to be a solid waste (40 C.F.R. § 266.202(b)(4)).

2. Military munitions are not a solid waste for regulatory purposes when:

a. A munition is used for its intended purpose, which includes when a munition is used for the training of military personnel and of explosives and emergency response specialists; when a munition is used for research, development, testing, and evaluation; and when a munition is destroyed during certain range clearance operations; and,

b. When an unused munition, including components thereof, is repaired, reused, recycled, reclaimed, disassembled, reconfigured, or otherwise subjected to materials recovery activities.

3. Military munitions on closed and transferred ranges.

a. EPA has decided to postpone final action on proposed 40 C.F.R. § 261.2(g)(4)(i). This proposed provision would have identified a military munition left on a closed range or a range transferred from military control as meeting the statutory definition of solid waste in RCRA § 1004(27).

b. EPA has decided to postpone final action until DOD promulgates regulations [known as the Range Rule; *see infra* section XIII] governing the cleanup of munitions on closed or transferred ranges.

c. EPA has indicated that they will conduct further analyses of the final DOD regulation governing the cleanup of munitions on closed and transferred ranges, including an assessment of whether the DOD Range Rule is adequately protective. EPA has stated that if either DOD fails to proceed with the Range Rule or EPA finds that the Range Rule does not adequately protect human health and the environment EPA will be prepared to address this issue under federal environmental laws.

d. Many commenters have questioned EPA's legal authority to defer RCRA coverage in favor of DOD regulations governing the cleanup of closed and transferred ranges. For this reason, it is likely that this issue will be litigated.

4. Used or fired military munitions.

a. Used or fired munitions are solid wastes when they are removed from their landing spot and then either:

(1) Managed off range--i.e., when transported off range and stored, reclaimed, treated, or disposed of; or

(2) Disposed of (i.e., buried or landfilled) on range.

b. In both cases, once the used or fired munition is a solid waste, it is potentially subject to regulation as a hazardous waste.

(1) For example, former defense installations no longer under military control (i.e., formerly used defense sites or FUDS) often contain unexploded ordnance or munitions fragments. Used or fired munitions removed from their landing spot and transported off range would have to be handled under RCRA Subtitle C (if they are "hazardous"), except in emergency situations.

(2) Similarly, used or fired munitions resulting from military research or training exercises at locations other than ranges (e.g., in testing laboratories) would be considered solid waste when removed from the site of use and sent to treatment or disposal facilities.

c. Used or fired munitions that are recovered and then treated on range at a closed or transferred range (unless the transferred range is still in active use as a range) would be a solid waste potentially subject to RCRA Subtitle C regulations. The final determination, however, as to the status of such munitions is being postponed pending the promulgation of DOD's Range Rule.

d. Munitions that land off range that are not promptly rendered safe (if necessary) and/or retrieved are statutory solid wastes under RCRA § 1004(27) and potentially subject to RCRA corrective action or § 7003 authorities.

F. Storage Standards for Non-chemical Waste Military Munitions.

1. Waste military munitions that exhibit a hazardous characteristic or are listed as a hazardous waste are subject to hazardous waste storage regulations at the point they become solid waste under § 266.202, except when they meet all of the conditions set forth in 40 C.F.R. § 266.205(a)(1).

a. The waste military munitions may not be chemical agents or chemical munitions;

b. The waste military munitions must be subject to the jurisdiction of the Department of Defense Explosives Safety Board (DDESB);

c. The waste military munitions must be stored in accordance with the DDESB storage standards applicable to waste military munitions;

d. The owner or operator must identify the location of all waste storage units used to store waste military munitions;

e. The owner or operator must orally report any loss or theft of waste military munitions, or failure to meet the conditions of § 266.205 (a)(1) that may endanger health or the environment, within 24 hours of becoming aware of such loss, theft, or violation. In addition, a written submission describing the circumstances must be provided within five days from the time the owner or operator becomes aware of any loss or theft of the waste military munitions or § 266.205 (a)(1) violation;

f. The owner or operator must inventory the waste military munitions at least annually, must inspect the waste military munitions at least quarterly for compliance with the conditions of § 266.205 (a)(1), and must maintain records of the findings of these inventories and inspections for at least three years; and

g. Access to the stored waste military munitions must be limited to appropriately trained and authorized personnel.

2. The conditional exemption in § 266.205 applies only to waste military non-chemical munitions that are subject to the jurisdiction of the DDESB (which could include military-owned munitions at contractor-operated facilities), including products that DOD determines are solid wastes pursuant to § 202(b)(4) and unexploded ordnance recovered from ranges and moved into storage prior to treatment or disposal.

3. The conditional exemption does not apply to owners or operators of storage facilities storing non-military waste munitions and explosives, nor to persons storing "military munitions" who are not subject to the jurisdiction of the DDESB (e.g., DOE or other non-DOD federal agencies or contractor facilities not directly or by contract subject to DDESB controls).

4. The conditional exemption from RCRA storage requirements does not apply to transportation, treatment, and disposal regulation and is available only so long as all conditions in § 266.205(a)(1) are met.

5. EPA has provided DOD the conditional exemption discussed above because it believes that the protective nature of the DDESB standards and the Services' record in providing for the safe storage of military munitions make the regulation of military munitions under RCRA Subtitle C unnecessary. Furthermore, EPA believes that the regulatory oversight provisions in the MMR provide further assurance that the standards will be followed and protectiveness maintained.

G. Storage standards for chemical waste military munitions and waste military munitions that do not qualify for, or have lost, their conditional exemption.

1. The conditional exemption in § 266.205(a)(1) is not applicable to waste chemical agents and munitions.

2. Instead, chemical waste military munitions, waste munitions not already regulated, and waste military munitions that are not being managed in compliance with the comprehensive DDESB standards will be regulated pursuant to a new Subpart EE, which will be added to 40 C.F.R. Parts 264 and 265.

3. Subpart EE requires that both military and non-military hazardous waste munitions and explosives be stored in RCRA permitted units that minimize the potential for a release; provide a primary barrier to contain the waste; and, in the case of liquid waste, provide a secondary containment or vapor detection system. These storage units must also be monitored and inspected frequently enough to ensure that the containment systems and controls are working as designed; the waste are stable; and that no contaminants are being released.

4. Subpart EE permitted facilities will also have to comply with other RCRA Subtitle C provisions, such as closure and post-closure standards.

H. Generator and Transporter Standards.

1. Emergency actions. Persons responding to emergencies (immediate threats from explosives and munitions) are not subject to RCRA generator and transportation requirements. This provision applies to all explosives and munitions emergency responses (military and non-military), as well as to all conventional and chemical military munitions emergency responses.

2. Generator and transporter requirements.

   a. Military munitions are conditionally exempt from RCRA hazardous waste generator and transporter requirements (including RCRA manifest requirements and the container marking requirements of § 262.32(b)), so long as the conditions of § 266.203(a)(1) are met.

(1) The waste military munitions may not be chemical agents or chemical munitions;

(2) The waste military munitions must be transported in accordance with the DOD shipping controls applicable to the transport of military munitions;

(3) The waste military munitions must be transported from a military owned or operated installation to a military owned or operated treatment, storage, or disposal facility; and

(4) The transporter of the waste must provide oral notice within 24 hours from the time the transporter becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of § 266.203(a)(1) that may endanger health or the environment. In addition, a written submission describing the circumstances shall be provided within five days from the time the transporter becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of § 266.203(a)(1).

b. This provision applies to waste munitions that are not chemical munitions or chemical agents and that are transported by commercial carriers who are under contract with the military and have signed a contractual compliance agreement with the Military Traffic Management Command and who operate under the DOD system of shipping controls for military munitions.

c. The conditional exemption does not apply to persons transporting "military munitions" who are not required to comply with the DOD military munitions shipping controls (e.g., DOE or other non-DOD Federal agencies or their contractors).

d. This provision also does not apply to the transport of waste military munitions to a commercial treatment, storage, or disposal facility.

e. Finally, this provision does not apply to waste munitions shipped by the military, but not under DOD's shipping controls designed for its munitions inventory.

f. EPA's decision to adopt the conditional exemption approach is based on EPA's conclusion that RCRA hazardous waste regulation is unnecessary when waste military munitions are transported in compliance with DOD shipping controls. EPA believes that given the protective nature of the DOD shipping controls and the Services' record in providing for the safe transportation of military munitions it makes little sense to impose a second regulatory scheme that adds little in the way of protectiveness.

I. On-Site Transportation of Hazardous Waste.

1. The MMR has added a new subsection to 40 C.F.R. Part 262, Subpart B (§ 262.20(f)). This amendment exempts shipments of hazardous waste on right-of-ways on or between contiguous properties and along the perimeter of contiguous properties, controlled by the same person, from the manifest requirements of RCRA.

2. This exemption applies to the transportation of all hazardous waste, not just munitions waste, and is available to both military and non-military generators and transporters.

3. Simply stated, military generators may now transport hazardous waste from one area of the installation to another by using either a private or public highway without having to comply with RCRA hazardous waste manifest requirements. This differs from the old rule that permitted such transportation only on private roads or across, under, but not along, public roads located on the installation.

J. Permit Modifications to Accept Waste Munitions from Off-Site Sources.

1. RCRA permits at some military installations have conditions prohibiting the receipt of “off-site” waste. Under these permit restrictions, if the point of generation of a waste munition is any place other than the permitted installation, then the waste munition cannot be accepted at the facility for treatment, storage, or disposal without a modification of the permit.

2. Under the MMR, a number of formerly unregulated munitions may now be deemed to be wastes, and thus potentially subject to these off-site permit restrictions. Under existing regulations (40 C.F.R. § 270.42(d)(1)), such a permit modification would have to follow the procedures for a Class 3 modification, requiring approval before implementation. Alternatively, the permittee might request that the modification be reviewed by the regulatory agency as a Class 1 or Class 2 modification.

3. Because of the serious operational disruption that this situation would cause, the MMR allows permitted facilities with off-site prohibitions to continue to receive from off-site sources munitions that have been newly defined as solid waste, provided there is timely notification to the permitting authority (in the form of a Class 1 permit modification request), followed by a Class 2 permit modification request. Under this procedure, the facility may continue to accept waste munitions from off-site sources until the permitting authority makes a final decision on the Class 2 permit modification request. To qualify for this special provision, a facility must meet three specific provisions:

   a. First, to be covered under this provision, the facility must be in existence on the date the MMR goes into effect and must already have a permit to handle the waste munitions.

   b. Second, the facility must submit a request for a Class 1 permit modification that seeks an amendment or removal of the permit restriction on off-site waste. The Class 1 permit modification request must be submitted on or before the date when the waste munitions become subject to hazardous waste regulatory requirements. This timely Class 1 submittal will allow the facility to continue to receive off-site waste munitions after the effective date without the need for prior approval by the permitting authority.

c. Third, following submission of a Class 1 permit modification request, the facility will have an additional six months following the effective date of the MMR to submit a Class 2 permit modification request for the removal of the off-site waste prohibition. Following submission of the Class 2 modification, the facility will be allowed to continue to accept waste munitions from off-site sources until such time as a final decision to grant or deny the modification is made.

K. Emergency Responses.

1. The MMR also clarifies that RCRA generator, transporter, and permit requirements do not apply to immediate responses to threats involving munitions or other explosives.

2. Emergency responses are exempt from permit requirements in two ways.

a. First, permits (including emergency permits) are not required for immediate responses to a discharge of hazardous waste or to an imminent and substantial threat of a discharge. After the emergency is determined to be over, however, any additional waste management may be subject to RCRA regulation.

b. Second, in cases of imminent and substantial endangerment to human health or the environment, a temporary emergency permit may be issued to a facility to treat, store, or dispose of hazardous waste. This permit may be issued orally, if followed by a written emergency permit within five days, and may not exceed 90 days in duration.

3. EPA considers immediate or time-critical responses to explosives or munitions emergency responses to be an immediate response to a discharge or imminent and substantial threat of a discharge of a hazardous waste. Such responses are, therefore, exempt from RCRA permitting and other substantive requirements, including emergency permits, conducting risk assessments for open-burning/open-detonation (OB/OD) permits under 40 C.F.R. Part 264, Subpart X, and interim status requirements under 40 C.F.R. Part 265, Subpart P.

4. If an immediate response is clearly not necessary to address the situation, and a response can be delayed without compromising safety or increasing the risks posed to life, property, health, or the environment, the responding personnel, if time permits, should consult with the regulatory agency regarding the appropriate course of action (e.g., whether or not to seek a RCRA emergency permit under § 270.6l or regular facility permit under 40 C.F.R. Part 270).

   a. Situations where an immediate response is needed would include instances where the public or property is potentially threatened by an explosion.

   b. Situations where an immediate response is clearly not necessary would include instances where the public or property is not threatened by a potential explosion (e.g., in remote areas such as some former ranges or where immediate action is not necessary to prevent explosion or exposure). In these cases, there is time to consult with the EPA or state regulatory agency on how to proceed.

XIII. THE DEPARTMENT OF DEFENSE RANGE RULE.

A. Background.

1. The DOD is developing a Range Rule that identifies a process for initiating and conducting response actions on closed, transferred, and transferring military ranges. The regulation will address explosives safety, human health, and environmental concerns related to military munitions and other constituents on these ranges.

2. The proposed Range Rule was published on 26 September 1997 (62 FR 50518). Publication of the final rule is anticipated to occur in the summer of 1998. The Range Rule was withdrawn by DoD in November 2000. The following information may be relevant and useful in the event of a re-proposal of the rule.

3. DOD is proposing the Range Rule under its independent legal authorities, including the DERP, 10 U.S.C. 2701 *et seq*.; the DDESB, 10 U.S.C. 172; and CERCLA, 42 U.S.C. 9601 et seq. (particularly CERCLA §104, 42 U.S.C. § 9604), as delegated to DOD by Executive Order 12,580.

B. The Range Response Process.

1. The process DOD proposes to follow under the Range Rule (RR) represents an integration of the best features of CERCLA and the RCRA corrective action processes and consists of five basic phases: (1) Range Identification, (2) Range Assessment/Accelerated Response, (3) Range Evaluation/Site-Specific Response, (4) Recurring Reviews, and (5) Final Range Close-out.

2. The RR applies to closed, transferred, and transferring ranges. A closed range is one that is taken out of service by the military and put to a new use incompatible with range activities. A transferred range is one that has been released from military control. A transferring range is a range that is proposed for transfer outside of military control.

C. Range Identification.

1. This phase involves the identification of all closed, transferred, and transferring ranges subject to the RR. Detailed information about these ranges will be centrally recorded and used to prioritize range response actions and to establish a central tracking system for range response.

2. Transferred ranges will typically be addressed before transferring or closed ranges.

D. Range Assessment/Accelerated Response.

1. Range Assessment.

a. This phase assesses the safety, human health, or environmental risks posed by the range. The primary purpose of such assessment is to determine whether any existing risks can be readily managed, are amenable to an accelerated response, or warrant a more detailed study and analysis.

b. This assessment would include collection of existing information on such factors as soils and geology, terrain, vegetation, climate, current and predicted land use, and other data useful in assessing risk. The assessment may require a visual inspection of the range and some sampling of environmental media.

2. Accelerated Response. An Accelerated Response is any readily available, proven method of addressing the immediate risks, particularly explosive risks, posed by military munitions or other constituents on military ranges.

3. Prior to the selection of an accelerated response or determination that a more in-depth range evaluation will be conducted, federal and state agencies and the public will be consulted; public access to information will be provided; and a formal comment period will occur.

E. Range Evaluation/Site-Specific Response.

1. Range Evaluation.

a. A Range Evaluation is a more detailed investigation of the site designed to assess the level of risk posed and facilitate an informed risk management decision.

b. The evaluation would be used to determine whether a site-specific response is required and provide an estimate as to the overall risk posed by the range conditions.

2. Site-Specific Response.

a. This phase examines various alternatives designed to address the risks that have not been reduced or eliminated by earlier response actions. Each alternative will be examined in light of explosives safety requirements and the nine criteria established by the National Contingency Plan.

b. Prior to the selection of a Site-Specific Response, federal and state agencies and the public will be consulted; public access to information will be provided; and a formal comment period will occur.

F. Recurring Reviews.

1. The purpose of recurring reviews is to ensure that range response actions continue to be effective and to determine whether additional evaluation is required.

2. The RR proposes that the initial review be conducted three years after the completion of the accelerated response or site-specific response is taken or as necessary to ensure that the response action is still effective. Subsequent reviews would be conducted at year seven, and at five-year intervals thereafter, or immediately if an emergency situation is identified.

3. Consultation with state and federal agencies and the public, public access to information, and a formal comment period will occur prior to drafting the final report and decision document within this phase.

G. Close Out. Following review to ensure that the range is unlikely to pose further risk or that the response objectives were achieved, the DOD would end response actions at the site. If at some future date a problem is discovered, DOD would address the problem as appropriate.

H. Concurrence Role.

1. The RR provides for a concurrence role in RR decision documents for appropriate federal and state environmental regulatory agencies, as well as for American Indian tribes and federal land managers in certain circumstances.

2. American Indian tribes receive a concurrence role if they are a federally recognized tribe; have a tribal governing body that is performing health, safety, or environmental functions; and are a property owner of a closed, transferred, or transferring range.

3. Federal land managers receive a concurrence role if they have or are clearly anticipated to receive jurisdiction, custody, or control over the closed, transferred, or transferring range.

I. Dispute Resolution.

1. The same entities that receive a concurrence role under the RR can also invoke a formal dispute resolution process.

2. The formal procedure provides for five levels of dispute resolution: at the project manager level; the installation commander level; the military headquarters level (i.e., Major Command); the environmental policy-maker at the Secretariat staff level (i.e. DAS for Environment); and the Secretary of the DOD component (or an appropriate political appointee with responsibility for environmental policy within the DOD component). Examples of who would meet with the Secretary of the DOD component are the state governor, an American Indian tribal leader, or a Secretary/Administrator of another federal agency.

3. An additional level of dispute resolution is available to federal agencies: elevating the dispute to the Office of Management and Budget (OMB).

4. Range response activities will not be suspended during the dispute resolution process absent extraordinary circumstances (i.e., imminent and substantial danger). An accelerated process for deciding if the response should be suspended is also included in the RR.

J. Future Land Use.

1. The RR also discussed how future land use issues are incorporated where a federal land manager has jurisdiction, custody, or control over property on which a range response will or has occurred.

2. For transferring ranges, DOD will conduct and fund response activities consistent with all reasonably anticipated future land uses that are identified and agreed to between the parties to the land transfer prior to the transfer.

3. For transferred ranges, in the absence of a prior agreement identifying reasonably anticipated future land uses or imposing land use restrictions, DOD will conduct and fund response activities consistent with all reasonably anticipated future land uses at the time of the range response.

4. If there is a disagreement over reasonably anticipated future land uses, the RR dispute resolution provisions will be utilized.

5. DOD will conduct and fund additional response actions where:

    a. The remedy fails (this includes failures in institutional controls due to changes in use/access of surrounding parcels);

    b. Previously unknown contamination creates conditions inconsistent with the reasonably anticipated land use;

    c. Additional UXO is found that creates conditions inconsistent with the reasonably anticipated land use;

    d. Applicable laws or regulations change;

    e. UXO technology limited the range response with the result that the use of the land was more restricted than the established reasonably anticipated future land use, but later improvements in technology that are cost-effective allow for the removal of the land use restriction and there is a current need for the removal of the restriction;

    f. A statute or court order requires additional response actions; or

g. Previously unidentified significant environmental or cultural resources create conditions inconsistent with the reasonably anticipated land use.

XIV. ENFORCEMENT.

A. Administrative.

1. EPA has authority to issue cleanup orders to any past or present generator, transporter of hazardous waste, or past or present owner or operator of a TSD facility as necessary to abate an imminent and substantial endangerment to health or the environment. 42 U.S.C. § 6973. EPA may also assess a penalty of $5,000 per day against persons who willfully violates, fails, or refuses to comply with the cleanup order. 42 U.S.C. § 6973(b).

2. EPA has the authority to issue a civil penalty for past or present violations of Hazardous Waste Management Regulations, provided that the penalty does not exceed $25,000 per day per violation. 42 U.S.C. § 6928(a).

3. EPA has the authority to issue orders to past or present owners of a TSD site to monitor, test, analyze, and report to EPA on the nature and extent of any hazard that EPA determines may present a substantial hazard to human health or the environment. Penalties of up to $5,000 per day may be assessed through a civil action for noncompliance.

B. State Civil Actions. Since EPA cannot bring civil enforcement actions against Federal Facilities, states generally do so pursuant to state hazardous waste laws. (*See* discussion of waiver of sovereign immunity in Chapter I.) State penalties generally mirror EPA's as established in RCRA.

C. Citizen Suits.

1. 42 U.S.C. § 6972 provides for citizen suits against any person (including the Federal Government) who is alleged:

a. To be in violation of any permit, standard regulation, or order pursuant to RCRA (federal or state); or

b. To have contributed to the treatment, storage, disposal, handling, or transportation of a solid or hazardous waste in a manner which may present an imminent and substantial endangerment to health or the environment.

2. Citizen suits may also be brought against EPA for failure to perform a nondiscretionary action.

3. A citizen suit cannot be brought on matters that EPA or a state is already diligently prosecuting. Nor can a citizen suit be brought with respect to the siting of a hazardous waste TSD facility.

4. Citizen suits must be brought in the Federal District Court, where the alleged violation or endangerment occurred. Courts may issue any orders or injunctive relief necessary as well as award costs of litigation (including reasonable attorney and expert witness fees) to the prevailing or substantially prevailing party.

D. Criminal Penalties.

1. Any person who knowingly violates any RCRA provision may face criminal sanctions (fines up to $50,000, per day, per violation, and imprisonment up to five years). A knowing violation requires only that the person know of the act, not that he/she knew the act involved hazardous waste.

2. Federal officials are subject to any criminal sanction under RCRA. However, federal officials acting within the scope of their employment may be immune from criminal prosecution. *See* California v. Walters, 751 F.2d 977 (9th Cir. 1984).

CHAPTER VIII

GLOSSARY

This glossary defines key acronyms, phrases and words frequently used when discussing environmental issues or working with environmental statutes and regulations.

Readers are cautioned, however, to check the definition sections of environmental statutes and regulations for the specific meaning assigned to a particular word or term by that statute or regulation.

Acid Deposition (often referred to as acid rain). Occurs when acidic pollutants return to earth in the form of rain, snow, fog, mist and gases. The phenomenon is caused by emissions of sulfur dioxide (from the combustion of fossil fuels containing sulfur) and nitrogen oxides (from the combustion of fossil fuels). These pollutants form solutions of sulfuric, nitric and other acids in the atmosphere, which can be carried by winds as small particles or droplets of water for hundreds of miles.

Advanced Treatment. Cleanup of wastewater beyond primary and secondary treatment. Advanced treatment requires greater than 85 percent reduction in conventional pollutants (organic waste such as sewage) or a significant reduction in non-conventional pollutants (such as nitrogen, phosphorus and ammonia).

AHERA (Asbestos Hazard Emergency Response Act (1986)). Requires studies determining the extent of danger to human health from asbestos in public and commercial buildings.

Ambient Air Quality Standards. Standards established by the Clean Air Standards Act to protect the public welfare from air pollutants in a certain area.

Anthracite ("hard coal"). A hard, black, lustrous coal containing a high percentage of fixed carbon (86 percent to 97 percent) and a low percentage of volatile matter. Principally located in Pennsylvania, it has a heating value of 15,000 Btu per pound.

Anti-Backsliding. Describes Clean Water Act provisions preventing the weakening -- backsliding -- of effluent limits when a National Pollutant Discharge Elimination System water pollution permit is renewed, reissued or modified. Anti-backsliding provisions were included in the 1987 Clean Water Act amendments.

Appropriation. Law containing specific amounts of federal funds that can be spent for specific purposes. Normally an appropriation must be preceded by an authorization.

Aquifer. Underground layer of permeable rock holding a reservoir of slow flowing water, often used for drinking and irrigation.

Architectural Coatings. Coverings, such as paint and roof tar, used on exteriors of residential, commercial and industrial structures. When coatings are applied, hydrocarbons evaporate and contribute to formation of ozone pollution.

Area Source. Air pollution source that is neither a major stationary source nor a mobile source. Includes residential furnaces, gas stations and dry cleaners.

Aromatic. Organic compounds derived from benzene.

Arsenic. Heavy metal poisonous to animals and humans. Emitted as an air pollutant by smelters and other sources.

Asbestos. Generic name for a group of naturally occurring minerals that separate into extremely fine fibers. Used widely as a building material until the 1970's, asbestos is a known human carcinogen that can cause lung cancer and other lung diseases when inhaled.

ATSDR (Agency for Toxic Substances and Disease Registry). Established within U.S. Public Health Service by CERCLA §104(i) (42 U.S.C. § 9604(i)). Carries out health-related provisions of CERCLA, such as performing health studies, to determine whether illnesses among people near a hazardous waste site are caused by exposure to toxic substances.

Attainment Area. Region meeting the National Ambient Air Quality Standard for a criteria pollutant under the Clean Air Act.

Authorization. Law establishing or continuing a federal program, project or agency and providing the legal authority to operate. Authorizations may be for a specific period of years, and can set funding ceilings for the program, project or agency. A separate appropriations law provides actual funding.

Background Radiation. Occurs in the natural environment, including cosmic rays and naturally radioactive elements in soil. Background radiation levels vary depending on local conditions and, in the United States, vary from 100 to 200 (excluding radon) millirems per year.

Backsliding. Weakening effluent limits when a National Pollutant Discharge Elimination System water pollution permit is renewed, reissued or modified. *See also anti-backsliding*.

BACT. *See Best Available Control Technology*.

Baghouse. Air pollution control device used to trap particulates by filtering gas streams through large (usually glass fiber) fabric bags.

Baler. Machine compressing and binding solid wastes or other materials.

Barrel. Measure of petroleum and petroleum products equal to 42 U.S. gallons.

Basket-Grate Incinerator. Agitated bed incinerator where refuse is burned in a perforated grate shaped like a truncated cone and rotated about its axis of symmetry.

BAT (Best Available Technology economically achievable). Technological level the Clean Water Act requires to control industrial discharges of toxic pollutants, such as metals and organic chemicals. The Clean Water Act required EPA to establish BAT effluent limits, which are more stringent than Best Practicable Control Technology (BPT) limits. About 50 industries have such limits.

Benzene. Simplest aromatic hydrocarbon benzene, a known carcinogen. Benzene is used as an industrial solvent, gasoline additive, and as an additive in some paints and varnishes.

Beryllium. Hard, poisonous, metallic element used in the production of corrosion-resistant alloys.

Best Available Control Technology (BACT or BAT). The Clean Air Act requires new industrial facilities constructed in clean air areas to install BACT. Determined by states, on a case-by-case basis, BACT standards must be at least as rigorous as industry-wide "new source performance standards." Costs are considered in determining BACT.

Biochemical Oxygen Demand (BOD). Amount of dissolved oxygen required to decompose organic matter in water. BOD is a measure of pollution.

Biological Diversity. Genetic and ecological diversity, encompassing all species and ecosystems.

Biomass. Energy produced from biological sources (e.g., wood, grain, and animal manure). Can be released through combustion, gasification or conversion to alcohol.

Biotechnology. Application of biological systems and organisms to technical and industrial processes. Involves the use of genetic engineering (techniques used to alter the hereditary apparatus of a living cell so that the cell can produce more or different chemicals or perform completely new functions). Altered cells are then used in industrial processes.

Bituminous Coal ("soft coal"). High carbon content coal (45 percent to 86 percent) with greater volatility than anthracite and greater energy content (10,500 Btu per pound to 15,500 Btu per pound) than subbituminous coal and lignite. Used primarily for electricity generation, coke production and space heating.

BLM (Bureau of Land Management). Agency of the Department of the Interior. Largest federal land owner, managing 270 million acres, mostly in the West and Alaska.

BMP (Best Management Practice). Designed to prevent or reduce non-point source water pollution. Examples include no-till farming, terracing of farmland, replanting eroding surfaces, construction of runoff-retention basins, city street sweeping, manure management and use of hay bales to block runoff from construction sites.

BOD. *See biochemical oxygen demand*.

BPT or **BPCT (Best Practicable Control Technology).** Minimum level of pollution control industry is to achieve by July 1, 1977, under the Clean Water Act. Most facilities now meet BPT. Based generally on the average of the best existing performance by industrial plants of various sizes, ages and processes within an industry. BPT limits apply to pollutants such as biochemical oxygen demand, suspended solids, oil and grease, and dissolved solids.

BTU (British thermal unit). Amount of energy required to raise the temperature of a pound of water 1 degree Fahrenheit from 39.2 degrees Fahrenheit. According to the Energy Information Administration, a barrel of gasoline contains 5.25 million Btu, a barrel of home heating oil contains 5.83 million Btu, the average ton of coal used in the United States contains 21.4 million Btu, and a thousand cubic feet of natural gas contains 1.03 million Btu.

Bubble Concept. Type of emissions trading in which separate sources of air pollution are treated as one larger source -- as though there was a giant plastic bubble over them with a single opening for emissions. A facility can lower emissions from one source that is inexpensive to control and raise emissions from another source that is expensive to control, as long as overall emissions are reduced by the same amount.

Budget Resolution. Concurrent resolution on the budget. Passed by both houses but not requiring presidential approval, it sets forth overall targets for federal spending, revenues and the deficit for the coming fiscal year. May include additional "reconciliation" instructions directing committees to achieve further savings or increase revenues to meet a deficit target.

BuRec (Bureau of Reclamation). Agency of the Department of the Interior responsible for construction and maintenance of major hydroelectric, irrigation and water supply projects in 17 Western states. Roughly 10 million acres in 146,000 farms are irrigated by BuRec projects.

Byproduct Material. Radioactive material produced or irradiated during the production or use of "special nuclear material" (e.g., enriched uranium and other nuclear fuel).

Carbon Dioxide (CO_2). Colorless, odorless, tasteless gas about 1.5 times as dense as air, released by plant and animal respiration and consumed by photosynthesis. Also a product of combustion of carbon-containing materials such as fossil fuels.

Carbon Monoxide (CO). Colorless, odorless, poisonous gas produced by incomplete fossil-fuel combustion. One of six pollutants for which there is a National Ambient Air Quality Standard. *See also criteria pollutants*.

Carcinogen. Substance causing cancer.

CASAC. *See Clean Air Scientific Advisory Committee*.

CBO (Congressional Budget Office). Congressional support agency set up by the budget act to report on the potential cost of proposed legislation and to prepare an annual series of analyses on the federal budget and the U.S. economy.

CEQ (Council on Environmental Quality). Established by the National Environmental Policy Act of 1969, (NEPA), the council advises the president on environmental matters, coordinates federal environmental programs, monitors environmental trends, and oversees implementation of NEPA.

CERCLA (Comprehensive Environmental Response, Compensation and Liability Act (1980)). Informally called "Superfund." Amended by SARA.

CFCs. *See chlorofluorocarbons*.

C.F.R. **(Code of Federal Regulations).** Annual compilation of regulations published by the GPO.

Charging Hopper. Enlarged opening at the top of incinerator through which waste materials drop into the combustion chamber.

Chlorine. Chemical used in water purification for removal of bacteria.

Chlorofluorocarbons. Family of chemicals believed to contribute to the breakup of ozone molecules in the stratosphere, causing depletion of the ozone layer that protects the earth from damaging ultraviolet radiation. Primary uses include refrigeration, manufacture of insulation and packaging, air conditioning, and cleaning of electronic parts.

Civilian Munition Destroyers. Civilian personnel of DOD components who undergo formal training in, and whose mission is, the identification, handling, removal, and treatment of PEP materials and miscellaneous ordnance.

Class I, II and III. Clean air areas are divided into three classes under the Clean Air Act. Little pollution increase is allowed in Class I areas, some increase in Class II areas, and more in Class III areas. National parks and wilderness areas receive mandatory Class I protection. Other areas start out as Class II. States can reclassify Class II areas subject to federal requirements.

Clean Air Act (CAA). Passed in 1963, the law was rewritten by the Clean Air Act of 1970. Congress made major revisions in the Clean Air Act Amendments of 1977 and 1990. The CAA requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards for common and widespread pollutants. To achieve the standards, states and EPA

require industries, businesses and motor vehicles to reduce emissions. Separate requirements apply to clean air (attainment) and dirty air (non-attainment) areas. The CAA also establishes programs to control acid rain, toxic air pollution, and stratospheric ozone layer depletion.

Clean Air Scientific Advisory Committee (CASAC). Committee of the Science Advisory Board, which is a group of independent scientists who review and evaluate Environmental Protection Agency (EPA) studies of regulatory significance.

Clean Water Act (CWA). *See FWPCA*.

Closure. Procedure under the Resource Conservation and Recovery Act for closing a hazardous waste disposal facility. The facility must submit a closure plan, receive approval of the plan and complete cleanup and groundwater contamination prevention activities outlined in the plan.

CMSA. *See consolidated metropolitan statistical area*.

CO. *See carbon monoxide*.

CO_2. *See carbon dioxide*.

Co-Firing. Burning two fuels in the same combustion unit (e.g., coal and natural gas, oil, and coal).

Coastal Waters. Generally, waters subject to tidal influences.

Consolidated Metropolitan Statistical Area (CMSA). A statistical area that contains one million people or more and meets other criteria.

Consumer Solvent. Volatile liquid capable of dissolving or dispersing other substances used in consumer products (e.g., household cleaning fluids and paint thinner).

Control Technique Guidelines (CTGs). Documents issued by the Environmental Protection Agency to assist state and local pollution control authorities to achieve and maintain air quality standards for certain types of pollution sources through Reasonably Available Control Technologies (RACT).

Controlled-Air Incinerator. Two-chamber incinerator. The first chamber is kept oxygen deficient and the second chamber is oxygen rich. The second chamber uses large amounts of clean fuel to complete combustion.

Convention. Legal agreement among a number of nations. If presented to the Senate for advice and consent, can be generally referred to as a treaty.

Conventional Munitions. Includes liquid and solid propellants and explosives, pyrotechnics, riot control agents, smokes, and incendiaries used by DOD components. Includes bulk munitions, rockets, missiles, warheads, devices, and components thereof. Excludes wholly inert items, toxic chemical agents and munitions, and nuclear warheads and devices.

Conventional Pollutants. Pollutants consisting of organic wastes (e.g., biochemical oxygen demand (BOD), suspended solids (SS)). Domestic sewage and industrial wastes of plant and animal origin contribute to the formation of these conventional pollutants.

Corps of Engineers (U.S. Army Corps of Engineers or COE). Largest federal water resources development agency. Responsible for construction and maintenance of inland waterway, port and dam projects throughout the country.

Criteria Document. Detailed review of the health and environmental impacts of a criteria air pollutant, prepared by the Environmental Protection Agency (EPA) and expert advisers.

Criteria Pollutants. Sulfur dioxide, carbon monoxide, particulates, nitrogen dioxide, ozone and lead. The Clean Air Act (CAA) requires the Environmental Protection Agency (EPA) to set air quality standards for these common and widespread pollutants.

CTG. *See control technique guideline*.

Curie. Unit radioactivity measuring the number of atomic disintegrations during a given time period. *See also rems* and *rads*.

Cyanide. Highly poisonous, carbon-nitrogen compound.

CZMA (Coastal Zone Management Act). Provides authority and federal aid to states and territories for developing and implementing management plans for coastal areas. Fully operational plans are the states' responsibility. Established estuarine sanctuaries as natural laboratories. The Act was reauthorized and expanded in 1990 to include a non-point source water pollution control program.

DB (Decibel). Measure of loudness or intensity of sound.

Decontamination. Removal of unwanted material (e.g., radioactive, toxic or explosive material) from facilities, soils or equipment by techniques including washing, chemical action and mechanical cleaning**.**

Defense Reutilization and Marketing Office (DRMO). Component of the Defense Logistics Agency responsible for disposal of DOD property, including most hazardous wastes.

Demilitarization. The act of removing the military offensive or defensive advantages of ammunition and explosives, which may or may not include the disposal of the item. The term

encompasses various approved methods for example, mutilation, destruction, or alteration to prevent further use for its originally intended military purpose, including the procedures followed by EOD units, civilian munition destroyers, and properly certified contract personnel. It applies equally to material in unserviceable or serviceable condition.

DERA (Defense Environmental Restoration Account). Account used to fund DOD environmental cleanup activities such as those performed under the Installation Restoration Program (IRP).

DERP (Defense Environmental Restoration Program). General program for environmental cleanup of DOD facilities.

Designated Uses. State-designated uses for rivers, lakes and other water bodies that must be achieved and maintained under the Clean Water Act (e.g., fishing, swimming, public water supply and agriculture).

Design Value. Monitor reading used by the Environmental Protection Agency (EPA) to determine an area's NAAQS status. For example, the design value for ozone is the fourth highest reading measured over the most recent three years. The design value for carbon monoxide is the second highest non-overlapping 8-hour concentration for one year.

DESR (Defense Environmental Status Report). Annual summary of environmental programs and regulatory compliance within DOD.

Dioxin. Highly toxic chlorinated compound associated with herbicides and pesticides.

Direct Dischargers. Sources including municipal sewage treatment plants and industrial facilities that discharge effluent directly into rivers, streams and other water bodies.

Discharge. Describes any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of a substance.

Disposal. The discharging, depositing, injecting, dumping, spilling, leaking, or placing of any solid waste or hazardous waste on or into any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters. (40 CFR 260.10)

Distillate Fuel Oil. Refined fuel oil of grades one, two and four. Used primarily for space heating, and as on- and off- highway diesel engine fuel used in diesel cars and trucks, railroad engines and farm machinery.

DOE (Department of Energy). Established in 1977 under the Carter administration.

DOI. Department of the Interior.

DSMOA. Defense - State Memorandum of Agreement.

EA (Environmental Assessment). A study to determine if significant environmental impacts are expected from a proposed federal action.

Effluent Limit. Limit established by the Environmental Protection Agency (EPA), on the amount of a specific pollutant municipal sewage treatment plants and industrial facilities are allowed to discharge in their effluent (wastewater). Also called a discharge limit.

EIS (Environmental Impact Statement). Document analyzing the effects of major federal projects on the environment. Under the National Environmental Policy Act (NEPA), must be filed with the President and the Council on Environmental Quality, and must be made available to the public.

Electrostatic Precipitator (ESP). Device removing dust or other fine particles from a gas by charging the particles with an electric field and attracting them to highly charged collector plates.

Emergency Planning and Community Right-to-Know Act (1986). Provides local governments with information about possible chemical hazards in the community. Also referred to as SARA Title III.

Emission Standards. Permissible limits of air emissions established by Federal, Regional, State, and local authorities.

Emissions Trading. Since 1979, the Environmental Protection Agency (EPA) has been developing regulatory approaches that allow firms to trade air pollution control requirements within a facility and among facilities and firms under the supervision of EPA, state and local pollution control agencies. Involves reducing emissions beyond that required by law at one pollution source and using the excess reduction to permit higher emissions at another source. Storing emissions reductions for later use in emissions trading is called "banking." *See also bubble concept*.

Encapsulated. Method used in the disposal of hazardous substance. Uses an impervious container made of plastic, glass, or other material that will not be chemically degraded by the contents. The container is sealed within a durable container made from steel, plastic concrete, or other material to resist physical damage during and after burial or storage.

Endangered Species. Under the 1973 Endangered Species Act (ESA), the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (NMFS) were assigned the task of determining species threatened with extinction.

Environmental Restoration. Cleanup and restoration of sites contaminated with radioactive or hazardous substances during past production or disposal activities.

EPA (Environmental Protection Agency). Created in 1970 by an executive reorganization plan during the Nixon administration, EPA conducts pollution control activities mandated by the Clean Air Act (CAA); the Clean Water Act (CWA); the Marine Protection, Research and Sanctuaries Act (MPRSA); the Safe Drinking Water Act (SDWA); the Resource Conservation and Recovery Act (RCRA); the Federal Insecticide Fungicide and Rodenticide Act (FIFRA); the Toxic Substances Control Act (TSCA); and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA (a.k.a. Superfund)).

ESP. *See electrostatic precipitator*.

Estuary. Body of water in which river and ocean waters interact. Tidal action and river flow create a mixing of fresh and salt water.

Ethanol. Grain alcohol often blended with gasoline to form gasohol. Derived from agricultural commodities such as grain and corn. Motor vehicles can, with minor engine modifications, run on nearly pure, ("neat") ethanol.

Ethylene Dibromide (EDB). Gasoline additive used with leaded fuels to scavenge lead. EDB is a suspected carcinogen.

Evaporative Emissions. Emissions of volatile organic compounds caused by evaporation from the fuel tank and fuel lines of a parked vehicle.

Explosive Ordnance. Any chemical compound, mixture, or device, the primary purpose of which is to function by detonation or deflagration with instantaneous release of heat and gases. The term is not limited to those materials or items to be used directly against an enemy, but includes those utilizing PEP in such applications as illumination, signaling, catapulting personnel or material, mining, cutting, and demolition.

Explosive Ordnance Disposal (EOD). EOD means the recovery, evaluation, and render-safe procedures that may result in destruction of the ordnance and does not necessarily mean the RCRA regulated treatment or disposal of a hazardous waste.

Explosive Ordnance Disposal (EOD) Emergency. A situation involving the suspected or detected presence of unexploded ordnance that creates an immediate safety threat to civilian or military personnel or property; range clearance operations are excluded. The situation calls for immediate action by EOD personnel or civilian munition destroyers, to include properly certified civilian contractor personnel, to eliminate the threat by treating the ordnance in place or rendering the ordnance safe and removing it to another location. The emergency action includes transportation and treatment to the extent necessary to abate the immediate threat. EOD emergencies can occur off-installation in the public sector or on-installation.

Explosive Ordnance Disposal (EOD) Operations. EOD operations refer to those operations conducted by specially trained military personnel or properly certified contract

personnel known as EOD personnel. In 1971, the U.S. Navy was designated as the single-service manager within DOD for EOD technology and training.

Federal Facility Docket. Method developed under SARA to identify and gather information on federal facilities that manage hazardous wastes or may be contaminated with hazardous substances.

Federal Implementation Plan (FIP). Federally imposed air quality plan required by the Clean Air Act. It supersedes a State Implementation Plan (SIP) if state fails to develop adequate plan for attaining and maintaining the National Ambient Air Quality Standards.

Federal Register. A daily federal publication that formally documents proposed and promulgated (final) regulations.

FIFRA (Federal Insecticide, Fungicide and Rodenticide Act). Basic federal statute governing the sale and use of pesticides. Requires a pesticide to be registered by the Environmental Protection Agency (EPA) before it can be marketed. EPA registers only if it determines that use will not cause any unreasonable risk to humans or the environment, taking into account the benefits of using the pesticide. EPA relies on health and safety tests performed by the pesticide producer.

FIP. *See Federal Implementation Plan*.

Floodplain. Flat area adjacent to a river or stream that is subject to flooding.

FLPMA (Federal Land Policy and Management Act of 1976). Basic law regulating management of millions of acres of federal lands under the jurisdiction of the Department of the Interior's Bureau of Land Management (BLM).

Flue-Gas Desulfurization (FGD). Post-combustion sulfur dioxide control technology in which a scrubber is placed in the emission stream between the electrostatic precipitator (or baghouse) and the smokestack. The exhaust gas containing the acidic SO_2 reacts with limestone (or lime) to create a calcium byproduct. Commonly known as scrubbing; FGD systems can be wet, dry or regenerable, although wet systems are the most widely used.

Fluidized Bed Combustion. Process to remove sulfur dioxide during combustion. Crushed coal is fed into a "bed" mixed with limestone or dolomite, the resulting mixture of coal and limestone is held in suspension by air, or fluidized, the SO_2 formed during combustion reacts with the limestone or dolomite to form solid calcium sulfate, and is then removed. The process operates at a lower combustion temperature than a conventional boiler, therefore nitrogen oxide emissions are lower. Burning can be at atmospheric pressure or in a pressurized vessel. This technology offers hope for cleaner combustion of high-sulfur coal.

Fluoride. Naturally occurring contaminant of water and can be added to water to prevent tooth decay.

FNSI or FONSI (Finding of No Significant Impact). Conclusion to an EA stating that no significant effects are anticipated from proposed actions.

Fossil Fuels. Combustibles such as coal, oil and natural gas derived from the remains of ancient plants and animals.

Friable Asbestos. Asbestos which can be crumbled in the hand; it creates a health hazard due to release of microscopic carcinogenic fibers.

Fuel Switching. Use of a lower sulfur coal, oil or natural gas in place of a higher sulfur coal to reduce emissions of sulfur dioxide.

FWPCA or CWA (Federal Water Pollution Control Act of 1972). Commonly known as the Clean Water Act, the major federal statute aimed at controlling water pollution. The CWA authorizes a large federal grant program to help local areas construct sewage treatment plants. It requires the EPA to regulate the discharge of pollutants by industrial and municipal sewage treatment plants.

FWS (U.S. Fish and Wildlife Service). Agency of the Department of the Interior, tasked with administering federal fish and wildlife protection and research programs and advising other federal agencies on fish and wildlife matters. FWS manages approximately 91 million acres of federal lands in the National Wildlife Refuge System.

GAO (General Accounting Office). Investigative arm of Congress.

Garbage. Animal and vegetable waste and containers resulting from the handling, preparation, cooking, and consumption of foods. Edible, or hog-food, garbage is the portion of waste food that has been segregated for salvage.

Gas Reburning. Technique where coal is fired in a main heat-release zone in the lower part of a boiler and natural gas is burned in a cooler, oxygen-deficient zone in the upper part of the boiler. This controls the formation of nitrogen oxide.

Gasohol. Mixture of gasoline and ethanol (made from corn and other agricultural products) that contains at least 9 percent ethanol. 5 to 10 percent of the motor fuel sold is gasohol. Burning gasohol results in less carbon monoxide emissions than straight gasoline.

Gigawatt. One thousand megawatts, or a billion watts. Large power plants often have generating capacity of about one gigawatt (pronounced "jigawatt").

Global Change. Study of the earth as a system of interacting processes. U.S. agencies are cooperating on global change research, which in turn will be coordinated with the International Geosphere-Biosphere Program research effort.

Greenhouse Effect. Warming of the earth caused by the presence in the atmosphere of greenhouse gases. Scientists disagree over whether global warming caused by human activities has begun.

Greenhouse Gas. Gas that absorbs and re-radiates solar radiation in the earth's atmosphere, heating the atmosphere. Carbon dioxide (byproduct of fossil fuel burning and deforestation), chlorofluorocarbons (CFCs), halons, methane, nitrogen oxide and ozone are among the greenhouse gases.

Groundwater. Subsurface water that completely saturates interconnected spaces between soil particles and rocks.

Hammermill. Broad category of high-speed equipment that uses pivoted or fixed hammers or cutters to crush, grind, chip, or shred solid wastes.

Half-life. Unit of time it takes a radioactive material to lose half of its radioactivity through decay.

Halogenated Organic Compounds. Group of compounds, typically containing chlorine, that tends to have significant environmental impacts. Examples are DDT, PCBs, and TCE.

Halons. Chemicals used in fire extinguishers whose bromine atoms are believed to destroy stratospheric ozone.

Hazardous Air Pollutants (Also called air toxics). 189 are listed in the Clean Air Act Amendments of 1990. The EPA can add others to the list if they present a threat to human health or the environment. Criteria air pollutants cannot be listed as hazardous unless they meet certain conditions. Prior to the 1990 amendments, EPA issued standards for some sources of seven hazardous air pollutants: arsenic, asbestos, benzene, beryllium, mercury, radionuclides and vinyl chloride.

Hazardous Substance. Element, compound, or mixture, when discharged in any quantity, onto land or water, poses an imminent and substantial threat to the public health and welfare.

Hazardous Waste. Any solid waste that exhibits any of the characteristics of hazardous waste (ignitability, corrosivity, reactivity, and toxicity) or is a listed hazardous waste under RCRA. (40 CFR 261.3)

Hazardous Waste Account (BHW). An inventory account system that includes explosive ordnance, manufacturing material, and processing and treatment residue that has been determined to be hazardous waste.

HAZMIN (Hazardous Waste Minimization). Army policy to reduce the quantity or volume and toxicity of hazardous wastes generated by Army operations and activities wherever economically practicable, or environmentally necessary. Emphasis on source reduction methods, recycling, on-site treatment, and other alternatives.

HC. *See hydrocarbons*.

HDT. *See heavy-duty truck.*

Heavy-Duty Truck (HDT). Truck weighing over 8500 pounds, as defined in Environmental Protection Agency (EPA) regulations.

Hold For Reason. Temporarily holding recovered ordnance for a purpose other than treatment. These purposes include such things as evidence in law enforcement proceedings and accident investigations, technical evaluation by EOD personnel, and other purposes unrelated to being held for treatment. Also includes material identified to be held for Research and Development (R&E) requirements.

HPP (Historic Preservation Plan). Installation historic properties protection and compliance document.

HSWA (Hazardous and Solid Waste Amendments (1984)). Amendments to RCRA that regulated waste minimization, land disposal of hazardous wastes, corrective action requirements, and underground storage tanks (USTs).

Hydrocarbons (HC). Family of compounds containing hydrogen and carbon. Term used loosely to include many organic compounds in various combinations. When hydrocarbons mix with nitrogen oxides in the presence of sunlight, ozone is formed. Most fossil fuels are composed predominately of hydrocarbons. Hydrocarbon emissions are hard to regulate because they come from a wide variety of sources such as motor vehicles, oil refineries, gas stations, oil-based paints, solvents, hazardous waste facilities, dry cleaners and bakeries. Hydrocarbons also are referred to as volatile organic compounds (VOCs).

ICUZ (Installation Compatible Use Zone). Program identifying the compatibility of on-post and off-post land uses with noise sources.

Improvised Explosive Device (EID). A non-standard explosive device fabricated from locally available materials, designed to destroy, disfigure, distract, or harass. IED's can be fabricated from military or non-military ordnance and materials.

Incinerator. Controlled chamber where waste substances are burned.

Increments. Allowable air pollution increases in clean air regions are measured in increments above existing "baseline" levels. New industrial sources in clean air areas are

allocated portions of the regional increment. No additional industrial growth is permitted once the increment is used up.

Indirect Discharger. Industrial or non-residential source that discharges pollutants into a municipal sewage system, rather than directly into a water body. Under the Clean Water Act, indirect dischargers must "pre-treat" wastes before flushing them into the municipal sewage system.

Indirect Source. Any facility, building structure, installation, real property, road, highway or parking facility that attracts motor vehicle traffic and, indirectly, causes air pollution.

Infectious Waste.

1. Equipment, instruments, utensils, and fomites (any substance that may harbor or transmit pathogenic organisms) of a disposable nature from the rooms of patients who are suspected to have or have been diagnosed as having a communicable disease;

2. Laboratory wastes, such as pathological specimens (for example: tissues, blood elements, excreta, and secretions obtained from patients or laboratory animals) and disposable fomites attendant thereto;

3. Surgical operating room (pathological) specimens and disposable fomites attendant thereto, and similar disposable materials from outpatient areas and emergency.

Inversion. Atmospheric condition caused by a layer of warm air preventing the rise of cool air trapped beneath it. This condition holds down pollutants that might otherwise disperse, causing a serious air pollution episode.

IRP (Installation Restoration Program). Remedial response aspect of DOD's DERP. It requires installations to identify, investigate, and clean up hazardous materials associated with past activities on property controlled by the Army, formerly used by DOD, and beyond the boundaries of such property when the contamination occurred as a result of migration from a source on the property.

ISCP (Installation Spill Contingency Plan). Document detailing resources and procedures for cleanup of spills of oil and hazardous substances.

Installation. A military facility, such as a base or station, owned or leased by DOD operated by a DOD component or its contractor.

Inventory. Military ordnance stores in a serviceable condition, ready for issue and use, or unserviceable stocks pending maintenance or disposition instruction. Includes industrial components and raw materials for production use and other ordnance that is classified in unserviceable condition, pending resolution of disposition instructions.

Land Bans. Prohibitions on the dumping into landfills of hundreds of hazardous wastes unless they are treated first. The 1984 amendments to the Resource Conservation and Recovery Act (RCRA) required the Environmental Protection Agency (EPA) to issue a series of land bans over several years.

LDT. *See light-duty truck*.

Leachate. Liquid material produced when surface water or groundwater contacts solid waste; typically generated at landfills.

Lead (Pb). Heavy metal used in many industries. Can accumulate in the body and cause a variety of serious health effects. One of six pollutants for which there is a National Ambient Air Quality Standard. *See criteria pollutants*.

LEPC (Local Emergency Planning Committee). Established in local municipalities to prepare plan to respond to releases of hazardous substances and inform citizens of major facilities managing hazardous substances in the area.

Lifetime Risk. Probability of contracting or dying from a disease, calculated from birth or any subsequent time. EPA assumes a typical lifetime to be 70 years.

Liming. Application of alkaline materials (usually limestone) to lakes, streams or soils. Temporarily increasing the pH to compensate for the effects of acid deposition.

Light-duty truck (LDT). Truck or van weighing less than 8500 pounds as defined in EPA regulations.

LNG (Liquefied Natural Gas). Natural gas that has been liquefied by reducing its temperature to minus 260 F.

Lowest Achievable Emission Rate (LAER). Stringent level of pollution control required by the Clean Air Act (CAA) for new or modified industrial facilities in non-attainment areas (areas where air pollution exceeds National Air Quality Standards). The lowest achievable emission rate is defined as either the most stringent emission limitation contained in the implementation plan of any state for a category of sources, or as the most stringent emission limitation achieved in practice within an industrial category. Theoretically LAER should be more stringent than new source performance standards. *Compare Best Available Control Technology (BACT), Reasonably Available Control Technology (RACT).*

Load, Assemble, and Pack (LAP) Operations. These are operations conducted by manufacturing/industrial facilities that load, assemble, and pack explosive ordnance.

Major Source. Generally, a stationary source that emits, or has the potential to emit, 100 tons per year or more of any air pollutant. In areas with pollution classified as serious or worse, however, smaller emitters of ozone-causing pollutants and carbon monoxide are defined as major.

Manufacturing Rejects. Explosive ordnance generated during the manufacturing, processing, loading, testing, and depot level work/rework of military ordnance that does not meet specification, but is safe to handle and store.

Manufacturing Residues. Propellants, explosives, and pyrotechnics (PEP) material or PEP-contaminated material that are generated during the processing, loading, testing, and depot level work/rework of military ordnance.

MCL (Maximum Contaminant Level). Refers to the allowable levels of certain organic and inorganic constituents in drinking water.

Megawatt. One million watts of electricity. A large power plant typically has a capacity of 1,000 megawatts.

Methane. Chief constituent of natural gas, produced by decaying plant material, coal gasification processes or bovine digestion. Methane is a greenhouse gas believed to contribute to global warming.

Methanol (Wood alcohol). Most is currently made from natural gas, but it also can be refined from coal. Can be used as an alternative fuel or as a gasoline additive. Less volatile (evaporates less) than gasoline. When small amounts are blended with gasoline, it lowers carbon monoxide emissions but increases hydrocarbon emissions. When used as a pure, or "neat," fuel, its emissions are less ozone-forming than gasoline emissions.

Metropolitan statistical area (MSA). Large population center, with adjacent communities that have a high degree of economic and social interaction with the center.

MIC. *See methyl isocyanate*.

Micron. Unit of length equal to 1/1,000,000 of a meter.

MMPA (The 1972 Marine Mammal Protection Act). Places a prohibition on the taking of virtually all marine mammals.

Mobile Sources. Motor vehicles (including cars, trucks, busses, trains and planes). Subject to specific pollution controls under the Clean Air Act.

Monitoring. Periodic or continuous sampling to determine the level of contamination in the environment by analytic means.

MSA. *See metropolitan statistical area*.

MSDS (Material Safety Data Sheet). Information sheets describing the potential hazards, chemical or physical properties, and health effects of a substance.

Mutagen. Agent that causes structural alteration in genetic material or in the chromosome.

NO_2 (Nitrogen dioxide). Gases formed primarily from atmospheric nitrogen and oxygen when combustion takes place at high temperature. NO_2 emissions contribute to acid deposition. One of six pollutants for which there is a national ambient standard. *See criteria pollutants*.

NAAQS. *See National Ambient Air Quality Standards*.

National Ambient Air Quality Standards (NAAQS). The Clean Air Act (CAA) requires the EPA to set national ambient air quality standards for six common and widespread outdoor air pollutants: sulfur dioxide, carbon monoxide, particulate matter, photochemical oxidants, nitrogen dioxide and lead. "Primary" standards must protect public health with a margin of safety (including the health of sensitive groups such as asthmatics). "Secondary" standards are to protect soil, water, crops, visibility and other essentials of public welfare. The CAA requires the standards to be set without regard to cost of compliance. *See criteria pollutants*.

National Primary Drinking Water Regulations. Established by EPA pursuant to the SDWA. Set the maximum contaminant levels for certain chemicals in drinking water to protect the public health.

National Response Center (NRC). Washington, DC headquarters that coordinates activities relative to pollution emergencies.

National Secondary Drinking Water Regulations. Drinking water guidelines for contaminants that affect the aesthetic qualities of water.

Natural Gas. Naturally occurring mixture of hydrocarbons (principally methane) and small amounts of other gases found in porous geological formations, often in association with oil.

NCP (National Contingency Plan). Regulations which implement CERCLA provisions for responding to releases of oil and hazardous substances including cleanup of NPL sites.

Neat fuel. Fuel that is nearly 100 percent pure, such as "neat" methanol.

NEPA (National Environmental Policy Act of 1970). Federal statute that requires all federal agencies to assess the environmental impacts of proposed major federal actions significantly affecting the quality of the human environment. *See also CEQ* and *EIS*.

NESHAP (National Emission Standards for Hazardous Air Pollutants). Allowable concentrations of certain hazardous pollutants in air emissions from industrial facilities.

Netting. Type of emission trading under the Clean Air Act (CAA). Modification of an existing source that increases emissions more than a de minimis amount is normally subject to permit and control requirements for new sources. "Netting" allows the source to escape the new source review requirements by obtaining offsetting reductions from elsewhere, at the source that brings the net emissions increase below the de minimis threshold. The 1990 amendments placed new restrictions on netting. *Compare with* the *bubble concept*.

Neurotoxins. Chemicals that poison the nervous system and can permanently damage the ability to feel, remember, think and act. Neurotoxins are found in industrial chemicals, food additives, drugs, pesticides and cosmetics. Human exposure occurs at home and in the workplace.

New Source Performance Standards (NSPS). Minimum federal emissions limits set by EPA for all new or substantially modified sources in major polluting industries. Based on the best technology currently available, taking costs into account.

NIEHS (National Institute of Environmental Health Sciences). One of the National Institutes of Health (NIH) under the Department of Health and Human Services. NIEHS conducts research to identify and study substances in the environment that pose potential hazards to human health.

Nitrates. Compounds essential as a soil nutrient, which can also be pollutants.

Nitrogen dioxide. *See* **NO_2.**

Nitrogen Oxides (NO_x). Formed primarily by fuel combustion and contribute to the formation of acid rain. Hydrocarbons and nitrogen oxides combine in the presence of sunlight to form ozone, a major constituent of smog.

NMFS (National Marine Fisheries Service). In addition to administering the nation's fisheries, this Department of Commerce agency is responsible for conservation activities for anadromous fish and the listing and protection of endangered marine species.

NOAA (National Oceanic and Atmospheric Administration). Agency of the Department of Commerce, NOAA administers many of the nation's oceans and coastal programs, including the Coastal Zone Management Act (CZMA).

Noise Control Act (NCA). Establishes noise standards and regulates noise emissions from commercial products such as transportation and construction equipment.

Nonattainment Areas. Regions that violate Clean Air Act (CAA) primary health standards. Most urban areas in the nation are nonattainment areas for one or more of the primary pollutants. These regions are subject to strict controls to bring them into compliance with health standards.

Nonhazardous Solid Waste. Generally, solid wastes which pose no significant threat to human health or the environment. Examples are household trash and office waste.

Non-point Source Pollution. Water pollution emanating from diffuse sources, rather than from a factory or sewage treatment plant discharge pipe (e.g., oil and grease runoff from city streets, pesticide runoff from farmland, and polluted runoff from construction sites, forestry and abandoned mines).

Nonroad Vehicles. Vehicles or machines that use an internal combustion engine but are not regulated as motor vehicles or airplanes under the Clean Air Act (CAA). Construction equipment and trains are two examples of nonroad vehicles.

NOV (Notice of Violation). Formal written document provided to an installation by a regulatory agency as a result of environmental noncompliance.

NO_x. *See nitrogen oxides*.

NPDES (National Pollutant Discharge Elimination System). Program mandated by section 402 of the Clean Water Act (CWA) under which the EPA establishes limits on the amounts of specific pollutants that may be discharged by municipal sewage treatment plants and industrial facilities. "Effluent limits" are incorporated in permits (called NPDES permits) issued to all municipal and industrial dischargers. It is illegal for dischargers to operate without a permit or in violation of permit conditions.

NPL (National Priorities List). List of the nation's most dangerous abandoned hazardous waste sites, compiled by the EPA, pursuant to CERCLA. Inclusion of Army sites on this list targets the site for government cleanup using DERA money. Non-federal agency sites that are on the NPL are targeted for cleanups by EPA using Superfund money or for enforcement efforts to force those responsible to clean the site.

NPS (National Park Service). Agency of the Department of the Interior, administering 80 million acres in 357 management units, including 50 national parks and numerous national monuments, lakeshores and seashores, recreation areas, wild and scenic rivers and trails, battlefields, historic sites, monuments and memorials.

NSPS. *See new source performance standards*.

NSR. *See new source review*.

OEQ (Office of Environmental Quality). Provides administrative support to the Council on Environmental Quality. *See also CEQ*.

OES (Department of State's Bureau of Oceans and International Environmental and Scientific Affairs). Responsible for ensuring that environmental, oceans, population, health, scientific technological and non-proliferation concerns are taken into account when foreign policy decisions are made.

Office Wastes. Solid wastes generated in the building, room, or series of rooms in which the affairs of a business, professional person, branch of government, etc., are carried on. Excludes waste generated in cafeterias, snack bars, or other food preparation and sales activities in those buildings.

Offset Requirement. The Clean Air Act (CAA) requires that, in non-attainment areas, emissions from major new stationary sources, or increased emissions that result from modernization of existing plants, must be more than offset by reductions from existing pollution sources. The 1990 CAA amendments increased offset requirements that apply in ozone non-attainment areas to between 1.1-1 and 1.5-1.

On-Scene Coordinator. Federal official in charge of removal efforts at hazardous substance discharge sites.

Open Burning (OA). Combustion of PEP or explosive ordnance without the control of combustion air, containment of the combustion reaction in an enclosed device, or control of emission of gaseous and particulate combustion products. (40 CFR 260.10)

Open Detonation (OD). Unconfined violent reaction of PEP or explosive ordnance without the control of combustion air, containment of the combustion reaction in an enclosed device, or control of emission of gaseous and particulate combustion products.

Open Dump. Facility or site where solid waste is disposed of that is not a sanitary landfill meeting the requirement of RCRA Section 6944, and which is not a disposal facility for hazardous waste. RCRA includes a ban on open dumps and provides for state plans to identify and develop measures to eliminate health hazards and minimize potential health hazards associated with existing open dumps.

OPP (Office of Pesticide Programs). A division of EPA.

OSHA (Occupational Safety and Health Administration). Agency responsible for regulating worker safety. Establishes guidelines and training requirements for workers at hazardous waste sites.

OTA (Office of Technology Assessment). Congressional support agency established to advise Congress on technology-related issues.

Oxidant. Substance containing oxygen that reacts chemically in air to produce a new substance. Ozone, the primary constituent of photochemical smog, is an oxidant.

Oxygen Demand. *See biochemical oxygen demand*.

Ozone (Ground level). Prime ingredient of smog. Ozone is produced by the combination of hydrocarbons and nitrogen oxides in the presence of sunlight and heat. According to EPA, ozone levels at or slightly above its standard can cause reduced functioning of the lungs, lung tissue inflammation, shortness of breath, coughing and other effects in healthy individuals who are exercising. Animal studies have raised concerns that ozone may reduce the ability to fight respiratory infection and that frequent exposure may cause permanent lung damage. Ozone also can lower crop yields and cause forest damage.

Ozone, Stratospheric. A form of oxygen molecules (0_3) high above the earth that absorb harmful ultraviolet radiation from the sun and protect life below. Ozone in the high-altitude stratosphere is often called the ozone layer. Ozone is naturally present in minute amounts in the atmosphere; levels vary with altitude, but are highest in the stratosphere.

Ozone "Hole." A thinning in ozone over the Antarctic recognized in 1985 and believed to be caused by an interaction of chlorine (from CFCs and other man-made chemicals) and the region's unique climate dynamics.

Ozone Layer. *See ozone, stratospheric.*

Ozone Transport Region. Ozone pollution is carried from one state to another by prevailing winds, particularly in the Northeast. CAA Amendments of 1990 call for establishment of ozone transport regions where certain emissions control measures are required.

PA/SI. Preliminary Assessment/Site Inspection. First phase of the IRP, designed to identify potential sites with hazardous waste contamination.

PAD District (Petroleum Administration for Defense district). United States is divided into five PAD districts for statistical and emergency purposes. District I is the Atlantic Coast, II is the Midwest, III is the Gulf Coast, IV is the Rocky Mountains and V is the Pacific Coast.

Particulate Matter (PM) or Particulates. Wide array of small pieces of solid and liquid matter found in the atmosphere, (e.g., soot, dust, and organic matter).

PCBs (Polychlorinated Biphenyls). Toxic halogenated organic compounds not easily degraded in the environment.

PCI/L (Picocuries per liter). Unit of measurement for radioactive materials in air. Used to measure radon concentrations in buildings.

PEP. Term used to refer collectively to propellants, explosives, and pyrotechnics.

Percentage Reduction. The 1977 CAA amendments added a requirement that new source performance standards (NSPS) for fossil-fuel-fired stationary sources (such as power plants and industrial boilers) achieve a percentage reduction in emissions, regardless of the amount of pollution emitted, in addition to meeting emission limitations. It was intended to eliminate the option of complying with sulfur dioxide new source standards through use of low-sulfur fuel. The 1990 CAA amendments repealed the provision subject to certain conditions.

Percolate. To seep through a layer of porous material (layers of either earth or refuse). A liquid percolating through a layer of refuse material may become contaminated.

Pesticide. Product that kills or controls pests of any kind.

PH. Measure of the acidity or alkalinity of a substance. Waters that are too acid (low pH) or alkaline (high pH) can be unfit for animal or plant life. On the pH scale, which runs from zero to 14, a value of 7 is neutral. Because the pH scale is logarithmic, there is a tenfold difference between each number. If the pH drops from 7 to 6, the acidity is ten times greater.

Phosgene. Air pollutant that is a potent neurotoxin. Phosgene was used as nerve gas in World War I.

PM. *See particulate matter*.

PM_{10}. Particulate matter that measures ten microns in diameter or less, small enough to invade the sensitive alveolar regions of the lung. PM_{10} is one of six pollutants for which there is a National Ambient Air Quality Standard. *See criteria pollutants*.

Point Source. Sources of water pollution that discharge through a pipe or other discrete point, (e.g., municipal sewage treatment plants, factories, confined animal feedlots, combined sewers and operating mines. Also may be a pipe, ditch, channel, tunnel, conduit or any other discrete conveyance from which pollutants are discharged).

POTW (Publicly Owned Treatment Works). Wastewater treatment plant owned by a state or municipality. May also encompass devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature.

PPM. Parts per million.

Pre-Treatment. Clean Water Act requires facilities that discharge wastewater into municipal sewage systems to first clean, or "pre-treat", wastes that will interfere with the sewage treatment process or that contain toxic substances. The EPA promulgates standards.

Prevention of Significant Deterioration (PSD). In the 1977 amendments to the Clean Air Act, Congress mandated that areas with air cleaner than required by National Ambient Air Quality Standards be protected from significant deterioration. Best available control technology is required on major new pollution sources and existing sources that are modified. New sources must comply with an air quality increment system. *See increments*.

Process Chemical. Chemical(s) remaining after, or produced by, a given industrial process (chrome plating, aluminum etching).

Protocol. International agreement that changes an earlier international agreement. Referred to generally as a treaty if presented to the Senate for advice and consent.

Propellant. A reactive, energetic material formulated to deflagrate producing instantaneous energy sufficient to propel an object, such as a bullet, projectile, torpedo, rocket, or missile.

PSD. *See prevention of significant deterioration*.

PSI. Pounds per square inch.

Pyrolysis. Chemical decomposition of a material by heat in the absence of oxygen.

Pyrotechnic. A reactive, energetic material that undergoes reaction to produce audible or visible effects, such as illumination, colored lights, smoke, or noise.

Public Health or Welfare. Factors affecting human health and the natural environment.

RACT. *See reasonably available control technology*.

Rad (Radiation absorbed dose). Measure of energy absorbed by body tissue exposed to radioactivity. Effects of one rad of highly penetrating gamma radiation equal one rem. *See also rem*.

Radiation, Ionizing. Can directly break chemical bonds in substances. Radiation produced by radioactive decay, such as alpha rays and gamma rays, is ionizing radiation, or "radioactivity." Light rays are in a range between ionizing and non-ionizing radiation.

Radiation, Non-Ionizing. Radiation, such as microwaves and radio waves, that generally does not affect chemical bonds.

Radioactivity. Emission of ionizing radiation.

Radioactive Material. Material that spontaneously emits ionizing radiation.

Radionuclides. Radioactive substances.

Radon. Colorless, odorless, radioactive gas formed by the decay of uranium. Found in soils, rocks and some groundwater supplies. Can seep into a building, accumulating to dangerous levels. EPA estimates that 5,000 to 20,000 lung cancer deaths per year are caused by exposure to radon.

RAP (Remedial Action Plan). Strategy for correction of a site or operation which is not in compliance with regulatory requirements.

Range. Designated air, lands, or water areas used to test and evaluate ordinance and weapon systems and to train personnel in their use and handling. For the purpose of this guidance, the term "range" includes impact areas, firing lines and positions, and all areas set aside and managed for employing explosive ordnance.

Range Clearance. The periodic elimination of unexploded ordnance that failed to function and is found on ranges. It includes treatment on site; collection and treatment within the range; and removal of RDT&E ordnance subjected to subsequent examination or testing.

RCRA. The Resource Conservation and Recover Act. A federal law that governs the management of hazardous waste. RCRA established specific requirements for hazardous waste generators and transporters and for facilities for the storage, treatment, and disposal of such waste in regulations found at 40 CFR 260-271.

RDF (Refuse-Derived Fuel). Burnable fuel derived from special processing of various types of solid wastes.

Real Property. Lands, buildings, structures, utilities systems, improvements and appurtenances thereto. Includes equipment attached to and made part of building and structures (such as heating systems) but not movable equipment (such as plant equipment).

Reasonable Further Progress (RFP). Annual incremental reductions in emissions of an air pollutant reflected in a state implementation plan that is sufficient, according to the EPA, to provide for attainment of the applicable National Ambient Air Quality Standard by the statutory deadline.

Reasonably available control technology (RACT). Clean Air Act standard under which existing polluting facilities in a non-attainment area install retrofit equipment to control air emissions. *Compare with best available control technology (BACT)*, and *lowest achievable emission rate (LAER)*.

Recycling. Process transforming recovered materials into new or usable products.

Refuse. Garbage, ashes, debris, rubbish, and other domestic and commercial solid waste material. Not included are garbage or other salable material sold under contract and delivered to a buyer at point of generation; explosive and incendiary wastes; and contaminated wastes from medical and radiological processes.

Regional Response Center. Federal regional site that controls pollution emergency response activities.

Remedial Action (RA). Cleanup of a hazardous waste site under the IRP.

Remediation. Cleanup of a toxic/hazardous waste site.

Remove. The movement of ordnance by EOD personnel or civilian munition destroyers, to include properly trained contract personnel, from the location where it was found to a treatment, holding, or storage area.

Render-Safe. Procedure employed by EOD personnel or civilian munition destroyers on explosive ordnance to interrupt or separate the essential initiation components to prevent an unwanted reaction. A render-safe procedure may make an explosive ordnance item safer to handle, but it does not necessarily remove the safety hazard associated with it. In some cases, the render-safe procedure includes destruction of the explosive ordnance.

Research Development Test and Evaluation (RDT&E) Ordnance. Ordnance utilized in performance of RDT&E mission. It may be standard munitions undergoing comparison tests, standard items that have been modified to gather information, or items generated by them from various ammunition components for RDT&E purposes.

Residential Solid Waste. Food wastes, rubbish, and trash resulting from the normal activities of households.

Residual Fuel Oil. Numbers five and six fuel oil, generally leftover material from the petroleum refining process. Used in commercial and industrial heating, electricity generation, and to power ships.

Retrofitting. Installing modern pollution control devices on older power generating facilities without making major changes in plant design.

RFP. *See reasonable further progress*.

RI/FS (Remedial Investigation/Feasibility Study). Phase of the IRP where the nature and extent of contamination of a hazardous waste site are determined and cleanup strategies are analyzed.

ROD (Record of Decision). Official document detailing the strategy for cleanup of a hazardous waste site under the IRP or the conclusions and decision based on EIS under NEPA.

Rotary-Kiln Incinerator. Two-chamber incinerator whose primary chamber is a refractory-lined cylinder that rotates about its centerline.

Rubbish. Variety of salvageable waste material such as broken glass, crockery, floor sweepings, paper, wrappings, containers, cartons, and similar articles not used in preparing or dispensing food. Subdivided into: combustible rubbish (burned readily in an incinerator), or noncombustible rubbish (cannot be burned at ordinary, 800 to 1800 F, incinerator temperatures).

Salvage or Salable Materials. Metal scrap, scrap lumber, crating materials, empty barrels, boxes, textile bags, waste paper, cartons, kitchen waste, and similar materials that are reclaimable or have sales value for basic material content. These items are processed through Defense Reutilization and Marketing Office (DRMO) and disposed of in accordance with Defense Reutilization and Marketing Manual (DOD 4160.21-M).

Sanitary Landfill. Facility for the disposal of solid waste which meets the criteria of Section 6944 of RCRA; i.e., there is no reasonable probability of adverse effects on health or the environment from disposal of solid waste at such facility.

SARA (Superfund Amendments and Reauthorization Act (1986)). Amended CERCLA, established standards for cleanup activities and stipulated conditions for off-site disposal of wastes.

Scavenging. Uncontrolled and unauthorized removal of materials at any point in the solid waste management system.

Scrap. Discarded or rejected material or parts of material that result from manufacturing or fabricating operations and are suitable for reprocessing, but excluding paper, cardboard, newspaper, and all high-grade paper to be source separated in accordance with EPA solid waste guidelines.

Scrubber. Any of several forms of post-combustion devices that cause sulfur in gaseous emissions to react with other chemicals to form either a waste product or, in newer technologies, a reusable byproduct.

SDWA (Safe Drinking Water Act (1974)). This Act sets drinking water regulations for any pollutants that may have an adverse effect on human health or negatively affect the aesthetic quality of drinking water.

SEA. Selective enforcement audit.

Secondary Standards. Related to aesthetics, smell and beauty. Standards generally not directly related to human health.

Secondary Treatment. Biological processing of wastewater that reduces the amount of soluble oxygen-demanding materials and suspended solids by 85 percent. This is the minimum level of municipal sewage treatment required under the Clean Water Act. Publicly owned sewage treatment plants were required to provide secondary treatment by 1 July 1988. Not all plants have complied.

Section 404. Clean Water Act section establishing a permit program governing dredging and filling of rivers, streams and other waters. The 404 program is aimed at protecting water and adjacent wetlands from adverse environmental effects resulting from modifications of waterways. The Army Corps of Engineers issues 404 dredging and filling permits, which the Environmental Protection Agency, the Fish and Wildlife Service and other agencies may review and comment upon. EPA can veto Corps of Engineers' issued permits.

Sham Recycling. Pretending to process a hazardous waste for recycling when the actual intent is disposal. Sham recycling developed because recycling is exempt from the strict hazardous waste regulations in the Resource Conservation and Recovery Act.

Short Ton. 2,000 pounds.

Silviculture. Forestry.

SIP. *See state implementation plan*.

SIP call. An EPA action requiring a state to resubmit part or all of its SIP to demonstrate attainment of the National Ambient Air Quality Standards by the statutory deadline.

Smog. Air pollution generated by motor vehicles, industrial activity and other sources over urban areas. One of its major components is ozone. The term was coined by combining "smoke" and "fog," which smog often resembles. *See ozone*.

SNUR (Significant New Use Rule). Requirement under the Toxic Substances Control Act (TSCA) that the Environmental Protection Agency (EPA) review and, if necessary, regulate an existing chemical in commerce if its use, production or exposure to the population changes.

SO_2. *See sulfur dioxide.*

SOCMI. Synthetic organic chemical manufacturing industry.

Solid Waste. Materials that are discarded by being abandoned or by being recycled, or are inherently waste-like.

Solid Waste Management. Purposeful, systematic control of the generation, storage, collection, transport, separation, processing, recycling, recovery, and disposal of solid wastes.

Solid Waste Management Facility. Broadly defined. Includes any: (1) resource recovery system or component, (2) system, program, or facility for resource conservation, and (3) facility for the collection, source separation, storage, transfer, processing, treatment, or disposal of solid wastes, including hazardous wastes.

Solid Waste Management Unit (SWMU). Any unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste.

Solidification. Process for stabilizing waste materials to prevent migration of contaminants.

Solvent. Liquid capable of dissolving solids or other liquids.

SO_x. Sulfur oxides.

SPCCP (Spill Prevention Control and Countermeasures Plan). Document that inventories oil and hazardous substance storage and provides procedures to prevent spills and releases of these products.

Specially Designated Landfill. Disposal area where long-term protection is provided to surface and subsurface waters from pesticides, pesticide containers, and pesticide-related wastes deposited there. The facilities must comply with EPA's Guidelines for the Land Disposal of Solid Wastes prescribed in 40 C.F.R. Part 241.

SPUDA. The Special Property Utilization and Disposition Account previously named the Special Defense Property Disposal Account.

STAPPA (State and Territorial Air Pollution Program Administrators).

Stage I Controls. Equipment to control and capture gasoline vapor during bulk gasoline transfer operations.

Stage II Controls. Gasoline-pump nozzles and hoses to capture vapors during refueling. The same vapors can be controlled through onboard systems (i.e. canisters built into new vehicles).

State Implementation Plan (SIP). State's detailed plan for meeting National Ambient Air Quality Standards under the Clean Air Act (CAA). Sips must be reviewed and approved by EPA.

Static-Fire (SF). Function testing an ordnance item, such as a rocket, missile, or catapult while it is securely fastened to prevent flight for the purpose of testing or treatment.

Stationary Source. Any building, structure, facility or installation that emits or may emit an air pollutant for which an NAAQS is in effect.

Stratosphere. Region of the atmosphere above the troposphere. The stratosphere is located about seven miles above the earth and contains relatively large amounts of ozone, which protects the earth from excessive ultraviolet radiation. *Compare with troposphere*.

Strict, Joint and Several Liability. Describes liability for cleanup of hazardous substances under CERCLA, and liability for pollution damage in many states. Strict liability means a person is responsible for all damages stemming from his activity, regardless of whether he acted carelessly or unreasonably. Joint and several liability means any person found liable can be required to pay for all of the damages suffered by the plaintiff. Such liability is generally imposed when there are multiple actors who have contributed to an indivisible harm (when the specific harm contributed by each defendant cannot be determined) suffered by the plaintiff.

Sulfates. Naturally occurring inorganic constituent found in soils and groundwater.

Sulfur. Element present in varying quantities in coal, contributing to environmental degradation when burned. Low sulfur content is 1 percent or less, medium is 1 - 3 percent, and high is above 3 percent.

Sulfur Dioxide (SO_2). Gas that is produced when fossil fuels, such as coal and oil, are burned. SO_2 is the main pollutant involved in the formation of acid rain. SO_2 also irritates the upper respiratory tract and causes lung damage, according to EPA studies. The largest source of SO_2 in the United States is coal-burning electric utilities.

Superfund. Informal name of the trust fund used to pay for non-federally owned abandoned hazardous waste site cleanups by the EPA and pay costs of the CERCLA program. Revenues come mainly from taxes on petroleum and feedstock chemicals, a broad-based tax on corporate income, and general revenues. Created by the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), the Superfund Amendments and Reauthorization Act of 1986 (SARA) reauthorized appropriations for Superfund for five years. The 1991 budget reconciliation act extended the authorization for appropriations through fiscal 1994, and the authority to collect Superfund taxes through December 31, 1995.

Surface Water. Water contained in rivers, streams, etc.

Tailings. Sand-like waste particles left over from the milling of mineral ores. Many tailings are considered hazardous waste (e.g., uranium mills).

Tailpipe Standards. Emissions limitations applicable to engine exhausts from motor vehicles.

TCP. *See transportation control plan*.

Technology-Forcing. Describes cleanup requirements intended to encourage innovation in pollution control technology. An example, in the Clean Air Act, is a provision that allows new and modified pollution sources to comply with national emissions limits with any technology they choose.

Teratogen. An agent that causes structural or functional damage to the embryo or fetus.

Therm. 100,000 Btu, or about 100 cubic feet of natural gas.

Thermal Treatment. The treatment of explosive ordnance that uses elevated temperatures as the primary means to change the chemical, physical, or biological character on composition of the explosive ordnance. Examples of thermal treatment processes are incineration, OB, OD SF, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge. (40 CFR 260.10)

Threatened species. Animal populations may be determined to be either threatened or endangered under the Endangered Species Act. Populations listed as threatened are less severely depleted than populations classed as endangered. *See endangered species*.

Treat. Conducting a methodology, technique, or process designed to change the physical, chemical, or biological character or composition of a material to recover energy, render material less or non-hazardous, or reduce material volume. (40 CFR 260.10)

Treat In Place. Destruction of explosive ordnance where it is found because it is too dangerous to move.

Treatment of Hazardous Waste. Any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological characteristics or composition of any hazardous waste to neutralize the waste or render it nonhazardous, safe for transport, amenable for recovery or storage, or reduced in volume.

Total Suspended Particulates (TSP). Particulate matter in the ambient air. The previous national ambient air quality standard for particulates was based on TSP levels; it was replaced in 1987 by an ambient standard based on PM_{10} levels. *Compare with* PM_{10}.

Toxic Pollutant. Pollutant or combination of pollutants that may cause death, disease, physiological malfunctions, behavioral abnormalities or birth defects in organisms. Organic and inorganic chemicals, including heavy metals, are the most common toxic water pollutants.

Transportation Control Plan (TCP). Measure adopted by a locality to reduce the amount or improve the flow of traffic to improve air quality; e.g., public transit, right turn on red, bus lanes, or high occupancy vehicle (HOV) or car pool lanes.

Treatment, Storage and Disposal Facility (TSDF). Facility permitted under the Resource Conservation and Recovery Act to handle hazardous waste.

Troposphere. Layer of the atmosphere closest to the earth's surface, within which lower temperatures occur at increasingly higher altitudes. *Compare with stratosphere*.

TSCA (Toxic Substances Control Act of 1976). Gives the Environmental Protection Agency (EPA) authority to require industry to: test potentially harmful chemicals; notify EPA of intent to manufacture or process such chemicals; and limit or prohibit manufacturing, processing, distribution, use or disposal of such chemicals. This Act regulates PCBs.

TSD (Treatment, Storage, Disposal). Hazardous waste operations requiring permitting under RCRA.

TSDF. *See treatment, storage and disposal facility*.

TSP. *See total suspended particulates*.

UIC (Underground Injection Control). The UIC program, administered by the Environmental Protection Agency and states under the Safe Drinking Water Act, regulates wells used for disposing of wastes underground. Wells are classified based on depth and use.

Underground Injection. Placing fluids below the surface of the ground through wells. Fluids injected include hazardous wastes, brine from oil and gas recovery, liquids used in mining, radioactive waste, sewage, natural gas and oil products, and storm water runoff. EPA and states regulate underground injection under the Safe Drinking Water Act and Resource Conservation and Recovery Act. A study for EPA found that 59 percent of the total volume of hazardous wastes disposed in the United States were disposed by underground injection in 1981.

Uniform Hazardous Waste Manifest. 40 C.F.R. Part 262, Appendix - Uniform Hazard Waste Manifest and Instruction (EPA Forms 8700-22 and 8700-22A) must be completed before transporting, or offering for transport, hazardous waste off the site of generation.

Urban Airshed Model. Sophisticated air quality model that takes meteorological conditions into account and predicts changes in air quality at different locations. It can demonstrate progress in terms of declining peak ozone concentrations, as well as indicate how peak ozone concentrations will change across an entire urban area. It is costly, requires much more data, computer validation and computer capacity than other models; therefore, it has not been used widely by the states.

Used Oil. Any refined oil which, through use, is contaminated by physical or chemical impurities. RCRA places special emphasis on the recycling of used oil.

USFS (U.S. Forest Service). Agency of the Department of Agriculture, that manages 191 million acres in 159 national forests and 19 national grasslands. The national forests are managed for recreation and for production of timber, mineral and petroleum resources. The service manages 33 million acres of wilderness.

USFWS. U.S. Fish and Wildlife Service. *See FWS*.

UST (Underground storage tanks). Below-or-inground tanks, storing oil or hazardous substances. Regulated under the 1984 amendments to the Resource Conservation and Recovery Act (RCRA). Cleanup program for leaking petroleum tanks was enacted as part of CERCLA reauthorization (SARA).

Vector. Carrier, usually an arthropod (insect), that is capable of transmitting a pathogen from one organism to another.

Vibroelutriator. Dry classifier used to separate a light fraction from a heavy fraction. The material on a screen is vibrated while an air stream moves past the screen. The air stream removes the light fraction while the heavy fraction falls from the bottom of the moving air column.

Vinyl Chloride. Flammable, explosive gas used in adhesives and is a hazardous air pollutant.

VOC. *See volatile organic compound*.

Volatile Organic Compound (VOC). Group of chemicals that react in the atmosphere with nitrogen oxides, heat, and sunlight to form ozone. Also are referred to as hydrocarbons.

Waste Load Allocation. Mathematical modeling that determines the maximum amount of wastes each water pollution source on a river or stream can discharge while meeting water quality standards.

Waste Reduction, Waste Minimization, and Source Reduction. No standard definitions exist for these three terms. Generally, all three refer to practices that reduce, avoid or eliminate hazardous waste. They can refer to techniques that reduce the generation of wastes, or practices that reduce the amount of waste that must be disposed. In the latter case, recycling would be included.

Water Pollutants. The 1977 clean water amendments specify three classes of pollutants to be controlled. They are: (1) Conventional pollutants (such as fecal coliform bacteria), to be controlled by "Best Conventional Technology"; (2) Toxic pollutants (including pesticides, heavy metals and other substances), to be controlled by the more stringent "Best Available Technology"; and (3) Non-conventional pollutants, (a catch-all category for such substances as ammonia, nitrogen, and phosphorus that can cause excessive algae growth), to be controlled by Best Available Technology.

Water Quality Standards. Determinations made by the states of the uses to be made of particular water bodies and the limits on pollutants necessary to achieve and protect the uses. In cases where technology-based controls will not be stringent enough to make water safe for

designated uses, the water quality-based approach is used to develop more stringent effluent limits for dischargers. National Pollutant Discharge Elimination System permits based on water quality standards provide greater levels of protection than permits based solely on technological considerations. *See also designated uses*, *NPDES,* and *BAT*.

Wet Cyclone Scrubber. Device designed for the removal of air-suspended particulates.

Wetlands. Lands that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wilderness. The Wilderness Act of 1964 defines wilderness as a congressionally designated area of federal land "where the earth and its community of life are untrammeled by man, where man himself is a visitor and does not remain." The National Wilderness Preservation System encompasses 94 million acres managed by the National Park Service, U.S. Forest Service, Bureau of Land Management and the U.S. Fish and Wildlife Service.

WL (Working Limit). Standard by which radon levels are measured and compared.

WQS. *See Water Quality Standards*.

WSA (Wilderness Study Area). Candidate for designation under the Wilderness Act of 1964. Pending congressional action, WSAs are protected from new development.

Yellow Book. Short name for EPA's November 1988 *Federal Facilities Compliance Strategy*.