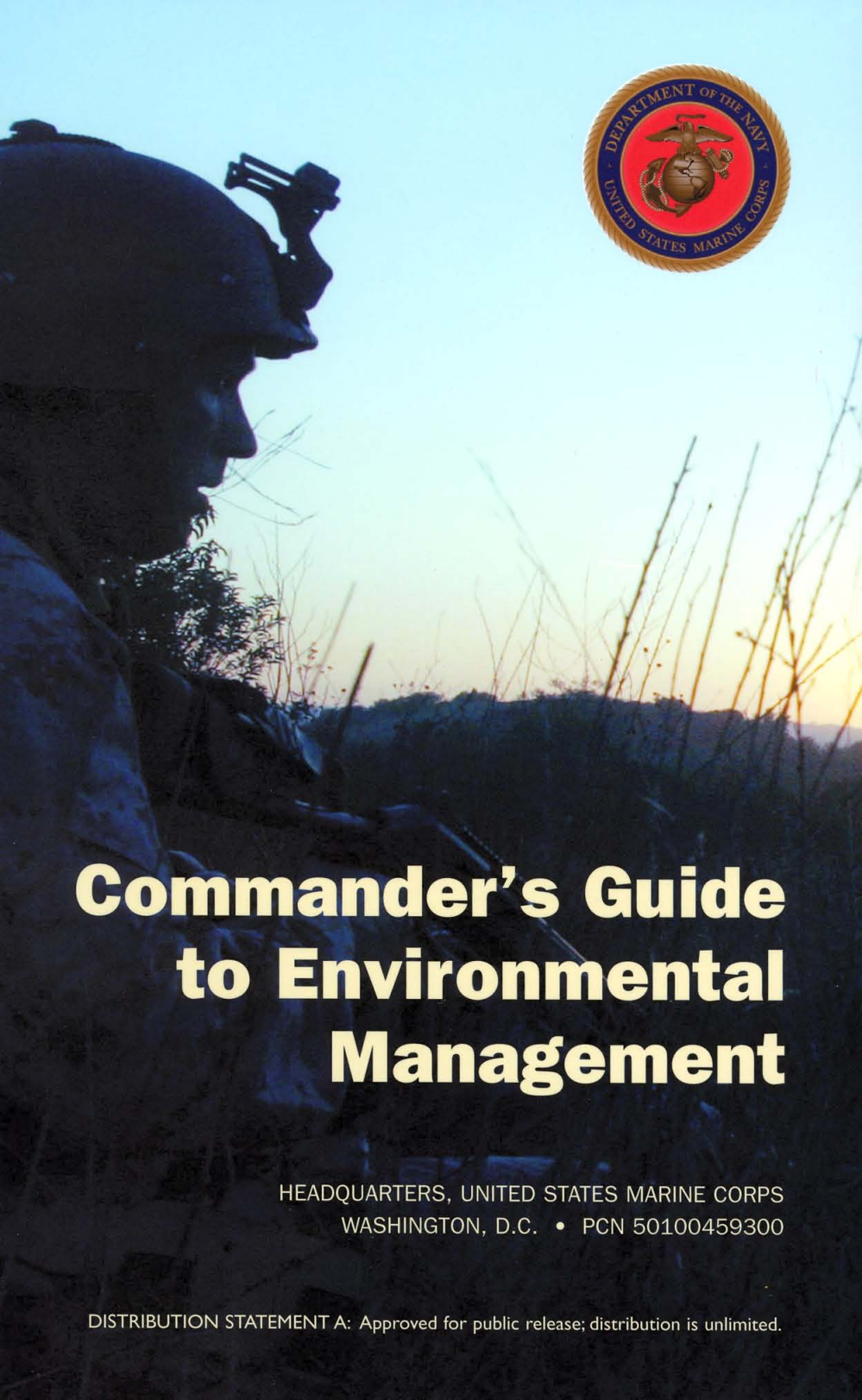

Commander's Guide to Environmental Management

HEADQUARTERS, UNITED STATES MARINE CORPS
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CHAPTER 1: ENVIRONMENTAL LEADERSHIP

Marine Corps environmental programs contribute to mission readiness by maintaining access to training areas and protecting the health and safety of Marines. Our bases and stations cover three million acres of amphibious and urban landscapes and include forests, mountains, jungles, and deserts that simulate climate and terrain in which a Marine can expect to encounter the enemy.

As a commander of Marines, it is your responsibility to maintain the resources entrusted to the Marine Corps, ensuring that training opportunities enjoyed by today's Marines will be available in the future. To assist you in meeting this responsibility, this Guide presents essential information on a variety of environmental topics.

MARINE CORPS ENVIRONMENTAL PRINCIPLES

The Marine Corps is committed to protecting the environment and conserving our natural and cultural resources. Marine Corps commanders are expected to uphold the following Environmental Principles:

- Maintain access to training lands by effectively managing the natural and cultural resources under our stewardship;
- Demonstrate leadership by supporting environmental programs and ensuring compliance with all applicable requirements;
- Protect human health and the environment during planning, acquisition, utilization, and decision-making at all levels of command;
- Integrate a pollution prevention ethic into all activities; and
- Enhance outreach activities with local communities by openly addressing environmental issues.

A LEGAL PERSPECTIVE

Environmental laws hold the Installation Commander accountable for activities on the installation. This responsibility extends to all units and tenants on an installation. Unit or Tenant Commanders are responsible for all activities within their units and must support the Installation Commander's environmental program.

The Environmental Protection Agency may impose significant financial penalties or restrict installation operations in response to environmental violations. Most laws also impose criminal liability for willful or knowing violations, and some impose criminal liability for negligence. Courts have upheld criminal convictions of senior corporate officials, holding them accountable for wrongful acts committed within their organization, even when they were not directly responsible.

As a commander, you must familiarize yourself with the environmental requirements applicable to your command. Environmental requirements are defined in Federal laws and regulations, Executive Orders, and Department of Defense (DoD), Navy, and Marine Corps policies. Most states and local jurisdictions have also enacted their own environmental laws and regulations, which can be more stringent than the Federal requirements.

Marine Corps Order (MCO) P5090.2A, *Environmental Compliance and Protection Manual*, covers environmental requirements and appropriate responses in detail. For specific information, consult your environmental office and Legal Counsel/Staff Judge Advocate.

SUMMARY

- Marine Corps environmental programs contribute to mission readiness by maintaining access to training areas and protecting the health and safety of Marines.
- Command emphasis is essential to successful environmental management.
- The Installation Commander is accountable for all activities on the installation, including those conducted by tenants and operational units.
- Tenant and Unit Commanders are responsible for supporting the installation's environmental program and complying with applicable environmental requirements.
- Potential consequences of not complying with environmental requirements include operational restrictions, loss of access to training environments, and financial, civil, or criminal penalties.

ADDITIONAL RESOURCES

MCO P5090.2A, *Environmental Compliance and Protection Manual.*

DoD, Defense Environmental Network and Information Exchange (DENIX) Website, https://www.denix.osd.mil.

MCO 11011.22b, *Encroachment Control.*

CHAPTER 2: RESPONSIBILITIES

Marine Corps Commanders at all levels are responsible for ensuring environmental compliance within their commands.

This section addresses general responsibilities for Installation, Tenant, and Unit Commanders. The remainder of this Guide provides additional background material to assist commanders in meeting their environmental program and environmental media area responsibilities.

INSTALLATION COMMANDERS

Installation Commanders are responsible for overseeing environmental programs at their installation and ensuring that the installation is in compliance with all applicable environmental requirements. The installation environmental staff and Legal Counsel support the Installation Commander in ensuring compliance.

LCPL ZACHARY NOLA

TENANT COMMANDERS

Commanders of tenant organizations operating aboard Marine Corps installations are responsible for participating in the host commander's environmental programs and ensuring that the tenant command is in compliance with all environmental requirements. The installation environmental staff is available to assist Tenant Commanders.

UNIT COMMANDERS

Unit Commanders are responsible for their command's environmental performance and compliance with environmental requirements. Unit Commanders are also responsible for ensuring that the personnel in their units receive required environmental training.

COMMANDERS OF MARINE CORPS ACTIVITIES OVERSEAS

Unlike installations on U.S. soil, Marine Corps activities overseas are not subject to Federal and state-level environmental requirements, although many DoD, Navy, and Marine Corps policy requirements apply overseas. The DoD Overseas Environmental Baseline Guidance Document and country-specific Final Governing Standards establish requirements for Marine Corps facilities in foreign countries. As a commander of Marine Corps forces deployed to an installation overseas, you must comply with the Final Governing Standards established for the host country. Contact the installation environmental office and Legal Counsel/Staff Judge Advocate for information on country-specific compliance requirements.

CHAPTER 3: ENVIRONMENTAL PROGRAMS

INTRODUCTION

Headquarters Marine Corps (HQMC) and installations have implemented environmental programs to ensure the efficient use of resources in achieving environmental compliance at all levels of the Marine Corps. This chapter addresses aspects of Marine Corps environmental programs that are directly applicable to Installation Commanders responsible for environmental compliance aboard their installations. Unit and Tenant Commanders generally perform activities (e.g., standard operating procedures, self-audits, and training) to support and comply with environmental programs established aboard host installations. Marine Corps environmental programs include the following:

- ***Environmental Compliance.*** Attain and maintain environmental compliance through comprehensive media program management (see Chapter 4) and Environmental Compliance Evaluations (ECEs).
- ***Environmental Restoration.*** Identify and clean up past releases in a cost-effective manner that protects installation personnel, the surrounding community, and the environment.
- ***Resource Conservation.*** Manage resources (natural, cultural, and historic) in order to preserve the ability of our land bases to support defense requirements.
- ***Pollution Prevention.*** Promote pollution prevention as the primary means for achieving and maintaining environmental compliance.
- ***Environmental Planning and Public Relations.*** Assess and document potential environmental effects of Federal actions and ensure appropriate public involvement prior to implementing environmental solutions.

- ***Training and Education.*** Implement environmental training and education in order to support environmental requirements and goals.
- ***Funding Process and Financial Reporting.*** Program, plan, budget, and execute resources to meet environmental objectives.

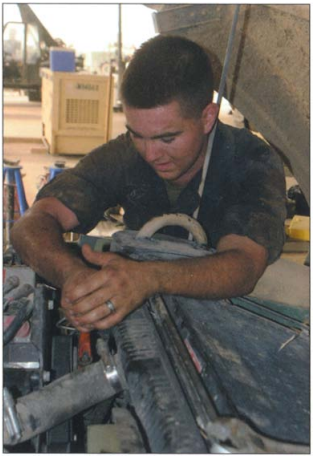
All environmental programs are managed under an overarching business process called the Marine Corps Environmental Management System (EMS). The EMS helps commanders integrate environmental considerations and accountability into day-to-day decision making and long-term planning.

THE MARINE CORPS EMS

The Marine Corps EMS is a decision framework based on the Plan-Do-Check-Act model and is derived from the ISO 14001 business standard. It is important to note that the EMS is not a distinct environmental program, but a business tool that helps ensure the successful implementation, evaluation, and improvement of all environmental programs. The commander's demonstrated support is critical to a successful EMS. This includes providing necessary funding and resources; communicating the importance of the EMS to the entire installation community; and ensuring tenants, contractors, vendors, and other service mission commanders participate in the EMS.

A fundamental principle of the EMS is that Marines and civilian personnel across all missions, activities, and functions are accountable for understanding and managing the environmental impacts of their jobs. To do their jobs in an environmentally compliant manner, Marines require effective information (training and written procedures), provided by the

installation environmental office under the authority of the Installation Commander.



Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, requires full implementation of an EMS at Federal facilities, and designates the EMS as the framework for collecting and reporting data on progress in meeting defined goals for several environmentally-related focus areas, including: energy and water conservation, promoting the use of green products, minimizing hazardous materials, recycling and reuse of solid wastes, sustainable building design, alternative fuels and vehicle fleet management, and electronic products environmental stewardship. DoD EMS policies establish specific implementation and. reporting requirements. Marine Corps EMS policy and guidance require Marine Corps installations to assess and report ongoing EMS conformance through the Environmental Compliance Program (see page 10). Each installation has implemented the Marine Corps EMS and published installation-specific procedures applicable to all organizations, including tenants and visiting units, operating within the fenceline. Please contact your installation environmental office for further information.

ENVIRONMENTAL COMPLIANCE

The Marine Corps has implemented compliance programs to ensure compliance with applicable environmental requirements across all environmental media areas. Specific Marine Corps media area compliance requirements are discussed in Chapter 4. Marine Corps installation environmental offices include personnel with specific expertise in complying with requirements. Marine Corps Order P5090.2A specifies actions and responsibilities required under each compliance program. Two aspects of the Marine Corps compliance process, the Marine Corps Environmental Compliance Evaluation (ECE) Program and regulatory inspections, are discussed in this section.

THE MARINE CORPS ECE PROGRAM

The ECE Program is designed to identify and correct compliance problems, reducing the potential for possible adverse regulatory actions and minimizing risks to human health and the environment. The ECE Program includes the following four components:

- ***Benchmark ECEs.*** Benchmark ECEs are HQMC-sponsored compliance inspections at Marine Corps installations. HQMC schedules and conducts inspections of all major media areas at each installation on a three-year cycle. The ECE is coordinated through the installation environmental office.
- ***Benchmark Plan of Action and Milestones (POA&Ms).*** POA&Ms document corrective actions planned and implemented in response to compliance deficiencies identified in Benchmark ECEs. POA&Ms are developed by environmental office personnel.
- ***POA&M Annual Validations.*** Each commander should conduct an annual review and verification of the POA&M focused on outstanding deficiencies remaining from the Benchmark ECE. The annual validation of the Benchmark POA&M should not be confused with the self-audit program.
- ***Self-Audit Program.*** Overseen by the base environmental staff, the self-audit serves as a continuous internal mechanism for Installation Commanders to assess compliance within their fencelines, including all tenant commands and activities. The self-audit annually assesses EMS conformance and the compliance of every environmentally regulated activity on the base, including all tenant commands and activities.

The ECE Program operates on a three-year cycle. Benchmark ECEs are performed at one-third of the installations each year. Installations submit Benchmark POA&Ms during the same year as the Benchmark ECE and POA&M Annual Validations during the remaining two years of the cycle. Installation or major command-sponsored self-audits are performed during each year of the cycle.

REGULATORY INSPECTIONS

Federal, state, and local statutes and regulations establish requirements to protect health and the environment, control pollution, and manage land use. Federal, state, and local regulatory authorities routinely inspect installations to evaluate compliance. Inspectors generally notify the Installation Commander regarding intent to inspect an installation; however, regulatory agencies are legally authorized to inspect Federal facilities at any time.

General measures to ensure readiness for regulatory inspections include the following:

- Ensure that the Marine Corps ECE Program (see page 10) is effectively implemented at your installation and that previously identified problems have been corrected and well documented. Maintain copies of previous inspection reports.
- Establish environmental points of contact (POCs) at all activities down to the unit level. Train these POCs to effectively communicate with inspectors.
- Ensure that environmental records/files are well maintained. The installation environmental office manages critical environmental records and files.
- Ensure that the environmental office maintains ongoing, open communication with regulatory agencies.

Upon receiving notice of a regulatory inspection, Installation Commanders should distribute a regulatory inspection "notification letter," to alert commands, tenants, and units expected to participate in the inspection.

The letter should include pertinent details of the inspection and authorize full cooperation with the inspection team.

At the start of the inspection, it is important that inspectors provide an in-brief to you or your designee; Legal Counsel or a Staff Judge Advocate should also attend. It is also useful to request daily reviews of inspection activities to discuss developments and to plan for the next day. Installation environmental personnel who have knowledge of relevant environmental regulations and the activities being inspected should accompany inspectors through all phases of the inspection.

When an inspection is complete, the regulatory agency will normally provide the Installation Commander with an exit briefing summarizing findings. If a regulatory inspection reveals that an installation is not in compliance with regulations, the regulatory agency may issue an informal indication (oral) or a formal notice (typically a letter) of an enforcement action. A command must respond appropriately to avoid potentially significant consequences, such as fines, consent orders, or further adverse actions. The installation environmental office and Legal Counsel are your first line of support.

Informal Indication of an Enforcement Action

Often, a prompt and complete response to an informal indication of an enforcement action may reduce the severity of any formal action taken by the regulatory agency. Upon receipt of an informal or oral indication of noncompliance, consult with counsel immediately to determine the legal obligations. Command Office of Counsel (the Eastern Area Counsel Office and Western Area Counsel Office) have environmental specialists to advise commanders on legal aspects of environmental compliance issues.

Formal Notice of an Enforcement Action

The regulatory agency may issue a formal Notice of Noncompliance, Notice of Violation, or other enforcement action notice. The notice will describe the noncompliant aspects of the operations or facility and will establish time frames to achieve compliance, but not how to achieve compliance. Generally, the regulatory agency will allow 30 days to respond to a formal notice. Most enforcement actions can and should be negotiated and resolved with the regulatory agency.

The following actions must be taken following formal notice of an enforcement action:

- Immediately notify the Commandant of the Marine Corps, Facilities and Services Division (CMC(LF)) and Counsel through the chain of command;
- Inform the Installation Community Plans and Liaison Office if there are off-base or public implications;
- Coordinate with or seek advice from the regional Facility Engineering Command, as necessary;
- Request assistance from Legal Counsel/Staff Judge Advocate, Eastern or Western Area Counsel Office, and other support agencies, as necessary;
- Negotiate with the regulatory agency to establish compliance requirements and timetables;
- Develop and implement a corrective action plan; and
- Prepare and submit a CompTRAK entry (see page 21) for each project requirement.

Compliance Agreements/Consent Orders

Federal or state regulatory agencies may negotiate a compliance agreement or consent order if an installation fails to respond adequately or in a timely manner to the enforcement action. Compliance agreements and consent orders are mutually agreed-upon or mandated corrective action plans between the installation and regulatory agency.

HQMC Notification

When significant environmental damage or immediate adverse publicity for the Marine Corps is likely, the command must notify CMC(LF) by telephone on the same day of the potential enforcement notification, unless reporting falls within the purview of the current version of MCO 5740.2, *Events/Incidents Reports.*

Public Availability of Marine Corps Compliance Information

The general public can retrieve enforcement and compliance information about DoD facilities through regulatory agency websites. It is important that information contained on these websites accurately reflects the Marine Corps' enforcement and compliance status. Installations should monitor the Environmental Protection Agency's Online Targeting Information System (http://www.epa.gov/idea/otis, registration required) and Enforcement and Compliance History Online (http://www.epa.gov/echo) websites to ensure compliance data for the installation are current and accurate, and should work with regulatory authorities to correct inaccuracies. The Enforcement and Compliance History Online website "Significant Non-Compliance" (SNIC) category has recently received considerable public and DoD attention, and such a finding needs to be addressed appropriately as soon as possible.

ENVIRONMENTAL RESTORATION

Environmental Restoration is a comprehensive DoD program that identities, investigates, and cleans up contamination on DoD properties from past waste disposal practices and spills. The Naval Facilities Engineering Command has the primary responsibility for executing and managing the Marine Corps Environmental Restoration Program.

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The Environmental Restoration Program includes two components, the Installation Restoration Program and Munitions Response Program. The Installation Restoration Program identifies and remediates past releases of pollutants or contaminants. The Munitions Response Program investigates and cleans up unexploded ordnance and chemicals released from munitions items from ranges that are no longer operational on active installations.

For additional information and guidance on the Environmental Restoration Program, contact your environmental office. Further resources include the current version of the *Navy Environmental Restoration Program Manual* and the *Defense Environmental Restoration Management Guidance.*

RESOURCE CONSERVATION

Land entrusted to the Marine Corps often includes significant natural and cultural resources. By engaging in integrated planning to encourage the sustained use of these resources, the Marine Corps preserves the land, water, and airspace needed for military readiness while maximizing environmental protection.

Each installation has a comprehensive Integrated Natural Resources Management Plan (INRMP) that outlines goals, objectives, and projects for natural resource programs while supporting the installation's military mission. Management actions include implementing proven best management practices and coordination and partnerships with outside agencies. An INRMP is required by law (Sikes Act) for any military installation with significant natural resources. The plan also requires mutual agreement by both the U.S. Fish and Wildlife Service and the appropriate state natural resource management agency.

Installations with significant cultural resources are required to prepare and implement an Integrated Cultural Resources Management Plan to establish a program to identify, evaluate, protect, and preserve resources of cultural value. Cultural resources can include archaeological sites; historic structures and objects; historic records and photographs; cemeteries; sacred sites; or properties of traditional, religious, or cultural significance to Native American tribes or Native Hawaiian organizations.

MCO 11011.22b, *Encroachment Control*, requires installations to prepare Encroachment Control Plans and to coordinate development of those plans with Natural and Cultural Resources Conservation Programs to include the Installation Integrated Natural and Cultural Resources Management Plans. Encroachment Control Plans preparation and execution is usually a responsibility of the installation's Community Plans and Liaison Office. Regional and installation Encroachment Control Programs may include Encroachment Partnering initiatives that could involve interaction with regional conservation forums from either an endangered species or incompatible land-use perspective. Installations are encouraged to develop Encroachment Control Teams to provide situational awareness and ensure coordination with overlapping programs, so that duplication of effort is avoided, HQMC policy is followed, and quality plans are produced. The Community Plans and Liaison Office should be the single point of reference for community relations issues and coordination with local and state governments with regards to external encroachment issues.

For further information, commanders should contact the installation environmental office.

ENVIRONMENTAL PLANNING AND PUBLIC RELATIONS

NATIONAL ENVIRONMENTAL POLICY ACT PLANNING

CPL GIOVANNY LOBELLO

The National Environmental Policy Act (NEPA) requires Federal Agencies to identify, evaluate, and document potential environmental impacts of major Federal actions. NEPA considerations are most effective when conducted as early as possible in planning for proposed actions. The level of documentation required depends on the extent of the proposed action, degree of public concern, and value of impacted environmental and human resources. There are three levels of NEPA analysis:

- A ***Categorical Exclusion*** is required for proposed actions that will not have a significant effect on the environment. MCO P5090.2A, Chapter 12, *National Environmental Policy Act*, lists actions suitable for a Categorical Exclusion.
- An ***Environmental Assessment*** is required for proposed actions with potential adverse environment impacts and consists of a brief, documented analysis of the potential impacts. Environmental Assessments have two possible outcomes: a Finding of No Significant Impact (preferred) or a decision to proceed with an Environmental Impact Statement.
- An ***Environmental Impact Statement*** is a detailed evaluation of the potential environmental impacts of a proposed Federal action and one or more alternatives. An Environmental Impact Statement is prepared for proposed actions that are predicted to have significant impacts and must contain a full, fair, and concise discussion of reasonable alternatives and all significant environmental impacts relating to a proposed action(s).

Most Marine Corps installation environmental offices have staff specifically assigned to managing the installation's NEPA process.

PUBLIC RELATIONS

NEPA and other environmental statutes specifically require public participation in the Federal decision-making process. Effective communication with the public may prevent or resolve potential conflict. One voice should speak for the installation when engaging the public, either through the Public Affairs Office for media information or the Community Plans and Liaison Office for interaction and exchange of information with public officials, governments, or others within the community of stakeholders.

Many citizens turn to their elected officials for information if they have a complaint or concern about the impact of Marine Corps activities on the community. The importance of public involvement as an integral part of the environmental program cannot be overemphasized. Negative news coverage, citizen-generated congressional inquiries, and adverse public reaction can be avoided or minimized when public involvement initiatives are coordinated through the Public Affairs Office and the Community Plans and Liaison Office. Installations can encourage proactive involvement with the public and public officials to minimize effects of adverse public opinion by:

- Establishing a progressive public involvement program to provide citizens with information they may otherwise seek from elected representatives; and
- Keeping elected officials informed of key aspects of the installation environmental program, particularly of proposed actions or operations that may have environmental consequences.

POLLUTION PREVENTION

The Pollution Prevention Program identifies and implements methods to reduce the quantities and toxicity of wastes generated, released, or disposed by Marine Corps installations. For example, by substituting a nonhazardous cleaning compound for a hazardous product, the quantity and toxicity of resulting wastes is reduced. Pollution prevention also drives reduced solid waste generation through reuse, recovery, and recycling initiatives.

Executive Order 13423 requires DoD facilities to eliminate or reduce the quantity of toxic and hazardous materials purchased, used, and disposed; to reduce the quantity of solid waste disposed; and to maintain cost-effective waste prevention and recycling programs.

The Marine Corps Pollution Prevention program includes the following goals:

- Reduce the amount of hazardous materials used and hazardous wastes generated through control in procurement, supply, distribution, and use;
- Establish methods for substituting materials that are nonhazardous or less hazardous in nature;
- Develop and incorporate technology or materials that reduce impacts on the environment and human health;
- Promote the use of environmentally preferable products and services;
- Comply with Emergency Planning and Community Right-to-Know reporting requirements;
- Require that Marine Corps installations seek pollution prevention solutions to compliance issues and develop pollution prevention plans; and
- Encourage pollution prevention awareness through the Marine Corps Comprehensive Environmental Training and Education Program (CETEP).

TRAINING AND EDUCATION

Environmental compliance requirements impact nearly every Marine Corps occupational field, military occupational specialty, and operation.

The Marine Corps CETEP supports full compliance with environmental requirements, pollution prevention goals, and EMS objectives by analyzing environmental training needs and integrating professional development initiatives, public outreach, and compliance training. The program's primary goal is to ensure that appropriate

CPL MEG VARVIL

high quality environmental training and information are provided in the most efficient and effective manner.

The Marine Corps has established environmental training managers (CETEP Coordinators) at each installation who are responsible for developing training.

FUNDING PROCESS AND FINANCIAL REPORTING

Environmental compliance programs require funding. The Marine Corps has developed and implemented a detailed process to identify, request, and track funding necessary to meet environmental requirements. Each commander should plan, program, and budget for environmental costs. Environmental compliance funding occurs through two Operation and Maintenance, Marine Corps (O&M, MC) funds:

- ***Base Operating Support Funds (OPBUD)*** are for funding requirements that are foreseeable, routine, recurring, and easily estimated and budgeted. Installations must include these requirements in their operating budgets. OPBUD costs include, but are not limited to, salaries, permits, fees, hazardous waste disposal, sampling, monitoring, analysis, training, travel, maintenance, supplies, and materials. OPBUD funds also support locally-approved repair and construction projects with associated environmental drivers that fall within an installation's funding threshold.
- ***Centrally-Managed Environmental Program (CMEP)*** is administered by CMC(LF) and funds the Environmental Management and Environmental Projects Programs. The Environmental Management Program provides supplemental funding for non-recurring requirements that develop or emerge too late to be considered in a Programming, Planning, Budgeting, and Execution System (PPBES) cycle. The Environmental Projects Program funds environmentally-driven, Headquarters-approved repair and construction projects that exceed an installation's funding threshold and fall within Headquarters FSRM (Facilities, Sustainment, Repair and Modernization) funding authority levels. CMEP is also used to support Marine Corps-wide environmental initiatives such as the ECE Program.

The CMC(LF) tracks and reports funding requirements to the Secretary of Navy, DoD, and Congress. Both OPBUD and CMEP funds must be obligated within the fiscal year in which they are available.

Installations identify requirements and make OPBUD and CMEP funding requests through the PPBES cycle via CompTRAK, a software system sponsored by HQMC. The primary functions of this system are estimating, prioritizing, tracking, budgeting, and reporting. All Marine Corps environmental requirements must be entered into CompTRAK and maintained with the most current information.

Commanders should be familiar with other Marine Corps environmental funding sources, including:

- Military Construction funds, which require congressional approval and are used for repair and construction projects that exceed HQMC FSRM funding authority levels.
- The Environmental Restoration, Navy account, which funds Environmental Restoration Program activities on Marine Corps facilities.
- Additional funding sources, including the Operation and Maintenance, Marine Corps Reserve (O&M, MCR) account for Reserve Centers; the Naval Working Capital Fund; reimbursable Agricultural Outlease, Forestry, and Fish and Wildlife Access Fees; Qualified Recycling Program revenues; and the Defense Logistics Agency, Defense Energy Support Center funds.

ENVIRONMENTAL LIABILITIES

An environmental liability is a probable and measurable future environmental cost resulting from activities related to environmental restoration, corrective action, future disposal, and/or closure of facilities and equipment. Cleanup costs must be driven by an environmental requirement and may include, but are not limited to, decontamination, decommissioning, site restoration, site monitoring, abatement, closure, and post closure.

DoD is required to report environmental liabilities in annual financial statements. Several laws require that financial statements are complete, accurate, and auditable. Marine Corps installations must identify, estimate, and report all environmental liabilities, ensuring that all cost estimates are auditable.

Contact the installation environmental office for additional environmental liabilities reporting information.

CHAPTER 4: ENVIRONMENTAL MEDIA AREAS

INTRODUCTION

HQMC and the installations have implemented environmental media-specific compliance programs in response to requirements in environmental laws, regulations, and policy. This chapter summarizes major media area requirements that apply to many Marine Corps commands.

Refer to MCO P5090.2A for specific information on media area compliance programs and responsibilities. For further information, contact your installation environmental office. Also, the Environmental Protection Agency maintains web pages on all major environmental media areas at http://www.epa.gov/epahome/learn.htm.

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MAJOR ENVIRONMENTAL LAWS APPLICABLE TO MARINE CORPS COMMANDS
■ Alternative Motor Fuels Act of 1988
■ American Indian Religious Freedom Act of 1978
■ Archaeological Resources Protection Act of 1979
■ Clean Air Act of 1970, as Amended
■ Clean Water Act of 1977, as Amended
■ Coastal Zone Management Act of 1972
■ Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as Amended
■ Conservation Programs on Military Reservation (Sikes Act) of 1960, as Amended
■ Emergency Planning and Emergency Planning and Community Right-to-Know Act of 1986
■ Endangered Species Act of 1973
■ Energy Policy Act of 2005
■ Federal Facilities Compliance Act of 1992
■ National Environmental Policy Act of 1969
■ National Historic Preservation Act of 1966
■ Native American Graves Protection and Repatriation Act of 1990
■ Oil Pollution Act of 1990
■ Pollution Prevention Act of 1990
■ Resource Conservation and Recovery Act of 1976, as Amended
■ Safe Drinking Water Act of 1974
■ Solid Waste Disposal Act of 1976
■ Toxic Substances Control Act of 1976
■ Underground Storage Tank Compliance Act of 2005

Federal laws are implemented through regulations codified in the Code of Federal Regulations (CFR). Pertinent environmental regulations and CFR references are included in the following table.

ENVIRONMENTAL REGULATIONS	CFR REFERENCES
Occupational Safety and Health Administration, Hazardous Waste Operations and Emergency Response and Hazard Communication	29 CFR Parts 1910.120 and 1910.1200
Occupational Safety and Health Administration, Asbestos	29 CFR Parts 1926.1101
Coast Guard, Control of Pollution by Oil and Hazardous Substances	33 CFR Parts 153–158
Army Corps of Engineers, Application Procedures for Permits to Control Activities in U.S. Waters or Oceans	33 CFR Parts 320–330
National Park Service, National Register of Historic Places	36 CFR Part 60
National Park Service, Determinations of Eligibility for Inclusion in the National Register of Historic Places	36 CFR Part 63
National Park Service, Curation of Federally-Owned and Administered Archaeological Collections	36 CFR Part 79
Forest Service, Protection of Archaeological Resources	36 CFR Part 296
Advisory Council on Historic Preservation, Protection of Historic Properties	36 CFR Part 800
Environmental Protection Agency Air Programs	40 CFR Parts 50–97
Environmental Protection Agency Water Programs	40 CFR Parts 100–149
Environmental Protection Agency Hazardous Waste, Solid Waste, Underground Storage Tanks	40 CFR Parts 239–282
Environmental Protection Agency Superfund, Emergency Planning, and Community Right-to-Know Programs	40 CFR Parts 300–374
Environmental Protection Agency Effluent Guidelines and Standards	40 CFR Parts 400–471
Environmental Protection Agency Sewage Sludge	40 CFR Parts 501–503
Environmental Protection Agency Toxic Substances Control Act	40 CFR Parts 700–799
Council of Environmental Quality Regulations for Implementing the National Environmental Planning Act	40 CFR Parts 1500–1508
Department of Transportation, Hazardous Materials Program	49 CFR Parts 106–178
Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants	50 CFR Part 17
National Marine Fisheries Service, General Threatened and Endangered Marine Species	50 CFR Part 222

AIR QUALITY

CPL GEORGE PAPASTRAT

What Is It?

The Clean Air Act was established to protect the quality of our Nation's air resources and promote public health and quality of life. This Act and a combination of Federal, state, and local-level implementing regulations improve air quality and prevent air pollution by establishing air emissions standards and controls. Marine Corps installations typically include many sources of air pollution (e.g., boilers, generators, vehicles, equipment, painting and de-painting activities) subject to Clean Air Act requirements.

Current Requirements

Consult your installation environmental office regarding specific requirements applicable to your installation. Air quality requirements generally fall within four categories:

Air Quality Standards and Permits. The Environmental Protection Agency has established standards to reduce emissions of six criteria pollutants: carbon monoxide, lead, ozone, oxides of nitrogen, sulfur dioxide, and particulates. States have implemented regulatory programs to enforce industry attainment of the emissions standards. Your installation likely holds permits regulating air pollutant sources. In addition, Marine Corps installations must demonstrate that new or modified emissions sources will meet state requirements. Permitting requirements are determined during the planning process for new Federal actions under NEPA (see page 38).

Hazardous Air Pollutants. The Environmental Protection Agency has established standards to minimize emissions of hazardous air pollutants that cause cancer or other serious health effects. Associated regulations affect a broad range of Marine Corps activities, including operation and maintenance of facilities, vehicles, aircraft, ships, and other equipment and weapon systems.

Stratospheric Ozone Protection. Ozone depleting substances, specifically refrigerants (e.g., certain air conditioning coolants) and fire suppressants (e.g., halon) commonly in use at Marine Corps installations, can be detrimental to the Earth's ozone layer. DoD Instruction 4715.4 and Executive Order 13423 require Federal facilities to eliminate the reliance on ozone depleting substances or to find suitable replacements.

Alternative Fuel Vehicles. The Federal Government is required to ensure that a portion of vehicles acquired each year includes alternative fuel vehicles. The use of alternative fuel vehicles reduces dependency on imported oil and improves fleet energy efficiency. Viable alternative vehicle technologies include electric, bio-fuel, or natural gas powered vehicles. Executive Order 13423 establishes metrics for alternative fuel vehicles and alternate fuels.

References

1. MCO P5090.2A, Chapter 6, *Air Quality Management.*
2. DoD Instruction 4715.4, *Pollution Prevention*, Change 1, July 6, 1998.
3. Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, January 26, 2007.

ASBESTOS

What Is It?

Asbestos is a group of naturally-occurring fibrous minerals that are strong, extremely durable, and highly resistant to heat and most chemicals. In the past, asbestos was used extensively for thermal, acoustical, and decorative purposes, and is commonly found in boiler and pipe insulation, floor and ceiling tiles, appliances, and brake linings. Asbestos materials that crumble into microscopic fibers can pose a health hazard as fibers become lodged in the lungs, potentially causing

significant health effects. Buildings likely to contain asbestos are those constructed or remodeled between 1945 and 1978.

Current Requirements

Asbestos is regulated under several Federal statutes and state-level implementing regulations. Many state and local government asbestos standards are more stringent than the Federal standards.

Asbestos in Schools. The Asbestos Hazard Emergency Response Act requires school systems to identify areas where asbestos poses hazards to humans, prepare management plans to reduce those hazards, and maintain a proactive asbestos management program to ensure that all asbestos-containing materials remain in good condition and undisturbed by students, faculty, and staff. Additionally, asbestos must be removed from a building prior to demolition or renovation, and asbestos workers and others working in commercial and public buildings must receive asbestos training and accreditation.

National Emissions Standards for Hazardous Air Pollutants. Clean Air Act requirements specify work practices for the removal, handling, processing, and disposal of asbestos-containing material during renovation and demolition of buildings and structures.

Asbestos in Drinking Water. The Safe Drinking Water Act includes standards for asbestos in drinking water. The regulations apply to community water systems and specify maximum acceptable contaminant levels. Public notification is required if these levels are exceeded.

Worker Exposure, Consumer Products, and Asbestos Waste. The Occupational Safety and Health Administration sets limits for asbestos exposure on the job. The Consumer Product Safety Commission regulates asbestos in consumer products and has banned its use in drywall patching compounds, ceramic logs, and clothing. The Environmental Protection Agency regulates the management and disposal of asbestos-containing wastes.

Marine Corps Asbestos Safety Program. Marine Corps policy is to eliminate asbestos exposure by substituting non-asbestos-containing materials or, where this is not feasible, by using engineering and

administrative controls and personal protection equipment. To implement Occupational Safety and Health Administration and Environmental Protection Agency requirements, the Marine Corps asbestos safety program requires precautionary measures, health practices, and training and certification for personnel conducting asbestos removal or encapsulation projects.

References

1. MCO P5090.2A, Chapter 6, *Air Quality Management.*
2. MCO 5100.8, Chapter 16, *Asbestos Safety Program,* May 2006.

CULTURAL RESOURCES STEWARDSHIP

What Is It?

Many Marine Corps installations are rich in cultural resources such as prehistoric settlement sites, historic archaeological sites, engineering landmarks, significant architecture, and traditional Native American/Native Hawaiian cultural sites. The conservation of these resources requires identification, evaluation, and management. Proper planning and full consideration of cultural resources will allow the Marine Corps to meet mission requirements and stewardship responsibilities.

Current Requirements

Cultural resources conservation is required under several Federal laws.

Historic Properties. The National Historic Preservation Act requires Federal agencies to preserve historic properties and manage Federally-owned or -controlled historic properties in the spirit of stewardship. This

includes determining the effects of Federal undertakings on designated historic properties and establishing a preservation program to identify, evaluate, and nominate properties for the National Register of Historic Places. Marine Corps installations overseas must take into account the effects of Federal undertakings on any property on the World Heritage List or the applicable country's equivalent of the National Register.

Archaeological Resources. The Archaeological Resources Protection Act requires Marine Corps installations to protect archaeological resources and sites on public, Native American tribal, or Native Hawaiian lands. Permits are required for the excavation or removal of artifacts from Federal lands. Relevant Native American tribes or Native Hawaiian organizations must also be notified if significant religious or cultural sites will be affected.

Native American Graves. Under Native American Graves Protection and Repatriation Act requirements, discovery of suspected Native American or Native Hawaiian human remains during a Federal undertaking requires immediate cessation of activity for a minimum of 30 days, and consultation with Native American tribes or Native Hawaiian organizations. The excavation of sites that may contain such human remains, funerary objects, sacred objects, or items of cultural patrimony requires notification and consultation with appropriate Native American or Native Hawaiian groups.

American Indian Religious Freedom. To comply with the American Indian Religious Freedom Act, Federal agencies must consult with native traditional religious leaders to consider Native American religious values. Agencies should permit access to religious sites, when possible.

References

1. MCO P5090.2A, Chapter 8, *Cultural Resources Management.*

2. DoD Instruction 4715.3, *Environmental Conservation Program.*

3. DoD Instruction 4710.02, *DoD Interactions with Federally-Recognized Tribes.*

DRINKING WATER

What Is It?

Drinking (or potable) water is a critical resource for Marine Corps installation communities. The quality of water from surface and ground water sources depends on geography, local soil properties, and the effects of human activity. Contaminants of concern include microbial, inorganic, organic, and radioactive materials in source waters, and lead, copper, and disinfection byproducts in water distribution systems.

Current Requirements

The Safe Drinking Water Act regulates the quality of water provided by Marine Corps installations and other public water suppliers to protect consumers from harmful contaminants. Water conservation requirements are also applicable.

Water Quality. The Safe Drinking Water Act establishes water quality provisions:

- ***Water Quality Standards.*** The Environmental Protection Agency and state regulatory agencies set enforceable maximum contaminant levels for drinking water and standards for water treatment techniques and technologies to remove contaminants.
- ***Public Notification and Consumer Confidence Reports.*** Marine Corps public water systems must provide public notice to consumers when maximum contaminant levels are exceeded or other regulatory requirements are not met. Certain public water systems, known as community water systems, must prepare and provide consumers with annual reports ("Consumer Confidence Reports") on the quality of the water delivered by the system.
- ***Operator Certification.*** State regulations implement operator certification programs to establish minimum standards for operators of certain types of water systems. Marine Corps installations must ensure that water system operators meet established certification standards.

- ***Other Water Quality Requirements.*** There are several other programs under the Safe Drinking Water Act that are in place to help protect water sources as well as to keep contaminants from entering drinking water systems. These include the Underground Injection Control program, Water System Vulnerability Assessment requirements, and the Cross-Connection Control program. State regulatory agencies also implement source water protection programs to determine the susceptibility of public water systems to contamination from surrounding land areas. Consult with your installation environmental office for the applicability of any of the programs within your command.

Water Conservation. The Energy Policy Act establishes water conservation requirements for Federal agencies, including maximum water use standards for plumbing fixtures and the implementation of certain water conservation measures. Executive Order 13423 requires Federal agencies to reduce water consumption and periodically report on progress meeting water conservation metrics.

References

1. MCO P5090.2A, Chapter 16, *Drinking Water Systems and Water Conservation.*
2. Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, January 26, 2007.
3. DoD, *Instructions for Implementing Executive Order 13423*, March 29, 2007.

EMERGENCY PLANNING AND RESPONSE

What Is It?

Emergency planning and response programs minimize the risks of pollutant releases to the environment. Elements of emergency planning and response programs include management plans, procedures, and test exercises for release prevention and emergency response.

Current Requirements

Marine Corps installations must plan for response to potential releases of pollutants and must inform the public regarding the storage of certain hazardous substances.

Discharges of Pollutants to U.S. Waters. The Clean Water Act and related requirements regulate the discharge of pollutants into U.S. waters. Installations must establish procedures and organizational structure to respond to pollutant releases, coordinate with state and local government and public/private interest groups, and notify regulatory authorities for certain pollutant releases. Spill Prevention Control and Countermeasure Plans are also mandated by the Clean Water Act. The Oil Pollution Act expands Clean Water Act prevention and response requirements for oil spills. Facilities must develop Facility Response Plans to establish response capabilities and contingency plans for "worst case" discharges.

Hazardous Substance Releases. The Comprehensive Environmental Response, Compensation, and Liability Act sets threshold values for releases of hazardous substances ("reportable quantities") that, when met or exceeded, trigger reporting requirements to the appropriate Federal and state agencies. The Act also mandates Spill Contingency Plans for facilities that store oil and hazardous substances.

Emergency Planning and Public Information. The Emergency Planning and Community Right-to-Know Act encourages emergency planning and requires facilities to inform the public about possible hazards of chemicals present at the facility. Most notably, in the event of a release of an extremely hazardous substance (as defined by the Act), installations must immediately notify state and local emergency response planners. The Act also establishes reporting requirements for chemical inventories and releases, as well as state and local coordination in planning responses to chemical emergencies.

Hazardous Waste Facilities and Storage Tanks. The Resource Conservation and Recovery Act requires owners of hazardous waste facilities to develop management plans for spill prevention and cleanup and establishes requirements for prevention, detection, and correction of releases from underground storage tanks. The Clean Air Act requires procedures and risk management plans to prevent and minimize the consequences of accidental releases.

Health and Safety. The Occupational Health and Safety Administration establishes various training requirements for personnel involved in hazardous substance cleanup and emergency response operations.

References

1. MCO P5090.2A, Chapter 7, *Emergency Planning and Response.*
2. National Response Team, Integrated Contingency Plan Guidance, June 5, 1996, http://www.epa.gov/EPA-GENERAL/1996/June/Day-05/pr-23388.txt.html.

ENVIRONMENTAL RESTORATION

What Is It?

DoD's Environmental Restoration Program provides for the identification, investigation, and cleanup of contamination on DoD properties. Under this program, the Marine Corps conducts environmental cleanup activities at installation sites that have been contaminated by past waste disposal practices and spills. The Environmental Restoration Program includes two components:

- **The Installation Restoration Program** identifies and remediates past releases of pollutants, including hazardous substances and petroleum products that endanger public health, welfare, or the environment. Installation restoration projects at Marine Corps installations are coordinated by the Naval Facilities Engineering Systems Command and proceed through a multi-phase process, which can require several

years for execution, coordination, and documentation. Installation restoration projects require extensive public and Federal and state regulatory coordination.

- **The Munitions Response Program** generally follows the same procedures and policies as the Installation Restoration Program, but addresses cleanup of known or suspected munitions or explosives at former ranges and disposal sites. Munitions response initiatives incorporate explosives safety and environmental health requirements.

Current Requirements

Several laws and related regulations establish requirements for the Environmental Restoration Program.

Comprehensive Environmental Response, Compensation, and Liability Act. This Act requires the cleanup of improperly disposed hazardous substances, establishes procedures for the life cycle of cleanup projects, and ensures regulatory and public participation.

Resource Conservation and Recovery Act. This Act requires installations to take corrective action for past releases of hazardous constituents before seeking permits for certain hazardous waste treatment, storage, or disposal facilities. Corrective actions must be taken for releases that have migrated beyond the installation's boundaries.

Community Environmental Response Facilitation Act. This Act requires Federal agencies to identify and disclose the prior storage, release and/or disposal of hazardous or petroleum products prior to termination of Federal activities and transfer of property. This process requires coordination through appropriate state officials for properties designated for closure or realignment.

Occupational Safety and Health Administration. This agency's requirements ensure that employees who work at hazardous waste sites

have received 40 hours of initial hazardous waste operations and response training and annual refreshers.

References

1. MCO P5090.2A, Chapter 10, *Installation and Restoration Program.*
2. DoD Instruction 4715.7, *Environmental Restoration Program*, April 22, 1996.
3. Chief of Naval Operations letter of February 9, 1994, Establishment of Restoration Advisory Boards.
4. *Navy Environmental Restoration Program Manual*, 2006.

HAZARDOUS WASTES, SUBSTANCES, AND MATERIALS

What Are They?

Marine Corps installations operate numerous practices that use hazardous materials and generate hazardous wastes. In general:

- ***Hazardous wastes*** are waste products generated by Marine Corps activities that may cause a substantial hazard to human health or the environment when improperly treated, stored, transported, or disposed.
- ***Hazardous materials*** are materials used in Marine Corps industrial processes that pose a threat to human health or the environment if released in significant amounts to the environment.

Current Requirements

Hazardous Waste Management. The Resource Conservation and Recovery Act (specifically Subtitle C) defines hazardous wastes and establishes requirements for their management and minimization. Facilities that generate, transport, treat, store, or dispose of hazardous wastes must obtain identification numbers from the Environmental Protection Agency. Such facilities are classified as "large quantity generators" or "small quantity generators" and are regulated accordingly. All hazardous waste generators, unless exempted, must treat, store, or

dispose of their hazardous wastes at facilities permitted under the Act. Any facility generating more than specified amounts of hazardous or acutely hazardous wastes (as defined in the Act) must certify that they have a program in place to minimize waste generation. The hazardous waste minimization program should be an integral part of the Pollution Prevention Program (see page 46). Hazardous waste requirements under the Resource Conservation and Recovery Act are complex. Additionally, many states have established hazardous waste requirements that are often more stringent than Federal requirements. For further information, refer to your installation environmental office.

Storage Tanks. The Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act regulate the management of underground storage tanks containing petroleum products or hazardous substances (see page 51).

Federal Facility Compliance. The Federal Facilities Compliance Act requires that Federal facilities comply with all provisions of hazardous waste laws and regulations, and directs the Environmental Protection Agency, in consultation with DoD, to issue regulations on the application of the Resource Conservation and Recovery Act to military conventional and chemical munitions.

Hazardous Substance Spills and Releases. The Comprehensive Environmental Response, Compensation, and Liability Act and the Clean Water Act (see page 53) regulate hazardous substances if spilled or otherwise released and regulates the cleanup of past hazardous waste disposal (see page 34).

Transportation of Hazardous Materials. U.S. Department of Transportation regulations define hazardous materials and include requirements for shipping. Occupational Health and Safety Administration regulations establish specific requirements for the storage and management of hazardous materials.

Treatment Exemptions. The Land Disposal Program Flexibility Act exempts hazardous waste from Resource Conservation and Recovery Act regulations if it is treated to a point where it no longer is hazardous and then disposed of in a facility regulated under the Clean Water Act.

References

1. MCO P5090.2A, Chapter 9, *Hazardous Waste Management.*

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

What Is It?

NEPA ensures that Federal agencies consider potential environmental effects in planning and decision making for major proposed actions and identify reasonable alternatives. NEPA requires rigorous analysis, documentation, and public involvement in the decision-making process. The level of NEPA analysis depends on the scope of the planned project, degree of public concern, and the extent and value of potentially impacted resources.

In the first phase of the NEPA process, the lead Federal agency conducts an environmental review of a proposed action to determine whether significant environmental impacts are anticipated and whether revisions can be made to the proposed action to eliminate these impacts. The review results in a determination of the required level of NEPA analysis:

- A ***Categorical Exclusion*** may be granted for actions that do not have a significant effect on the environment. Categorical exclusions preclude the need to prepare an environmental assessment or an environmental impact statement. MCO P5090.2A, Chapter 12 provides a list of actions that indicate when Categorical Exclusions are appropriate.
- An ***Environmental Assessment*** is required for proposed actions that have the potential for adverse environmental impacts (i.e., that do not qualify for a categorical exclusion). If an environmental assessment indicates that no significant environmental impacts are

anticipated, a Finding of No Significant Impact is issued to document reasons why an action will not have an appreciable effect on the environment and why an environmental impact statement will not be prepared. The Finding of No Significant Impact must be made available to the affected public.

- An ***Environmental Impact Statement*** is required if the environmental assessment indicates that significant environmental impacts are anticipated or public controversy over the proposed action is expected. The Environmental Impact Statement must contain a full, fair, and concise discussion of all significant environmental impacts relating to a proposed action. Federal Agencies are required to solicit public and regulatory comments to assist in developing alternatives to the proposed action.

The NEPA process is completed with a Record of Decision that informs the public of the Marine Corps' decision to implement or to not implement the proposed action. The Record of Decision is a public record documenting consideration and selection of alternatives for implementation and commits the action proponent to appropriate mitigation, if necessary, to minimize environmental harm.

Public involvement is an important part of the NEPA process; the degree of public involvement depends on the level of NEPA documentation required. Preparation of environmental impact statements requires a formal public involvement program including public notices, scoping meetings, and hearings to inform the public and provide them opportunities to review and comment on the proposed action.

Current Requirements

Environmental Planning. NEPA stresses an interdisciplinary approach to problem solving, requiring consideration of environmental effects, natural and cultural resources, and the quality of the human and natural

environment. During the NEPA review, project proponents must consider the relationship of the project to all of the other requirements discussed in this Guide.

Air Quality Impacts. The Clean Air Act requires that installations determine whether their actions conform to state or Federal plans to reduce air pollution before implementing them. If the installation is located in an area that does not meet Federal clean air standards, this determination should be conducted with NEPA analysis for any proposed action.

State Requirements. State regulations require environmental analysis for certain actions. Marine Corps actions that require permits from state or local agencies may also be subject to these state requirements. In most cases, an environmental assessment, prepared under the NEPA process, may be used to satisfy state-level planning requirements. If preparation of an environmental impact statement is required, coordinate with state agencies to ensure that the state requirements are satisfied.

Mitigation Tracking. An internal Department of Navy audit found that mitigation requirements identified in NEPA documents were not being tracked to ensure implementation and, in many cases, were not being implemented. Mitigation measures required under the auspices of a permit (e.g. wetland permit) or other legally binding agreement, and identified in the decision document, must be tracked by the installation or region to ensure adequate implementation.

Executive Order and DoD Requirements:

- ***Executive Order 12898*** requires Federal agencies to address environmental justice considerations during the NEPA review process to ensure that major Federal actions do not have disproportionate impacts on minority and low income populations.
- ***Executive Order 12114 and DoD Directive 6050.7*** establish policy and procedures for Federal agencies and DoD officials to consider the significant effects of their actions on the environment outside the United States.
- ***DoD Directive 5000.1*** establishes a management framework for translating mission needs and technology opportunities into stable,

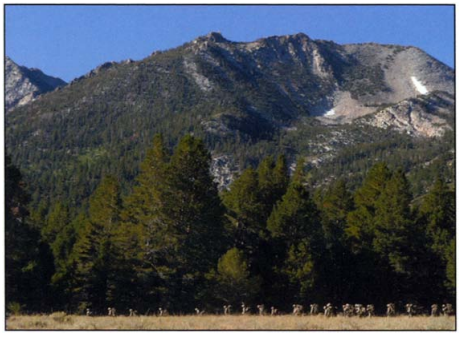
affordable, and well-managed acquisition programs. DoD Instruction 5000.2 authorizes Milestone Decision Authorities to tailor procedures to achieve cost, schedule, and performance goals.

References

1. MCO P5090.2A, Chapter 12, *The National Environmental Policy Act.*
2. Executive Order 12114, *Environmental Affects Abroad of Major Federal Actions,* January 4, 1979.
3. Executive Order 12898, *Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations,* Feb 11, 1994.
4. DoD Directive 5000.1, *The Defense Acquisition System,* May 12, 2003.
5. DoD Instruction 5000.2, *Operation of the Defense Acquisition System,* May 12, 2003.
6. DoD Directive 6050.7, *Environmental Affects Abroad of Major Department of Defense Actions,* March 31, 1979.

NATURAL RESOURCES

What Are They?



LCPL STEPHEN KWIETNIAK

Natural resources include watersheds, wetlands, natural landscapes, soils, forests, and associated fish, vegetation, and wildlife. Marine Corps installations are located in a variety of landscapes to allow Marines to train in the environments that they may encounter in the battlefield. The Marine Corps must act in the public interest to restore, improve, preserve, and properly use natural resources, managing them with a long-term focus to ensure their availability to support current and future mission training needs.

Current Requirements

Several laws and related regulations establish provisions for the protection of natural resources:

Conservation Programs on Military Installations. The Sikes Act and its amendments recognize the importance and value of military lands to natural resources and seek to ensure that these ecosystems are protected and enhanced while allowing for the needs of military operations. Under the Act, military installations in the United States are required to develop and implement INRMPs in cooperation with the U.S. Fish and Wildlife Service and state fish and wildlife agencies. The INRMP should serve as the primary management guide for natural resource management not only to meet regulatory requirements and implement best management practices, but also to sustain and enhance training lands. The Act also requires military facilities to provide public access to natural resources, as appropriate and consistent with the military mission, and, where consistent with the military mission and safety concerns, provide the public opportunities for outdoor recreation, hunting, and fishing.

Endangered Species Protection. The Endangered Species Act provides for the conservation of ecosystems upon which threatened and endangered species depend. Endangered species are those species that are in danger of extinction. Threatened species are those likely to become endangered within the foreseeable future. The National Marine Fisheries Service and the U.S. Fish and Wildlife Service compile lists of threatened and endangered species, issue biological opinions regarding Federal activities, and enforce conservation requirements.

Federal agencies must inventory and monitor endangered or threatened species and consult with the U.S. Fish and Wildlife Service to ensure that Federal actions do not jeopardize these species or critical habitats. Federal agencies must also prepare a biological assessment if listed species

or critical habitats may be present in areas affected by any major construction activities. Installation natural resource managers should be the primary point of reference with the U.S. Fish and Wildlife service when any threatened, endangered or otherwise listed species is involved.

Coastal Zone Protection. The Coastal Zone Management Act and its amendments require Federally-funded actions in the coastal zone to be consistent with state-established coastal zone management programs. The coastal zone includes ocean waters and adjacent land. The Act calls upon states/tribes with Federally-approved coastal zone management programs to develop and implement coastal nonpoint pollution control programs.

Forestry. Forest resources on military lands are managed for a variety of reasons: to provide for realistic training environments, conserve habitat and ecological integrity, protect water quality, and generate revenue. While generating revenue from forest resources is not a primary driver for managing forests on Marine Corps lands, it may provide a valuable revenue source that can be used to support conservation programs. Harvesting and sale of timber, even in small areas, can provide additional resources. Standing timber on Federal lands is a real estate asset and must be treated as such.

Agricultural Outlease. The Military Construction Authorization Act provides for the leasing of suitable and available Marine Corps lands for agricultural purposes, such as crop production or grazing. The Act also governs the production and sale of forest products on military lands. Activities on forested lands are also subject to the Soil Conservation and Domestic Allotment Act, which requires the application of soil conservation procedures on Federal lands.

Wetland and Floodplain Protection. The Clean Water Act requires wetland and floodplain protection and requires Federal agency plans to be consistent with state nonpoint source pollution abatement plans. Military construction and other activities may often have impacts to wetlands

or other waters protected under the Clean Water Act. Installation natural resource managers should be advised of any proposed construction locations, or other areas of ground disturbance, to ensure proper permits and mitigation are identified. For more information, refer to the section of this Guide on Water Quality (see page 53).

Environmental Planning.

NEPA requires consideration of environmental concerns during project planning and execution. Federal agencies must prepare an environmental assessment or environmental impact statement for actions with the potential to significantly affect the environment, including natural and cultural resources.

Executive Order and DoD Requirements:

- ***Executive Orders 11990 and 11988*** require Federal agencies to avoid adverse impacts or modifications to wetlands. Federal agencies must take action to identify and protect wetlands and floodplains, minimize the risk of flood loss and the destruction of wetlands, and preserve and enhance their natural and beneficial values.
- ***Executive Order 11514*** directs Federal agencies to monitor and control activities to protect and enhance the quality of the environment, to ensure the public is provided information on Federal plans and programs with potential environmental impacts to the public, and to obtain the views of interested parties.
- ***Executive Order 13112*** directs Federal agencies to prevent the introduction of invasive (non-native) species, to monitor and control those species, and provide for the restoration of native species.
- ***Executive Order 13186*** requires Federal agencies to avoid or minimize the negative impacts of their action on migratory birds, and to take active steps to protect birds and their habitats.
- ***DoD Directive 4700.4*** prescribes policies and procedures for an integrated program for multiple-use management of natural resources on property under DoD control.

To ensure the conservation of natural resources on Marine Corps lands and ensure the continued availability of resources for military and other uses, MCO 5090.2A requires Marine Corps installations to:

- Use an ecosystem management approach as the basis for land use planning and management. Ecosystem-based management emphasizes multiple species conservation, the formation of partnerships to manage cross-boundary ecosystems, and the use of the best available scientific information and adaptive management techniques in natural resources management.
- Consider conservation measures in developing, designing, constructing, and maintaining military infrastructure and in military operations and training.
- Prepare, maintain, and implement an Integrated Natural Resource Management Plan. The Plan is prepared in cooperation with the U.S. Fish and Wildlife Service and appropriate state fish and wildlife agencies, with the following objectives:
  - Conserve, develop, manage, and maintain natural resources under Marine Corps stewardship using proven scientific methods per Federal requirements;
  - Manage natural resources to provide outdoor recreational opportunities; and
  - Provide for the optimum development of, and access to, land and water areas for military purposes, while maintaining ecological integrity.

References

1. MCO P5090.2A, Chapter 11, *Natural Resources Management.*
2. Executive Order 11514, *Protection and Enhancement of Environmental Quality,* March 5, 1970.
3. Executive Order 11988, *Floodplain Management,* May 24, 1977.
4. Executive Order 11990, *Protection of Wetlands,* May 24, 1977.
5. Executive Order 13112, *Invasive Species,* February 3, 1999.
6. Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds,* January 10, 2001.
7. DoD Instruction 4715.3, *Environmental Conservation Program,* May 3, 1996.

8. DoD Directive 4700.4, *Natural Resources Management Program*, January 24, 1989.
9. NAVFAC Manual P-73, Vol. II, *Navy Natural Resources Management Procedures Manual.*

POLLUTION PREVENTION

What Is It?

Pollution prevention focuses on reducing or eliminating pollution at its source ("source reduction"), through increased efficiency in the use of raw materials, energy, water, and other resources; purchase of materials with recycled content; substitution of less hazardous materials; improved hazardous material management; and onsite reuse or recycling of waste. Pollution prevention goals are applicable across many environmental media areas. When source reduction is not feasible, the preferred techniques, in order of preference, are recycling and treating waste to render it nonhazardous.

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Current Requirements

Several requirements shape the Marine Corps pollution prevention program:

The Pollution Prevention Act sets national policy, but does not impose requirements. It establishes a preferred hierarchy for pollution prevention initiatives:

- Pollution should be prevented or reduced at the source;
- Pollution that cannot be prevented should be recycled in an environmentally safe manner;
- Pollution that cannot be prevented or recycled should be treated in an environmentally safe manner; and

- Disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner.

The **Resource Conservation and Recovery Act** requires hazardous waste generators to certify that they have a program to minimize the amount and toxicity of wastes generated and that their storage, treatment, or disposal methods minimize threats to human health and the environment.

The **Emergency Planning and Community Right-to-Know Act** requires that the public receives timely and comprehensive information about possible or potential hazards associated with toxic chemical releases. It also requires that information on chemical inventories and releases be submitted to the Environmental Protection Agency.

The **Energy Policy Act** seeks to reduce the Nation's dependency on imported fuels, improve energy efficiency, and reduce air emissions from fossil fuels. Under this act and Executive Order 13423, Federal agencies must increase the usage of alternative fuel vehicles, reduce energy and water consumption, and increase energy efficiency. Under Executive Order 13423, the Marine Corps must also identify and reduce the release and use of toxic and hazardous chemicals. Numerous resources identifying cleaner technologies and materials for use in Marine Corps industrial processes are available to Marine Corps commanders and their environmental staffs. Marine Corps facilities must also require contractors to provide information needed by their installation to comply with the Pollution Prevention Act, the Emergency Planning and Community Right-to-Know Act, and Executive Order 13423.

DoD Instruction 4715.4 establishes DoD pollution prevention policies and responsibilities for toxic chemical releases, hazardous waste generation, solid waste reductions and recycling, and alternative fuel vehicle acquisitions.

References

1. MCO P5090.2A, Chapter 15, *Pollution Prevention.*
2. DoD Instruction 4715.4, *Pollution Prevention,* Change 1, July 6, 1998.

3. Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, January 24, 2007.
4. DoD, *Instructions for Implementing Executive Order 13423*, March 29, 2007.

RADON

What Is It?

Radon is a naturally occurring, colorless, odorless, radioactive gas resulting from uranium degradation in the earth. It may be found in indoor air and drinking water, especially when the water supply source is ground water.

Current Requirements

The Environmental Protection Agency recommends remediation for radon levels greater than 4 picocuries per liter (pCi/L) of air. The Marine Corps action level for radon is 4 pCi/L.

Radon in Federal Buildings. The Toxic Substances Control Act requires Federal agencies to conduct a study of radon levels in Federal buildings and provide results to the Environmental Protection Agency. Federal buildings using nonpublic water sources (such as wells or other groundwater) are also required to evaluate radon contamination in water. All Marine Corps facilities must use the Navy Radon Assessment and Mitigation Program, approved by the Environmental Protection Agency, for identifying, mitigating, and preventing radon contamination. Buildings with indoor radon levels greater than 200 pCi/L must be mitigated within three weeks; buildings with indoor radon levels above 4 pCi/L must be mitigated within two years. Marine Corps installations must also incorporate preventative practices and radon reduction techniques into the design and construction of new structures.

Radon in Drinking Water. The Environmental Protection Agency has proposed standards for radon in drinking water, and although the rule is not final, the Marine Corps follows this guidance. The rule applies to community water systems and proposes maximum contaminant levels requirements for multimedia mitigation program plans to address radon in indoor air.

References

1. MCO P5090.2A, Chapter 6, *Air Quality Management.*
2. OPNAVINST 5090.1C, Chapter 30, *Radon Assessment and Mitigation,* October 2007.
3. *A Citizen's Guide to Radon* (EPA 402-K-07-009), May 2007.

SOLID WASTE AND RESOURCE RECOVERY

What Is It?

Solid Waste includes all nonhazardous garbage, refuse, trash, rubbish, sludge from a wastewater or water supply treatment plant or air pollution control facility, or any other discarded material. It includes solid, semi-solid, liquid, or gaseous material resulting from industrial, construction, commercial, mining and agriculture operations, and from any community or residential activities.

DOD policy requires installations to achieve solid waste diversion goals by implementing integrated solid waste management plans that employ the following hierarchy of approaches and technologies for managing solid waste: source reduction, reuse, donation, recycling, composting/ mulching, incineration, volume reduction, and landfilling. Reuse and recycling of solid waste is generally more cost effective than disposal by landfilling or incineration.

Current Requirements

Solid Waste Disposal and Management. The Solid Waste Disposal Act establishes solid waste disposal and management requirements applicable at Federal installations, including provisions for permitting, licensing, reporting, and the beneficial reuse of wastes through recycling and burning for energy recovery.

Solid Waste Management, Source Reduction, and Recycling. The Resource Conservation and Recovery Act addresses the management of municipal and solid waste and encourages the increased use of product separation, source reduction, and recycling to reduce solid waste volume.

Federal Facilities Compliance. The Federal Facilities Compliance Act requires Federal facilities to comply with all Federal, state, interstate, and local requirements concerning the disposal and management of solid waste.

Recyclable Sales. The Military Construction Authorization Act of 1975 allows the proceeds from the sale of recyclable material to be credited to the installation.

Asbestos Waste Disposal. The Clean Air Act includes regulates disposal of asbestos waste in landfills.

Executive Order Goals. Executive Order 13423 requires agencies to increase solid waste diversion, maintain waste prevention and recycling programs, and implement sustainable practices for pollution and waste prevention and recycling. It establishes goals for reducing the production of solid waste, increased recycling of materials, procurement of environmentally preferable products, and the use of post consumer products. Commanders must ensure that they are complying with requirements pertaining to proper retention of recycling revenue.

Qualified Recycling Programs. DoD Instruction 4715.4 requires all installations and commands, where cost effective, to establish or participate in a Qualified Recycling Program and divert recyclable materials from the nonhazardous solid waste stream. It also requires implementation of an accounting and control system and allows installation commanders to sell recyclables and other materials directly or consign them to the Defense Reutilization and Marketing Service for sale.

References

1. MCO P5090.2A, Chapter 17, *Solid Waste Management and Resource Recovery.*
2. Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, January 24, 2007.
3. DoD, *Instructions for Implementing Executive Order 13423*, March 29, 2007.
4. DoD Instruction 4715.4, *Pollution Prevention*, Change 1, July 6, 1998.

STORAGE TANKS

What Are They?

Storage tanks are widely used to store petroleum products, chemicals, and wastes and are generally regulated only if they are used to store a regulated hazardous waste or petroleum product. Storage tanks include both underground storage tanks and aboveground storage tanks. An underground storage tank is generally regulated if at least 10 percent of the combined volume of the tank, together with any associated underground piping, lies below ground, and it exceeds a 1,100-gallon capacity. Regulated aboveground storage tanks are generally defined as bulk storage containers or storage tanks that are not clearly identified as underground tanks, are normally located on or above the surface of the ground, and have a capacity of 55 gallons or greater. However, state definitions of regulated tanks can be much more stringent.

Current Requirements

Underground Storage Tanks. Subtitle I of the Resource Conservation and Recovery Act, as Amended by the Hazardous and Solid Waste

Amendments, establishes a comprehensive regulatory program for underground storage tanks containing regulated substances. The single greatest concern with underground storage tanks is that a leak could contaminate groundwater, the primary source of drinking water for many communities. Subtitle I also requires owners of underground storage tanks to notify state authorities and requires the Environmental Protection Agency to issue regulations governing detection, prevention, and correction of leaks from underground storage tanks, including financial responsibility requirements and new tank performance standards. Many states have promulgated additional underground storage tank regulations.

Used Oil and Hazardous Waste Tanks. Subtitle C of the Resource Conservation and Recovery Act sets standards for storage tanks containing used oil and for tanks used to store or treat hazardous waste. These requirements apply to both underground and aboveground storage tanks.

Storage Tank Design, Operation, and Management Provisions. The Underground Storage Tank Compliance Act establishes requirements for underground storage tank inspection, operator training, containment design, spill cleanup, and certain operational requirements. The Act specifically waives Federal facilities' immunity for fees, civil sanctions and fines, and criminal actions related to owning, managing, and overseeing underground storage tanks.

Spill Prevention, Preparedness, and Response. The Clean Water Act, as Amended by Oil Pollution Act expands oil spill prevention, preparedness, and response requirements. These requirements apply primarily to aboveground storage tanks to prevent contamination of surface water bodies, but may also apply to underground storage tanks where a significant portion of the stored volume is above ground. Refer to the section of this Guide on Emergency Planning and Response (see page 32) for additional requirements pertaining to emergency preparedness.

References

1. MCO P5090.2A, Chapter 18, *Underground Storage Tanks.*
2. *Musts for USTs: A Summary of Federal Regulations for Underground Storage Tank Systems* (EPA 510K95002), July 1995.

WATER QUALITY

PFC. EDWARD C. DEBREE

What Is It?

Water quality programs are established to maintain the environmental health of surface and underground water resources to sustain their uses for drinking water supplies, aquatic and wildlife support, and recreational purposes. Water quality can be impacted by human activities. Primary sources of pollution include wastewater discharges, storm water discharges, and widespread storm water runoff. Water quality programs eliminate or mitigate impacts to our water resources.

Current Requirements

Primary legislative drivers for water quality programs at Marine Corps installations include the Clean Water Act and the Coastal Zone Management Act and their associated implementing regulations.

Water Quality. The intent of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. To accomplish these goals, states have established enforceable water quality standards specifying the amount of pollutant that a waterbody can receive from all contributing sources of pollution. Marine Corps installations are generally issued operating permits specifying allowable pollutant discharge limits. Installation operations typically subject to discharge permit conditions include domestic sewage, industrial wastewater, and storm water systems. Stormwater permits generally require storm water pollution prevention plans and the implementation of best management practices. Marine Corps installations that send wastewater to a publicly owned treatment works (e.g., a regional or municipal wastewater plant) are subject to pretreatment standards.

Spills or Releases to U.S. Waters. The Clean Water Act prohibits discharges or spills that either cause a sheen on receiving waters or

shorelines or result in sludge deposits beneath the surface of the water. The Oil Pollution Act amends the Clean Water Act to expand oil spill prevention activities, improve preparedness and response capabilities, and ensure that organizations are responsible for damages from spills. See page 37 of this Guide for more information on oil and hazardous substance release requirements.

Protection of Coastal Areas. The Coastal Zone Management Act, administered by the National Oceanic and Atmospheric Administration, provides for management of the nation's coastal resources and balances economic development with environmental conservation. State coastal zone management programs incorporate flood control, sediment control, and storm water runoff control requirements. Federal actions that affect any land, water, or natural resources of the coastal zone must be consistent with state programs to the maximum extent practicable.

References

1. MCO P5090.2A, Chapter 20, *Water Quality Management.*

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