



UNITED STATES MARINE CORPS

COMMANDER'S GUIDE TO ENVIRONMENTAL MANAGEMENT



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TABLE OF CONTENTS

Marine Corps Environmental Principles	1
CHAPTER 1: Environmental Legal and Policy Framework	2
CHAPTER 2: Environmental Responsibilities for Commanders	5
CHAPTER 3: Environmental Supporting Elements and Tools	9
CHAPTER 4: Environmental Planning	19
CHAPTER 5: Environmental Compliance and Restoration	25
CHAPTER 6: Pollution Prevention and Spill Planning and Response	41
CHAPTER 7: Natural and Cultural Resources Conservation	47
Questions to Ask Installation Staff	55
APPENDIX	57
Acronyms	57
References	62

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MARINE CORPS ENVIRONMENTAL PRINCIPLES

Marine Corps installations offer over 2.5 million acres of forests, mountains, deserts, beaches, and other terrains and associated airspace in which Marines can train and hone their skills. Our environmental programs contribute to mission readiness by allowing us to maintain access to these training areas and by protecting the health, safety, and the quality of life of Marines, their families, civilian workers, and surrounding communities.

As a Commander of Marines, it is your responsibility to protect the Marines and civilians under your watch and to sustain the resources entrusted to the Marine Corps, ensuring that training opportunities enjoyed by today's Marines will be available in the future. In order to accomplish this important mission, Marine Corps Commanders are expected to uphold the following environmental principles:

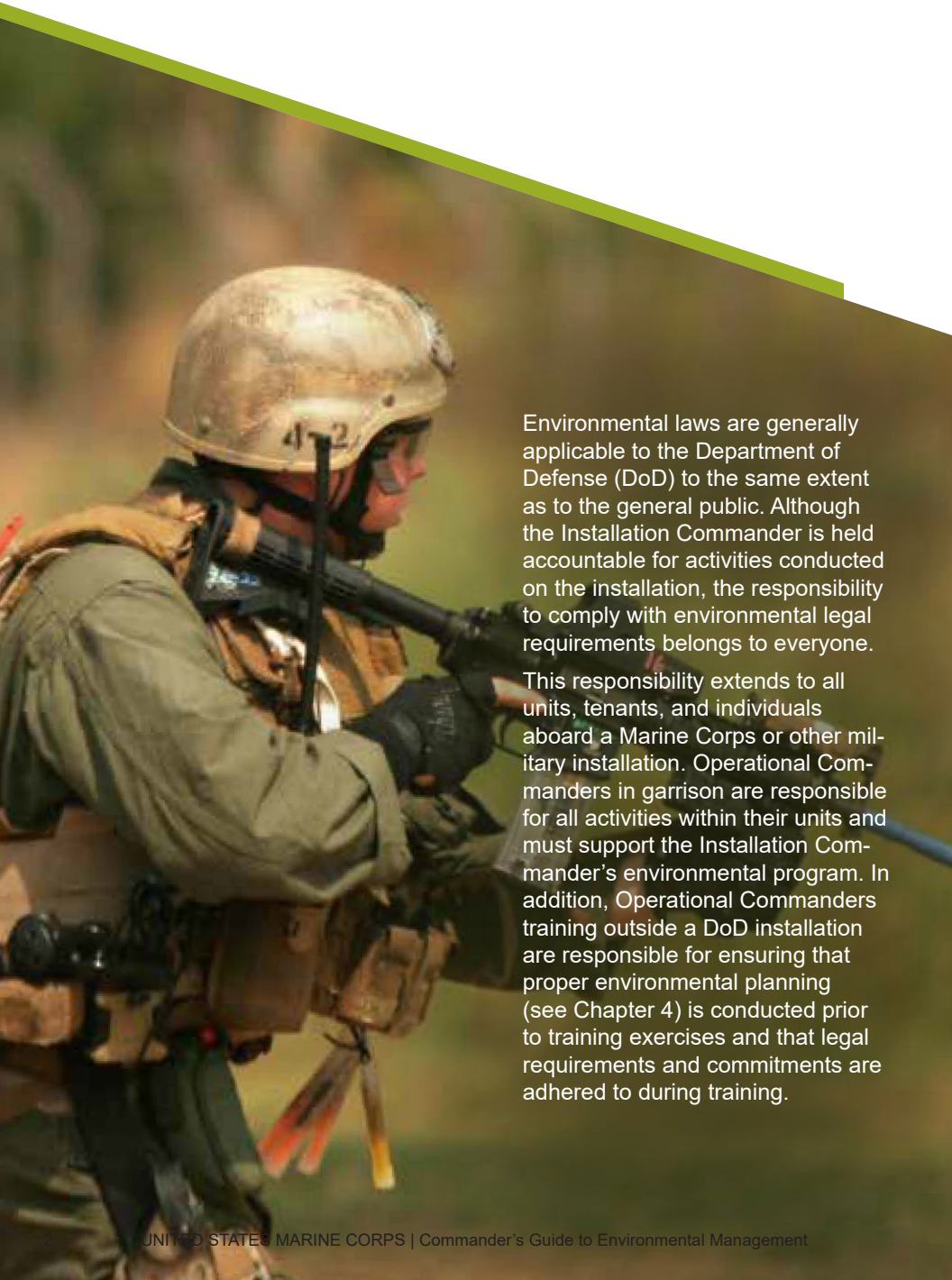
- Complying with all applicable environmental laws, regulations, policy, and other requirements;
- Providing personnel awareness of their environmental responsibilities;
- Cleaning up areas of contamination from past disposal practices;
- Protecting and conserving the natural and cultural resources entrusted to us by the American people;
- Promoting installation sustainability through pollution prevention (P2), recycling, sustainable procurement, and water and energy efficiency;
- Involving appropriate internal and external stakeholders upfront in environmental planning, acquisition, and management actions; and
- Collaborating with regulatory agencies and the public to openly address environmental issues and build trust.

This guide provides general information on your environmental responsibilities as an Installation or Operational Commander. Additional expectations and guidance can be found in the Marine Corps Installations Command (MCICOM) Environmental Policy Statement located on the MCICOM GF Environmental webpage: <https://www.mcicom.marines.mil/Sections/GF-Facilities/GF-EV-Environmental-Management/>.

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Environmental Legal and Policy Framework

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Environmental laws are generally applicable to the Department of Defense (DoD) to the same extent as to the general public. Although the Installation Commander is held accountable for activities conducted on the installation, the responsibility to comply with environmental legal requirements belongs to everyone.

This responsibility extends to all units, tenants, and individuals aboard a Marine Corps or other military installation. Operational Commanders in garrison are responsible for all activities within their units and must support the Installation Commander's environmental program. In addition, Operational Commanders training outside a DoD installation are responsible for ensuring that proper environmental planning (see Chapter 4) is conducted prior to training exercises and that legal requirements and commitments are adhered to during training.

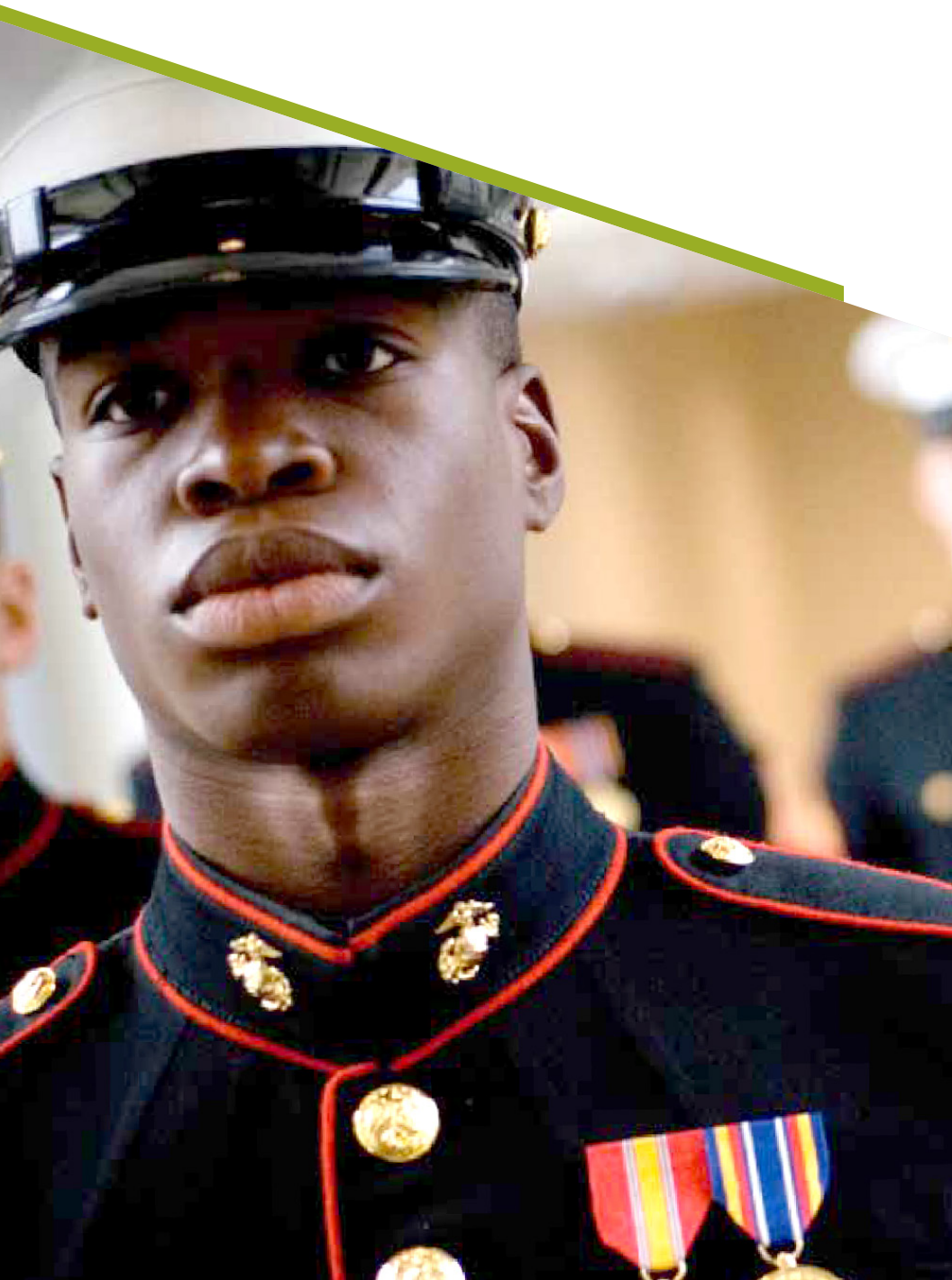
Federal and state agencies may impose significant financial penalties or restrict installation operations, including training, due to environmental non-compliance. Most laws also impose potential criminal liability for willful or knowing violations, and some impose criminal liability for negligence. Installation Commanders can be held responsible for wrongful acts committed within their organization, even when they are not direct participants in the act. In addition, some laws include citizen suit provisions that allow the public to sue federal agencies for non-compliance with environmental requirements.

Installation Commanders should be familiar with the environmental requirements applicable to installation infrastructure and activities. Environmental requirements are defined in federal laws and regulations; executive orders (E.O.s); and DoD, Department of the Navy (DON), and Marine Corps policies. Many states and local jurisdictions have their own environmental laws and regulations, some of which may be more stringent than federal requirements, or require additional monitoring, inspection, or reporting procedures. In general, Marine Corps installations are also subject to these requirements. Your environmental office and legal counsel will be able to determine which state and local requirements are applicable to your activities.

Marine Corps Order (MCO) 5090.2, Environmental Compliance and Protection, covers environmental requirements, responsibilities, policies, and procedures. For specific information about environmental legal requirements, Installation Commanders should consult their environmental office and legal counsel/Staff Judge Advocate, and, if appropriate, request support from environmental law specialists at the Eastern, Western, Pacific, and Quantico Area Counsel Offices (EACO, WACO, PACO, and QACO). Subject matter experts at Headquarters, Marine Corps, Facilities and Services Division/Marine Corps Installations Command, Facilities Directorate (HQMC (LFF)/MCICOM (GF)) are also available to assist and advise as needed.

Environmental Responsibilities for Commanders

2



Marine Corps Commanders at all levels and in all organizations are responsible for ensuring compliance with applicable environmental requirements within their commands, including meeting environmental planning, training, execution, mitigation, and communication responsibilities. Commanders are also responsible for the outcomes from failure to meet these requirements to include fines, penalties, and cleanup cost for spills. Commanders can be divided into two categories: Installation Commanders and Operational Commanders.



INSTALLATION COMMANDERS:

Installation Commanders are focused on executing the Marine Corps mission at their particular installation, whether on U.S. territory or overseas.

- **Responsibility Overview.** Installation Commanders are responsible for overseeing all services and operations performed on the base to support the Operating Forces, tenants, and activities, including environmental programs. MCO 5090.2 requires Commanders to comply with all applicable environmental requirements and to apply an appropriate level of funding to environmental programs to comply with applicable laws, regulations, and policies, to include the development and implementation of Integrated Natural Resource Management Plans (INRMPs) and Integrated Cultural Resource Management Plans (ICRMPs) to protect vulnerable resources. Installation Commanders are supported locally by environmental offices as well as legal counsel and Communications Strategy and Operations Offices. Environmental issues can quickly elevate to the highest levels of military and civilian leadership and it is critical for Installation Commanders to ensure that the chain of command is informed of major issues/incidents (e.g., when regulatory agencies are involved and/or when the issue potentially has Congressional, media, and/or significant public interest) to ensure the appropriate awareness and prioritization of Marine Corps resources.

INSTALLATION COMMANDER PRIMARY ENVIRONMENTAL REFERENCES

- ▶ *Marine Corps Order (MCO) 5090.2*
- ▶ *Integrated Natural Resources Management Plan (INRMP)*
- ▶ *Integrated Cultural Resources Management Plan (ICRMP)*

- **Commanders of Installations Overseas.** Unlike installations on U.S. territory, Marine Corps activities overseas are not directly subject to the majority of federal and state-level legal environmental requirements, although many DoD, Navy, and Marine Corps policy requirements apply. The DoD Overseas Environmental Baseline Guidance Document (OEBGD) and country-specific Final Governing Standards (FGS), based on the OEBGD and host nation law, establish policy requirements for DoD facilities in foreign countries. Environmental planning considerations overseas are governed by E.O. 12114, Environmental Effects Abroad of Major Federal Actions (see Chapter 4 for more details).

OPERATIONAL COMMANDERS

Operational Commanders of Marine Corps and other service's units are often tenants on Marine Corps installations. They are required to participate in the Installation Commander's environmental program and ensure that their command receives required environmental training and understands and complies with all applicable environmental requirements. They are also responsible for certain environmental costs which include spill response costs or the disposal cost of mismanaged waste due to their unit's actions or inaction.

OPERATIONAL COMMANDER'S ENVIRONMENTAL KEYS FOR SUCCESS

- ▶ *Assign trained primary and secondary unit Environmental Compliance Coordinators (ECCs).*
- ▶ *Conduct annual environmental awareness training for all personnel.*
- ▶ *Ensure ECCs are maintaining environmental binders with required documentation/inspection records.*
- ▶ *Review the Inspector General Marine Corps Checklist for functional area requirements.*
- ▶ *Know your unit's environmental practices and the associated requirements/checks. Common practices include, but are not limited to: hazardous material storage and use; hazardous waste generation and disposal (satellite accumulation areas and other storage sites); stormwater pollution prevention (e.g., oil/water separators); petroleum, oil, and lubricant and other hazardous material storage tanks; and universal wastes.*
- ▶ *Conduct spill response training. Promptly contain, clean up, and report spills to installation environmental staff.*
- ▶ *Ensure environmental impacts are considered when planning training on and off installation.*
- ▶ *When deployed or otherwise unavailable, ensure there is someone in the remain behind element who can conduct and document required checks and respond to environmental matters (and/or identify this deficiency to the installation environmental staff).*
- ▶ *Do not over purchase hazardous material. Units end up paying for it twice if not used by the expiration date as well as the cost to dispose of the material as a hazardous waste.*
- ▶ *Encourage the participation in installation recycling programs and other P2 efforts.*
- ▶ *Do not conduct any kind of renovation/remodeling effort without first contacting installation environmental staff to ensure that asbestos, lead paint, or other mitigation is not required.*

Marine Corps Unit Commanders located on another service's host installation (or on any partner-country host installation) shall integrate with that Installation Commander's environmental program and comply with that installation's environmental requirements. Any agreement between the Installation Commander and Tenant Commanders should call out specific responsibilities/requirements.

OPERATIONAL ENVIRONMENTAL PLANNING

The National Environmental Policy Act (NEPA) and E.O. 12114, Environmental Effects Abroad of Major Federal Actions (see Chapter 4 for more details), require proponents of proposed major federal actions to consider the environmental impacts of those actions. Operational Commanders operating on Marine Corps or other services' installations must notify the installation environmental office as soon as possible of the proposed action to start the planning process.

Most of these proposed actions can be approved quickly, but complex or new actions can take some time to plan and gain approval. Failure to notify the installation's environmental office could delay the accomplishment of the mission on the original timeline.

For Operational Commanders operating outside of U.S. Marine Corps (USMC) or other Services' installations, NEPA/E.O. 12114 requirements still apply, and appropriate planning actions must occur prior to any training operations. Naval Warfare Publication 4-11 (and its subsequent iterations) and Marine Corps Reference Publication (MCRP) 3.40B.2, Environmental Considerations (formerly MCRP 4-11B) are the primary references for Operational Commanders to facilitate environmental planning.

Like environmental planning aboard a DoD Installation, advance planning and early notification to applicable entities are the key to protecting the unit's mission. The Commander may need to reach out to their respective Marine Expeditionary Force (MEF) and Marine Forces (MARFOR) to obtain additional guidance/support with reach back support available from the nearest installation, Marine Corps Installation (MCI) Regional Command, Counsel, or MCICOM Facilities Directorate, Environmental Branch (MCICOM (GF-EV)) for guidance on how to assess the requirement.

Environmental Supporting Elements and Tools

3



OUTREACH

Installation Commanders are strongly advised to develop and maintain cooperative relationships and conduct communication with stakeholders. Establishing the trust and confidence of regulatory agencies, local communities, and non-governmental organizations (NGOs) through regular two-way communication and transparency helps with the delivery of difficult messages (e.g., notification of a fuel spill that has damaged the environment) and in obtaining support and cooperation of stakeholders for current and future activities.

Proactive leadership includes participation in environmental forums and other public venues. Marine Corps commitment to compliance with environmental requirements and the stewardship of natural and cultural resources will result in cooperative working relationships with regulatory agencies and a positive public image if communicated effectively.

A good history of environmental compliance and proactive natural and cultural resource management are perceived as win-win partnerships with regulatory agencies and the public that protect the ability to train. Marine Corps actions and investments that support environmental protection of base residents and surrounding communities and the recovery of endangered and threatened species and their habitats are particularly visible to stakeholders.

KEYS TO AN EFFECTIVE PROGRAM

- ▶ *Commitment to environmental compliance and stewardship by command leadership and all personnel;*
- ▶ *Up-to-date policies and procedures that are implemented;*
- ▶ *Understanding of the environmental impact of installation/unit operations;*
- ▶ *Proper identification and communication of environmental regulatory and policy requirements;*
- ▶ *Appropriate level of funding to comply with environmental requirements;*
- ▶ *Clearly identified environmental roles and responsibilities;*
- ▶ *An effective environmental training program with well-trained staff;*
- ▶ *Effective working relationships with regulatory agencies;*
- ▶ *Proactive outreach with the local community; and*
- ▶ *Proper documentation and recordkeeping.*



NEPA and other environmental laws and regulations specifically require meaningful public participation in the federal decision-making process. Effective early communication with the public may prevent or resolve potential conflicts.

Citizens often contact their elected officials with concerns about the impact of Marine Corps activities on the community. By keeping elected officials and the public involved, negative news coverage, citizen-generated Congressional inquiries, and adverse public reaction can be avoided or mitigated.

Public involvement initiatives are coordinated through installation Communications Strategy and Operations Offices. Installations can encourage proactive involvement with local governments and communities to minimize effects of adverse public opinion by:

- Establishing a proactive public involvement and information program to provide citizens with accurate and timely information they may otherwise seek from elected representatives;
- Keeping elected officials informed of key aspects of installation activities, particularly of proposed development actions (e.g., Military Construction (MILCON)) or off-base training operations that could have effects on local communities and the environment; and
- Seeking opportunities to partner with local communities on Earth Day, local clean-up efforts, or other events.

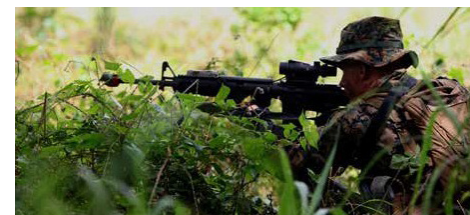
PUBLIC COMMUNICATIONS

The Communications Strategy and Operations Office should be the single source of information provided to the media. They should interact and exchange information regularly with community stakeholders.

TRAINING AND EDUCATION

Environmental requirements impact nearly every Marine Corps occupational field, military occupational specialty, operation, and civilian job series. Commanders at all levels are responsible for ensuring all Marines and civilian employees under their command meet their environmental and personal safety training requirements. The Marine Corps Comprehensive Environmental Training and Education Program (CETEP) supports full compliance with environmental requirements by identifying environmental training needs and integrating and executing required professional development initiatives and training. CETEP's primary goal is to provide appropriate high-quality environmental training and information in the most efficient and effective manner, then ensuring 100% of personnel are trained on and qualified for their environmental responsibilities.

The Marine Corps has established environmental training managers (CETEP Coordinators) at each installation to develop, execute, and oversee training. All unit/site Commanders are responsible for assigning an ECC to work with the CETEP Coordinators to ensure appropriate personnel receive required training.



TRAINING METHODS

- ▶ *On-the-job training;*
- ▶ *Turnover folders and standard operating procedures (SOPs) that address environmental requirements;*
- ▶ *Emergency plans and exercises; and*
- ▶ *Environmental awareness training for non-environmental staff.*



FUNDING PROCESS AND FINANCIAL REPORTING

Commanders must ensure that adequate environmental funding is planned, programmed, budgeted, and executed to comply with applicable environmental requirements. The Marine Corps has developed and implemented a detailed process to identify, request, and track funding necessary to meet environmental requirements. Environmental management requirements are funded through two types of Operation and Maintenance, Marine Corps (O&M, MC) accounts:

- **Fiscal Control (FC) (Formerly Operating Budget (OPBUD)) Funding.** FC funding consists of local funds for requirements that are foreseeable, recurring, routine, and easily estimated and budgeted. Installations must include environmental operating costs in their annual base operating budgets. Environmental FC costs include permits, fees, hazardous waste disposal, sampling, monitoring, analysis, training, travel, maintenance, supplies, equipment, materials, and other recurring costs. FC funds also support locally approved repair and construction projects with associated environmental drivers that fall within an installation's local funding authority.
- **Centrally Managed Program (CMP) Environmental Funding.** CMP environmental funding is managed by HQMC (LFF)/MCICOM (GF) and consists of two categories. The Environmental Projects Program (CMP10) funds one-time environmentally driven, HQMC approved repair and minor construction projects that exceed an installation's funding authority. The Environmental Management Program (CMP22) provides funding for one-time non-recurring environmental requirements, emerging requirements, as well as Marine Corps-wide environmental initiatives such as the Environmental Compliance Evaluation (ECE) Program.

MCICOM (GF-EV) tracks and reports funding requirements to the Secretary of the Navy, DoD, and Congress. Both FC and CMP funds must be obligated within the fiscal year (FY) in which they are funded.

Installations identify requirements and make FC and CMP funding requests through the Planning, Programming, Budget, and Execution (PPBE) cycle via the Environmental Compliance and Operational Reporting (ENCORE) database, the Marine Corps enterprise tool for environmental PPBE. ENCORE is a tool to assist with the identification, assessment, validation, documentation, and tracking of all environmental resource requirements. ENCORE was developed to accurately define programmatic funding levels necessary to support Marine Corps compliance with all applicable federal, state, and local laws and regulations; DoD/DON/Marine Corps policies; E.O.s; and applicable international requirements. The tool promotes PPBE tracking at a detailed project level by FY.

Commanders should also be familiar with other potential environmental funding sources, including:

- MILCON funds, which require congressional approval and are used for construction projects that exceed HQMC Facilities, Sustainment, Restoration and Modernization (FSRM) funding authority levels.

- The Environmental Restoration, Navy (ER,N) account, managed by the Naval Facilities Engineering Command (NAVFAC), which funds cleanup activities on Marine Corps installations.
- Additional funding sources include the Operation and Maintenance, Marine Corps Reserve (O&M, MCR) account for Reserve installations; the Naval Working Capital Fund; reimbursable Agricultural Outlease, Forestry, Fish and Wildlife Access, and Qualified Recycling Program (QRP) revenues; and the Defense Logistics Agency (DLA), Defense Energy Support Center funds for fuel-related environmental costs.

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. By law, financial statements are required to be complete, accurate, and auditable. NAVFAC assists Marine Corps installations in identifying, estimating, and reporting all environmental liabilities, ensuring that all cost estimates are auditable.



MARINE CORPS ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

The Environmental Management System (EMS) is the Commander's tool to enable the installation's environmental program to perform well and to identify, communicate, and address operational and programmatic risk. An EMS is a systematic approach to managing environmental programs, ensuring that the environmental requirements of an organization are integrated into existing business practices. EMS requirements are outlined in MCO 5090.2, Volume 2. EMS incorporates operations and management decisions through integrated planning and cross-functional coordination.

EMS assists in meeting environmental requirements by:

- Assessing environmental compliance and programmatic effectiveness to determine operational and programmatic risk;
- Ensuring that environmental programs are "self-correcting;"
- Setting goals and committing to continual improvement of the environmental management program; and
- Ensuring Marines and civilian personnel across missions, activities, and functions are accountable for managing their mission-related tasks, actions, and their associated environmental impacts.

WHY IMPLEMENT AN EMS?

- ▶ *Reduces risk to mission and the environment;*
- ▶ *Aligns process owner responsibilities with environmental impacts;*
- ▶ *Improves processes, promotes efficiency, and increases sustainability; and*
- ▶ *Enhances working relationships with the community and with regulatory agencies.*

Installation Commanders are required to conduct an annual EMS internal self-audit which culminates in a review of their EMS to understand the status of compliance with environmental requirements, programmatic performance, and environmental risks. This review is used to assess an installation's risk and determine strategies and funding levels necessary to mitigate those risks.

ENVIRONMENTAL COMPLIANCE EVALUATION (ECE)

The Marine Corps ECE Program consists of inspections that provide the Installation Commander with a snapshot of the status of compliance with pollution control and natural and cultural resource protection requirements. The ECE Program is designed to identify and correct compliance problems before they become possible adverse regulatory actions and/or risks to human health, the environment, and the Marine Corps mission.

The ECE Program includes the following four components:

- **Internal ECEs.** Annually, each Installation Commander is required to conduct an environmental self-assessment to determine instances of non-compliance and corrective/preventive actions. The internal ECE is overseen by the installation environmental staff and serves as a continuous internal

mechanism for Installation Commanders to assess compliance within their fence lines, including all tenant commands and activities. These audits should also include satellite sites owned by the installation that may not be contiguous to the installation itself. The internal ECE also involves an annual assessment of conformance with the installation's EMS and the compliance status of every environmentally regulated activity on the installation, including all tenant commands and activities.

- **Benchmark ECEs.** Benchmark ECEs are HQMC/MCICOM-sponsored inspections at each Marine Corps installation that occur every three years and are scheduled and performed by MCICOM. Benchmark ECEs are similar in scope to Internal ECEs except they leverage independent evaluators from outside of the Marine Corps to provide an external and consistent viewpoint across the Marine Corps. The Benchmark ECE is coordinated through the installation environmental office.
- **Plan of Action and Milestones (POA&Ms) and Annual Validations.** POA&Ms document corrective and preventive actions planned and implemented in response to compliance deficiencies identified in Internal and Benchmark ECEs. POA&Ms are developed by environmental office personnel in coordination with the deficiency owner. These are monitored by MCI Regions and MCICOM. Each Installation Commander should, at a minimum, conduct an annual review and verification of any open POA&M items focused on outstanding deficiencies remaining from the benchmark ECE. The annual validation of the Benchmark POA&M should not be confused with the annual audits required by the installation self-audit program.
- **Inspector General (IG) Checklist.** The IG maintains an environmental checklist focused on tenant/unit level compliance. The IG checklist is intended to reinforce compliance with environmental requirements for unit ECCs.

INSTALLATION ECE TIMELINE

The ECE Program operates on a three-year cycle. "Benchmark ECEs" conducted by HQMC/MCICOM 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 self-audits are performed by installation staff annually.

ENVIRONMENTAL MANAGEMENT REVIEW (EMR)

Each year, the DoD measures the performance of each Service's environmental programs by conducting an environmental management review (EMR). This process starts at the end of each FY and is complete within six months. The EMR focuses on environmental compliance, conservation, and restoration. Data



collected within the Environmental Data Repository (EDR) and Conservation Metrics Portal feed into the EMR. The Office of the Secretary of Defense uses the data for oversight, congressional reporting, financial programming and budget justification, policy development, and information requests and analyses.

RANGE ENVIRONMENTAL VULNERABILITY ASSESSMENT (REVA)

To effectively carry out its mission, the Marine Corps must conduct real-time, realistic training involving tactics, procedures, equipment, and personnel on operational ranges. To ensure long-term sustainment of these training areas while protecting the surrounding environment, the Marine Corps established the Range Environmental Vulnerability Assessment (REVA) program. REVA is a proactive program that supports Marine Corps and DoD sustainable range goals and policies. The goal of REVA is to identify potential releases or threat of releases of chemicals from munitions items to off range areas that could present a potential unacceptable risk to human health or the environment, and assist installations to formulate long-term range sustainment plans. Operational ranges that are addressed under REVA include target/impact areas, firing points, small arms ranges, and training areas, as well as areas with historical munitions use within operational range boundaries.

The REVA process includes data collection and analysis; environmental sampling (if necessary); risk assessments (if necessary); and documentation of results in fact sheets, which are made available to the public. REVA evaluates all operational ranges every five years or more frequently if there are changes to range use.





Environmental Planning

4

The NEPA of 1969 (covers the U.S. and its territories and possessions) and E.O. 12114, Environmental Affects Abroad of Major Federal Actions (for outside the U.S.) require federal agencies to consider potential environmental effects of their actions and to identify reasonable alternatives. Both NEPA and E.O. 12114 require thorough analysis and documentation; NEPA also requires meaningful public involvement in the decision-making process. The level of analysis under NEPA or E.O. 12114, as described below, depends on the scope of the planned project, degree of public concern, and the extent or significance of the impact on the environment.

Environmental planning stresses an interdisciplinary approach to analyzing environmental effects on all relevant aspects of the human and natural environment. It should be integrated with other planning actions on installations, including Installation Master Plans, Range Management Plans, Joint Land Use Plans, Encroachment Control Plans, and planning for individual projects.

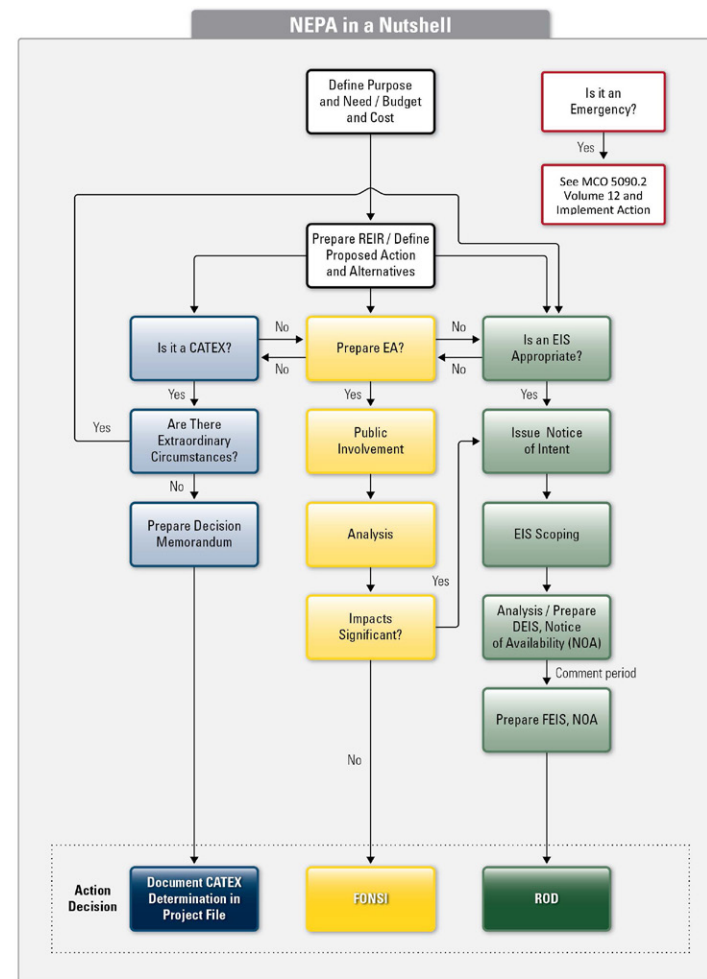
NEPA PROCESS

During a NEPA review, Marine Corps project sponsors (i.e., action proponents) must consider the relationship of the project to all other requirements discussed in this guide. NEPA reviews should be integrated with other environmental review and consultation requirements (e.g., Clean Air Act (CAA) General Conformity, Endangered Species Act (ESA) Section 7, National Historic Preservation Act Section 106, Clean Water Act (CWA) Section 404, and E.O.s) so that required consultations and permits are evaluated simultaneously rather than sequentially.

In the first phase of the NEPA process, the Marine Corps project sponsor prepares a Request for Environmental Impact Review (REIR) to determine whether significant environmental impacts are anticipated and whether revisions can be made to the proposed action to eliminate these impacts. The REIR is reviewed by Installation/Command environmental specialists and results in a determination of the required level of NEPA analysis:



- **Categorical Exclusion (CATEX).** CATEXs are broad categories of actions for which there is little or no potential for significant effects on the environment, and neither an Environmental Assessment (EA) nor an Environmental Impact Statement (EIS) is required. MCO 5090.2, Volume 12 provides a list of DON CATEXs and a list of Extraordinary Circumstances where a CATEX may not be appropriate. Installation Commanders have the authority to approve CATEXs and must document their use through a CATEX Decision Memorandum.
- **Environmental Assessment (EA).** An EA is required for proposed actions that do not qualify for a CATEX but are not expected to have a significant impact on the human environment. If an EA indicates that no significant environmental impacts are anticipated, a Finding of No Significant Impact (FONSI) is issued to document reasons why an action will not have a significant impact on the environment and why an Environmental Impact Statement will not be prepared. Public input is required as part of the EA process (see MCO 5090.2, Volume 12) and the FONSI must be made available to the public. Signature authority for the FONSI is delegated to Installation Commanders for actions on their installations and to Marine Corps Forces Reserve (MARFORRES) Commanding General (CG) for actions on reserve installations. EAs that conclude that impacts are expected to be significant or controversial should be coordinated through MCICOM. NEPA regulations require EAs be completed in one year unless a senior agency official (DASN) approves a longer timeline.
- **Environmental Impact Statement (EIS).** An EIS is required if significant environmental impacts are anticipated or if public controversy over the proposed action is expected. The EIS must contain a full, fair, and concise discussion of all significant environmental impacts relating to a proposed action. Federal agencies are also required to solicit public and regulatory comments on the analysis and alternatives to the proposed action. The EIS process is completed with a Record of Decision (ROD), signed by the Assistant Secretary of the Navy (Energy, Installations & Environment) (ASN (EI&E)), that informs the public of the Marine Corps decision. The ROD is a public record documenting consideration and selection of alternatives for implementation that commits the action proponent to appropriate mitigation, if necessary, to minimize significant environmental impacts. NEPA regulations require EISs be completed in two years unless a senior agency official (DASN) approves a longer timeline. Exceeding this timeline will require a waiver.



NEPA and several other federal laws require that federal agencies attempt to mitigate the impacts of their actions on the environment. Funding for mitigation measures must be programmed by the action proponent, either through a line item on a DD Form 1391, Military Construction Project Data, for a proposed MILCON project, or using O&M funds. Implementation of mitigation measures required under the auspices of a permit (e.g., wetland permit) or other legally binding agreements, and identified in the NEPA decision document, must be tracked by the installation or region to ensure adequate implementation.

Meaningful public involvement is also an important part of the NEPA process. EAs and EISs require public involvement, which can vary according to the scope of the action and anticipated environmental effects. Preparation of EISs requires a formal public involvement program including public notices, a public scoping process, and public meetings to inform the public and provide them opportunities to review and comment on the proposed action.

E.O. 12114

E.O. 12114, Environmental Effects Abroad of Major Federal Actions, January 4, 1979, furthers the purpose of NEPA with respect to Marine Corps actions that may significantly affect the environment outside the U.S. Title 32 Code of Federal Regulations (CFR) Part 187 establishes policy, procedural measures, and other actions for DoD officials to implement E.O. 12114.

E.O. 12114 applies to actions outside the U.S. that the Marine Corps directly or indirectly carries out, or directly funds. It does not include actions in which the U.S. participates in an advisory, information-gathering, representational, or diplomatic capacity but does not implement or fund the action; actions taken by a foreign government or in a foreign nation in which the U.S. is a beneficiary of the action but does not implement or fund the action; or actions in which foreign governments use funds derived indirectly from U.S. funding.

REQUIREMENTS FOR ENVIRONMENTAL CONSIDERATIONS—GLOBAL COMMONS

The global commons are areas 200 nautical miles from any foreign nation coastline or outside the jurisdiction of any nation including the high seas.

- **Overseas Environmental Assessment (OEA).** An OEA is an environmental analysis similar to an EA under NEPA. The objective of an OEA is to document the environmental consequences of a proposed action, allowing the reviewing authority to determine whether or not the effects of the action will cause significant harm to the environment. If the action would affect the environment in the U.S. Exclusive Economic Zone (EEZ) or the Global Commons, and it is unknown whether the action would cause significant harm to the environment, the action proponent must prepare an OEA.
- **Overseas Environmental Impact Statement (OEIS).** An OEIS is an environmental analysis similar to an EIS under NEPA. The objective of an OEIS is to document the environmental consequences of a proposed action that may cause significant harm to the environment. Action proponents shall prepare an OEIS for proposed major Marine Corps actions that would cause significant harm to the environment in the U.S. EEZ or the Global Commons.

At present, there are no approved CATExs for use overseas.

REQUIREMENTS FOR ENVIRONMENTAL CONSIDERATIONS—FOREIGN NATIONS AND PROTECTED GLOBAL RESOURCES

The provisions of E.O. 12114 and 32 CFR 187 apply to major federal actions undertaken by the Marine Corps that would cause significant harm to the environment of a foreign nation that is not involved in the action. The focus is on the geographical location of the environmental impact, which may be different than the location of the action. There are two types of environmental documents:

- **Environmental Studies.** An environmental study is prepared for a cooperative action and not a unilateral action undertaken by the U.S. It may be bilateral or multilateral, and it is prepared by the U.S. in conjunction with one or more foreign nations, or by an international body or organization in which the U.S. is a member or participant.
- **Environmental Reviews.** An environmental review is prepared by the Marine Corps either unilaterally or in conjunction with another federal agency. An environmental review is a concise survey of the important environmental issues involved. It includes identification of these issues, and a review of what, if any, considerations have been or can be given to the environmental aspects by the U.S. and by any foreign government involved in taking the action.



Environmental Compliance and Restoration

5

MCICOM, the MCI Regions, and Marine Corps installations have implemented environmental compliance and restoration programs in response to requirements in environmental laws, regulations, and policies. The environmental requirements described below apply to most Marine Corps installations and facilities. Information on environmental compliance programs and responsibilities is detailed in MCO 5090.2, Environmental Compliance and Protection, and is readily available from installation environmental office staff. Other environmental program information is also available on environmental topic webpages maintained by the EPA, such as: <http://www.epa.gov/environmental-topics>.

COMPLIANCE

The CAA, CWA, Safe Drinking Water Act (SDWA), and other health and safety-related statutes establish compliance requirements for installations, such as permitting requirements, procurement rules, and environmental standards. Environmental compliance status is evaluated through ECEs (discussed in Chapter 3) that are used as an internal tool to identify and correct deficiencies before they become issues, and also through external inspections performed by regulatory agencies.

REGULATORY INSPECTIONS

Federal, state, and local regulatory authorities routinely inspect Marine Corps installations to evaluate compliance with environmental requirements. 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 that ensure readiness for regulatory inspections include the following:

- Annual EMS conformance assessments and management reviews to ensure program health and effectiveness;
- Ensuring that the Marine Corps ECE Program is effectively implemented at the installation, that previously identified problems have been documented and corrected, and that copies of previous inspection reports are maintained;
- Establishing environmental points of contact (POCs) and training POCs at all activities down to the individual unit levels to effectively communicate with inspectors; and
- Ensuring that environmental records and files are well maintained by the installation's environmental office and/or by the units.

Upon receiving a notice of a regulatory inspection, Installation Commanders should alert commands, tenants, and units expected to participate in the inspection. The alert should include pertinent details of the inspection and authorize full cooperation with the inspection team.

At the start of the inspection, the inspectors usually provide an in-brief to the Installation Commander or his designee, the installation's environmental staff, and legal counsel or Staff Judge Advocate. 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 inspectors usually provide the Installation Commander with an exit briefing summarizing their findings. If an inspection reveals that an installation does not comply with environmental regulations, the agency may issue an informal indication (oral) or a formal notice of violation (NOV) (typically a letter) of the enforcement action. The command must respond appropriately to avoid potentially significant consequences, such as fines, consent orders, or further adverse actions. Below are descriptions of notices/actions and appropriate ways to respond to these situations:

- **Informal Indication of an Enforcement Action.** Often, a prompt and complete response to an informal indication of an enforcement action reduces

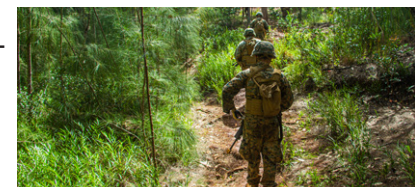
ENVIRONMENTAL ENFORCEMENT ACTION RESPONSE – BEST PRACTICES

If your installation receives an enforcement action from a regulatory agency:

1. *Immediately inform MCICOM (GF) through the chain of command;*
2. *Request assistance from Regional/Installation Counsel Office, and other support agencies, as necessary;*
3. *Request any needed detail from the regulatory agency to determine compliance requirements and timetables;*
4. *Inform installation's Communications Office if there are off-base or public implications;*
5. *Coordinate with or seek advice from the regional NAVFAC, as necessary;*
6. *Prepare and submit an ENCORE project for each environmental funding requirement; and*
7. *Develop and implement a corrective action plan.*

the severity of any formal action taken by the regulatory agency. Upon receipt of an informal or oral indication of noncompliance, the Installation Commander should consult with legal counsel immediately to determine the legal obligations. Regional legal counsel offices are available, and some installations have environmental law specialists to advise Commanders on legal aspects of environmental issues onsite.

- **Formal Notice of an Enforcement Action.** The regulatory agency may issue a formal NOV or other enforcement action notice. The notice will describe the noncompliant aspects of the operations or facility and will establish periods 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. Commanders should work with legal counsel to resolve enforcement actions.
- **Compliance Agreements/Consent Orders.** Federal or state regulatory agencies may negotiate a compliance agreement or consent order on mutually agreed-upon or mandated corrective action plans between the installation and regulatory agency.
- **Civil and Criminal Penalties.** Failure to meet environmental requirements can create legal/financial liabilities and operational impacts for installations. Installations can be assessed penalties and sued by regulatory agencies and the public, and installation activities can be halted. Also, in rare cases, DoD personnel can be criminally liable for knowingly violating environmental laws.
- **HQMC (LFF)/MCICOM (GF) Notification.** When a significant environmental event and/or when significant congressional/media/public interest is likely, the command must notify the MCICOM Watch Officer by telephone and by Operations Events/Serious Incident Report (OPREP-3)/(SIR) as soon as possible on the same day of the event. In cases where an enforcement action or NOV is issued, a copy of the enforcement must be uploaded to the HQMC (LFF)/MCICOM (GF) reporting tool, the EDR.
- **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 regularly monitor the Environmental Protection Agency's (EPA's) Enforcement and Compliance History Online (ECHO) website (<http://www.epa.gov/echo>) to ensure compliance data for the installation are current and accurate, and should work with regulatory authorities to correct inaccuracies. The category Significant Non-Compliance (SNC) on the ECHO website receives considerable public and DoD attention, and such findings need to be addressed appropriately as soon as possible.



AIR QUALITY



Clean air is essential for public health, maintaining quality of life, and to operate and sustain Marine Corps installations. Pollution emitted into the atmosphere negatively affects air quality and can limit the ability of Marine Corps installations to conduct training in support of the military mission. Air quality at Marine Corps installa-

tions is affected by geography, weather conditions, and pollution sources on and off the installation. Marine Corps installations typically have many air emissions sources (e.g., boilers, generators, vehicles, equipment, painting, and de-painting activities) that are subject to regulation.

The CAA 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 regulations improve air quality and prevent air pollution by establishing air emissions standards and controls.

Installation environmental offices are responsible for obtaining, implementing, and tracking air quality permits and other requirements for Marine Corps facilities. Air quality requirements generally fall within five categories:

- **Criteria Air Pollutants.** The EPA established standards to reduce emissions of six criteria pollutants: carbon monoxide, lead, ozone, oxides of nitrogen, sulfur dioxide, and particulates. States implement regulatory programs to enforce attainment of the emissions standards. Requirements vary depending upon the air quality for these criteria pollutants in each specific state/region. Marine Corps installations hold permits that regulate air pollution sources. In addition, Marine Corps installations must demonstrate that new or modified emissions sources will meet state/local requirements. Potential air quality impacts are assessed during the planning process for new federal actions under NEPA.
- **Hazardous Air Pollutants (HAPs).** Section 112 of the CAA 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, and other equipment and weapon systems.
- **Stratospheric Ozone Protection.** Some older refrigerants (e.g., R-12, R-22, R-123) and fire suppressants (e.g., halons) used at Marine Corps installations are ozone-depleting substances (ODS) that are detrimental to the Earth's ozone layer. ODS are being phased out and have generally been replaced with non-ODS depleting substitutes such as hydrofluorocarbons (HFCs), which are in turn being phased out due to their global warming potential (see below on Greenhouse Gas (GHG) Reductions and



the American Innovation and Manufacturing Act (AIM Act)).

- **Alternative Fuel Vehicle Requirements.** The federal government is required to ensure that a portion of vehicles acquired each year use alternative fuels. The use of alternative fuel vehicles reduces dependency on imported oil, improves air quality, and drives technological advancements. Alternative vehicle technologies include electric, biofuel, and natural gas-powered vehicles.
- **GHG Reduction and the AIM Act.** GHG emissions have been shown to have an impact on climate. GHGs primarily result from the combustion of fossil fuels, so GHG reductions directly rely upon energy strategies and initiatives to increase energy conservation and efficiencies; reduce fossil fuel consumption; and promote the use of renewables. GHG emissions can also result from other sources, to include the release of methane from landfills and livestock production and the release of HFCs used for cooling, refrigeration, and fire protection. The FY2021 AIM Act directs the EPA to regulate an orderly phasedown of domestic production and consumption of selected HFCs by 85% by 2036 with allowance caps and a schedule. HFCs have been targeted because they have a global warming potential of hundreds to thousands of times greater than carbon dioxide.

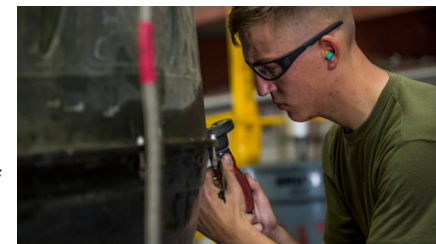


HFCs have been commonly used to replace chlorofluorocarbons, which began to be phased out in the mid-1990's due to their impact on ozone depletion. The AIM Act allows for continued production and use of HFCs for military mission critical end uses. The allocation guarantees a set level of production of HFCs for mission critical uses with no schedules or caps for reduction.

DRINKING WATER QUALITY

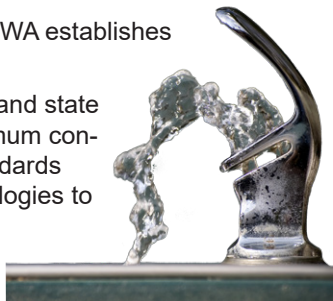
Drinking (or potable) water is a critical resource for Marine Corps installations and surrounding communities. The quality of drinking water drawn from surface and groundwater sources depends on geography, local soil properties, and the effects of human activity. Contaminants of potential concern include microbial, inorganic, organic, and radioactive materials in source waters, and lead, copper, and disinfection byproducts in water distribution systems. The installation environmental office should work with the Utilities/Public Works offices to ensure compliance with all drinking water program requirements.

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



- **Drinking Water Quality Regulations.** The SDWA establishes the following water quality provisions:

- **Drinking Water Quality Standards.** EPA 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 (CCRs).** Marine Corps public water systems must provide public notice to consumers when maximum contaminant levels are exceeded, or when other regulatory requirements are not met. Operators of community water systems must prepare and provide consumers with periodic CCRs on the quality of the water delivered by the system.
- **Water System Operator Certification.** State regulations implement 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.** Several other programs under the SDWA are in place to help protect water sources and to keep contaminants from entering drinking water systems. These include the underground injection control program to protect groundwater supplies from underground injection of wastes and other materials; the water system vulnerability assessment requirements to detect and protect water systems from potential attack; and the cross-connection control program to prevent drinking water lines from being connected to potential sources of contamination. State regulatory agencies also implement source-water protection programs to determine the susceptibility of public water systems to contamination from surrounding land areas. Installation environmental offices are responsible for working with the installation's Utilities/Public Works department related to any drinking water program within the command.



- **Lead in Priority Areas.** MCO 5090.2 requires each installation to test for lead in priority areas every five years, which covers all drinking water coolers and outlets in primary and secondary schools, child development centers, and youth and teen centers. Tests for lead should also be conducted when water treatment systems are added or modified. Any outlets above the action level of 15 parts per billion (ppb) must be addressed.
- **Water Conservation Rules.** 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.
- **Per- and Polyfluoroalkyl Substances (PFAS).** PFAS are a family of chemicals that are found in many consumer products, including aqueous film forming foam (AFFF) used in military and civilian applications to fight

petroleum fires. PFAS are currently unregulated; however, EPA has issued recommended maximum levels in drinking water, also known as lifetime health advisories (HAs), for two PFAS called perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). The Marine Corps is currently required to periodically sample for PFAS in drinking water at its owned and operated drinking water systems per DoD and DON policy and to take action to halt exposure if testing results exceed the HA. DoD and DON policy also require the Marine Corps to obtain recent PFAS results for non-Marine Corps owned drinking water systems, or if recent results are not available, to conduct testing.

HAZARDOUS MATERIALS (HM), WASTE (HW), AND SUBSTANCES (HS)

Marine Corps installations operate numerous practices that use HM and generate HW. In general:

- Hazardous Materials (HM) are materials used in industrial processes that pose a threat to human health or the environment if released in significant amounts to the environment;
- Hazardous Waste (HW) are waste products generated by Marine Corps activities that may be a substantial hazard to human health or the environment when improperly treated, stored, transported, or disposed; and
- Hazardous Substances (HS) are chemicals that have the potential to cause significant impacts to human health or the environment.



COMMON HM AT MARINE CORPS INSTALLATIONS

- ▶ Gas cylinders
- ▶ Oils and greases
- ▶ Paints
- ▶ Antifreeze
- ▶ Solvents

HM, HW, and HS are subject to Federal regulations, and all personnel have a responsibility to ensure they are handled and managed correctly. The manage-



ment, storage, transportation, treatment, and emergency response procedures for HM, HW, and HS are regulated under several statutes:

- **HM Storage and Transportation.** The Occupational Safety and Health Administration (OSHA) regulations establish specific requirements for the storage and management of HM in the workplace. U.S. Department of Transportation (DOT) regulations include requirements for packaging and shipping.
- **HW Management.** Subtitle C of the Resource Conservation and Recovery Act (RCRA) defines HW and establishes requirements for their management and minimization. Facilities that generate, transport, treat, store, or dispose of HW must obtain identification numbers from EPA. Such facilities are classified as Large Quantity Generators (LQG), Small Quantity Generators (SQG), or Very Small Quantity Generators (VSQG) depending upon the amount of HW generated. After verifying federal categories to determine waste classification, make sure to review state requirements for additional categories as well. Each category has its own specific requirements. All HW generators, unless exempted, must treat, store, or dispose of their HW at permitted facilities. Any facility generating more than specified amounts of HW or acutely HW (as defined by RCRA) must certify that it has a program to minimize waste generation. A Marine Corps installation should have a HW minimization program as part of its P2 Program.
- **HS Spills and Releases.** The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), RCRA, and CWA regulate HS if released and the cleanup of past improper HW disposal.
- **Chemicals of Emerging Concern (CECs).** CECs (e.g., PFAS) are those that present potential health or environmental risks but lack federal regulatory standards. DoD Instruction (DoDI) 4715.18 establishes policy for the identification, assessment, and risk management of emerging contaminants.

HW GENERATOR CLASSIFICATION

- ▶ **Large Quantity Generator (LQG)**
 - Installations generating 1,000 kilograms (kg) or more of HW per month or 1 kg or more of acutely HW per month
 - Can accumulate HW up to 90 days onsite without a storage permit
- ▶ **Small Quantity Generator (SQG)**
 - Installations generating more than 100 kg but less than 1,000 kg of HW per month
 - Can accumulate HW up to 180 days onsite without a storage permit
- ▶ **Very Small Quantity Generator (VSQG)**
 - Installations generating 100 kg or less of HW per month
 - May not accumulate more than 1,000 kg of hazardous waste at any time

STORAGE TANKS

Storage tanks are widely used to store petroleum products, HS, HW, and non-hazardous wastes. Storage tanks include both underground and aboveground tanks. An underground storage tank (UST) is a single tank or a

combination of tanks used to contain an accumulation of regulated substances, and the volume of which (including the volume of connected underground pipes) is 10 percent or more beneath the surface of the ground. Aboveground storage tanks (ASTs) are generally defined as bulk storage containers or operational equipment, located on or above the surface of the ground, and have a capacity of 55 gallons or greater.

Storage tank design and operation are subject to federal, state, and local regulations, manufacturer's specifications, and industry standards. Generally, any type of storage tank must comply with federal regulations; however, state and local interpretations may be more restrictive.

- **Underground Storage Tanks (USTs).** Subtitle I of RCRA, as amended by the Hazardous and Solid Waste Amendments, establishes a comprehensive regulatory program for USTs containing regulated substances. The Energy Policy Act of 2005 updated many provisions of Subtitle I by revising and/or implementing new requirements for tank design, operation and management, inspections, operator training, delivery prohibition, secondary containment, financial responsibility, and cleanup of releases that contain oxygenated fuel additives. The EPA has delegated regulatory authority to many states which promulgated additional UST regulations.
- **Aboveground Storage Tanks (ASTs).** The Oil Pollution Act (OPA), promulgated under the CWA, includes requirements for oil spill prevention, preparedness, and response to prevent petroleum discharges to navigable waters and adjoining shorelines. If an installation meets the regulatory threshold, they are required to implement specific requirements for AST operation and maintenance, inspections, and spill prevention and preparedness. The Spill Planning and Response section of this guide contains additional requirements pertaining to emergency preparedness.
- **Used Oil and Hazardous Waste Tanks.** Subtitle C of RCRA sets standards for storage tanks containing used oil and for tanks used to store or treat HW. These requirements apply to both USTs and ASTs.
- **Other Regulatory Considerations.** A host of additional non-environmental regulations exist that may apply to storage tanks containing various types of hazardous, flammable, and combustible substances. Most of these provisions are promulgated under the Occupational Safety and Health Act of 1970 and state or local fire codes. The focus of these requirements is fire safety and occupational safety and health, but they may address environmental concerns as a secondary objective.

TOXIC SUBSTANCES

Asbestos, lead, and radon potentially pose significant risks to human health and are regulated under a wide number of federal and state regulations. Because of the human health risk, these programs may be under the purview of Safety or Facilities sections. These personnel should work closely with the environmental staff to ensure that all applicable regulations are followed.

Asbestos

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. Airborne asbestos fibers present a substantial health hazard, as the fibers can be inhaled and become lodged in lung tissue, where they cause scarring and inflammation and can lead to various diseases, including lung cancer. Buildings constructed or remodeled between 1945 and 1978 are likely to contain asbestos.

Asbestos is regulated under several federal statutes and state-level regulations. Many state and local government asbestos standards are more stringent than the federal standards. Some of the requirements of these regulations and statutes are described below:

- **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.
- **Hazardous Air Pollutants Standards.** CAA requirements specify inspections and 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 SDWA 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.** OSHA 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. EPA regulates the management and disposal of asbestos-containing wastes.

Marine Corps asbestos safety policy is to eliminate asbestos exposure by substituting non-asbestos-containing materials, or by using engineering and administrative controls and personal protective equipment where substitution is not feasible. To implement OSHA and EPA requirements, the Marine Corps Asbestos Safety Program requires precautionary measures, health practices, and



training and certification for personnel conducting asbestos removal or encapsulation projects.

Lead

Lead is a naturally occurring metal that can cause serious health problems when ingested or inhaled. Although lead can be found in many environments, lead exposure is most common from human activities. Lead is used in batteries, radiation shielding, plumbing, and ammunition. Lead compounds were commonly used in gasoline for cars prior to 1996, and buildings constructed or remodeled before 1978 are still likely to contain lead paint.

Lead is regulated through several environmental programs:

- **Lead in Paint.** The Toxic Substances Control Act (TSCA) and implementing rules require that renovators working or operating in an environment where they may create dust that contains lead to be certified by an EPA or authorized state renovation, repair, and painting program.
- **Lead in Drinking Water.** The SDWA requires monitoring, reporting, and maintenance of drinking water lead concentrations below a certain threshold set forth in EPA's Lead and Copper Rule. In addition, it is Marine Corps policy that lead testing be conducted on all drinking water coolers and outlets in priority areas, specifically, primary and secondary schools, child development centers, and youth and teen centers.
- **Lead in Air.** The CAA regulates lead emissions from stationary and mobile sources. The major sources of lead regulated under the CAA are leaded aviation gasoline, incinerators, and utilities.
- **Lead in Waste.** RCRA governs the treatment, storage, and disposal of hazardous wastes containing lead.

Radon

Radon is a naturally occurring, colorless, odorless, radioactive, and carcinogenic 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 groundwater.

EPA 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.** TSCA requires federal agencies to conduct a study of radon levels in federal buildings and provide results to EPA. 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 (NAVRAMP) Guidebook, approved by EPA, 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 facilities. All Marine Corps installations must have and maintain a radon management plan that serves as an instrument for providing oversight of the installation's radon program, including a risk communication plan.

- **Radon in Drinking Water.** EPA 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.

SURFACE AND GROUNDWATER QUALITY

Maintaining the environmental quality of surface and underground water resources is necessary for sustaining their uses as drinking water supplies, aquatic and wildlife habitat, and for recreational purposes. Water quality can be impacted by human activities and primary sources of pollution include wastewater discharges, stormwater discharges, and stormwater runoff.

Water quality programs eliminate or mitigate impacts on our water resources. Primary legislative drivers for water quality programs at Marine Corps installations are the CWA, the Coastal Zone Management Act (CZMA), and their associated implementing regulations.

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

- **Spill and Release Prevention.** The CWA 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 OPA amended the CWA to expand oil spill prevention activities, improve preparedness and response capabilities, and ensure that organizations are responsible for damages from spills.
- **Protection of Coastal Areas.** The CZMA, administered by the National Oceanic and Atmospheric Administration (NOAA), 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 stormwater-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.
- **Stormwater Management.** Marine Corps policy requires Low Impact Development (LID) designs in construction and renovation projects. LID is a set of BMPs that use vegetation and retention technologies to reduce volume and pollutant loading of stormwater, minimizing the need for downstream management. In addition, the Marine Corps is required to comply with stormwater permits that specify management requirements (to include BMPs) and/or limits on the type and amounts of pollutants being discharged.

STORMWATER EXAMPLE BMPs

- ▶ Store pollutants under cover and perform routine maintenance
- ▶ Use fabric screens and hay bales at construction sites
- ▶ Construct wet and dry detention and retention ponds
- ▶ Develop constructed wetlands, grassed swales, and forest buffers

Per- and Polyfluoroalkyl Substances (PFAS)

PFAS are a group of man-made chemicals that are found in numerous industrial and consumer products worldwide, including in AFFF used for civilian and military firefighting. PFAS are sometimes referred to as "forever chemicals" due to their resistance to breaking down in the environment. Two PFAS, PFOS and PFOA, have been found in drinking water and groundwater supplies across the country near DoD and non-DoD sites, which has resulted in significant media and Congressional interest. Long-term exposure to PFOA and PFOS may result in adverse health effects.

PFAS, including PFOS/PFOA, are not currently regulated by the U.S. EPA. However, in May 2016, EPA established a lifetime HA (recommended maximum concentration in drinking water) of 70 parts per trillion (ppt) for PFOA and PFOS combined.

The DoD and DON have established policies to address concerns about PFOS/PFOA that have included the following requirements:



- Test DoD owned and operated drinking water systems for PFOS/PFOA regularly.
- Obtain drinking water testing results or test water from non-DoD owned and operated drinking water systems for PFOS/PFOA.
- Use the EPA HA of 70 ppt PFOS/PFOA as limits in DoD drinking water systems until EPA sets a regulatory standard.
- Purchase AFFF that meets the MILSPEC limiting PFOS/PFOA concentrations in product to <800 parts per billion (ppb) each.
- Remove and replace older AFFF in facilities and equipment with newer MILSPEC AFFF.

Congress has required a PFAS-free foam by FY24, which will likely require changes to fire-fighting systems due to different characteristics of the foam product. The military services are developing plans to address this requirement.

ENVIRONMENTAL RESTORATION

Environmental Restoration is a comprehensive DoD program that identifies, investigates, and cleans up contamination from past DoD activities. The Environmental Restoration Program, designed to implement the requirements and procedures of CERCLA, is governed by DoDI 4715.07 (Defense Environmental Restoration Program (DERP)) and follows the Navy Environmental Restoration Program (NERP) Manual.

The Environmental Restoration Program includes two components:

- Installation Restoration Program, which identifies and remediates past releases of pollutants or contaminants from DoD activities.
- Munitions Response Program, which investigates and cleans up munitions and explosives of concern (MEC), including unexploded ordnance and chemicals that were released from munitions items on other-than-operational range areas at active installations.

The DoD has established goals for the cleanup of past hazardous waste sites that are applicable to Marine Corps installations. NAVFAC executes the Marine Corps Environmental Restoration Program with funding from the ER,N account. Marine Corps installations are responsible for advocacy, oversight, and approval for environmental restoration activities on their installations. Overseas cleanup activities are governed by DoDI 4715.08 (Remediation of Environmental Contamination outside the United States), and Host Nation Governing Standards.

RESTORATION PROGRAM RESOURCES

Additional information and guidance on the Environmental Restoration Program is available on the NERP website (https://www.navfac.navy.mil/navfac_worldwide/specialty_centers/exwc/products_and_services/ev/go_erb.html) and the DERP website (https://www.denix.osd.mil/references/dod/policy-guidance/management-guidance-for-the-defense-environmental-restoration-program-derp/DERP_Management_Guidance_2001.pdf).

Pollution Prevention and Spill Planning and Response

6

POLLUTION PREVENTION (P2)

The P2 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 non-hazardous cleaning product 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.

P2 focuses on reducing or eliminating pollution at its source through (1) increased efficiency in the use of raw materials, energy, water, and other resources; (2) purchase of materials with recycled content; (3) substitution of less hazardous materials; (4) improved hazardous material management; and (5) onsite reuse or recycling of waste. P2 goals are applicable across many environmental program areas.

The Marine Corps P2 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 non-hazardous or less hazardous in nature;
- Develop and incorporate technologies or materials that reduce impacts on the environment and human health;
- Increase diversion of compostable and organic material from the waste stream;
- Implement integrated pest management and other appropriate landscape management practices;
- Comply with Emergency Planning and Community Right-to-Know Act (EPCRA) reporting requirements;
- Seek P2 solutions to compliance issues;
- Develop and implement P2 plans; and
- Encourage P2 awareness through the Marine Corps CETEP.



Several requirements govern the Marine Corps P2 Program:

- **National Pollution Prevention Policy.** The Pollution Prevention Act sets national policy, including a preferred hierarchy for P2 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.
- **Hazardous Waste Minimization.** RCRA requires hazardous waste generators to certify that the installation has a program in place to minimize the amount and toxicity of wastes generated and that the installation's storage, treatment, or disposal methods minimize threats to human health and the environment.
- **Hazardous Chemical Reporting.** EPCRA requires that the public receive timely and comprehensive information about possible or potential hazards associated with hazardous chemicals present and toxic chemicals released. It also requires that information on hazardous chemical inventories be submitted to state and local emergency planners and toxic chemical releases be submitted to the EPA and the state.
- **Increase Energy Efficiency.** The Energy Policy Act requires federal agencies to increase the usage of alternative fuel vehicles, reduce energy and water consumption, and increase energy efficiency.
- **Solid Waste Prevention and Recycling.** DoDI 4715.23 establishes policy, assigns responsibility, and prescribes procedures to implement integrated solid waste management (ISWM) through waste prevention and recycling.



SOLID WASTE AND RESOURCE RECOVERY

Per DoDI 4715.23, solid waste is garbage, refuse, sludge, and other discarded materials not excluded by federal law or regulations. Per Deputy Assistant Secretary of Defense (Environment) Memorandum of 16 March 2020, the DoD is committed to an ISWM approach that effectively manages solid waste generation, reduction, diversion, and disposal while maintaining compliance with federal and DoD requirements. DoD's ISWM approach involves examining the solid waste stream and current market opportunities to cost effectively minimize waste disposal. DoD has adopted the following solid waste management hierarchy: 1) source reduction, 2) sustainable procurement, 3) reuse, 4) donation, 5) recycling, 6) composting, and 7) waste-to-energy before incineration or landfilling.

To demonstrate a commitment to ISWM, DoD has established the following goals: 1) divert 40 percent of non-hazardous solid waste (excluding construction and demolition (C&D) debris) from incineration and landfilling; 2) divert 60 percent of C&D debris from incineration and landfilling; and 3) reduce total annual waste generation by two percent of total waste each year through FY2025. Progress towards these objectives is tracked annually through the EMR.

Marine Corps installations must properly manage and dispose of solid waste in accordance with various federal, state, and local requirements to include:

- **Solid Waste Disposal and Management Requirements.** 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.
- **Municipal Solid Waste Management and Reduction.** RCRA addresses the management of municipal solid waste and encourages the increased use of product separation, source reduction, and recycling to reduce solid waste volume.
- **Federal, State, Interstate, and Local Solid Waste Requirements.** 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.
- **Management of Proceeds from QRPs.** 10 U.S. Code (U.S.C.) 2577 authorizes military installations to retain proceeds from the sale of recyclable materials for the purpose of covering QRP costs. If a QRP has been established and all QRP costs have been covered, not more than 50% of the remaining available balance may be used to fund projects for pollution abatement, energy conservation, occupational safety and health activities, and/or transfer to Marine Corps Community Services (MCCS) for morale, welfare, and recreation activities.
- **Asbestos Landfill Disposal.** The CAA regulates disposal of asbestos waste in landfills.
- **Waste Prevention and Recycling.** DoDI 4715.23 establishes policy, assigns responsibility, and prescribes procedures to implement ISWM through waste prevention and recycling.
- **DoD Sustainability Goals.** The DoD Strategic Sustainability Performance Plan (SSPP) presents DoD's goals and sustainability performance expectations over the next decade, establishing the path by which DoD will enhance its ability to achieve the mission, lower life cycle costs, and advance technologies and practices that further the sustainability goals of the Nation.

SUSTAINABLE PRACTICES

- ▶ Use of renewable energy and reductions in GHG emissions
- ▶ Increases in energy and water efficiency
- ▶ Procurement of "green" products and services
- ▶ Minimization of chemicals of environmental concern
- ▶ Integrated solid waste management and reduction

SPILL PLANNING AND RESPONSE



Emergency spill planning and response programs reduce the impacts of pollutant releases to the environment by establishing procedures for installations to respond to incidents quickly and appropriately. Elements of emergency spill planning and response programs include management plans, procedures, and test exercises for release prevention and emergency response.

Marine Corps installations must develop communication and strategic plans to respond to pollutant release incidents and must inform the public regarding the storage of certain HS.

- **Discharges of Pollutants to U.S. Waters.** The CWA 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. The CWA also mandates the development and implementation of Spill Prevention, Control, and Countermeasure (SPCC) Plans. The OPA expands CWA prevention and response requirements for oil spills, requiring that installations develop Facility Response Plans to establish capabilities and contingency for worst-case discharges.
- **Hazardous Substance Releases.** CERCLA sets threshold values (“reportable quantities” (RQ)) for releases of hazardous substances that, when met or exceeded, trigger reporting requirements to appropriate regulatory agencies (e.g., the National Response Center (NRC)). The Act also mandates Spill Contingency Plans for facilities that store oil and hazardous substances.
- **Emergency Planning, Public Information, and Releases.** EPCRA encourages emergency spill 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 EPCRA extremely hazardous substance or a CERCLA HS that meets or exceeds the RQ, installations must immediately notify state and local emergency response planners under EPCRA, and the NRC under CERCLA as appropriate. EPCRA also establishes reporting requirements for hazardous chemical inventories and toxic chemical releases, as well as state and local coordination in planning responses to chemical emergencies.
- **Hazardous Waste Facilities and USTs.** RCRA requires owners of hazardous waste facilities to develop management plans for spill prevention and clean-up and establishes requirements for prevention, detection, and correction of releases from USTs.
- **Toxic Air Pollutants Release Prevention.** The CAA requires procedures and risk management plans to prevent and minimize the consequences of accidental releases of toxic air pollutants.
- **Health and Safety.** OSHA establishes various training requirements for personnel involved in hazardous substance cleanup and emergency response operations.

GENERAL SPILL REPORTING REQUIREMENTS

For releases reportable to regulatory agencies occurring within and outside the continental U.S. that are likely to result in serious environmental harm, impact sensitive ecosystems, may generate adverse publicity, or for sewage spills over 5,000 gallons and entering waters of the U.S. (i.e., significant events), notify the Commandant of the Marine Corps, Director, Facilities and Services Division (CMC (LF))/Commander, MCICOM via a voice report/phone call to the MCICOM Watch Officer within 30 minutes of becoming aware of such an event. This shall be followed by an OPREP-3/SIR message and an incident report in the environmental database within six hours of the event.

For other releases or spills reportable to regulatory agencies that are not significant events as defined above, or to provide more detailed information on serious incidents, notify the CMC (LF)/MCICOM (GF) via the Spill Report Tracker in the environmental database within three working days.

All Marine Corps commands/units and tenants and non-Marine Corps tenants on Marine Corps property, even if under the operational command of another service, should report the release to the installation environmental office in accordance with local spill reporting procedures. For releases involving Marine Corps commands that are tenants of another service or agency or under the operational command of another service (e.g., Commander, Naval Base Norfolk), report the release to the host installation environmental office.

SPECIAL AFFF USE/SPILL REPORTING REQUIREMENTS

Due to the significant congressional and public interest in AFFF releases due to the heightened concern over PFAS, all AFFF usage and spills must be reported to MCICOM in order to meet Office of the Secretary of Defense (OSD) and congressional reporting requirements.

- **Requirements for All AFFF Incidents.** All uses, spills, and releases of AFFF, regardless of size, must be reported using the Spill Report Tracker in the environmental database maintained by the installation environmental office. The installation environmental office and the installation Fire and Emergency Services (F&ES), Aircraft Rescue and Firefighting (ARFF), or Expeditionary Fire Rescue (EFR) and bulk fuel units must also be notified as soon as an AFFF use or spill is discovered. Spills that occur off the installation, or by Fleet Marine Forces (FMF), shall be reported by Unit Commanders to the nearest Marine Corps installation environmental office and Installation Commander.
- **Special Requirements for Significant Incidents.** Significant incidents are spills or use greater than 10 gallons of AFFF concentrate or more than 300 gallons of foam mixed with water or have the potential for significant media/public attention. In addition to the requirements above, significant incidents also require that a voice report/phone call to the MCICOM Watch Officer be completed within 30 minutes of becoming aware of such an event; an OPREP-3/SIR message be submitted within six hours of the time of the event; and an AFFF Release and Response Report (spreadsheet for OSD reporting) also be submitted within six hours of the time of the event.

Natural and Cultural Resources Conservation

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Land entrusted to the Marine Corps often includes significant natural and cultural resources. By engaging in integrated planning and management to encourage the sustained use of these resources, the Marine Corps preserves the land, water, and airspace needed for readiness training while maintaining environmental protection. Conservation planning includes NEPA (in the U.S.), E.O. 12114 (overseas) compliance (see Chapter 4 of this guide), and general integration of environmental concerns into facilities planning for Marine Corps installations.

NATURAL RESOURCES

Marine Corps training requires access to land, sea, and airspace; and unless properly managed, assets can become damaged to the point where realistic training can no longer occur. Effective management of the natural resources entrusted to the Marine Corps ensures they remain healthy and available for training. In addition, there is an intrinsic value on natural resources that is manifested in laws, regulations, E.O.s, MCOs, policy, and guidance requiring the Marine Corps to protect and conserve natural resources. Failure to comply with natural resources laws can lead to judicial, legislative, and executive decisions denying the Marine Corps the ability to train.

Natural resources ecosystems include watersheds, wetlands, natural landscapes, soils, forests, coastal shorelines, littoral habitats, and associated plant and wildlife species. Natural resource management is necessary to protect water resources, control soil erosion, combat climate change, and maintain habitat for plants and animals, including threatened and endangered species. Effective ecosystem management protects and supports current and future mission training needs by minimizing regulatory constraints, reducing encroachment on installation boundaries and missions, and providing realistic training environments.

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

- **Protection for Endangered and Threatened Species.** The Endangered Species Act of 1973 is the primary law in the United States for protecting imperiled species. The purpose of ESA is two-fold: to prevent extinction and to recover species to the point where the law's protections are not needed. Endangered Species are those in danger of extinction throughout all or a significant portion of their ranges. Threatened Species are likely to become endangered within the foreseeable future throughout all or a significant



portion of their ranges. Federal agencies are required to use their various authorities to further the purposes of the ESA. The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) provide oversight and enforcement of the Act. These services also issue Biological Opinions that provide terms and conditions for federal activities that may adversely affect a protected species, and authorizes “takes” of a species related to otherwise lawful activities. For activities that impact federally listed species, installation biologists must consult with the USFWS and/or NMFS regarding actions to ensure that federal actions do not jeopardize the existence of the species. Installation Natural Resource Managers coordinate with the USFWS and NMFS when any threatened, endangered, or otherwise special status species is involved. Compliance with any issued Biological Opinion under the ESA for an installation or specific action is non-discretionary.

- **Natural Resources Programs on Military Installations.** The Sikes Act requires the USFWS, state fish and wildlife agencies, and military installations across the nation to work closely to conserve fish and wildlife and ensures the protection and enhancement of ecosystems, while allowing military lands to sustain military operations and meeting mission success. Under the Sikes Act, military installations in the U.S. are required to develop and implement INRMPs in cooperation with the USFWS and state natural resources agencies. The INRMP serves as the primary, overarching guide for natural resource management to not only meet regulatory requirements and establish and implement BMPs, but to also sustain and enhance training lands. The Act also requires military installations to provide public access to natural resources for outdoor recreation, hunting, and fishing, as appropriate and consistent with the military mission, safety, and security concerns. Program areas addressed in the INRMP may include the following as appropriate:

- Threatened, Endangered, and Candidate Species Programs
- Marine Mammal and Coral Reef Community Conservation
- Wetlands, Watersheds, and Coastal Conservation
- Climate Resiliency
- Forest Management
- Outdoor Recreation, Hunting, and Fishing
- Agricultural Out-leasing
- Non-native and Invasive Species Control



- Wildland Fire Management
- Erosion Control
- Conservation Law Enforcement
- Migratory Bird Management
- Bird Aircraft Strike Hazard
- Grounds and Landscape Management
- Outreach and Education
- **Migratory Bird Protection.** The Migratory Bird Treaty Act (MBTA) prohibits the take of migratory birds. Further, E.O. 13186 clarifies that federal agencies have the responsibility to avoid or minimize the negative impacts of their action on migratory birds, and to take active efforts to protect birds and their habitats. While incidental take of migratory birds is authorized for military readiness activities, the effects of these activities to bird populations must be evaluated and monitored. Impacts to migratory bird populations due to other non-readiness activities such as routine facilities maintenance, construction, or other actions should be evaluated in conjunction with respective NEPA review.
- **Coastal Zone Protection.** The CZMA and its amendments require federal agencies whose action(s) or activities are reasonably likely to affect any land or water use or natural resource of the coastal zone to be consistent, to the maximum extent practicable, with state-established coastal zone management programs. The coastal zone includes ocean waters (out to 3 nautical miles) and adjacent land. The process of determining consistency with a state's CZMA is usually included as part of the NEPA environmental planning analysis for any action or activity.
- **Other Regulatory Species and Habitat Protections.** Various other wildlife species and habitats are protected under specific federal regulations such as the Bald and Golden Eagle Protection Act (BGEPA), Marine Mammal Protection Act (MMPA), Coral Reef Protection Act, and the Magnuson-Stevens Fisheries Conservation Act. These regulations have specific assessment, monitoring, and regulatory requirements that should be closely coordinated with ongoing environmental planning and assessments under NEPA.

- **Forestry.** 10 U.S.C. §2665, “Sale of certain interest in land; logs” allows the government to sell interests in land used for forest products and use revenues from sales to help offset costs of forest management. Sustainable management of forest environments on installations is essential for supporting military uses (i.e., reducing fire risk, improving access or visibility) as well as ecosystem integrity. As part of integrated management of natural resources, installation Commanders shall review the suitability of their lands for merchantable forest products. Installations containing forests or lands with the potential to grow and produce merchantable forest products shall ensure the optimum sustainable yield of forest products and the improvement of forest resources consistent with the military mission and local ecosystem conditions.
- **Agricultural Out-lease.** 10 U.S.C. §2667, “Non-Excess Property of Military Departments” permits installations to lease real or personal government property, including land leased for agricultural purposes. These leases provide both a means of accomplishing land management goals as well as generating revenue that can supplement the natural resource budget.
- **Wetlands and Waterways.** The CWA requires protection for wetlands and waterways and requires federal agency plans to be consistent with state nonpoint source pollution abatement plans. In addition, E.O.s 11990 and 11988 require federal agencies to avoid adverse impacts or modifications to wetlands and floodplains. 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. Military construction and other activities may often have impacts to wetlands or other waters protected under the CWA. Impacts to these resources should be identified during the NEPA planning process (see Chapter 4) to ensure proper permits and mitigation measures are identified.
- **Invasive Species Control.** Executive Order 13112 recognizes the negative impact of invasive species on natural resources and calls upon the executive departments and agencies to take steps to prevent the establishment and spread of invasive species and eradicate and control any species that are established. While control of exotic, non-native, or other invasive species is not directly derived by any one specific federal regulation, it may be one of the most important and effective land management techniques to sustain resources and ultimately support regulatory compliance. Invasive species can be detrimental to native fish, wildlife, and plant populations; increase risk of wildfires; disrupt natural hydrology, leading to flooding; or even decrease water supplies in arid environments. Predation and loss of habitat due to invasive species are leading causes of species declines that may warrant protection under the ESA. Control of invasive species requires long-term, sustained effort.
- **Climate Change Adaptation.** Per OSD policy, all INRMPs will address climate change. Climate change may influence any one of the natural resource management areas listed above. DoD and USMC policies require INRMPs to assess the potential impacts of climate change to natural

resources on USMC installations in a regionally consistent manner to the extent practicable, using the best available science and tools. As part of ecosystem-based management, policies require the use of an adaptive management approach to manage natural resources and respond to climate change. Climate change, climate resiliency, and incorporating climate considerations into INRMPs is a priority. All Installations should refer to the DoD Guide for Incorporating Climate Considerations into their INRMPs.

CULTURAL RESOURCES

Cultural resources are the remnants of past human activity and include archaeological sites; historic buildings, structures, and objects; historic records and photographs; sacred sites; and properties of traditional, religious, or cultural significance to Native American Tribes or Native Hawaiian Organizations (NHOs). Our unique Marine Corps military heritage also is reflected in historic buildings and monuments on Marine Corps installations. 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.

Installations with cultural resources are required to prepare and implement an ICRMP to establish and maintain a program to identify, evaluate, protect, and preserve resources of cultural value.

Federal laws require proactive management and consideration of the following categories of cultural resources:

- **Historic Properties.** The National Historic Preservation Act requires federal agencies to preserve and manage properties in the spirit of stewardship. These responsibilities include determining the effects of federal undertakings on 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 consider 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 (ARPA) requires Marine Corps installations to protect archaeological resources. Permits are required for the excavation or removal of artifacts from federal lands by those not directly associated or contracted by the installation. Specified Native American Tribes or NHOs must also be notified if significant religious or cultural sites will be affected. ARPA also allows federal agencies to prosecute individuals that disturb or damage archaeological sites, or unlawfully take artifacts from sites on federal lands. Conservation Law Enforcement Officers are authorized to make arrests under the authority of ARPA.
- **Native American Graves and Associated Items of Cultural Patrimony.** Under Native American Graves Protection and Repatriation Act requirements, discovery of suspected Native American or Native Hawaiian human remains during a federal activity/project requires immediate cessation of activity for a minimum of 30 days, and consultation with Native American Tribes or NHOs. 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 Tribes or NHOs. Federal agencies are also required to repatriate Native American or Native Hawaiian remains and items of cultural patrimony to the appropriate tribe, organization, or individual.
- **Native American Sacred Sites.** E.O. 13007 directs federal agencies to accommodate access to and ceremonial use of sacred sites by religious practitioners and avoid adversely affecting the physical integrity of such sacred sites.

ENCROACHMENT MANAGEMENT

MCO 11011.22B, Policy and Procedures for Encroachment Control Management, requires installations to prepare Encroachment Control Plans (ECPs). The ECP preparation and execution is the responsibility of the installation's Community Plans and Liaison Office (CPLO). Regional and installation Encroachment Control Programs may include Encroachment Partnering Initiatives that could involve interaction with the state or local government, regional conservation forums, or private landowners from either an endangered/threatened species or incompatible land-use perspective.

Installations are encouraged to develop Encroachment Management Action Teams to provide situational awareness and ensure coordination with overlapping programs to avoid duplication of effort, follow HQMC policy, and to produce quality plans. The CPLO should be the single point of reference for community relations issues and coordination with local and state governments concerning encroachment issues.





QUESTIONS TO ASK INSTALLATION STAFF

- Are we in full compliance with applicable requirements? If not, what is keeping us from getting there?
- Are there potential environmental health issues that we should be addressing proactively?
- Do we have a good working relationship with the regulatory agencies? If not, why not and how can we make them better?
- Is our drinking water meeting standards? Are there vulnerabilities in our process/system that could lead to future issues/violations?
- Are there upcoming environmental requirements? If so, are we prepared to implement them?
- Do we have a self-correcting environmental management system (EMS) in place to minimize risk to the installation mission and to support continuous improvement? Are all appropriate organizations involved?
- Who are the members of our Environmental Impact Review Board? How often do they meet?
- Do we have an environmental base order?
- Are we preparing any Environmental Assessments (EAs) or Environmental Impact Statements (EISs)?
- Are we conducting any actions at our installation for which adequate environmental planning has not been completed?
- Do we have up-to-date Integrated Natural and Cultural Resource Management Plans (INRMPs, ICRMPs)? Are these plans being implemented and are annual reviews being conducted?
- Do we have threatened/endangered species, critical habitat, or proposed species/critical habitat on the installation? What are we doing to protect them?
- Do we have any National Register listed or eligible resources? What are we doing to protect them?
- Are there any known Native American or Native Hawaiian interests (ancestral land ties or treaty rights) related to the installation? Are we consulting with these groups?



ACRONYMS

AFFF	Aqueous Film Forming Foam
AIM Act	American Innovation and Manufacturing Act
ARFF	Aircraft Rescue and Firefighting
ARPA	Archaeological Resources Protection Act
ASN (EI&E)	Assistant Secretary of the Navy (Energy, Installations & Environment)
AST	Aboveground Storage Tank
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
C&D	Construction and Demolition
CAA	Clean Air Act
CATEX	Categorical Exclusion
CCR	Consumer Confidence Reports
CEC	Chemicals of Emerging Concern
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CETEP	Comprehensive Environmental Training and Education Program
CFR	Code of Federal Regulations
CG	Commanding General
CMC (LF)	The Commandant of the Marine Corps, Facilities and Services Division
CMP	Centrally Managed Program
CMP10	Centrally Managed Program - Environmental Projects
CMP22	Centrally Managed Program - Environmental Management
CPLO	Community Plans and Liaison Office

CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DERP	Defense Environmental Restoration Program
DLA	Defense Logistics Agency
DoD	Department of Defense
DoDI	Department of Defense Instruction
DON	Department of the Navy
DOT	U.S. Department of Transportation
EA	Environmental Assessment
EACO, WACO, PACO, and QACO	Eastern, Western, Pacific, and Quantico Area Counsel Office
ECC	Environmental Compliance Coordinator
ECE	Environmental Compliance Evaluation
ECHO	Enforcement and Compliance History Online
ECP	Encroachment Control Plan
EDR	Environmental Data Repository
EEZ	Exclusive Economic Zone
EFR	Expeditionary Fire Rescue
EIS	Environmental Impact Statement
EMR	Environmental Management Review
EMS	Environmental Management System
ENCORE	Environmental Compliance and Operational Reporting database
E.O.	Executive Order
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-To-Know Act
ER,N	Environmental Restoration, Navy
ESA	Endangered Species Act
F&ES	Fire and Emergency Services
FC	Fiscal Control
FGS	Final Governing Standards
FMF	Fleet Marine Forces
FONSI	Finding of No Significant Impact
FSRM	Facilities, Sustainment, Restoration and Modernization
FY	Fiscal Year

G1	Group/Regiment/Division Manpower, Admin
GHG	Greenhouse Gas
HA	Lifetime Health Advisory
HAP	Hazardous Air Pollutant
HAZCOM	Hazard Communication
HFCs	Hydrofluorocarbons
HM	Hazardous Material
HQMC (LFF)	Headquarters, Marine Corps, Facilities and Services Division, Facilities Directorate
HS	Hazardous Substance
HW	Hazardous Waste
ICRMP	Integrated Cultural Resources Management Plan
IG	Inspector General
INRMP	Integrated Natural Resources Management Plan
ISWM	Integrated Solid Waste Management
kg	Kilogram
LID	Low Impact Development
LQG	Large Quantity Generator
MARFOR	Marine Forces
MARFORRES	Marine Corps Forces Reserve
MBTA	Migratory Bird Treaty Act
MCCS	Marine Corps Community Services
MCI	Marine Corps Installation
MCICOM	Marine Corps Installations Command
MCICOM (GF)	Marine Corps Installations Command, Facilities Directorate
MCICOM (GF-EV)	Marine Corps Installations Command, Facilities Directorate – Environmental Branch
MCO	Marine Corps Order
MCRP	Marine Corps Reference Publication
MEC	Munitions and Explosives of Concern
MEF	Marine Expeditionary Force
MILCON	Military Construction
MILSPEC	Military Specification
MMPA	Marine Mammal Protection Act
NAVFAC	Naval Facilities Engineering Command
NEPA	National Environmental Policy Act

NERP	Navy Environmental Restoration Program
NGO	Non-Governmental Organization
NHO	Native Hawaiian Organization
NMFS	National Marine Fisheries Service (aka NOAA Fisheries)
NOAA	National Oceanic and Atmospheric Administration
NOV	Notice of Violation
NRC	National Response Center
O&M, MC	Operation and Maintenance, Marine Corps
O&M, MCR	Operation and Maintenance, Marine Corps Reserve
ODS	Ozone-Depleting Substances
OEA	Overseas Environmental Assessment
OEBGD	Overseas Environmental Baseline Guidance Document
OEIS	Overseas Environmental Impact Statement
OPA	Oil Pollution Act
OPREP-3/SIR	Operations Events/Serious Incident Report
OSD	Office of the Secretary of Defense
OSHA	Occupational Safety and Health Administration
P2	Pollution Prevention
PAO	Public Affairs Office
pCi/L	Picocuries per Liter
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
POA&M	Plan of Action and Milestones
POC	Point of Contact
POTW	Publicly Owned Treatment Works
ppb	Parts Per Billion
PPBE	Planning, Programming, Budget, and Execution
QRP	Qualified Recycling Program
RCRA	Resource Conservation and Recovery Act
REC	Regional Environmental Coordinator
REIR	Request for Environmental Impact Review
REVA	Range Environmental Vulnerability Assessment
ROD	Record of Decision
RQ	Reportable Quantity

SAIA	Sikes Act Improvement Act
SDWA	Safe Drinking Water Act
SNC	Significant Non-Compliance
SOP	Standard Operating Procedure
SPCC	Spill Prevention, Control, and Countermeasure
SQG	Small Quantity Generator
SSPP	Strategic Sustainability Performance Plan
SWPPP	Stormwater Pollution Prevention Plan
TSCA	Toxic Substances Control Act
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USMC	U.S. Marine Corps
UST	Underground Storage Tank
VSQG	Very Small Quantity Generator

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Federal Facilities Compliance Act of 1992 (42 U.S.C. 6961)

Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251 et seq.)

Land Disposal Program Flexibility Act of 1996 (42 U.S.C. 6924 and 6949)

Occupational Safety and Health Administration Regulations, Hazardous Waste Operations and Emergency Response and Hazard Communication (29 CFR 1910.120)

Resource Conservation and Recovery Act of 1976, Subtitle C (42 U.S.C. 6901 et seq.)

Department of Defense

DoDI 4715.18, Emerging Chemicals (ECs) of Environmental Concern, July 2019

Energy Policy Act of 2005 (Public Law 109-58)

DoDI 6050, DoD Hazard Communication (HAZCOM) Program, August 15, 2006

Navy & Marine Corps

MCO 5090.2, Volume 9, Hazardous Waste Management

Natural Resources

Federal

10 U.S.C. 2665 — Sale of certain interests in land; logs

10 U.S.C. 2667 — Leases: non-excess property of military departments and Defense Agencies

Bald and Golden Eagle Protection Act (16 U.S.C. 678 et seq.)

Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.)

Conservation Programs on Military Reservations (Sikes Act) of 1960, as amended (16 U.S.C. 670a et seq.)

Endangered Species Act of 1973 (7 U.S.C. 136, 16 U.S.C. 1531 et seq.)

E.O. 11988, Floodplain Management, May 24, 1977

E.O. 11990, Protection of Wetlands, May 24, 1977

E.O. 13112, Invasive Species, February 3, 1999

E.O. 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, January 10, 2001

Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251 et seq.)

Fish and Wildlife Service Regulations, Endangered and Threatened Wildlife and Plants (50 CFR 17)

Fish and Wildlife Service Regulations, Migratory Bird Permits (50 CFR 21)

Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801–1844)

Marine Mammal Protection Act of 1972 (16 U.S.C. 1361–1389, 1401–1407, Migratory Bird Treaty Act (16 U.S.C. 703–712)

National Marine Fisheries Service, General Threatened and Endangered Marine Species (50 CFR 222)

Department of Defense

DoDI 4150.07 – DoD Pest Management Program, 29 May 2008

DoDI 4715.03, Environmental Conservation Program, March 18, 2011

Navy & Marine Corps

Installation Integrated Natural Resource Management Plan

MCO 5090.2, Volume 11, Natural Resources Management

Solid Waste and Resource Recovery

Federal

Disposal of Recyclable Materials (10 U.S.C. 2577)

EPA Regulations (40 CFR 240-283)

Resource Conservation and Recovery Act of 1976, Subtitle C (42 U.S.C. 6901 et seq.)

Department of Defense

DoDI 4715.23, Integrated Recycling and Solid Waste Management, August 31, 2018

Navy & Marine Corps

Implementing Guidance for Integrated Recycling and Solid Waste Management Programs, version 1.1, April 2021

MCO 5090.2, Volume 17, Solid Waste Management and Resource Recovery

Pollution Prevention

Federal

Energy Policy Act of 2005 (Public Law 109-58)

Pollution Prevention Act of 1990 (42 U.S.C. 13101 and 13102, s/s et seq.)

Department of Defense

DoDI 4715.4, Pollution Prevention, Change 1, July 06, 1998

Navy & Marine Corps

MCO 5090.2, Volume 15, Pollution Prevention

Storage Tanks

Federal

Energy Policy Act of 2005, Title XV, Subtitle B, Underground Storage Tank Compliance Act (42 U.S.C. 6901 et seq.)

EPA Regulations (40 CFR 280-282)

Musts for USTs: A Summary of Federal Regulations for Underground Storage Tank Systems (EPA 510K95002), July 1995

Oil Pollution Act of 1990 (33 U.S.C. 2702 et seq.)

OSHA Regulations (29 CFR 1910, Subpart H)

Resource Conservation and Recovery Act of 1976, Subtitles C and I (42 U.S.C. 6901 et seq.)

Department of Defense

Installation Spill Prevention Control and Countermeasure (where applicable)

MCO 5090.2, Volume 18, Storage Tank Management

Training

Navy & Marine Corps

MCO 5090.2, Volume 5, Environmental Training and Education

HQMC/MCICOM CETEP Plan

Installation CETEP Plans

Toxic Substances (see Asbestos, Lead, and Radon)

Asbestos

Federal

Asbestos Hazard Emergency Response Act of 1986 (15 U.S.C. 2651)

Clean Air Act of 1970, as amended (42 U.S.C. 7401 et seq.)

Occupational Safety and Health Administration Regulations (29 CFR 1910.1001)

Safe Drinking Water Act of 1974 (42 U.S.C. 300f et seq.)

Navy & Marine Corps

MCO 5090.2, Volume 6, Air Quality Management

MCO 5100.8, Chapter 16, Asbestos Safety Program, May 2006

Lead

Federal

Clean Air Act of 1970, as amended (42 U.S.C. 7401 et seq.)

Occupational Safety and Health Administration Regulations (29 CFR 1910.1025)

Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6901 et seq.)

Safe Drinking Water Act of 1974 (42 U.S.C. 300f et seq.)

Toxic Substances Control Act of 1976 (15 U.S.C. 2601 et seq.)

Department of Defense

MCO 5100.8F, Chapter 17, Lead Safety Program

Radon

Federal

A Citizen's Guide to Radon (EPA 402-K-07-009), May 2007

Occupational Safety and Health Administration Regulations (29 CFR 1910.1096)

Toxic Substances Control Act of 1976 (15 U.S.C. 2601 et seq.)

Department of Defense

DoD Unified Facilities Guide Specifications 31 21 13Radon Mitigation, November 2018

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Navy Radon Assessment and Mitigation Program (NAVRAMP) Guidebook for Naval Shore Installations, September 20, 2017

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Water Quality

Federal

Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.)

Coast Guard, Control of Pollution by Oil and Hazardous Substances (33 CFR 153)

EPA Regulations (40 CFR 130-136)

Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251 et seq.)

Oil Pollution Act of 1990 (33 U.S.C. 2702 et seq.)

Navy & Marine Corps

MCO 5090.2, Volume 20, Wastewater and Stormwater Management



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