

ENVIRONMENTAL MANAGEMENT SYSTEM MANUAL

U.S COAST GUARD
BASE CAPE COD
BUZZARDS BAY, MA



Submitted by:

Amec Foster Wheeler Environment & Infrastructure, Inc.
511 Congress Street
Portland, Maine

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UNITED STATES COAST GUARD BASE CAPE COD (BCC)		
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EMS Manual Approval:

_____ Date: _____
Facilities Engineer

_____ Date: _____
EHS Manager

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8/23/2013	Initial		
8/25/2016	Rev 1	Overall review of manual	Amec Foster Wheeler

EXECUTIVE SUMMARY

The United States Coast Guard (USCG) Base Cape Cod (BCC) and tenant commands' Environmental Management System (EMS) Manual is the primary guidance document and tool for managing BCC's EMS.

BCC is located within the Joint Base Cape Cod (JBCC) and consists of 17 non-contiguous parcels of federal and state-owned land comprising 3,586 acres. BCC's airfield has two runways used for military purposes only.

BCC is managed in a way that ensures aviation safety, provides for sustainable land use, complies with applicable environmental laws and regulations, and provides for no net loss in the capability to support the USCG and BCC missions over the long term.

This EMS manual has been developed as the central document describing the key EMS components and work products that are used to maintain BCC's EMS.

Key elements of an EMS include:

- Policy
- Appointment Letters
- Aspects, Objectives and Targets
- EMS Implementation Plan
- EMS Management Procedures
- EMS Registers
- EMS Sustainment Planner

This manual outlines how the EMS should be reviewed on an annual basis. If appropriately managed, an EMS adds value to BCC in the following three ways:

- Enhancing environmental compliance by identifying, prioritizing and managing environmental compliance requirements related to base operations;
- Minimizing environmental risk by focusing on operations that could potentially impact the environment adversely and reducing or mitigating that risk; and
- Improving environmental performance by continually identifying opportunities to improve operational performance annually.

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EMS REGISTERS

Register 1. Environmental Aspects and Significance Ranking

Register 2. Legal and Other Requirements

Register 3. EMS Objectives, Targets, and Programs

Register 4. Competence, Training, and Awareness

Register 5. Communications

Register 6. Documents

Register 7. Operational Controls for Significant Aspects

Register 8. Emergency Preparedness and Response – Incident Tracking

Register 9. Monitoring and Measurement

Register 10. Evaluation of Compliance

Register 11. Nonconformance and Corrective Action Management

Register 12. Control of Records

Register 13. Audits

Register 14. Annual Management Review

ABBREVIATIONS AND ACRONYMS

ASCC	Air Station Cape Cod	MAARNG	Massachusetts Army National Guard
BCC	Base Cape Cod	MMR	Massachusetts Military Reservation
CAP	Corrective Action Plan	MW	megawatt
CDR	Commander	NEPA	National Environmental Policy Act
CEU	Civil Engineering Unit	NPDES	National Pollutant Discharge Elimination System
CFR	Code of Federal Regulations	NRMP	Natural Resources Management Plan
CO	Commanding Officer	O&M	Operations and Maintenance
COMMSTA	Communications Station	ODS	Ozone Depleting Substance
COR	Contracting Officer's Representative	OWS	Oil Water Separator
DCMS	Deputy Commandant for Mission Support	PM	Program Manager
DoD	Department of Defense	RCRA	Resource Conservation and Recovery Act
EAOC	Environmental Area of Concern	SAR	Search and Rescue
ECE	Environmental Compliance Evaluation	SOP	Standard Operating Procedure
EHS	Environmental Health and Safety	SPCC	Spill Prevention, Control, and Countermeasures
EMS	Environmental Management System	SWPPP	Stormwater Pollution Prevention Plan
EO	Executive Order	USAF	United States Air Force
EPCRA	Emergency Planning and Community Right-to-Know Act	USCG	United States Coast Guard
FAA	Federal Aviation Administration	USDHS	United States Department of Homeland Security
FE	Facilities Engineer	UXO	Unexploded Ordinance
HAZCOM	Hazardous Communication		
HAZWOPER	Hazardous Waste Operations and Emergency Response		
HVAC	Heating, Ventilation, and Air Conditioning		
HWCP	Hazardous Waste Contingency Plan		
ISO	International Standards Organization		
JBCC	Joint Base Cape Cod		
LEED	Leadership in Energy and Environmental Design		
MAANG	Massachusetts Air National Guard		

1.0 EMS OVERVIEW AND POLICY

1.1 Purpose and Alignment with ISO 14001:2015

The Environmental Management System (EMS) Manual is the primary working document and tool for managing the United States Coast Guard (USCG) Base Cape Cod (BCC's) and tenant commands' EMS. This document is in alignment with ISO 14001:2015 which the USCG will transition to no later than 2018. Table 1 provides the link between this BCC EMS Manual and the ISO 14001:2015 standard. Upon issuance of the USCG transition policy and guidance, BCC will update this EMS manual and associated procedures as required.

The management of BCC must be conducted in a way that provides for sustainable land use, complies with applicable environmental laws and regulations, ensures aviation safety, and provides for no net loss in the capability to support the USCG and BCC missions over the long term.

The goals of the EMS are three fold:

- Enhance environmental compliance
- Minimize environmental risk
- Improve environmental performance

Implementation of this manual is anticipated to meet the following objectives:

- Provide a working guide for the ongoing management of the developed EMS.
- Provide a central location to list key management procedures and BCC's Environmental Policy.
- Provide a central location to list and maintain key EMS data registers.
- Provide a central location to track and manage current annual EMS Objectives and Targets.

Table 1. BCC EMS Manual and Linkage to ISO 14001:2015 Standard

ISO 14001:2015 Elements	BCC EMS Component	BCC EMS Manual Section Reference
1. Scope	EMS Overview and Policy	1.0
2. Normative references	Glossary	7.0
3. Terms & definitions	Glossary	
4. Context of the Organization	General Description Installation History Military Mission	2.1 2.1.1 2.1.2
4.1 Understanding the context of the organization	EMS Overview and Policy	1.0
4.2 Understanding the needs and expectations of interested parties	Installation History Military Mission	2.1.1 2.1.2
4.3 Determining the scope of the EMS	Requirement to have an EMS Responsibilities Environmental Management System	1.2 1.3 1.4
4.4 Environmental management system	Environmental Management System	1.4
5. Leadership	EMS Overview and Policy	1.0
5.1 Leadership & commitment	EMS Overview and Policy	1.0
5.2 Environmental Policy	Environmental Policy	3.1.1
5.3 Organizational roles, responsibilities & authorities	Resources, Roles, Responsibility, and Authority	4.6
6. Planning	Aspects Procedure	4.3.1
6.1 Actions to address risks & opportunities	Management Review	4.17
6.1.1 General	Purpose and Alignment with ISO 14001:2015	1.1
6.1.2 Significant Environmental Aspects	Environmental Aspects Aspects Procedure	4.3 4.3.1
6.1.3 Compliance Obligations	Legal and Other Requirements Legal and Other Requirements	4.4 4.4.1
6.1.4 Risk associated with	Aspects Procedure	4.3.1

ISO 14001:2015 Elements	BCC EMS Component	BCC EMS Manual Section Reference
threats and opportunities		
6.1.5 Planning to take action	Aspects Procedure	4.3.1
6.2 Environmental objectives & planning to achieve them	Current EMS Objectives and Targets	1.4.1
6.2.1 Environmental objectives	Objectives and Targets Objectives and Targets Procedure	4.5 4.5.1
6.2.2 Planning actions to achieve environmental objectives	Objectives and Targets Objectives and Targets Procedure	4.5 4.5.1
7. Support	Resources, Roles, Responsibility, and Authority Resources, Roles, Responsibility, and Authority Procedure	4.6 4.6.1
7.1 Resources	Resources, Roles, Responsibility, and Authority Resources, Roles, Responsibility, and Authority Procedure	4.6 4.6.1
7.2 Competence	Competence, Training, and Awareness Competence, Training and Awareness Procedure	4.7 4.7.1
7.3 Awareness	Competence, Training, and Awareness Competence, Training and Awareness Procedure	4.7 4.7.1
7.4 Communication	Communication Communication Procedure	4.8 4.8.1
7.4.1 General	General Requirements	4.1
7.4.2 Internal Communication	Communication Communication Procedure	4.8 4.8.1
7.4.3 External Communication	Communication Communication Procedure	4.8 4.8.1
7.5 Documented information	Control of Records Control of Records Procedure	4.15 4.15.1
7.5.1 General	General Requirements	4.15
7.5.2 Creating and updating	Control of Records Control of Records Procedure	4.15 4.15.1
7.5.3 Control of documented information	Control of Records Control of Records Procedure	4.15 4.15.1
8. Operation	Operational Controls	4.11

ISO 14001:2015 Elements	BCC EMS Component	BCC EMS Manual Section Reference
	Operational Control Procedure	4.11.1
8.1 Operational planning & control	Operational Controls Operational Control Procedure	4.11 4.11.1
8.2 Emergency preparedness and response	Emergency Preparedness and Response Emergency Preparedness and Response Procedure	4.12 4.12.1
9. Performance evaluation	Management Review Management Review Procedure	4.17 4.17.1
9.1 Monitoring, measurement, analysis & evaluation	Monitoring and Measurement Monitoring and Measurement Procedure	4.13 4.13.1
9.1.1 General		
9.1.2 Evaluation of compliance	Evaluation of Compliance Evaluation of Compliance Procedure	4.14 4.14.1
9.2 Internal audit	Audits Internal Audit Procedure	4.16 4.16.1
9.3 Management review	Management Review Management Review Procedure	4.17 4.17.1
10. Improvement	Registers Annual EMS Sustainment REGISTERS	5.0 6.0
10.1 Nonconformity & corrective action	Monitoring and Measurement Audits	4.13 4.16
10.2 Continual improvement	Management Review	4.17

The BCC EMS also supports the installation Environmental Health and Safety (EHS) objectives which include:

- **Support and Service:** Programmatic support of the missions of BCC and USCG tenant commands.
- **Assess and Ensure:** A top priority is to frequently assess the safety of all personnel on base, including dependents and the families of Coast Guard Men and Women.
- **Manage and Reduce:** BCC personnel manage recycling and supply, storage, and disposal of hazardous materials and other applicable regulations. BCC is entrusted with the management of its natural resources and protection of endangered species on Base in an effort to monitor and reduce BCC's impact on the environment.

1.2 Requirement to have an EMS

This EMS Manual was originally developed to meet the requirements of Executive Order (EO) 13514—*Greening the Government through Leadership in Environmental Management*, signed by President William J. Clinton on April 21, 2000. EO 13514 was superseded by EO 13423—*Strengthening Federal Environmental, Energy, and Transportation Management*, which was signed by signed by President George W. Bush on January 24, 2007.

EO 13423 required federal agencies to conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically, and fiscally sound, integrated, continuously improving, efficient, and sustainable manner. The EO set a variety of goals for federal agencies to reduce energy consumption, increase the use of renewable energy, reduce water consumption, use sustainable environmental practices, reduce the purchase and use of toxic and hazardous materials, follow sustainable practices in building construction, reduce fleet consumption of petroleum-based fuel, and purchase electronically efficient equipment.

Agencies were directed to use EMSs to manage their environmental operations and activities and to ensure implementation of this EO. The USCG requires all large Coast Guard operations to have a functioning EMS to meet the requirements of the EO.

An initial EMS was developed and implemented at BCC in 2002. A 2011 review of the EMS established that key EMS work products and processes needed to be updated resulting in the initial publication of this EMS Manual.

BCC will implement the revised EMS consistent with Executive Order EO 13693: *Planning for Federal Sustainability in the Next Decade* as applicable in environmental aspects and objectives & targets reviews.

EO 13693 has focuses on ten (10) core requirements that will be integrated into the EMS, namely:

- Demonstrating **leadership** in pursuing and applying the concepts of sustainability to operations, policies and programs.
- **Accountability** of senior leadership for implementing environmental and engery management plans to achieve goals.
- **Planning** processes to integrate sustainability improvement requirements into the budgeting process.
- **Mission enabling** by recognizing and acknowledging that sustainability and climate resilience/preparedness contribute to overall mission success and effectiveness.
- **Community stewardship** by the installation and staff being good neighbors to the citizens they serve.
- **Continual improvement** by identifying and pursuing new opportunities to improve the sustainability of operations and regular review of actions and effectiveness.
- Ensuring **life cycle cost effectiveness** by considering full life-cycle costs and savings in planning and implementing projects and investments in capital assets and services.
- **Transparency** by ensuring that information about environmental and energy management programs, including progress towards established goals is readily available to the public.
- **Conservation and reduction** by minimizing the use of water, energy and material resources to limit the impacts of their consumption. This includes consideration of operational considerations such as travel and fleet size.
- **Assessing the Greenhouse Gas** impacts on sustainability goals from planned actions.

1.3 Responsibilities

Various organizations and management roles at BCC are responsible for effective implementation of the EMS and are described below.

The **Commanding Officer** (CO) of BCC is responsible for ensuring that this manual is implemented to the fullest extent practicable based on accomplishment of the base's assigned missions and within the availability of funding and manpower resources provided by the federal government. Furthermore, the CO, or designated representative, is responsible for approving or signing BCC's Environmental Policy Statement. The CO or his designee is also responsible for chairing the annual management review meeting.

The **Environmental Health, and Safety (EHS) Office** is responsible for directing the day-to-day management of BCC's EMS. The office is also responsible for identifying and managing applicable environmental compliance requirements on an ongoing basis and for providing environmental compliance and EMS conformance guidance to BCC personnel.

1.4 Environmental Management System

The EMS is part of the overall BCC management system and includes organizational structure, planning, responsibilities, practices, procedures and processes, and resource allocation for developing, implementing, achieving, reviewing, and maintaining environmental commitments.

The International Standards Organization (ISO) 14001 EMS model is used by BCC. ISO 14001 focuses on a continual improvement-based methodology that prescribes a "Plan, Do, Check, Act" loop process.

Developing and implementing an EMS is required at all federal installations.

- In 2000, EO 13148, *Greening the Government through Leadership in Environmental Management*, required EMS implementation at federal facilities.
- EO 13693 (2015) *Planning for Federal Sustainability in the Next Decade* supersedes and builds on the requirements of previous EO's incorporating sustainability and climate resilience into environmental stewardship programs

The ISO 14001 EMS standard focuses implementation and sustainment in the following four areas:

- Planning: Includes identifying environmental aspects and establishing goals [Plan Step].
- Implementing: Includes training and operational controls [Do Step].
- Checking – Includes monitoring and corrective action [Check Step].
- Reviewing – Includes progress reviews and implementation of follow-on actions to make needed changes to continually improve the EMS [Act Step].



Figure 1. ISO 14001-based EMS Process used by BCC

The EMS for BCC is updated through the continual improvement cycle illustrated in **Figure 1** above by working through the various process steps on an annual basis. Continual improvement cycle is a fundamental attribute of the EMS that allows the management system to adapt to the dynamic and changing nature of BCC's operations and mission requirements. ISO 14001 was substantially revised and published in September 2015 and BCC will update the current EMS to this new standard as directed by USCG and in accordance with associated schedule milestones.

1.4.1 Current EMS Objectives and Targets

EMS Objectives and Targets provide the performance framework for BCC's EMS to continually add value to the organization. The objectives drive the development of activities and projects to achieve the EMS's goals. Objective and Target metrics, schedule, roles and responsibilities are outlined in the lower tier O&T program documents and action plans. Current Objectives and Targets, as of August 2016, for BCC are as follows in Table 2:

Table 2. BCC's Current EMS Objectives and Targets

Item #	Objective	Target
1	Conserve our natural resources	Reduce potential impacts to natural resources as identified in the Natural Resources Management Plan. Include newly listed species and add cultural considerations
2	Reduce hazardous waste	Reduce generation of hazardous waste at BCC by 5 percent by 2017.
3	Reduce energy usage	Construct Leadership in Energy and Environmental Design LEED Silver facilities; make housing units more energy efficient; attain funding for a 6-8 megawatt (MW) solar array installation.
4	Manage the Asbestos program	Control self-help and O&M projects; provide Annual Asbestos Awareness training.

Consistent with EO 13693 BCC will incorporate sustainability metrics and projects into existing operations and activities to meet future requirements. BCC will also integrate and incorporate EO 13693 goals and metrics specific to sustainability and climate resilience. The goal of EO 13693 is to maintain Federal leadership in sustainability and greenhouse gas emission reductions. Federal Agencies shall, where life-cycle cost-effective, beginning in fiscal year 2016, unless otherwise specified, promote building energy conservation, efficiency, and management by reducing agency building energy intensity measured in British thermal units per gross square foot by 2.5 percent annually through the end of fiscal year 2025, relative to the baseline of the agency's building energy use in fiscal year 2015 and taking into account agency progress to date. Federal Agencies shall, where life-cycle cost-effective, beginning in fiscal year 2016, unless otherwise specified, improve data center energy efficiency at agency facilities by:

- ensuring the agency chief information officer promotes data center energy optimization, efficiency, and performance;
- installing and monitoring advanced energy meters in all data centers by fiscal year 2018; and
- Establishing a power usage effectiveness target of 1.2 to 1.4 for new data centers and less than 1.5 for existing data centers.

Federal Agencies shall, where life-cycle cost-effective, beginning in fiscal year 2016, unless otherwise specified, ensure that at a minimum, the following percentage of the total amount of building electric energy and thermal energy shall be clean energy, accounted for by renewable electric energy and alternative energy:

- not less than 10 percent in fiscal years 2016 and 2017;
- not less than 13 percent in fiscal years 2018 and 2019;
- not less than 16 percent in fiscal years 2020 and 2021;
- not less than 20 percent in fiscal years 2022 and 2023; and
- not less than 25 percent by fiscal year 2025 and each year thereafter.

1.4.2 EMS Integration within the Organization

For an EMS to be effective, its processes must be integrated into the organization's decision making. The EMS is integrated into the following BCC management plans:

- Master Plan for BCC – Identifies future needs and requirements of the installation related to the use and/or designation of lands, facilities, and resources and establishes a guide for installation growth and development.
- Natural Resources Management Plan (NRMP) for BCC – Provides for the protection of natural resources (USCG, 2014)
- Stormwater Pollution Prevention Plan (SWPPP) for BCC – Provides for the management of storm water and water-borne pollution (USCG, 2015).
- Spill Prevention, Control, and Countermeasures (SPCC) Plan for BCC – Provides for the management of oil spill prevention, preparedness, and response to prevent oil discharges to surface and sub-surface waters (USCG, 2016).
- Ensure conformance with ISO 14001:2015 by 2018 consistent with USCG policy and directives.

2.0 INSTALLATION INFORMATION

2.1 General Description

The Coast Guard is directly responsible for approximately 3,586 acres located at the base of Cape Cod in Barnstable County, Massachusetts, approximately 50 miles southeast of Boston, Massachusetts, and east of Providence, Rhode Island (see **Figure 2**).

Joint Base Cape Cod is approximately 21,600 acres and consists of 17 non-contiguous parcels of land ranging from approximately 2 to 861 acres in size. The majority of Coast Guard-controlled land is located within the southern portion of Joint Base Cape Cod, with the exception of the Communication Station (COMMSTA) area.

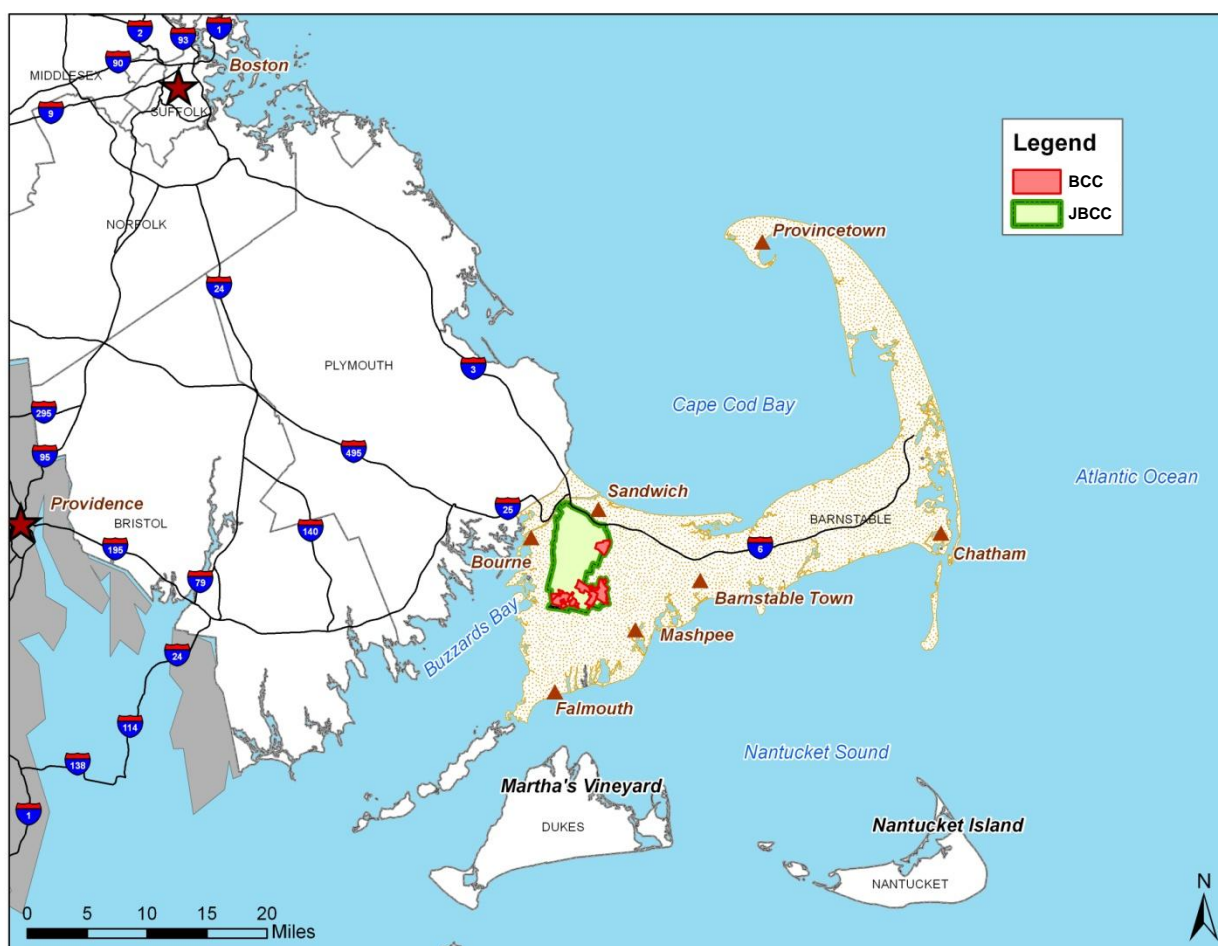


Figure 2. Location of Base Cape Cod

In addition to the USCG, Joint Base Cape Cod is home to several military and non-military tenants, with Massachusetts Army National Guard (MAARNG) using the largest amount of land (approximately 14,700 acres).

Other tenants include the US Air Force (USAF), Massachusetts Air National Guard's (MAANG) 102nd Intelligence Wing, the US Department of Veterans Affairs, the US Department of Agriculture, the US Department of Transportation, and several state, local, and private entities.

BCC includes both federal and state-owned land. BCC's airfield is also known by the Federal Aviation Administration (FAA) airport code KFMH (Cape Cod Coast Guard Air Station)

2.1.1 Installation History

Joint Base Cape Cod (formerly known as the Massachusetts Military Reservation or MMR) has been used for military purposes since 1911. Since 1935, the former MMR has been used for training and maneuvers, military aircraft operations, maintenance, and support.

Prior to and during World War II, buildings, roads, utilities, and ranges were constructed at JBCC, and the airfield was expanded. After the war, the USAF took over control of the airfield, some of the Army facilities, and site utilities to create Otis Air Force Base at the southern portion of the original Camp Edwards. The Cold War led to further runway expansion, airfield improvements, and construction of family housing.

In 1968, the Department of Defense (DoD) allowed the USCG to use a portion of JBCC for a new air station. On 29 August 1970, BCC was officially established when Air Station Salem, Massachusetts, and Air Detachment Quonset Point, Rhode Island, were consolidated into one command called Air Station Cape Cod (ASCC).

In October 2008, ASCC assumed responsibility for the airfield on JBCC, including airfield maintenance, runway lighting, tower operations, weather forecasting, navigational aid systems, and snow removal.. In August 2014, ASCC became a tenant command of the newly established Coast Guard Base Cape Cod. BCC owns and controls all facilities, structures and grounds formerly controlled by ASCC. ASCC is responsible for the conduct of their mission and maintenance of ASCC equipment only.

2.1.2 Military Mission

The USCG's mission is to protect the public, the environment, and US economic interests – in the nation's ports and waterways, along the coast, on international waters, or in any maritime region – as required to support national security.

The USCG is a maritime, military, multi-mission service unique among the US military branches for having a maritime law enforcement mission (with jurisdiction in both domestic and international waters) and a federal regulatory agency mission as part of its mission set.

The Coast Guard operates under the US Department of Homeland Security (USDHS) during peacetime and can be transferred to the Department of the Navy by the President or Congress during times of war. The USCG carries out three basic roles: maritime safety, security, and stewardship, which are further subdivided into 11 statutory missions that are further divided into homeland security and non-homeland security missions.

Non-homeland security missions include marine safety, search and rescue (SAR), aids to navigation, living marine resources (i.e., fisheries law enforcement), marine environmental protection, and ice operations.

Homeland security missions include ports, waterways and coastal security, drug interdiction, migrant interdiction, defense readiness, and other maritime law enforcement.

The primary mission of BCC is to enable operations and maximize mission effectiveness through continuous improvements to the support of USCG commands, personnel, and families.

The BCC's mission statement:

"USCG Base Cape Cod serves as the Deputy Commandant for Mission Support (DCMS) touch point for the support of USCG operations within the First Coast Guard District (Southeastern New England Region) providing consistent, professional, and responsive services that enable missions and sustain the personnel who execute and support them."

3.0 ENVIRONMENTAL POLICY

As defined in the ISO 14001:2004 EMS standard, an organization's environmental policy sets the overall intention and direction of its operational activities, related to its environmental performance and is formally endorsed by top management.

The BCC Environmental Policy Statement, signed by the Commanding Officer, is inserted in the next page.

USCG Base Cape Cod Environmental Policy Statement

As a member of the world's premier maritime service and steward of our nation's marine environment, the USCG's goal is to manage our land, sea, and air resources in an environmentally responsible manner. Base Cape Cod will be guided in our efforts by the following principles:

- Achieve sustainable operations through compliance with applicable federal, state, local, and Coast Guard environmental regulations and policies.
- Operations shall be planned and executed to reduce or eliminate the potential for pollution and waste of the earth's limited resources.
- Evaluate and document our practices and develop objectives, targets and procedures to meet our established goals and mitigate environmental impacts.
- Conduct periodic management reviews to assess the achievement of our objectives and targets and effectiveness of the environmental program and ensure continual improvement.
- Communicate our environmental policy to all personnel and educate them in their roles and responsibilities as stewards of the environment.
- Increase community awareness of our environmental programs through press releases and on-line resources.
- Work aggressively, in partnership with federal, state and local agencies, environmental interest groups and private industry, to improve our long-term environmental quality.
- Focus our environmental program on emergency preparedness, environmental law, pollution prevention, pollution response and internal programs of compliance and restoration.

Protecting our limited and valued natural resources is a key component of the USCG's mission portfolio. I charge all crew members of Base Cape Cod to be mindful of these principles in daily operations.



Michael A. Hudson
Captain, U. S. Coast Guard
Commanding Officer
June 16, 2017

4.0 ENVIRONMENTAL MANAGEMENT SYSTEM REQUIREMENTS

4.1 General Requirements

BCC has established, documented, implemented, maintained, and is continuing to improve an EMS in accordance with the requirements of ISO 14001, EOs 13423, 13514, and USCG Commandant Instructions.

4.2 Environmental Policy

The BCC Environmental Policy Statement is the cornerstone of the installation's EMS and is endorsed by the CO. The policy defines the environmental vision of the installation and includes a commitment to continual environmental performance improvement, pollution prevention, and the ongoing requirement to meet relevant environmental regulations, and other requirements. The policy is reviewed annually by the CO and EHS Manager during Environmental Management reviews (and updated where necessary). The policy is also re-signed following a CO change of command.

This Environmental Policy Statement is communicated to personnel during EMS awareness training, which is typically incorporated into the initial indoctrination process when personnel are assigned to BCC. The policy is also available on the BCC intranet and is made available to the public on BCC's public website.

4.3 Environmental Aspects

A critical element of a properly implemented EMS is understanding how an organization's operations impact the environment. An inventory of BCC's environmental aspects leads to an accurate assessment of the organization's environmental risks. The current ISO 14001:2015 standard now refers to Environmental Aspects as Environmental Issues.

The EHS department uses the EMS Aspects Identification process to:

1. Identify environmental areas of concern, processes, aspects, locations, and impacts
2. Determine which aspects result or could result in a significant impact(s)
3. Keep the aspects lists up to date

4.3.1 Aspects Procedure

1. The EHS Manager will assemble BCC's environmental department staff to conduct a baseline of Environmental Areas of Concern (EAOCs).
2. EHS will conduct an inventory of BCC EAOC's locations, processes, and related aspects.
3. EHS will document the listing in the Aspects Inventory register.

Figure 3 presents the BCC environmental aspects identification and management process.

EMS Environmental Aspects Determination

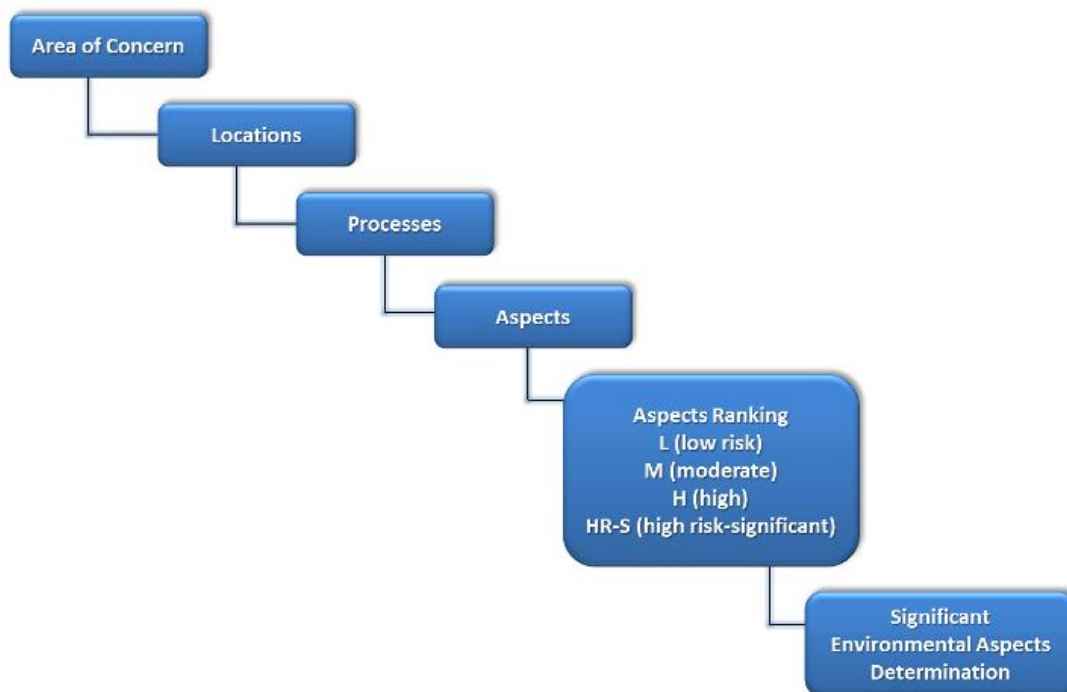


Figure 3. Significant Aspects Determination Process

4. The risk significance of each environmental aspect and associated impacts will be assessed using the following ranking scheme:
 - Low Risk
 - Medium Risk
 - High Risk
 - High and Significant Risk

Some environmental aspects may be listed as “High” but not “High and significant” because they may, for example, involve a mission requirement that must continue to be used regardless of its high risk. However, appropriate controls may be put in place to manage the high risk.

High and significant risks are typically tagged with Objectives and Targets for improvement or activities to lessen or at a minimum control the high risk.

5. After specific aspects are tagged “High and Significant” and the ranking is completed, EMS Objectives and Targets can be created to lead to the improvement in management of the aspects and reduce their risk.
6. Where appropriate, environmental aspects may be considered either individually or in groups. For example, there may be multiple items related to air emissions, spills, or hazardous waste generation that can be grouped under one category.
7. The list of environmental aspects will be reviewed at least once annually and kept up to date before incorporating and ranking new aspects or changing the rankings of existing aspects where appropriate.

4.3.2 Responsibilities

The EHS Manager is responsible for management of this procedure and is assisted by EHS members.

4.4 Legal and Other Requirements

One of the first steps in ensuring regulatory compliance is to identify and understand the legal and other requirements applicable to the base’s operations. The Legal and Other Requirement Procedure described in Section 4.4.1 is used by the EHS Manager to identify and access these requirements. The Legal and Other Requirements register contains a high-level list of regulatory and other requirements affecting BCC’s activities. The register should be updated at least once annually by the EHS Manager or designated environmental staff to ensure its currency when new or updated requirements are imposed on BCC.

4.4.1 Legal and Other Requirements

1. To ensure environmental compliance with federal, state, and local rules and regulations, a list of environmental regulations or requirements that are relevant to BCC needs to be created and maintained.
2. This list of applicable high-level legal and other requirements is maintained in the Legal and Other Requirements register.
3. At a minimum, the list should be reviewed once annually and updated when new requirements come into effect or when changes to existing requirements are made.

4.4.2 Responsibilities

The EHS Office is responsible for keeping current with ongoing regulatory compliance requirements. The EHS Office will ensure that the Legal and Other Requirements register is kept up to date. All BCC personnel will comply with applicable Legal and Other Requirements.

4.5 Objectives and Targets

BCC uses environmental Objectives and Targets to drive environmental performance improvement. The EHS Manager will initiate, manage, and review ongoing progress associated with current objectives and targets.

The Objective and Targets process is managed using the procedure described in Section 4.5.1. New objectives and targets are typically proposed by the EHS Manager, and if endorsed by top management, are implemented annually.

Objectives, Targets, and developed Program(s) are tracked and managed using the Objectives and Targets Register located in the List of Registers. Objectives and Targets are typically reviewed at least once quarterly to track ongoing progress and address any issues affecting performance.

4.5.1 Objectives and Targets Procedure

1. The EHS Manager will assemble EHS office staff to create or update Objectives and Targets annually.
2. BCC will establish a minimum of three objectives annually. For Targets, baseline and measurable quantities will be established and tracked quarterly and reported annually to top management.
3. EHS will identify objectives and targets using the following determining factors:
 - Environmental policy statement
 - Legal or regulatory concern
 - Significant environmental aspects tagged as “High and Significant”
 - Ability of the organization to control or influence the selected aspects
 - Severity of environmental impact
 - Technological options and limitations
 - Financial, operational, and mission requirements
 - Public relations or stakeholder concerns
5. The list of environmental objectives and targets will be kept up to date.
6. Objectives and Targets will be reviewed on a quarterly basis, with a summary status of achievement provided to top management on an annual basis.

7. As appropriate, EHS may change objectives and targets (i.e., establish new objectives and targets and close out objectives and targets that have been met). Changes will typically take place following the annual review with the endorsement of top management.

BCC will review the EO 13693 sustainability requirements at annual Objectives & Targets review meetings and incorporate/update those applicable requirements into the BCC EMS as needed. BCC will also update the EMS program to the ISO 14001:2015 standard as directed and required by USCG.

4.5.2 Responsibilities

The BCC EHS Manager is responsible for the implementation of the Objectives and Targets procedure. Implementation activities include the selection of personnel to manage Objectives and Targets and the structuring of planned oversight of the team's activities during the course of the year to ensure that progress toward achieving the established objectives are made.

4.6 Resources, Roles, Responsibility, and Authority

Defining roles, responsibilities, and authorities within the EMS is necessary to ensure that individuals involved in managing key environmental operations understand their roles and responsibilities. Roles, responsibilities, and authorities need to be defined, communicated and documented. A summary of key roles, responsibilities, and authorities are documented below and referred to throughout this manual.

4.6.1 Resources, Roles, Responsibility, and Authority Procedure

1. The **CO** or **Facilities Engineer** (FE): The CO or FE have overall responsibility for the implementation and ongoing sustainment of BCC's EMS. Day-to-day management of the EMS is delegated to the EHS Manager, the designated primary EMS representative. The CO or FE will be actively involved in management reviews and in the approval of key decisions made related to the EMS, including signing of the Environmental Policy Statement. The CO or FE are responsible for ensuring the availability of resources essential to implement, maintain, and improve the EMS. Resources include human resources and specialized skills, organizational infrastructure, technology, and financial resources.
2. **EHS Manager**: The EHS Manager is responsible for ensuring that the management system is implemented and maintained in accordance with the requirements of ISO 14001. The EHS Manager will report directly to the CO or FE on the performance of the EMS during annual or other scheduled review periods.
3. **EHS**: The EHS office staff will be responsible for assisting the EMS Manager with implementation and management of the EMS. EHS staff may provide key inputs and expertise when assisting the EMS Manager with reviewing and revising environmental aspects, EMS procedures, updating EMS registers, and the establishment of EMS goals.

4. **EMS Program Manager (PM):** The PM is responsible for managing established programs to achieve goals outlined in selected annual objectives and targets and for ensuring continued progress to meet defined targets. The EMS Program Manager has the overall responsibility for the EMS at BCC.
5. **BCC Personnel and Tenant Commands:** BCC personnel and tenants will be responsible for following EMS requirements outlined in the Environmental Policy and procedures. They will perform their jobs in a way that complies with environmental laws, reduces mission-related environmental impacts, and supports, where applicable, the attainment of established objectives and targets. Installation personnel will notify their superiors or BCC environmental staff of any environmental issues or concerns relating to their job functions so that issue resolution can take place as quickly as possible.
6. **Contractor Support Operations:** The BCC EHS Manager will ensure that BCC's contractors (where appropriate) are aware of the base's Environmental Policy and its attendant EMS requirements.
7. **Civil Engineering Unit Providence (CEU):** CEU is BCC's Environmental Technical Authority and any major EMS issues are overseen by CEU as the technical authority.

Figure 4 presents the BCC EMS Organization Chart, which depicts the EMS relationships relative to other functions within the organization.

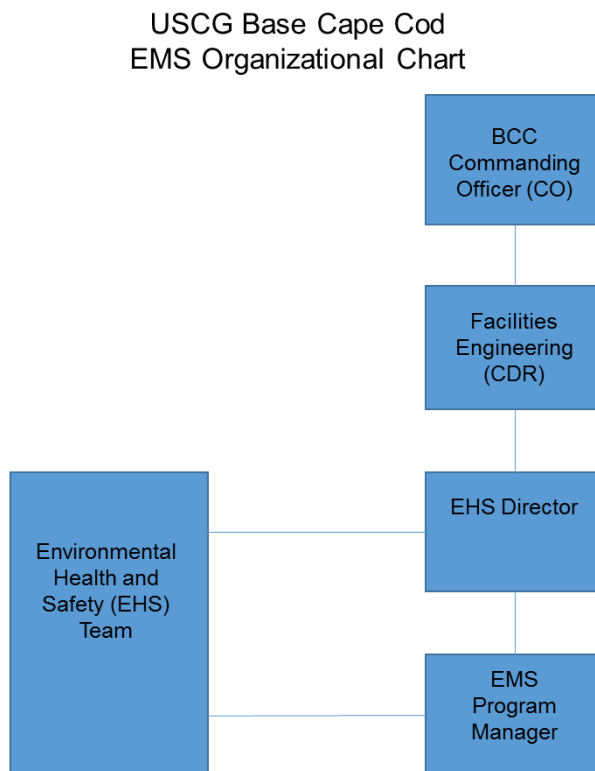


Figure 4. EMS Organization Chart

4.7 Competence, Training, and Awareness

The EMS Program Manager identifies training needs for personnel whose work at BCC may create a significant impact on the environment or whose work requires regulatory-mandated training [e.g., Resource Conservation and Recovery Act (RCRA) hazardous waste and Hazardous Waste Site Operations (HAZWOPER) training]. Participation in this type of training is used to control the environmental risk(s) associated with their jobs.

The Competence, Training, and Awareness Procedure are used to identify training needs and to provide necessary training to applicable personnel.

On a general basis, personnel working at BCC are made aware of the EMS and Environmental Policy through a portion of their indoctrination/orientation briefings and through section/department meetings. Where appropriate, EMS training records will be maintained by the EHS Office.

4.7.1 Competence, Training and Awareness Procedure

1. The training requirements for BCC may be limited by budget availability and may need to be prioritized. At BCC, each department is required to review its training needs and submit a proposal to the Comptroller for funding. Required environmental training typically receives priority funding. Efforts will be made by the EHS Office to obtain funding for lower priority training requirements as deemed appropriate by Department Heads, the EHS Office, and BCC's Comptroller.
2. EHS develops its training request based on the following criteria:
 - Regulatory requirements
 - Budget availability
 - Coast Guard Command policy
 - BCC's operating objectives
 - Required regulatory certifications
 - Annual refresher requirements
 - Job enhancement
 - Personnel turnover
 -
3. Individuals within the EHS Office coordinate attendance to their specified training. If training is required for a member outside of the EHS Office, the Environmental Protection Specialist coordinates the training.

4.7.2 Responsibilities

Department Heads are responsible for their respective department's personnel training and continuation of qualifications. Department Heads may coordinate with the EHS Office in ensuring that environmental compliance training takes place. The Environmental Protection Specialists are responsible for providing environmental training to BCC that can be provided in house, as required by regulatory requirements, for maintaining environmental training records of personnel whose work may create a significant impact on the environment, and for managing the allotted annual training budget. Individuals are responsible for ensuring that copies of course completion or certificates are submitted to the EHS Office for proper filing or recordkeeping notation.

4.8 Communication

The Communication Procedure is used by the EHS Manager or designee to ensure proper internal and external communication of environmental information. As required by the ISO 14001 standard, the CO, FE or EHS Manager will determine if environmental aspects will be made available to the public.

4.8.1 Communication Procedure

1. BCC intends to provide information to internal and external interested/affected parties that are:

- Accurate with respect to the specific information being communicated
- Representative of the organization's overall EMS
- Adequately explained to the recipient
- Easily understood by the recipient

BCC uses a variety of media (e.g., bulletin boards, intranet, World Wide Web) to achieve the required level of communication. Specific types of communication media are selected based on the nature of the information being communicated and the intended audience.

2. Communication of Emergency Situations - All personnel working at BCC are responsible for reporting environmental hazards, accidents, and emergency situations immediately upon discovery, in accordance with the BCC SPCC Plan.
3. Internal Communication - The EMS Program Manager ensures the communication of the Environmental Policy Statement to all incoming personnel at indoctrination orientation briefings. Where appropriate, the EMS Manager and EHS staff communicate new/updated Objectives and Targets, Significant Environmental Aspects, Environmental Performance, and Roles, Responsibilities and Qualifications to the Command, including Department Heads and Division Supervisors.

Department Heads communicate relevant environmental information to personnel under their management.

Relevant information includes, but is not limited to, the following:

- Roles, responsibilities, and authorities
- Operating procedures
- Emergency response procedures
- Consequences of deviating from established procedures

The selection of the most appropriate communication methods is left to the discretion of the responsible manager.

The CO, FE and EHS Manager encourage personnel to identify and report shortcomings and/or deficiencies of the management system. All personnel are responsible for reporting EMS shortcomings, deficiencies, and incidents to their Supervisor. If the Supervisor is not available, employees should report directly to the EHS Office. Any such deficiencies or shortcomings identified should be responded to in accordance with Nonconformity, Corrective, and Preventive Action procedures.

Contractors are required to comply with environmental regulatory requirements. The EHS Office communicates relevant environmental information to the Contracting Officer's Representative (COR) related to construction contracts and applicable requirements to observe important environmental requirements.

4. External Communication of Information

The selection of the most appropriate method(s) for external communication is left to the discretion of the CO, FE, or authorized designee. The BCC external website is used as a communication tool for public access to information about Base Cape Cod. A copy of the Environmental Policy Statement is posted on the BCC public website.

Regulatory Agencies - The EHS Manager is the primary interface with representatives of environmental regulatory agencies. The EHS Manager maintains records of regulatory communications, both incoming and outgoing.

In the event of the EHS Manager's absence, responsibility for communicating with regulatory officials is transferred to the Facilities Engineer or authorized designee.

Non-Regulatory Interested Third Parties - When inquiries and communications concerning the organization's EMS and/or environmental performance are received, the EHS Manager or authorized designee will respond to the requests. Such inquiries and communications may include mail, faxes, telephone calls, or personal visits.

Copies of written communications from external parties other than regulators on environmental matters are maintained in the Environmental Office.

5. Outreach to Interested Parties

BCC may elect to solicit the views of external interested parties about its EMS. Situations that might trigger such an outreach may include, but are not limited to, the following:

- Application for issuance of or renewal of environmental permits
- Occurrence of an emergency situation
- Coverage in the media

All solicitations of external interested parties' views must be pre-approved by the CO/CDR or EHS Manager.

The results and effectiveness of, and the need to continue, proactive external communication efforts will be evaluated during the management review process.

4.9 Documentation

This manual outlines the core elements of the EMS and incorporates descriptions of procedures that facilitate the efficient operation of the EMS. Copies of EMS documents, forms, records, and other EMS-related materials and their storage locations are listed in the Documents Register located in the appendix of this document.

4.9.1 Documentation Procedure

1. The EMS Program Manager and department staff have overall responsibility for EMS-related document management at BCC. The EHS Manager will ensure that all documents are listed, current, and easily accessible.
2. The EMS Program Manager generates the Environmental Policy Statement and EMS procedure documents with appropriate support from BCC personnel and the EMS advisory consultant.
3. The EMS Program Manager reviews and revises EMS documentation, as necessary, in response to facility/operational changes. The EHS Manager reviews high-level EMS-related documents for adequacy and approves them prior to issuance.
4. EHS Office staff may be tasked by the EHS Manager to review documents.

4.10 Control of Documents

The Control of Documents Procedure is used to control EMS documents, ensuring that the current documents are available for use and that they are not out of date. This procedure identifies

responsible parties in charge of documents and describes where documents can be located and discusses how and when they are reviewed.

The procedure also ensures that key documentation is approved for use, that current revisions are dated and available, and that any obsolete documents are promptly removed from use.

4.10.1 Documentation Procedure

1. USCG documents, at a minimum, are marked with a date and revision number.
2. When a revision to any of the EMS documents is made, the date and revision number, author, and approving entity will be updated accordingly. Revisions to the EMS Manual need to be approved with changes noted at the beginning of the manual.
3. There is no additional requirement to archive executed acknowledgement receipts once logged in master distribution lists.
4. Except for the Environmental Policy Statement, copies of controlled documents of the EMS may be made, provided they are clearly marked as copies and state where the official copy of the document can be found.
5. Copies of the originally executed current Environmental Policy Statement may be made, posted, and distributed throughout BCC. When the Environmental Policy Statement is updated, copies of older or outdated policies will be replaced.

4.10.2 Responsibilities

All revisions to key EHS documents will be approved by the EHS Manager.

4.11 Operational Controls

The EHS Office is responsible for identifying operations and activities associated with significant environmental aspects that require SOPs describing work practice requirements to be followed, or other controls such as training.

This document discusses the operational processes used to control significant environmental aspects, in accordance with the Environmental Policy and established objectives and targets.

Operational controls are also communicated to suppliers and contractors in cases where these organizations or personnel are involved in managing elements of significant environmental impacts.

4.11.1 Operational Control Procedure

1. Operations and activities that could result in significant environmental impacts will be controlled to ensure that negative impacts to the environment will be avoided.

2. Operations and activities that may result in significant environmental impacts are controlled by various procedures that may include:
 - Work instructions (SOPs) with prescribed operating guidance
 - Manufacturer's operating manuals
 - Training requirements
 - Permit limits
 - Management plans
3. SOPs are developed as needed for significant environmental aspects. The EHS Manager and EHS office staff periodically review site operations and activities to identify which operations and activities require operational controls.
4. When it is determined that operational controls are needed, the appropriate manager identifies the need, and as appropriate, the environmental staff evaluates the most efficient means to establish these controls. Controls may include modifying or enhancing existing BCC EMS procedures or developing new procedures. This process will typically involve collaboration with other appropriate department heads/personnel.
5. Operating procedures are developed, approved, reviewed, updated, and distributed in accordance with the Control of Documents Procedure. At a minimum, operating procedures should address responsibilities and tasks applicable to various operating conditions (i.e., normal, abnormal, and emergency conditions).
6. The EHS Manager and staff are responsible for developing necessary operating procedures specific to BCC operations with actual and potential significant environmental aspects and impacts (e.g., waste handling). Any party who initiates development or revision of an operating procedure is responsible for coordinating with the EHS Manager or designee, soliciting input from affected departments, and routing a draft version of the procedure to the affected parties for review and comment.
7. Relevant operating procedures are shared with contractors and suppliers. The individual managing the contractor's activities, in addition to procurement personnel, share the responsibility for ensuring that relevant operating procedures are communicated to contractors and suppliers.
8. The EHS Office is responsible for providing training in relevant operating procedures to affected personnel. The training element requirements are outlined in the registers section of this manual, and document locations are listed in the Training register.
9. Approved operating procedures are communicated internally in accordance with the Communication procedure.

4.12 Emergency Preparedness and Response

The BCC has a number of plans (primarily the SPCC Plan) that are used to identify, prepare for, and respond to potential environmental emergencies. The SPCC Plan also identifies individuals responsible for responding to environmental emergencies and incidents. The SPCC is reviewed on an annual basis and after the occurrence of major accidents or emergency situations. Requirements of the plan may be tested annually, with lessons learned from testing incorporated into the plan as necessary. The Stormwater Pollution Prevention Plan (SWPPP) and Hazardous Waste Contingency Plan (HWCP) also outlines emergency response and activities.

4.12.1 Emergency Preparedness and Response Procedure

BCC is committed to ensuring the safety of its employees, visitors, contractors, and the surrounding community. Proper implementation of the Emergency Preparedness and Response procedure and relevant supporting plans are intended to minimize hazards to human health and the environment resulting from emergencies and incidents.

1. BCC has committed the necessary resources (e.g., manpower, equipment, materials, and contractors) to prevent, control, and respond to emergency situations.
2. The priorities of prevention and response personnel are based on protection of human life, mitigation of environmental impacts, and protection of property.
2. BCC maintains the following emergency response plans that provide procedures for planning and responding to accidents and emergency situations:
 - SPCC Plan
 - SWPPP
 - HWCP
3. These plans include specific roles, responsibilities, and procedures for the prevention of and response to accidents and emergency situations.
4. The emergency procedures contained in the plans are periodically tested, as described in the plans.
5. Distribution and control of emergency response plans are performed in accordance with the Control of Documents management system element, with one exception. Due to the nature of emergency events and the need to have immediate access to relevant information during an emergency, some emergency plan information may be distributed in hard copy format to relevant emergency response personnel.
6. The EHS Manager is responsible for the review, revision, and distribution of emergency plans.

7. At a minimum, emergency plans are reviewed:

- Following a major accident or emergency situation that triggers implementation of the plan.
- If a plan is deemed insufficient following its implementation in an emergency situation.
- If significant changes in operations may require modification of plans.
- If changing personnel roles may require the modification of plans.
- If changing regulatory requirements may require modification of plans.

4.13 Monitoring and Measurement

The EHS Manager and EHS office staff are responsible for identifying operations and activities associated with 'High and significant' environmental aspects that require ongoing monitoring and/or measurement.

4.13.1 Monitoring and Measurement Procedure

1. The following mechanisms have been implemented to assist BCC in the monitoring and measuring of environmental performance:
 - Objectives and Targets – Ongoing monitoring and measurement of Objective and Targets.
 - Management System Plans – Performance indicators/parameters identified in plans may need to be monitored on a prescribed basis.
 - External and Internal EMS Audits – Monitoring of responses to audit findings may be needed to ensure that any deficiencies are addressed/corrected.
 - Periodic Inspections – The EMS Manager schedules and manages periodic visual inspections of site operations to compare site operating conditions to applicable federal, state, and local requirements typically noted in permits.
2. Tracking Environmental Management System Performance

The EMS Program Manager is responsible for selecting the appropriate performance indicators and monitoring frequency necessary to track performance of the management system. When selecting performance indicators, the EMS Manager will identify key performance indicators that are:

- Objective, verifiable, and reproducible
- Relevant to BCC activities

- Consistent with BCC Environmental Policy
- Practical, cost-effective, and technologically feasible

A periodic review of performance indicators provides a clear picture of past performance and identifies future performance trends.

The EMS Program Manager may assign responsibility for tracking performance indicators to appropriate EHS personnel or other designated personnel. Designated personnel are responsible for recording performance compared to established baselines and goals and for communicating results to the EMS Manager.

Performance indicators may be presented to the CO or FE during annual management reviews to determine their effectiveness. When necessary, modification to the performance indicators may be undertaken by the EHS Manager.

3. Calibration and Maintenance of Monitoring Equipment

Where monitoring equipment is used to measure environmental performance, equipment calibration and maintenance will be performed in accordance with the manufacturer's recommended procedures and schedule.

Monitoring equipment used as part of the EMS will be listed in the Monitoring and Measurement Register.

4.14 Evaluation of Compliance

The EHS Office may conduct internal compliance audits to ensure that EMS and environmental requirements are being met. Civil Engineering Unit (CEU) Providence will conduct external compliance audits every 3 years that are consistent with USCG audit compliance requirements.

4.14.1 Evaluation of Compliance Procedure

1. BCC uses a variety of means to evaluate ongoing compliance with applicable laws and regulations. These include, but are not limited to:
 - External and internal compliance audits, which facilitate external and internal evaluations of compliance.
 - Periodic inspections of operating conditions conducted by BCC environmental personnel.

The EHS Manager is responsible for conducting, reviewing, evaluating, and responding to results from compliance audits.

2. Significant compliance audit findings together with resolution actions will be communicated to top management during the annual management review meeting.

4.15 Control of Records

Environmental records are used by personnel to help ensure conformance to key environmental requirements. The Control of Records Procedure, described below, is used to ensure that records are properly identified, stored, retained, and disposed.

4.15.1 Control of Records Procedure

1. General Responsibilities - The EHS Manager has overall responsibility for the identification, storage, protection, retrieval, retention, and disposition of all EMS records. Certain types of records may be generated and managed by responsible personnel (such as EHS Office staff) and may be stored in the respective EHS electronic or hard copy record storage area(s).
2. Types of Records - Records are generated and maintained in an electronic format, where possible. Hardcopy records may be generated and maintained where the maintenance of electronic records is ineffective or unfeasible.
3. Identification of Records - BCC has identified records that must be generated and maintained to demonstrate the effective operation of the management system. The list of records typically stored for retention purposes is listed in the Control of Records Register.
4. Retention of Record requirements may be established by regulatory agencies, USDHS, USCG, and BCC. At a minimum, BCC ensures that applicable regulatory-required retention times are met. Records retained beyond the assigned retention requirement are not considered to be management system records. They are "Historical Records" and will no longer be managed under the requirements of this system.
5. Disposition of Records - Designated Project Managers are responsible for periodically evaluating records for disposition under their management. Records that have been maintained beyond the applicable retention times may be disposed.

Potentially sensitive records, such as personnel-related or legal records, are shredded prior to disposal. Non-sensitive records are managed with regular office waste.

4.16 Audits

BCC will conduct annual audits of the management system to ensure that the EMS is functioning properly and that BCC is in compliance with applicable EMS requirements. Both internal and external audits will be used to evaluate the long-term performance of the EMS. The results of these assessments are provided to top management during the annual management review process.

4.16.1 Internal Audit Procedure

1. The EMS Program Manager is responsible for planning BCC's annual internal assessment, which includes a performance assessment of the EMS.
2. Audit Frequency - Audits are performed annually.
3. External EMS audits are conducted every 3 years. Highlights of findings from these audits will be documented by the EHS Manager in the Audit Register.
4. The scope of audits is determined based on consideration of the following:
 - Importance of activities
 - Results of previous audits
 - Results of management reviews
 - BCC performance related to its current objectives and targets
4. At least 3 months prior to an external audit, all core elements environmental programs will be reviewed by the EMS manager.
5. Staffing of internal audit teams - BCC strives to develop audit teams that possess the overall expertise and skills needed to conduct management system audits that provide sufficient benefit to the management system. When selecting management system auditors, consideration is given to the following criteria:
 - Competence - Auditors should possess the appropriate combination of knowledge, skills, and experience to perform audit responsibilities.
 - Objectivity - Auditors should be independent of the activities they audit; they should be free from bias and conflict of interest throughout the audit process.
6. All audits will be conducted by appropriately trained and qualified auditors.
7. BCC may elect to use internal or external resources, or a combination, to conduct management system audits. Audit teams may consist of one or more trained qualified auditors. A trained Lead Auditor is designated for all management system audits.
8. Due professional care and confidentiality - Auditors should use a level of care, diligence, and judgment expected of any auditor while conducting a management system audit. Management system auditors are not permitted to disclose information or documents obtained during or after the audit, including the audit report, to any third party.
9. The audit process - Management system audit activities are performed using the following stages:

- Audit preparation
 - The EMS Program Manager and designated Lead Auditor collaborate to complete an Audit Plan prior to each management system audit. The Lead Auditor then establishes the audit objectives, scope, criteria, staffing, reporting requirements, etc.
 - The EMS Program Manager notifies personnel who will be affected by the audit (including audit team members and those being audited) within a reasonable time period prior to the audit.
 - The Lead Auditor prepares the audit team to conduct the audit. This includes providing audit team members with the audit plan, audit assignments, and relevant supporting documentation (e.g., protocols, checklists, procedures, previous audit reports). The Lead Auditor also consults with audit team members prior to the audit to verify that they have reviewed the necessary audit information and clearly understand their audit assignments.
 - Each auditor is responsible for reviewing the documentation that is provided to them by the Lead Auditor to develop an understanding of the objectives and scope of the audit and the nature of BCC management system.
- Evaluation of the management system
 - The overall objective of the audit procedure is to compare BCC's existing management system to the ISO 14001 standard and to BCC documentation describing that system. This objective is accomplished by the audit team's evaluation of the implementation and effectiveness of the management system. The following activities are performed during the evaluation phase of the audit:
 - Opening meeting - The Audit Team holds a brief opening meeting with affected BCC personnel to review the scope, plan, and schedule for the audit.
 - Evaluation/audit activities - Using their audit protocols and checklists as guides, the audit team separates and gathers objective evidence (e.g., controlled documents, records, and confirmed statements) to verify conformance with management system requirements. Activities may include interviews with organization personnel, review of pertinent records, observation of activities and processes, etc. Auditors must maintain notes of audit activities so that nonconformance items/audit findings can be effectively described during the reporting phase of the audit.
 - Closing meeting - The audit team holds a closing meeting with affected personnel to review the preliminary findings of the audit and to clarify any open or inaccurate items.

- Reporting - The Lead Auditor directs the following reporting efforts:
 - Documentation of nonconformance items/audit findings - Each auditor records detailed audit findings based on the results of his/her audit activities. Nonconformance items and associated corrective and/or preventive actions are integrated into the Corrective Action Plan (CAP).
 - Audit follow-up and corrective action - Audit findings that require corrective action are managed in accordance with the Nonconformity, Corrective Action, and Preventive Action management system element. It is the responsibility of the personnel being audited, not the audit team members, to handle correction action associated with audit findings.
 - Audit reports, including audit findings and the results of related corrective action, are reviewed by BCC top management during the annual management review.

4.17 Management Review

The CO, FE and EHS Manager together review elements of the EMS at least once annually to ensure its continuing suitability, adequacy, and effectiveness, as described in the procedure below.

4.17.1 Management Review Procedure

1. Top management may routinely receive informal status reports about the day-to-day management process. Formal management reviews are performed at a frequency determined by top management based on changing conditions and circumstances, or at least once annually.
2. The EHS Manager, working with the EMS Program Manager, schedules and leads formal management review meetings. Top management, which includes representation from all the major departments, participates in the annual review process.
3. The following information, at a minimum, is presented, reviewed and evaluated by top management during each management review meeting:
 - Results of internal audits and evaluations of compliance with legal requirements and with other requirements to which BCC subscribes.
 - Communication(s) from external interested parties, including complaints.
 - The environmental performance of BCC.
 - The extent to which the objectives and targets have been met.
 - Status of corrective and preventive actions.

- Follow-up actions from previous management reviews.
 - Changing circumstances, including developments in legal and other requirements or its environmental aspects.
 - Recommendations for EMS improvement.
 - Sustainability of the management system.
 - Adequacy of existing resources, both human and financial to maintain an effective EMS.
 - Current status and actions associated with EO 13693 and other applicable environmental and sustainability Executive Orders.
4. Consistent with the continuous improvement EMS process, the outputs from management will include any decisions and actions related to possible changes to BCC's Environmental Policy, objective and targets, and any element of the EMS.
 5. Management review meeting minutes are recorded and maintained by the EMS Manager.

5.0 REGISTERS

Following is a compilation of key registers supporting Cape Code's EMS data recordkeeping requirements.

Register 1. Environmental Aspects and Significance Ranking		
Area of Concern	Significance Ranking	Comments
Natural Resources	High and Significant	State priority
Hazardous Waste	High and Significant	Disposal costs, proper handling/storage and documentation/record keeping
Asbestos	High and Significant	BCC's Asbestos Plan is current.
Storm water	High and Significant	Industrial and Municipal. Outfalls around housing in disrepair or clogged. Outfalls at Edmunds and Osborne Ponds require maintenance. Two outfalls located within Zone 1 of PWS wellhead
Energy	Medium	LEED Silver; Housing Efficiency Improvements; and Solar Arrays Implementation Feasibility Studies
Air Emissions	Medium	MA 50% Cap Permit requires maintaining 12 month rolling average of priority pollutants. Gas Station Stage 1 Permit
Lead-Based Paint	Medium	
Recycling (Regulated)	Medium	Spent lead bullets, brass casings, and shotgun shells regulated as Class A recyclables
Pesticides	Medium	High quantity of pesticides applied annually to airfield and Golf Course
Land Use (Restrictions)	Medium	Unexploded ordnance (UXO) investigations: COMMSTA, Osborn Pond and Hunter Field
Recycling (Regular)	Low	
Disposal of Street Sweepings	Low	
Tanks	Low	Aboveground Storage Tanks
Hazardous Waste	Low	Bullet trap collection system lead contaminated water. New pharmaceutical hazardous waste program in effect
Hazardous Materials	Low	EPCRA reporting
Solid Waste	Low	
Ozone Depleting Substances (ODS)	Low	Log maintained by licensed HVAC technicians

Register 2. Legal and Other Requirements			
Requirement	Type	Regulatory Body	Comments
Resource Conservation and Recovery Act (RCRA) Emergency/Contingency Plan	General	Federal	HWCP updated 2016
Water Withdrawal Permit	Permit	State	Golf Course
Hazardous Waste Operations	Permit	State	HWMP updated 2016
National Pollutant Discharge Elimination System (NPDES) Storm Water	Permit	Federal	Industrial and Municipal Permits. MSGP updated 2015
Air Emissions (50% Facility Emission Cap and Stage I Vapor Recovery)	Permits	State	ASR report every 3 years
Priority Habitat / Endangered Species/ Historic Properties		Federal and State	
SPCC		Federal	Updated 2016
FIFRA		Federal and State	
EPCRA		Federal	Tier II Requirements
National Environmental Policy Act (NEPA) Reviews		Federal	

Register 3. EMS Objectives, Targets, and Programs			
Objective	Target	Responsibility	Status
Conserve our Natural Resources	Reduce potential impacts to natural resources as identified in the Natural Resources Management Plan. Include newly listed species and add cultural considerations		Underway
Reduce Hazardous Waste	Reduce generation of hazardous waste at BCC by 5 percent by 2017.		Underway
Reduce Energy Usage	<ul style="list-style-type: none"> - Construct LEED Silver facilities - Make housing units more efficient (enhanced lighting fixtures, water aerator, programmable thermostats, appliance upgrades to Energy Star) - Obtain the funding to construct a 6 – 8 MW solar array installation 		Underway
Manage the Asbestos Program	- Control self-help and O&M projects through training and updates to SOPs		Underway

Register 3. EMS Objectives, Targets, and Programs			
Objective	Target	Responsibility	Status
	- Provide annual Asbestos Awareness training		

Register 4. Competence, Training, and Awareness				
Course	Who attends	Duration	Frequency	Comments
EMS General Awareness	All personnel	10 minutes	Initial	Part of Initial Indoctrination Briefing
Hazardous Communications (HAZCOM) Initial	All personnel	1 hour	Initial	
SPCC (including Spill Response)	All personnel that work with fuels	30 minutes	Initial and Annual	Part of Initial indoctrination briefing and annually on site thereafter
HAZWOPER	Hazardous Waste Manager, Environmental Protection Specialist	40 hours	Initial	
HAZWOPER Refresher	Hazardous Waste Manager, Environmental Protection Specialist	8 hours	Annual	
Asbestos Awareness	Maintenance	2 hours	Initial and Annual	
Stormwater Industrial NPDES Annual	Airfield Grounds Maintenance	30 minutes	Annual	
RCRA Hazardous Waste Manager	Satellite Accumulation Point personnel	30 minutes	Annual	

Register 5. Communications				
Subject	Detail	Internal/External	Date	Comments
EPA RCRA NOV	Received and responded	External	22FEB16 14MAR16	Closed
DEP Notice of Responsibility	Received for oil release at 20 Vesper Lane, Gouin Village, Nantucket	External	6OCT16	

Register 5. Communications				
Subject	Detail	Internal/External	Date	Comments

Register 6. Documents					
Name	Category	Location	Published	Version	Comments
Environmental Policy	Document	EHS Office*	2014		
EMS Manual	Manual/Description Document	EHS Office	2013	2016	
Hazardous Waste	Management Plan	EHS Office*	2010	2016	
Pest Management	Management Plan	EHS Office			IPMP in progress
Asbestos	Management Plan	EHS Office	2016		
Solid Waste/Recycling	Management Plan	EHS Office	2016		Recycle Center Procedures
Pollution Prevention	Management Plan	EHS Office	2008	2011	Update in 2017
SPCC	Management Plan	EHS Office*	2011	2016	
SWPPP	Management Plan	EHS Office*	2008	2015	
Natural Resource Management Plan	Management Plan	EHS Office	2014		
*The document is also located at various locations around the base.					

Register 7. Operational Controls for Significant Aspects		
Area of Concern with Significant Aspect	Describe Operational Controls	Status
Natural Resources	New Management Plan	Implemented
Hazardous Waste	New SOPs	Implemented
Asbestos	New Training Program and Updated Management Plan	Implemented
Notes:		

Register 8. Emergency Preparedness and Response – Incident Tracking						
Incidence Description	Date	Location	Recorded By	Established Cause	Resolved	Closed Out
Fire department keeps a record of all major incidents						
A spill log is maintained by the environmental office						
Notes:						

Register 9. Monitoring and Measurement			
EMS Program	Latest Progress Description	Date Last Update	Comments
Natural Resources	Management Plan	2014	
Asbestos	Management Plan	2016	
Hazardous Waste	Update of waste tonnage	2011	Current Pollution Prevention Plan uses 1994 as baseline; update metric and goal for EMS

Register 10. Evaluation of Compliance					
Inspection Media	Activity or Process Description	Location	Oversight Inspection Frequency	Oversight Inspection Responsibility	Comments
Storm Water	Outfalls and facility Inspections		Quarterly	Env. Manager	
Oil Water Separators (OWS)	OWS Inspections for Proper Operation		Semi-Annually	Env. Manager	
Environmental	Environmental Compliance (Ongoing)		Annual Audit	EHS Manager	
Hazardous Waste	Weekly CAP Inspections		Annually	Environmental Dept. Personnel	
Tanks	Monthly AST Inspections		Annually	Environmental Dept. Personnel	
Satellite Accumulation Points	Weekly SAP Inspections		Annually	Environmental Dept. Personnel	

Register 11. Nonconformance and Corrective Action Management					
Non-Conformance	Type	Date Reported	Describe Root Cause	Resolved By	Date Resolved
Non-conformances are logged in inspection logs					

Register 12. Control of Records			
Record Name	Retention Years	Record(s) Location	Comments
Hazardous Waste Disposal Manifests	Indefinitely	EHS Office	
Hazardous Waste Logs	Indefinitely	EHS Office	
Asbestos	Indefinitely	EHS Office	
EMS Audit Results (Internal/External)	Indefinitely	EHS Office	
ECE Audit Results (Internal/External)	Indefinitely	EHS Office	
Stormwater Samples	3 Years	EHS Office	
Pesticide Applications	Indefinitely	EHS Office	
OWS Inspections	3 Years	EHS Office	
Training Records	3 Years	EHS Office	
Spill Logs	Indefinitely	Fire Department and EHS Office	
Water Withdraw Log (Golf Course)	5 Years	Golf Course	

Register 13. Audits					
Audit Date	Audit Title	Internal or External	Organization Audited	Audited By	Summary Findings
5/01/2011	ECE	External	BCC	CEU Providence	See audit report
2-3 May 2012	Regulatory Multi-Media Inspection	External	BCC	MA Department of Environmental Protection (MassDEP)	No findings resulting in a Letter of Inspection
8/31/2011	ECE	External	COMSTA Boston	CEU Providence	See audit report
24-26 July 2014	ECE	External	BCC	CEU Providence	See audit report
7/30/2015	RCRA Compliance Evaluation	External	BCC	US Environmental Protection Agency	See audit report

Register 14. Annual Management Review				
Meeting Date	Agenda Summary	Attendees	Minutes Summary or Follow On Actions	Location Meeting Documents
09/12/2013	Review new EMS Manual, significant aspects, and targets.	Capt. Torpey E. Kirkpatrick	Minutes on file	BCC network shared folder "ENV"
07/25/2014	Refer to Agenda on file in EHS	Capt. Torpey CDR Hernaez K. Schweitzer R. Marino M. Robert E. Kirkpatrick	Minutes on file	BCC network shared folder "ENV"
07/31/2015	Refer to minutes	Refer to minutes	Minutes on file	See above
11/16/2016	Refer to slides	Refer to minutes	Minutes on file	See above

6.0 ANNUAL EMS SUSTAINMENT

To sustain the EMS as a value-adding activity for BCC and avoid lapses in EMS performance, following is a list of EMS tasks that should be conducted to maintain the EMS on a year-to-year basis.

EMS Annual Sustainment Checklist		
EMS Sustainment Item	Responsibility	Last Date Performed
Review and update Policy and Manual	E. Kirkpatrick	11/15/2016
Review and Update EMS Registers	E. Kirkpatrick	11/15/2016
Review and update EMS Awareness Training	E. Kirkpatrick	11/15/2016
Review and update Objectives and Targets	E. Kirkpatrick	11/15/2016
Review and update Aspects Register	E. Kirkpatrick	11/15/2016
Review and update Objectives and Targets	E. Kirkpatrick	11/15/2016
Plan and conduct Annual EMS audit	E. Kirkpatrick	11/15/2016
Plan and conduct Top Management Review	E. Kirkpatrick	11/15/2016

Following is a list of key annual Regulatory Reporting Requirements that need to be maintained on a year-to-year basis.

Regulatory Reporting Requirements		
Report	Frequency	Due Date
Annual Statistical Report (B-Well)	Annual	Mid-Feb (date varies)
Tier 2 Report	Annual	1-Mar
Hazardous Waste Report	Biennial	15-Mar (even years)
Stormwater Phase II MS4 Report	Annual	1-May
Air Source Registration	Triennial	May 2017
Stage I Vapor Recovery	Annual	Within 30 days of the completion of the Annual Stage II Vapor Recovery system checks. Approximately 15-May.
TRI Reporting and Form R	Annual	1-Jul
Storm water NPDES Industrial Report	Annual	30 Jan
Cross Connection Backflow Report	Twice Annually	May and November
Amalgam Recovery Certification	Biennial	31-Mar (even years)
Class A Recycle Reports	Annual	1-Mar

7.0 GLOSSARY

Airfield operations area – Any area of an airport used or intended to be used for landing, takeoff, or surface maneuvering of aircraft.

Airport – An area of land or other hard surface, excluding water that is used or intended to be used for the landing and takeoff of aircraft.

Air quality – A measure of the concentrations of pollutants, measured individually, in the air.

Baseline – Documentation of current conditions so that changes can be identified.

Best Management Practices (BMPs) – Methods, measures, or practices to prevent or reduce the contributions of pollutants. BMPs may be imposed in addition to, or in the absence of, effluent limitations, standards, or prohibitions.

Clean Water Act (CWA) – A comprehensive statute aimed at restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. Enacted originally in 1948, the Act was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost every year.

Code of Federal Regulations (CFR) – The CFR is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government. The purpose of the CFR is to present the official and complete text of agency regulations in one organized publication and to provide a comprehensive and convenient reference for all those who may need to know the text of general and permanent federal regulations. The CFR is keyed to and kept up to date by the daily Federal Register.

Contiguous – Connecting without a break within a common boundary.

ECE – Environmental Compliance and Evaluation audits.

Ecosystem – A community of interacting organisms and their environment that functions together to sustain life.

Encroachment – Any entry into an area not previously occupied (e.g., that could infringe on the military mission due to incompatible land use).

Environmental – (1) In a scientific context, a combination of natural conditions; and (2) in a planning context, a category of analytical studies of aesthetic values, ecological resources, cultural (historical) resources, sociological and economic conditions, etc.

Environmental Assessment (EA) – A publication that provides evidence and analysis to show whether a proposed system will adversely affect the environment or be environmentally controversial. If the proposed system will adversely affect the environment or be controversial, an EIS is prepared to disclose impacts.

Environmental Impact Statement – As defined in the Council on Environmental Quality regulations, a detailed written report that provides a “full and fair discussion of significant environmental impacts, and (informs) decision makers and the public of reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment.”

Environmental Management System – An Environmental Management System (EMS) is a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency.

General aviation airport – Public use airports that are closed to air carrier operations, except in unusual circumstances such as emergencies.

Geographic Information System (GIS) – A GIS is a computer system that allows environmental analysts to compile, analyze, and model information relevant to proposals that require environmental analysis. It is also a tool that assists decision making by providing a visual depiction of complex data, customized for the situation and circumstances associated with the decision.

Hazardous waste – A solid waste (or combination of wastes) that, due to its quantity, concentration, or physical, chemical, or infectious characteristics, can cause or significantly contribute to an increase in mortality. RCRA further defines a hazardous waste as one that can increase serious, irreversible, or incapacitating reversible illness or pose a hazard to human health or the environment when improperly treated, stored, disposed of, or otherwise managed.

Installation – A grouping of facilities, located in the same general vicinity, over which the installation commander has authority.

Integrated Natural Resources Management Plan (INRMP) – The means by which the Department of Defense (DoD) is fulfilling its responsibility as a steward of public lands while maintaining full support of the military mission. The plans are mandated under the Sikes Act as amended by the Sikes Act Improvement Act (SAIA) of 1997.

Integrated Pest Management Plan – Includes pest identification and management requirements, outlines the resources necessary for surveillance and control, and describes the administrative, safety, and environmental requirements of the program. This plan serves as a tool to reduce pesticide use, enhance environmental protection, and maximize the use of integrated pest management techniques.

National Environmental Policy Act (NEPA) (of 1969) – The nation's basic charter for protecting the environment. It establishes policy, sets goals, and provides means for carrying out the policy. In accordance with NEPA, all federal agencies must prepare a written statement on the environmental impact of a proposed action. NEPA requires all federal agencies to consider the potential effects of proposed actions on the human and natural environment.

Natural resources – All elements of nature and their environments of soil, air, and water. Those consist of two general types: earth resources, which consist of the non-living resources such as minerals, water, and soil components, and biological resources, which consist of living resources such as plants and animals.

Potable water – Water that is suitable for drinking.

Restoration – The return of an ecosystem or habitat to its original community structure, natural complement of species, and natural functions.

Rotary-wing aircraft – Helicopter.

Sediment – Solid materials, both mineral and organic, in suspension or transported by water, gravity, ice, or air; sediments may be moved and deposited away from their original position and eventually will settle to the bottom.

Soil – The mixture of altered mineral and organic material at the earth's surface that supports plant life.

Stakeholder – A person, jurisdiction, organization, or agency with an interest in a particular project.

Stewardship – The concept of responsible caretaking based on the premise that we do not own resources but are managers and are responsible to future generations for their condition.

Storm water – Water that originates during precipitation events. Storm water that does not soak into the ground becomes surface runoff, which either flows directly into surface waterways or is channeled into storm sewers, which eventually discharge to surface waters.

Storm water management – The mechanism for controlling storm water runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Surface waters – All water occurring above ground. This includes wetlands, lakes, rivers, and streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or ponds.

Sustainable use – Managing to provide long-term availability and quality of installation lands for military training operations by not degrading existing natural resources, including living and non-living components and the processes that tie them together.

Water resources – The supply of groundwater and surface water in a given area.

Wetlands – Areas that are regularly saturated by surface or groundwater and are therefore characterized by a prevalence of vegetation that is adapted for life in saturated soil conditions. Examples include swamps, bogs, fens, marshes, and estuaries.