



*NCI-Frederick*  
**ENVIRONMENTAL MANAGEMENT  
SYSTEM MANUAL**

**March 2008**

Please note: hard copies of this Manual are considered UNCONTROLLED

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## 1.0 Purpose

This manual defines the scope of NCI-Frederick's Environmental Management System (EMS) and provides a linkage of system procedures to the various elements of the ISO 14001:2004 standard.

The principal elements of the system described in this manual are:

- Environmental Aspects
- Legal and Other Requirements
- Environmental Objectives and Targets
- Environmental Management Programs
- Organizational Structure and Responsibility
- Training, Awareness and Competence
- Communication
- Document Control
- Operational Control
- Emergency Preparedness and Response
- Monitoring and Measurement
- Nonconformance and Corrective and Preventive Action
- Records
- Environmental Management System Audit
- Management Review

## 2.0 Scope

The NCI-Frederick is a biomedical research facility located within Fort Detrick, in Frederick, MD, and is a Federally Funded Research and Development Center, operated by several contractors. The Operational and Technical Support contractor is SAIC-Frederick, which operates the directorates most closely associated with environmental impacts.

Through an interagency agreement, the Detrick Army Garrison (USAG) owns and operates the water and wastewater treatment plants, steam generation plant, electrical services and the solid and medical waste incinerators on base. The USAG also provides perimeter security, collects medical waste and certain recyclables and is responsible for compliance with permits and policies associated with those activities.

The NCI-F constructs and maintains buildings, purchases and maintains equipment, fleet vehicles and supplies and implements environmental, health and safety programs through its OTS contractor.

The NCI-Frederick EMS provides a mechanism for environmental management throughout the facility within the scope described above. The environmental management system is designed to manage environmental impacts which NCI-F can control or directly manage, and those it does not control or directly manage but can be expected to have an influence.

Currently, the scope of the NCI-F EMS includes activities undertaken by three SAIC-F Directorates: Facilities, Maintenance & Engineering (FME), Acquisition and Logistical Services (ALS) and Environment, Health & Safety (EHS). All operations within these directorates will be subject to EMS policies and procedures.

### 3.0 Issue and Update

The control of this Manual is in accordance with the NCI-Frederick environmental procedure EP-006 Environmental Document Control. All copies of this Manual not marked "CONTROLLED DOCUMENT" are uncontrolled and should be used for reference purposes only.

Amendments to this manual will be issued by the EMS Manager.

### 4.0 Environmental Policy

The NCI-Frederick Environmental Policy (Policy) is signed by both the Office of the Director and Office of Management and covers all activities at the facility. The Policy includes a commitment to continual improvement and prevention of pollution, as well as a commitment to meet or exceed relevant environmental legislation, regulations and other requirements. The Policy will be reviewed annually by top NCI-F management, communicated to all employees and made available to the public in accordance with the Environmental Communication procedure.

See Appendix A – Policy, for a copy of the NCI-Frederick Environmental Policy.

#### Reference Material

ISO 14001 Standard (4.2)  
NCI-Frederick Environmental Policy

#### Applicable Procedures

[EP-005 Environmental Communication](#)

### 5.0 Environmental Aspects

An environmental aspect is any element of an organization's activities, products or services which can interact with the environment. If that aspect has any potential *impact* on the environment, that is also noted.

The NCI-Frederick Cross Functional Team (CFT) reviews its activities through a review of our contract scope, approved workplans, procedures and legal obligations. The CFT then identifies the environmental aspects of those activities which the facility controls and over which it may be expected to have an influence, and determines which of those aspects are considered significant.

Discussions regarding significance are recorded in CFT meeting minutes. Aspects are ranked through a voting procedure where numerical rankings are assigned based on the criteria of risk, severity, frequency of occurrence, impact on mission and regulatory status.

Aspects are reviewed at least annually by the CFT or when there is a new or changed process or activity at the facility. The EMS Manager maintains CFT minutes and other records. A list of all aspects by area and department is included in Appendix B – Ranking of Aspects.

### **Reference Material**

ISO 14001 Standard (4.3.1)

### **Applicable Procedures**

[EP-001 Environmental Aspects Ranking Procedure](#)

## **6.0 Legal and Other Requirements**

Legal and other requirements include federal, state and county regulations as well as USAG regulations to which the NCI-F has agreed in writing. In addition, specific contract requirements between SAIC-Frederick and NCI-F are included.

The NCI-Frederick has established an environmental procedure for the purpose of identifying, accessing and communicating legal and other requirements that are applicable to the facility. The procedure consists of these steps:

SAIC-F Managers and Safety Officers develop and maintain expertise on legal and other requirements using online resources from the EPA, DOT, MDE, NRC, OSHA and MOSH as well as the regulatory resources maintained by SAIC on its ISSAIC intranet;

Managers and Safety Officers review industry journals applicable to their fields;

SAIC-F Directors meet monthly with NCI-F management to review upcoming projects and new programs, including their safety and environmental impacts;

Managers also attend professional seminars and conferences;

Annual (or more frequent) review of environmental permits.

1. New Legal Obligations will be recorded in the list referenced in Appendix C annually or as determined.
2. Environmental Legal Obligations are communicated during employee orientation and through meetings of groups affected by new regulations, guidelines or permits, or during inspections which are undertaken annually.

Please see Appendix C for a consolidated list of Legal and Other Requirements from the programs within the scope of the EMS.

### **Reference Materials**

Appendix C -Legal and Other Requirements

ISO 14001 Standard: 2004 (4.3.2)

### **Applicable Procedures**

[Procedure described above.](#)

## **7.0 Environmental Objectives, Targets & Programs, and Operational Controls**

An Environmental Objective is any overall goal arising from the Environmental Policy which an organization sets itself to achieve, and is quantified whenever practical.

An Environmental Target is a detailed performance requirement which arises from an Environmental Objective and is set and obtained in order to achieve that objective. A

target will often be a breakdown of the environmental objective into measurable components.

The Cross Functional Team develops and documents objectives and targets for each significant environmental aspect. These objectives and targets define:

1. the performance objectives (Investigate/Study, Control/Maintain, Improve, Reduce, etc.) for each significant environmental aspect;
- the specific, quantified targets which define those performance objectives;  
the planned deadlines for the achievement of those targets; and  
personnel responsible for meeting the target.

**Objectives** and **targets** are developed considering significant environmental aspects, technological options and financial, operational and business plans. The CFT, SAIC-F and NCI-F management coordinate to estimate and approve any resources required to meet EMS targets during the Management Review.

**Environmental Management Programs** (EMPs) are documents used to manage and ensure the achievement of set objectives and targets. They define responsibilities, operational controls, schedules and resources and are linked to Objectives, Targets, Legal Obligations, Training and Operational Controls.

EMPs are developed by the EMS CFT and implemented by the Committees responsible for each EMP.

Objectives and Targets are documented in the Environmental Management Program for each Significant Aspect.

**Operational Controls** are any administrative or technological mechanism whose absence could lead to a deviation from the Environmental Objective or Target. Examples include: standard operating procedures (SOPs), training programs, motion sensors for lights, maintenance schedules, secondary containment for chemical storage or purchasing of recycled content items.

Operational Controls are the most detailed portion of the EMP.

The EMPs are found in Appendix D - Management Programs.

### Reference Material

ISO 14001 Standard (4.3.3)

### Applicable Procedures

[EP-003 Objectives, Targets, EMPs Procedures](#)

## 8.0 Resources, Roles, Responsibility and Authority

Environmental management system roles, responsibilities and authorities are defined at relevant functions and levels within the organization. The NCI-Frederick Management provides the resources essential to the implementation and control of the environmental management system, including: training, human resources, specialty services, financial resources, technical and informational services. The Environmental Management Representative has primary responsibility for establishing, operating and maintaining the EMS. A Cross Functional Team provides routine EMS support and reports directly to the EMR. Documentation, which describes various positions, is included in the table below.

## Reference Material

ISO 14001 Standard (4.4.1)

Individual or Group	Responsibility
Senior Management of SAIC-F and NCI-F	Overall responsibility for the implementation and review of the NCI-F EMS. Delegates authority to the EMS Coordinator to execute. Provides resources needed to achieve approved targets and objectives.
EMS Coordinator – Gary Happel	Responsible for overseeing planning and implementation of EMS. Reviews the efforts of the committees and groups within the EMS scope. Makes recommendations and coordinates with DHHS and USAG
EMS Steering Committee – Byron Bowie, Paul Stokely, Bruce Tobias, Len Wrona	Responsible for implementing EMS within their respective Directorates. Supports and assists EMS Coordinator with initial implementation of EMS. Trains EMP committee members.
EMS Cross Functional Team.	Serves as experts and representatives of various functional groups within NCI-Frederick
EMP Committees	Responsible for performing the tasks and deadlines of the EMPs.
Supervisors	Supervisors of groups within the scope of EMPs are responsible for incorporating EMS duties into their workplan and schedules.
NCI-F Workforce	Provides input for activities and aspects. Participate in EMP Committees

## 9.0 Training, Awareness and Competence

NCI-Frederick has set up several tiers of training based on level of participation in EMS activities, as included in the table below.

Training is presented in live meetings and there is currently no web-based training.



Group	Type of Training	Training Content
Workforce within EMS scope	General Awareness	Environmental Policy, Overview of EMS, Significant Aspects and their Impacts, Individual Roles and Responsibilities.
Employees engaged in activities with significant aspects	Competency	Specific to activity; for each EMP, training requirements are specified for each activity.
Employees in EMS Committees;	EMS Implementation	Organizational structure, review of EMS Manual, elements of ISO 14001, plus third part instruction as needed..
Senior Management of NCI-F and SAIC-F	EMS Implementation	Organizational structure, elements of ISO 14001.

#### Reference Material

ISO 14001 Standard (4.4.2)

#### Applicable Procedures

[EP-004 Environmental Training and Awareness](#)

## 10.0 Communication

The NCI-Frederick has established and will maintain a procedure for internal and external communications regarding environmental aspects and the EMS.

#### Reference Material

ISO 14001 Standard (4.4.3)

#### Applicable Procedures

[EP-005 Environmental Communication](#)

## 11.0 Environmental Management System Documentation

This Manual identifies all documents relevant to the EMS. A copy of EMS documents, other than visual aids and records, can be obtained from the Environmental Management Representative or designee.

A **document** is any written instrument, procedure, plan, policy statement or report which is or can be updated and modified.

A **record** is any written instrument, manifest, meeting minutes, attendance sheet, log entry or data, which may be corrected but not be updated. Corrections to records must be legible and barefaced.

Procedures referenced in this Manual are appended.

### Reference Material

ISO 14001 Standard (4.4.4)

Document	Document Number	Description
NCI-F Environmental Policy	1	Declares the facility's environmental principles and intentions and is the basis of the EMS
EMS Manual	2	Describes how each element of the ISO 14001 standard is achieved or met and includes all EMS procedures.
Significant Aspects	3	List of aspects and their rank of significance.
Environmental Management Plans	4–11	Links aspects to legal obligations, objectives, targets, records, training requirements and progress.
EMS Procedures	EP–01 through EP–012	Written procedures required by ISO 14001.
EMS Records	No numbers given	Items such as manifests, generator logs, training sign-in sheets as listed in the EMPs.

## 12.0 Document Control

The NCI-Frederick has established a procedure for controlling all documents listed in the EMS Manual. This procedure describes where documents can be located and how and when they are approved and reviewed. The procedure ensures that current versions are available and that obsolete documents are promptly removed from use or are suitably identified. Controlled documents are obtainable from the EMS Coordinator or designee. A list of controlled documents is provided in Section 11 – EMS Documentation.

### Reference Material

ISO 14001 Standard (4.4.5)

### Applicable Procedures

[EP-006 Environmental Document Control](#)

## 13.0 Operational Control

The CFT is responsible for identifying operations and activities associated with significant environmental aspects that require operational controls in procedures, work practices or environmental management programs.

Operational controls are documented in the Environmental Management Plans for each aspect. The majority of these controls reside in training and standard operating procedures. Where SOPs do not exist or training is “on-the-job”, training specific to activities covered in the EMPs will be documented.

### Reference Material

ISO 14001 Standard (4.4.6)

### Applicable Procedures

[EP-003 Objectives, Targets, EMPs Procedures](#)

## 14.0 Emergency Preparedness and Response

The NCI-Frederick has an environmental procedure to identify potential for and respond to accidents and emergency situations, and for preventing and mitigating the environmental impacts that may be associated with them.

An **emergency** is defined here as a spill or other incident which may impact the environment in a catastrophic manner, or which would trigger reporting requirements found in **COMAR 26.13.05.04**. Smaller incidents such as indoor chemical, biological or radiological spills which are easily contained, cleaned and have no significant environmental impact are not included in this procedure.

All NCI-F personnel, regardless of activity or location are trained to call 911 in an emergency during orientation. In addition, all facility telephones bear stickers with numbers to call in an emergency.

Details of this procedure reside in:

The NCI-F Emergency Response Quick Guide is a widely distributed list of numbers to call by type of emergency.

[NCI-F Emergency Response Quick Guide](#)

The NCI-F Contingency Plan, located on the EHS shared drive. This plan applies to the Hazardous Waste Management Facility, Building 1071.

[NCI-F Contingency Plan](#)

The NCI-F Spill Prevention, Control and Countermeasures plan. The SPCC applies to all containers of hazardous containers able to hold more than 55 gallons of oil or fuel, including generators. The plan includes mapped locations of these containers and tanks as well as the nearest downhill storm drain to each.

[NCI-F SPCC Plan](#)

Section B-1 of the Environment, Health & Safety Compliance Manual. This section details the responsibilities of all persons authorized and trained to respond to emergencies or spills.

[EHS Compliance Manual, Section B-1](#)

SOP 4017: Spill Response. This procedure applies to anyone trained to respond to chemical spills.

[EHS SOP 4017](#)

Emergency methods are reviewed by the EHS Director on an annual basis and after the occurrence of accidents or emergency situations. In addition, Emergency plans, communication and procedures are reviewed annually during HAZWOPER refresher training with those personnel trained in spill response.

Procedures for reporting emergencies are covered during New Employee Orientation Training. Emergency telephone numbers are listed on every facility phone.

### **Reference Material**

ISO 14001 Standard (4.4.7)

### **Applicable Procedures**

[EP-007 Emergency Preparedness and Response](#)

## **15.0 Monitoring and Measurement**

The NCI-Frederick has established environmental procedures to monitor and measure the key characteristics of its operations and activities that can have a significant impact on the environment. This procedure includes calibration and maintenance requirements and ensures that records will be retained.

### **Reference Material**

ISO 14001 Standard (4.5.1)

### **Applicable Procedures**

[EP-008 Monitoring and Measurement](#)

## **16.0 Evaluation of Compliance**

The NCI-Frederick has an environmental procedure for evaluating compliance with its environmental legal obligations, described below:

Annual inspections of all NCI-Frederick laboratories, shops, storage facilities and office spaces are conducted by personnel from EHS. These inspections include

- assessments of hazardous material storage, use and disposal;
- assessments of work practices, including posted emergency contacts;
- assessments of equipment safety;
- access to safety equipment such as fire extinguishers, eyewash stations and safety showers where required.

To further assess compliance, EHS undergoes an annual external audit. This evaluation is conducted by a professional compliance auditor who is given full access to all NCI-Frederick environmental records, including training, waste and inspection records.

In addition, this audit also includes an evaluation of safety and health practices and records.

Audit results and any documented corrections, recommendations, points of non-compliance and suggestions for improvement are kept by the EHS Director, who is also responsible for their implementation.

### **Reference Material**

ISO 14001 Standard (4.5.2)

### **Applicable Procedure**

[Compliance Evaluation Procedure listed above](#)

## 17.0 Nonconformance and Corrective and Preventive Action

The NCI-Frederick has an environmental procedure for defining responsibility and authority for handling and investigating non-conformances, for taking action to mitigate impacts, and for initiating and completing corrective and preventive action. Any changes in procedures resulting from corrective and preventive actions are implemented and recorded. The Audit Program Leader maintains these records.

### Reference Material

ISO 14001 Standard (4.5.3)

### Applicable Procedures

[EP-010 Non-Conformance and Corrective and Preventive Action](#)

## 18.0 Records

The NCI-Frederick has policies for the identification, maintenance and disposal of environmental records. These records include training records, manifests, surveys and the results of audits and reviews and are the property of each program which generates the record. They are readily retrievable and protected against likely damage, deterioration and loss. Records identified in this Manual and within each EMP will also identify their location.

Whenever feasible, records will also be scanned and made available online to EMS participants and auditors.

### Reference Material

ISO 14001 Standard (4.5.4)

## 19.0 Environmental Management System Internal Audits

Periodic system audits are conducted to ensure that the environmental management system has been properly implemented and maintained. The results of these audits are provided to management. Audits are performed according to a schedule, which is based on the environmental importance of an activity, the results of previous audits and the audit schedule. All auditors are trained and audit records are kept with the EMS Program Manager.

### Reference Material

ISO 14001 Standard (4.5.4)

### Applicable Procedures

[EP-011 Environmental Management System Internal Audits](#)

## 20.0 Management Review

The NCI-Frederick Senior Management Team reviews all elements of the EMS annually to ensure its continuing suitability, adequacy and effectiveness. Meeting minutes record these reviews and are kept by the EMS Program Manager or designee.

### Reference Material

ISO 14001 Standard (4.6)

### Applicable Procedures

[EP-012 Environmental Management System Management Review](#)

## 21.0 Record of Revisions

Revision Date	Description	Sections Affected
9/28/2006	Manual Written	All Sections
11/01/07	Update	7.0, 8.0, 12, 14
03/04/2008	Update	8.0, 9.0