

GREEN ENVIRONMENTAL MANAGEMENT SYSTEMS (GEMS)

1. PURPOSE:

- a. Executive Order 13148, Greening the Government Through Leadership in Environmental Management, directs that federal agencies have a governing environmental policy in place for the operation of its facilities. The Executive Order also requires that Veterans Health Administration (VHA) facilities develop and implement environmental management systems. The objectives of an environmental management system are to ensure that facilities are in full compliance with environmental regulations and are operated and managed in such a way as to result in the continual improvement of environmental compliance, pollution prevention, waste minimization, and resource conservation.
- b. This VA Medical Center policy facilitates the use of its Green Environmental Management Systems (GEMS) to attain continual improvement in environmental programs.

2. POLICY:

- a. The mission of the Iron Mountain VA Medical Center is to deliver quality healthcare to our nation's veterans. In order to accomplish this mission, the Iron Mountain VA Medical Center recognizes that it must operate so as to protect both the environment and the health and safety of patients, employees, and visitors. This establishes a governing environmental policy to accomplish this mission.
- b. In accomplishing its mission of providing quality healthcare to our nation's veterans, it is this VA Medical Center's policy to:
  - (1) Develop and implement a VA Medical Center GEMS program that will meet both the requirements of Executive Order 13148 and the guidance provided by Veterans Health Administration (VHA).
  - (2) Be a good steward of the environment by complying with federal, state and local environmental laws and other requirements, preventing pollution, minimizing waste, conserving cultural and natural resources, and continually improving environmental programs.
  - (3) Utilize sustainable practices to eliminate, minimize, or mitigate adverse environmental impacts.
  - (4) Evaluate the operation of the VA Medical Center to incorporate actions into facility planning and procedures to reduce environmental vulnerabilities.
  - (5) Integrate pollution prevention, waste minimization, resource conservation, and environmental compliance into VA Medical Center operations, purchasing, planning, and decision-making, wherever practical. Source reduction is the pollution prevention method of choice, followed by recycling, treatment of wastes, and proper disposal.
  - (6) Recognize that the development and construction at the VA Medical Center must consider the unique conditions of the environment of which the facility is a part.
  - (7) Train VA Medical Center staff as needed to carry out the environmental responsibilities of their positions.

(8) Solicit input, as appropriate, from stakeholders including staff, patients, visitors, and the local community regarding environmental matters affecting the operation of the VHA facilities.

3. **RESPONSIBILITIES:** All VA Medical Center and Community-Based Outpatient Clinic (CBOC) employees must perform their functions consistent with regulatory requirements, VA environmental and other policies, and its overall mission.

a. Medical Center Director is responsible for implementation of the VA Medical Center GEMS Program. The Medical Center Director appoints key personnel, including the GEMS Coordinator and GEMS Committee members, to develop and implement the GEMS program.

b. The Industrial Hygienist/GEMS Coordinator serves as the chairperson of the VA Medical Center GEMS Committee with technical expertise in environmental management systems and environmental technology and regulatory compliance. This key leadership position is responsible for ensuring the facility's compliance with all applicable federal, state, local, Executive Orders, and VHA/VA environmental program requirements in order to protect human health and the environment.

c. Industrial Hygienist is responsible for the following:

(1) Coordinates the development and implementation of the VA Medical Center GEMS Program across organizational elements.

(2) The Industrial Hygienist will conduct comprehensive facility audits and periodic surveys with the aid of GEMS Committee members to identify regulatory deficiencies and program gaps, and to recommend corrective actions. The audits and surveys will include a review of the environmental program documentation (i.e. permit applications, hazardous waste manifests, and disposal notifications, etc...), contract clauses pertaining to environmental compliance, and identifies practices by VA and contract employees that may subject the facility and/or the Government to potential liability.

(3) The Industrial Hygienist will review with the aid of GEMS Committee members, facility engineering construction/renovation project plans, specifications, and proposed land/lease transactions, to ensure that all environmental issues are identified and addressed in the planning stage of projects.

d. GEMS Committee Membership:

(1) The GEMS Committee will be comprised of the following Iron Mountain VA Medical Center representatives:

Industrial Hygienist/GEMS Coordinator – Chair  
Associate Medical Center Director  
Nursing Service Representative  
Infection Control Nurse  
Representative from Engineering  
Representative from Housekeeping  
Representative from Materiel Management  
Representative from Laboratory  
Representative from Pharmacy  
Education Coordinator

(2) The charge of the GEMS Committee will be to:

- Develop an action plan and timeline for establishment and implementation of the GEMS program.
- Identify significant environmental aspects.
- Approve GEMS implementing Procedures and Operational Procedures that address significant aspects developed by the operating units, services, and GEMS committee.
- Assign roles and responsibilities of Service Chiefs and Key Operators/Managers included in the GEMS Program.
- Oversee the development and maintenance of the GEMS program.
- Ensure that all employees have received appropriate training as required by the GEMS program.
- Monitors progress on achieving targets and objectives, implementation of GEMS, completion of corrective action plans, and effectiveness of GEMS.
- Oversees an annual evaluation of the effectiveness of the GEMS Program.
- Ensure that all aspects of this policy and implementation of the GEMS program maintain full compliance with all environmental laws, regulations and related statutes, and other environmental requirements.
- Submits an annual report on the effectiveness of the GEMS Program to the Medical Center Director through the Associate Medical Center Director for approval and/or corrective action.

d. Service Chiefs:

(1) All Service Chiefs are responsible for the determination of the potential impact their service has upon the environment, for effective implementation of a service level GEMS program to ensure regulatory compliance, and for developing objectives, programs, and targets to improve service level GEMS performance.

(2) All Service Chiefs shall apply affirmative procurement requirements to purchases to ensure environmentally preferable and recycled products are purchased and used whenever applicable.

(3) All Service Chiefs will ensure that each employee with specific environmental compliance responsibilities has those duties documented in the position description and is an element in the employee's job performance review.

(4) All Service Chiefs identified as having significant environmental impact as a result of the function or activities within their respective services or whose staff generate or handle hazardous or universal wastes shall comply with all applicable regulations and ensure that all employees with environmental responsibilities are identified and appropriately trained.

(5) Service Chiefs from Nursing Service, Infection Control (QI), Engineering, Housekeeping, Materiel Management, Laboratory, and Pharmacy will designate a specific individual to serve as a member of the GEMS committee. Other Service Chiefs may be called upon as ADHOC members as required.

(6) The Chief, Housekeeping and Food Service is responsible for developing, implementing, and monitoring an affirmative procurement program for environmentally preferable and recycled content products.

(7) The Chief, Engineering Service has primary responsibility for ensuring compliance with the Lead Disclosure Rule for target housing at the Iron Mountain facility, for operational controls at the boiler plant, and for handling and disposing of hazardous wastes generated in Engineering Services. The Chief, Engineering Service proactively monitors facility compliance with the Michigan DEP and EPA requirements for facility wastewater discharges, boiler plant and emergency generator emission, spill prevention control and countermeasure plans, and the generation, storage, and disposal of universal and hazardous wastes.

4. PROCEDURES: Procedures to implement GEMS are included in the attachments as identified below:

- a. Procedure for Determining Significant GEMS Aspects and Impacts (Attachment A)
- b. GEMS Legal and Other Requirements (Attachment B)
- c. Establishing Objectives and Targets for GEMS Program (Attachment C)
- d. GEMS Responsibility Matrix (Attachment D)
- e. GEMS Training Program (Attachment E)
- f. GEMS Communications to External and Internal Parties (Attachment F)
- g. GEMS Document and Record Control (Attachment G)
- h. Procedures for GEMS Operational Controls (Attachment H)
- i. GEMS Emergency Planning and Response (Attachment I)
- j. GEMS Monitoring and Measuring Procedure (Attachment J)
- k. GEMS Nonconformance and Corrective and Preventive Action (Attachment K)
- l. GEMS Gap Analysis Program Review (Attachment L)
- m. GEMS Committee Report of Annual Effectiveness Review (Attachment M)

5. GOALS AND OBJECTIVES:

- a. Affirmative procurement, pollution prevention, waste minimization, and resource conservation are the primary methods to achieve and maintain GEMS compliance at the Iron Mountain VA Medical Center.
- b. All Service Chiefs and Service Line Managers will use source reduction, reuse and recycling of materials when possible, life cycle cost assessment, and selective procurement of toxic, hazardous, or other chemical substances or pollutants. Each Service Chief will establish goals and objectives to ensure continuous improvement in pollution prevention. Service Chiefs are encouraged to work with other VA facilities and outside agencies to attain their pollution prevention goals and objectives.
- c. The Iron Mountain VA Medical Center has adopted the goal of reducing the release of off-site toxic transfers as reported under the Emergency Planning and Community Right to Know Toxic Release Inventory (TRI), by 10% annually. Techniques to achieve this goal include innovative pollution prevention initiatives, effective facility management, and sound acquisition and procurement procedures.
- d. The Medical Center has adopted the goal of reducing the use of toxic chemicals as reported under the Emergency Planning and Community Right to Know Toxic Release Inventory (TRI). Techniques to achieve this goal include identification of proven substitutes, the purchase of safe, cost effective and environmentally preferable alternatives, effective facility management, and sound acquisition and procurement practices.

e. Measurement of the progress on attaining pollution prevention goals and objectives will be conducted during the Annual Environment of Care review.

f. Environmental aspects and impacts, goals and objectives, the pollution prevention program, quality control measures, and policies and procedures should be accessible to all employees on the Iron Mountain VA web page.

6. REFERENCES:

Executive Order 13158, Greening the Government Through Leadership in Environmental Management.  
VA Directive 0057 Transmittal Sheet (September 14, 2004)  
Green Environmental Management System (GEMS) Guidebook (March 2004)

7. RESCISSION: None.

8. FOLLOW-UP RESPONSIBILITY: Industrial Hygienist/GEMS Coordinator

9. AUTOMATIC RESCISSION DATE: August 1, 2011

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Distr: "E"

**Procedure for Determining Significant Green Environmental Management Systems (GEMS) Environmental Aspects and Impacts**

1. PURPOSE: The purpose of this procedure is to provide a system to consistently identify environmental aspects of Medical Center activities, products and services in order to determine those that may have a significant impact on the environment.
2. POLICY: This Medical Center shall ensure that the aspects with significant impacts are considered in setting environmental targets and objectives for environmental performance improvement activities.
3. RESPONSIBILITY:
  - a. The Industrial Hygienist/GEMS Coordinator is responsible for the centralized collection of environmental aspects and impacts from the Service Line Managers.
  - b. The GEMS Committee is responsible for the following:
    - (1) Analyzing significant aspects and impacts that the Medical Center has control over.
    - (2) Establishing Medical Center targets and objectives, operational and document controls.
    - (3) Determining which environmental aspects are significant.
    - (4) Implementing appropriate control measures.
    - (5) Controlling all related documents.
4. PROCEDURES:
  - a. The GEMS Committee will establish an Environmental Aspect and Impact template to systematically identify those environmental aspects that may have a significant impact on the environment.
  - b. The scoring of impacts (Attachment A) will incorporate the following factors:
    - The extent to which the aspect is regulated by law, regulation, Executive Order or other requirements.
    - The degree of risk to any exposed human population or exposed ecosystems.
    - The frequency of the activity.
    - The extent to which the aspect is under the control of the Medical Center.
  - c. These scores are documented on the GEMS Aspect template (Attachment B), and it is then submitted to the GEMS Committee.
  - d. The total of the scores will determine which environmental aspects are significant and, therefore, require detailed operational controls. The GEMS Committee will establish the significant aspect cut-off score after review of the templates from the Operating Units.
  - e. Environmental aspects and impacts will be re-evaluated whenever there are significant changes in materials, activities, procedures or other legal requirements, but at least annually.

- Attachments:
- A. Explanation of Aspects and Impacts Template Scoring
  - B. GEMS Aspects Template (Blank)

Addendum 1 to Attachment A: Explanation of Aspects and Impacts Template Scoring

<b>Compliance</b>	
<b>The extent to which the aspect is regulated by law, regulation, Executive Order or other requirement</b>	<b><u>Score Assigned</u></b>
The aspect is not regulated or is in full compliance.	0
Compliance activity has been initiated.	1
Compliance activity has been scheduled.	2
There is an awareness of non-compliance status, considering compliance options.	3
The aspect is out of compliance and has taken no compliance activity to date.	4

<b>Risk</b>	
<b>The degree of risk to any exposed human populations or exposed ecosystems</b>	<b>Score Assigned</b>
Minor risk to human population and/or ecosystems.	0
Moderate risk to sensitive human populations and/or ecosystems.	1
Moderate risk to general human populations and/or ecosystems.	2
High risk to sensitive human populations and/or ecosystems.	3
High risk to the general human population and/or ecosystems.	4

<b>Frequency</b>	
<b>Frequency that this activity occurs</b>	<b>Score Assigned</b>
< Once per calendar year	0
Biannually or less	1
Monthly	2
Weekly	3
Daily or more	4

<b>Control</b>	
<b>The extent to which the aspect is under control of the Medical Center</b>	<b>Score Assigned</b>
Medical Center has no control or influence.	0
Medical Center has some influence or control.	1
Medical Center has influence parity with other entities with some level of control.	2
Medical Center has significant influence.	3
Medical Center has total control over this aspect.	4

Addendum 2 to Attachment A: GEMS Aspects Template (Blank)

**OPERATING UNIT:** \_\_\_\_\_

**Date:** \_\_\_\_\_

<b>Activity or Service</b>	<b>Aspect</b>	<b>Impact</b>	<b>Compliance</b>	<b>Risk</b>	<b>Frequency of Activity</b>	<b>VAMC Control</b>	<b>TOTAL SCORE</b>

**Green Environmental Management System (GEMS)  
Procedure for Legal and Other Requirements**

1. PURPOSE: To guide the staff in identifying and accessing the legal and other requirements to which this Medical Center subscribes.

2. POLICY: This Medical Center abides by the environmental regulations promulgated by federal, state and local authorities, as well as the requirements of Executive Orders, VA policy and the Joint Commission Standards, National Fire Protection Agency (NFPA) and other industry codes. All Medical Center staff with environmental responsibilities will have access to these codes, standards and regulations.

3. RESPONSIBILITIES:

a. Information Resources Management (IRM) provides the means for access to electronic databases for legal and other requirements to those staff having environmental responsibilities.

b. Operating Units will identify applicable legal and other requirements for their activities, identify staff having need to access these requirements due to their environmental responsibilities and ensure the identified staffs are given access to the regulations, standards and policies.

c. Industrial Hygienist/GEMS Coordinator assists Operating Units in identifying and implementing the legal and other requirements.

d. GEMS Committee reviews the effectiveness of this element of the GEMS and makes improvements when warranted.

4. PROCEDURES:

a. With the assistance of the Industrial Hygienist/GEMS Coordinator, Operating Units will track updates to legal and other requirements and incorporate compliance with the new requirements into their activities.

b. The Industrial Hygienist/GEMS Coordinator attends basic training and update courses and participates in VHA conference calls and Email groups to stay abreast of the current legal and other requirements.

c. The Operating Units with the assistance of the Industrial Hygienist/GEMS Coordinator use the following list to identify legal and other requirements affected by the activities of the Operating Unit.

(1) Examples of applicable legal and other requirements and further information may be accessed through:

- (a) US Environmental Protection Agency (EPA) - <http://www.epa.gov>.
- (b) Hospitals for a Healthy Environment - <http://www.h2e-online.org>.
- (c) Michigan Occupational Safety and Health Administration (MIOSHA) <http://www.miosha.gov>
- (d) Center for Disease Control (CDC) - <http://www.cdc.gov>.
- (e) Iron Mountain/Dickinson County Ordinances.
- (f) Office of the Federal Environmental Executive - [www.ofee.gov](http://www.ofee.gov).
- (g) Occupational Safety and Health Administration (OSHA) - <http://www.osha.gov>.
- (h) VISN Safety/Industrial Hygiene Manager.
- (i) VHA Directives and Informational Letters (IL).
- (j) GEMS Guidebook (Book 6A).

- (k) Environmental Compliance Guidebook (Book 6B).
- (l) Emergency Management Program Guidebook (Book 8).
- (m) Executive Orders.

(2) Applicable requirements may include, but are not limited to:

(a) Water:

- Clean Water Act (33 USC 125 et seq.; 40 CFR 100-140)
- Wild and Scenic Rivers Act (16 USC 1271-1287)
- Safe Drinking Water Act (42 USC 300f et seq.)
- Rivers and Harbors Act, Section 10 (33 U.S.C. 403)
- Clean Water Act, Section 404

(b) Air:

- Federal Clean Air Act (42 USC 7401 et seq.)
- Local Air Pollution Control Agency Regulations
- National Emissions Standards for Hazardous Air Pollutants (Asbestos) (40 CFR Part 61)

(c) Solid Waste:

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

(d) Hazardous Materials and Waste:

- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) (42 U.S.C. 9601 et. seq.).
- National Contingency Plan (40 CFR 300 et. seq.).
- Underground Storage Tanks Resource Conservation and Recovery Act (42 USC 6991 [Subchapter IX]).
- Federal Underground Storage Tank Regulations (40 CFR 280).
- Hazard Communication Standard (OSHA Regulations, 29 CFR 1910; General Occupational Health Standards, WAC 296-24 and Hazardous Waste Operations and Emergency Response 296-62, Part P).
- PCB Management (Toxic Substances Control Act, 15 USC 2605(e); PCB Regulations, 40 CFR Part 761; Dangerous Waste Regulations, WAC CH 173-303).
- Transportation of Hazardous Materials, CDL Requirements (Hazardous Materials Transportation Act, 49 USC 5101 et seq.; DOT Regulations, 49 CFR Part 100 et seq., including 107, 171). Also overlaps with Hazardous Waste Regulations.
- Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. 135 et seq.).
- National Fire Code and other local jurisdiction Fire Codes.
- Emergency Planning and Community Right-To-Know Act (EPCRA) (SARA Title III).
- Federal Power Act (16 USC 791a-828).

(e) Environmental Review:

- National Environmental Policy Act (NEPA) (42 USC 4321 - 4370).

(f) Historical and Archeological:

- National Historic Preservation Act (NHPA) (16 USC 470).
- Archeological and Historic Preservation Act (16 USC 469).
- Regulations Implementing the NHPA (36 CFR Part 800).

- (g) Other Federal Regulations:
  - Endangered Species Act (16 USC 1531 et seq.)
  - Executive Orders
  
- (h) Other State and Local Requirements:
  - Coastal Zone Management Act (16 USC 1451 et seq.).
  - Local Government Noise Ordinances.
  - Local Government Land Use and Construction Codes.
  - Local Sensitive Areas Ordinance.
  - Uniform Fire Code.

(i) Other Requirements as may be applicable.

5. REFERENCES: GEMS Guidebook (Book 6A); Environmental Compliance Guidebook (Book 6B); Handbook for the Management of Hazardous Waste (Book 6C).

## **Establishing Objectives and Targets for the Green Environmental Management Systems (GEMS) Program**

1. **PURPOSE:** To ensure that the organization establishes and maintains documented environmental objectives and targets and has a process to implement the steps necessary to achieve the objective and targets.
2. **SCOPE:** This procedure applies to environmental objectives and targets set at all relevant levels within the organization.
3. **DEFINITIONS:**
  - a. Environmental Objective - A goal that is consistent with the environmental policies and considers significant environmental impacts and applicable laws and regulations. Objectives are quantified wherever practicable.
  - b. Environmental Target - A detailed performance requirement (quantified wherever practical) based on an environmental objective. A target should be met in order for the underlying objective to be achieved.
4. **GENERAL:** The organization establishes environmental objectives and targets in order to implement environmental policies. Objectives and targets also provide a means for the organization to measure the effectiveness of its environmental efforts and to improve the performance of the environmental management system. In establishing environmental objectives, the organization considers:
  - a. Applicable laws and regulations (and requirement of other programs, such as ...).
  - b. Environmental aspects of the organization's activities and products.
  - c. Technological, financial, operational and other organizational requirements.
  - d. The views of employees and other interested parties.

Based on the organization's environmental objectives, targets are established for different functions within the organization and for different areas of the facility. For example, the organization may establish an environmental objective to "reduce waste generation by 10% per year." Based on this objective, different areas of the facility might set targets for reducing individual waste streams in order to ensure that the organization's objective might also be translated into individual projects (such as changes in production processes, materials or pollution control equipment) in different facility areas.

5. **PROCEDURES:**
  - a. The GEMS Committee is responsible for establishing environmental objectives on an annual basis. To initiate the process, the Industrial Hygienist/GEMS Coordinator or designee holds a meeting of all staff members to discuss the development of environmental objectives. Objectives are action and prevention-oriented and are intended to result in meaningful improvements in the organization's environmental performance.
  - b. Each Service Line Manager is responsible for providing input from his or her own function (Fiscal, Engineering, etc.) or shop area (fabrication, assembly, shipping/receiving, etc.). The GEMS Committee is responsible for providing input on applicable laws and regulations, significant site environmental impacts and the views of interested parties.
  - c. As a starting point, the GEMS Committee evaluates performance against environmental objectives for the current year. As part of this effort, the GEMS Committee examines the results of its environmental performance evaluations.

- d. Preliminary environmental objectives are developed for further discussion and evaluation. Each Service Line Manager is responsible for evaluating the potential impacts of the proposed environmental objectives within their Service Line or department. The organization's GEMS Committee reviews proposed objectives to ensure consistency with the overall environmental policy.
- e. Environmental objectives are finalized, based on review comments from the Service Line Managers and employees. Each Service Line Manager identifies the impacts of the objectives of their function or shop, establishes targets to achieve the objectives and develops appropriate measures to track progress towards meeting the objectives and targets.
- f. Each Service Line Manager is responsible for communicating objectives and targets and the means for achieving them to others in Service Line/Program/department. They will also designate roles and responsibilities of department personnel and provide appropriate training necessary to meet the objectives and targets.
- g. Progress towards the objectives and targets is reviewed on a regular basis at management meetings. The progress is also communicated to employees via bulletin boards and other similar means.
- h. At the end of each calendar year, the organization's management reviews its performance with regard to achieving the objectives and targets. This information is used as input in determining the objectives and targets for the succeeding year.

**6. STEPS FOR ESTABLISHING OBJECTIVES AND TARGETS:**

Step 1 The development of objectives and targets result from a comprehensive evaluation of all processes in every department. Collect as much information as possible prior to surveying the area.

<u>Information Sources</u>	<u>How They Will Help?</u>
<ul style="list-style-type: none"> <li>• Process maps</li> <li>• Waste and emission data</li> <li>• Site maps</li> <li>• Compliance audit reports</li> <li>• List of identified environmental aspects and impacts</li> <li>• Communications from interested parties</li> <li>• Others??</li> </ul>	<ul style="list-style-type: none"> <li>• Identify process steps with environmental aspects</li> <li>• Determine current wastes and sources, etc.</li> <li>• Determine if there are any processes that may be seasonal and should be reviewed at a different time of the year.</li> </ul>

Step 2 Look at processes and activities associated with significant environmental aspects. Are there any other issues the GEMS Committee should consider, in addition to those listed above as significant impacts?

<u>Process or Activity</u>	<u>Issues</u>	<u>Possible Objectives &amp; Targets</u>

Step 3 List any new regulatory requirements that affect the healthcare environment (or other regulations for which the need for additional actions has been identified).

<u>Regulations; Other Requirements</u>	<u>Possible Objectives &amp; Targets</u>

Step 4 Consider inputs from interested parties. Any need for additional objectives related to views of neighbors, community groups or other parties?

<u>Inputs from Interested Parties</u>	<u>Possible Objectives &amp; Targets</u>

Step 5 Evaluate the lists of possible objectives developed in Steps 4 - 7. GEMS Committee determines if these objectives are:

- Reasonable
- Technologically feasible
- Consistent with other organizational plans/goals
- Affordable

**List preliminary objectives and targets** based on this exercise:

<u>Selected Preliminary Objectives</u>

Step 6 Determine how you will measure each of the selected preliminary objectives. If you cannot establish an effective way to measure it, put that objective “on-hold” for later consideration. If applicable, evaluate those issues placed “on-hold” in the annual evaluation and determine if it is feasible for implementation in the next year.

<u>Selected Objectives</u>	<u>Performance Indicator(s)</u>

Step 7 For each objective that you selected, determine who is going to develop the action plan (who, what, when, where, how). List these names below:

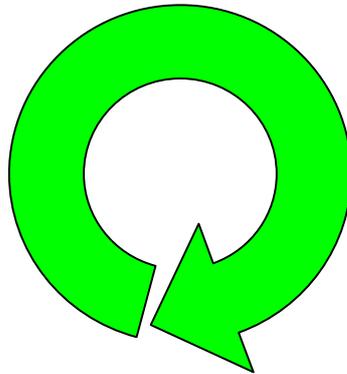
<u>Selected Objectives</u>	<u>Responsibility for Action Plan</u>

- Attachments:
- A. Environmental Objectives and Targets Process Chart
  - B. Objective and Target Form

Addendum 1 to Attachment C: Environmental Objectives and Targets Process Chart

PLAN – DO – CHECK – ACT  
Environmental Objectives and Targets

**PLAN**  
Select Objectives & Targets  
(Procedure for Objectives & Targets)



**ACT**  
Implement & Evaluate  
Corrective Actions Discovered  
During Monitoring & Measuring  
(Procedure for Corrective Actions)

**DO**  
Establish Operational Controls and  
Measuring & Monitoring for  
Objectives & Targets  
(Procedure for Establishing Operational  
Controls for Significant Aspects)

**CHECK**  
Monitor & Measure Consistency  
with Objectives & Targets  
(Procedure for Monitoring & Measuring)

***Green Environmental Management System (GEMS)  
Objective & Target Form Example***

(Note: Use one form per objective)

Date _____				
<b>Individual Responsible for Implementation:</b>				
<b>Environmental Objective:</b>				
<b>Related Target(s):</b>				
<b>Related Significant Environmental Aspect(s):</b>				
<b>Service Specific Function and/or Department:</b>				
<b>Target Date (Month/Year):</b>				
<b>Frequency of Monitoring:</b> <i>Weekly</i> <i>Monthly</i> <i>Quarterly</i> <i>Annually</i> <i>(Check one)</i>				
<b>Action Plan:</b>				
<b>How will this objective be met?</b> (Attach additional pages as necessary)				
<b>What operational controls shall be incorporated to achieve this objective?</b>				
<b>How will this objective be tracked?</b> (Attach additional pages as necessary)				
<b>What resources will be required to achieve this objective?</b> (Attach additional pages as necessary)				

## **Green Environmental Management Systems (GEMS) Responsibility Matrix**

<b>Legend:</b> L = Lead Role S = Supporting Role	<b>Medical Center Director</b>	<b>GEMS Coordinator</b>	<b>Service Chiefs</b>	<b>Engineering Service</b>	<b>Service Product Line</b>	<b>Operating Section</b>	<b>Employees</b>
Communicate the importance of environmental management	L	S	S				
Coordinate auditing efforts		L	S				
Track/analyze new regulations (and maintain library)		L					
Obtain permits and develop compliance plans		L	S	S			
Prepare reports required by regulations		L		S			
Coordinate communications with interested parties		L					
Train employees		S	L	L	L	S	
Integrate environmental management into recruiting practices			L	L	L	L	
Integrate environmental management into performance appraisal process	L		S	S	S	S	
Communicate with contractors on environmental expectations				S	L		
Comply with applicable regulatory requirements	L	L	S	S	S	S	S
Conform with organization's environmental management system requirements	L	L	S	S	S	S	S
Maintain equipment/tools to control environmental impact						S	S
Monitor key processes		S	L	S	S	S	
Coordinate emergency response efforts	L	S					
Identify environmental aspects of products, activities, or services	S	S	S	S	L	S	
Establish environmental objectives and targets	L	S	S				
Develop budget for environmental management		S					
Maintain environmental management records (training, etc.)		L					
Coordinate environmental management document control efforts					S	L	

(L) = Lead Role  
(S) = Supporting Role

**Green Environmental Management Systems (GEMS) Training Program**

1. PURPOSE: The Iron Mountain VA Medical Center will provide the necessary educational opportunities to assure that all employees are knowledgeable of the Green Environmental Management Systems (GEMS) program and the identified aspects related to their specific job tasks.
2. POLICY: It is the policy of this Medical Center to provide effective training to all employees on the implementation and processes associated with GEMS and to monitor staff knowledge to assure an effective program.
3. RESPONSIBILITIES:
  - a. The GEMS Coordinator is responsible for the overall development and implementation of the GEMS training program.
  - b. The Education and Training Department will monitor employee compliance and enforce attendance at required training sessions for all employees in environmental positions as relates to their specific roles in the GEMS program. Employee compliance will be monitored using TEMPO.
  - c. Supervisors are to ensure that all employees receive appropriate training in GEMS.
4. PROCEDURES:
  - a. The GEMS Coordinator, in association with the GEMS Committee and Education and Training Department, shall develop a training program reflective of the design and implementation of the GEMS program. Training will include emphasis on the following:
    - (1) The importance of conformance to the policy.
    - (2) Recognition of significant aspects identified by the GEMS Committee.
    - (3) Individual roles and responsibilities regarding GEMS implementation and operation.
    - (4) Results of nonconformance
    - (5) Environmental Awareness Training to all employees, including implementation in the New Employee Orientation program.
    - (6) Annual Reporting Requirements.
  - b. All employees shall possess the knowledge and skills required to effectively implement the GEMS. Competency shall be monitored by the employee's ability to demonstrate through the implementation process that sufficient education and training has been provided. Monitoring will be performed by annual audits, questionnaires and trending of staff knowledge. Information pertaining to monitoring of staff knowledge will be processed and reviewed by the GEMS Committee and forwarded to the Environment of Care Committee for review. The GEMS brochure, Green Environmental Management Systems (GEMS), will be made available to all employees, in addition to the basic awareness training that will be provided.
  - c. The GEMS brochure, Green Environmental Management Systems (GEMS) will be made available to all employees, in addition to the basic awareness training that will be provided.

- Attachments:   A. VHA Environmental Training Program Plan  
                  B. GEMS Training Log

### **VHA Environmental Training Program Plan**

<b>Training</b>	<b>Agenda</b>	<b>Audience</b>	<b>Forum</b>	<b>Resources</b>
<u>Regulatory Compliance Training</u>				
National Environmental VA Meeting Kick-off	Intro by top VA Management to show environmental commitment; Overview of major statutes and GEMS.	Environmental Coordinators, HQs and VISN Safety/Health, Medical Center Directors/ Associate Directors	4 day (2 day compliance, 2 day GEMS) conference face-to-face in Spring 2004. Taped for future use by VA.	With EPA HQs and Regional help (suggestion to make it a civilian-wide conference and add RCRA training).
Environmental Compliance 101	Overview of major statutes (i.e., RCRA/UST, CAA, CWA, SPCC, [storm water, wetlands] EPCRA, TSCA [Lead, PCBs], SDWA, FIFRA).  Compliance with other requirements such as Executive Orders and VA Policy, etc.	Environmental Coordinators, HQs, VISN Safety/Health, Program/Service Managers, Director/Associate Directors	1-1½ day face-to-face in each EPA Region during FY2004 that will be taped for future use by VA.	EPA Regions FFPMs – Region 1 will hold in October 2003.
RCRA Hazardous Waste Mgmt Training and Annual Refresher	Required EPA hazardous waste management training.	Environmental Coordinators, VISN Safety/Health	Distance Learning by VA.	Numerous contractors give course. NETI RCRA Inspector Training CD-ROM.
Identification of Hazardous Waste for Healthcare	Detailed discussion on waste characterization.	Environmental Coordinators, HQs, VISN Safety/Health	1 day - could be broadcast or videotaped.	EPA Region 2 has developed - to be given November 12 <sup>th</sup> .
Required Certification Training	Necessary training to be certified to perform task.	Employees such as HVAC, wastewater treatment, pesticides applicators, boiler plant operators	As required.	Many contractors give course.

<b>Training</b>	<b>Agenda</b>	<b>Audience</b>	<b>Forum</b>	<b>Resources</b>
Laboratory-Specific Environmental Training	Describes the environmental requirements and best management practices that relate to laboratories such as RCRA, CWA and CAA. At a minimum, it will satisfy the training requirements of RCRA 265.16. Also, covers auditing questions.	Environmental Coordinator, VISN Safety/Health, Laboratory employees, including the Laboratory Program Manager	CD-ROM or interactive video developed by VA.	GEMS guide for small laboratories. Lab 21 Website.
DOT training		Environmental Coordinators, Warehouse shippers		
UST Training Module	Review of the underground storage tank requirements. Includes auditing questions.	Environmental Coordinators, VISN Safety/Health, Facility Engineer	CD-ROM or interactive video developed by VA.	UST guidebooks and website. EPA UST presentations. UST auditing protocol.
SPCC Training Module.	Review of the SPCC requirements at a facility. Includes how to develop a SPCC plan and auditing questions.	Environmental Coordinators, VISN Safety/Health, Facility Engineer	CD-ROM or interactive video developed by VA.	SPCC website. EPA SPCC presentations. SPCC booklets.
Clean Water Act Training Module.	Review of the CWA requirements at a facility such as NPDES, pre-treatment, wetlands and storm water. Includes auditing questions. May want to include security issues as relates to wastewater plants.	Environmental Coordinators, VISN Safety/Health, Wastewater Plant Operators, COTR if construction project	CD-ROM or interactive video developed by VA.	EPA NPDES website. EPA presentations. Construction Compliance Assistance Center.
Toxic Substances Training Module	Describes requirements and best management practices related to Asbestos, Lead-Paint, PCBs and Mercury. Includes auditing questions.	Environmental Coordinators, VISN Safety/Health, COTR if demolition/renovation project	CD-ROM or interactive video developed by VA.	EPA Asbestos webpage. Numerous Mercury elimination documents. Auditing Protocol for TSCA.

<b>Training</b>	<b>Agenda</b>	<b>Audience</b>	<b>Forum</b>	<b>Resources</b>
Facilities Maintenance Module	Environmental Requirements and best management practices that apply to the facilities maintenance operations such as CAA, CWA, SDWA (UIC), FIFRA, RCRA, Universal Waste, TSCA, beneficial landscaping, etc. It must meet the RCRA 260.16 training requirements. Includes auditing questions.	Environmental Coordinators, VISN Safety/Health, Facilities maintenance personnel (e.g., motor pool, paint shop, grounds keeping, HVAC, plumbing, electricians, carpentry, etc.)	CD-ROM or interactive video developed by VA.	EPA's national CA centers.
Clean Air Act Training Module	Review of Clean Air Act requirements that apply to healthcare facilities. Includes auditing questions.	Environmental Coordinators, VISN Safety/ Health, Boiler personnel	CD-ROM or interactive video developed by VA.	EPA Websites. CFC checklists.
Medical Waste Training Module	Review of requirements related to medical waste. Includes auditing questions.	Environmental Coordinators, VISN Safety/ Health, Housekeeping	CD-ROM or interactive video developed by VA.	State Agencies.
EPCRA Training Module	Review of EPCRA requirements. Includes auditing questions.	Environmental Coordinators, VISN Safety/ Health	CD-ROM or interactive video developed by VA.	EPA Websites. EPA TRI courses.
SDWA Training Module	Review of SDWA requirements. May want to include security issues as related to drinking water plants. Includes auditing questions.	Environmental Coordinators, VISN Safety/ Health, Drinking Water Treatment Plant Operators	CD-ROM or interactive video developed by VA.	EPA Websites.
Dental Environmental Compliance Module	Review of requirements and best management practices related to dental facilities, such as RCRA. Including auditing questions.	Environmental Coordinators, VISN Safety/ Health, Dental personnel	CD-ROM or interactive video developed by VA.	Vermont's Dental Guide.
Pharmacy Environmental Compliance Module	Review of requirements and best management practices related to pharmacies, such as RCRA. Includes auditing questions.	Environmental Coordinators, VISN Safety/ Health, Pharmacy personnel	CD-ROM or interactive video developed by VA.	Pharmacology Website.

<b>Training</b>	<b>Agenda</b>	<b>Audience</b>	<b>Forum</b>	<b>Resources</b>
Environmental Compliance for Lawyers	Review major environmental laws applicable to VAMCs, state and federal regulator's procedures for inspections, violations, fines and VAMC legal defense strategies.	District Counsel	?	?

<u>Green Environmental Management System Training</u>				
GEMS Training For Top Management	Overview of GEMS Elements.	Directors and Associate Directors at VAMC, HQs and VISN level GEMS Coordinators & Auditors	2 Hour broadcast by VA.	Diane Thiel, EPA Region 8 & Gary Chiles.
Designing Your GEMS – Federal Facility Workshop	More detailed discussion of GEMS elements and hands-on workshop with VA examples.	GEMS Coordinators and Auditors	2-day conference. Same as what is offered in Kick-off.	Gary Chiles & Carol Bell (Contractors). May be offered by EPA Regions in near future.
GEMS Element-By-Element Hands-On Training	Detailed discussion of elements – one element at a time with facility-specific help.	GEMS Coordinators, Program/Service Managers (or designated person)	V-TEL by VISN. Done once a month until GEMS complete.	See metal finishing GEMS workshops - Linda Darveau - EPA Region 1.
GEMS Committee	Training on the implementation of the GEMS	GEMS Committee	All GEMS Committee members are required to attend the 4-hour course on the implementation of the GEMS Program.	Power Point presentation located in the GEMS Guidebook.

<b>Training</b>	<b>Agenda</b>	<b>Audience</b>	<b>Forum</b>	<b>Resources</b>
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<b>Training</b>	<b>Agenda</b>	<b>Audience</b>	<b>Forum</b>	<b>Resources</b>
Facility-Specific GEMS Training	Training on facility-specific policies and procedures related to GEMS.	Employees	A minimum of annually.	GEMS Booklet, Self-learning module, Safety Blitz, etc.
ISO 14001 Lead Auditor Course	Training on how to conduct a GEMS audit.	VISN GEMS Auditor	Classroom for 5 days.	Offered by many contractors.

<u>Pollution Prevention/Environmental Stewardship</u>				
Environmental Preferable Purchasing/ RCRA 6002/ Executive Orders	Training on buying environmentally preferable products and complying with RCRA 6002 and Executive Orders.	Environmental Coordinators, VISN Safety/Health, COTRs, COs, Credit Card Holders, Chief, Acquisition & Materiel Management	CD-ROMs, interactive videos, PowerPoint presentations.	H2E, EPA EPP Program, OFEE. Lyons VA.
Waste Minimization/ Product Substitution	Training on waste minimization at healthcare facilities.	Environmental Coordinators, VISN Safety/ Health, Program/Service Managers, Credit Card Holders, COTRs, COs	CD-ROMs, videos	H2E, EPA Wastewise.
Green Cleaning	Awareness of more environmentally and safer cleaning products.	Environmental Coordinators, VISN Safety/Health, Housekeeping/Laundry	CD-ROMs, videos.	Diane Thiel Region 8, EPA EPP Program, Greening Govt CD EPA Regions 1-3.
Green Building	Awareness of building and renovating in a greener manner.	Environmental Coordinators, VISN Safety/Health, COTRs	CD-ROMs, videos.	EPA, LEEDS.
Indoor Air Quality	Training on indoor air quality.	Environmental Coordinators, VISN Safety/Health, COTRs	CD-ROM by VA.	Completed.

P2 Training for Auto Repair Shops	Training on pollution prevention techniques available to auto repair shops/fleet maintenance.	Motor Pool, Environmental Coordinators, VISN Safety/Health	Video and workbooks.	EPA Region 9 has completed.
Best Management Practices for Outdoor Shooting Ranges	Best management practices for outdoor shooting ranges.	Outdoor shooting ranges if built.	Guidance Document.	EPA Region 2 Guide.

***Green Environmental Management System (GEMS) Training Log***

<b>Training Topic</b>	<b>Attendees*</b>	<b>Frequency</b>	<b>Course Length</b>	<b>Course Method</b>	<b>Comments</b>	<b>Date Completed</b>
GEMS Awareness						
Supervisor GEMS Training						
Hazardous Waste Management						
Hazardous Waste Operations						
Spill Prevention and Response						
Chemical Management						
Emergency Response						
Accident Investigation						
Hazardous Materials Transport						
Hazard Communication						
Personal Protective Equipment						
Fire Safety						
Electrical Safety						
Hearing Conservation						
Confined Space Entry						
Lock-out/Tag-Out						

<b>Training Topic</b>	<b>Attendees*</b>	<b>Frequency</b>	<b>Course Length</b>	<b>Course Method</b>	<b>Comments</b>	<b>Date Completed</b>
Blood borne Pathogens						
Job-Specific Training (list)						

**\*Attendees Code**

- 1 All Employees
- 2 Supervisors/Managers
- 3 Operators
- 4 Maintenance
- 5 Laboratory
- 6 Clinical

**Green Environmental Management System (GEMS) Communication to External and Internal Parties**

1. **PURPOSE:** This procedure establishes a process for outreach and communication with external/internal parties regarding the organization's Green Environmental Management Systems (GEMS).

2. **POLICY:** It is the policy of this VA Medical Center to ensure that the environmental management policy is well documented, implemented and communicated to all employees and is available to the interested public.

3. **SCOPE:** This procedure describes how the VA Medical Center receives, documents and responds to communications from external/internal parties. It also describes proactive steps that the organization takes to maintain a meaningful dialogue with external/internal parties on environmental matters.

4. **DEFINITION:**

**Interested Parties:** Individuals or groups with an interest in the environmental impacts of the organization's products, activities or services. These parties include regulators, local residents, employees, customers, environmental groups and the general public.

5. **PROCEDURES:**

a. The organization uses a number of mechanisms to ensure effective communication with interested parties. These mechanisms include regulatory filings (such as permit applications and reports), posting of policies and procedures on the VA intranet site, open houses and informal discussions with regulators, community representatives and local business leaders.

b. To solicit the views of interested parties, the Medical Center may use additional techniques, including (but not limited to) surveys, community advisory panels, newsletters or informal meetings with representatives of external/internal groups.

c. General rules for external/internal communications require that the information provided by the organization:

- Be understandable and adequately explained to the recipient(s).
- Present an accurate and verifiable picture of the organization and its environmental management system, its environmental performance or other related matters.

d. **Management of Communications from External/Internal Parties:**

(1) Inquiries and other communications (received by mail, fax, E-mail, telephone or in person) from external/internal parties concerning the organization's GEMS or environmental performance may be directed to a number of the organization's representatives, including the Facilities Manager, the Industrial Hygienist/GEMS Coordinator and the Human Resources Manager. All such communications are reviewed by the Industrial Hygienist/GEMS Coordinator or his/her designee to determine the appropriate response.

(2) Communication with representatives of regulatory agencies is delegated to the organization's Industrial Hygienist/GEMS Coordinator, who maintains records of all such communications (both incoming and outgoing). In the absence of the Industrial Hygienist/GEMS Coordinator, communications with regulatory officials are delegated to the Chief, Engineering Services.

(3) Copies of all other written communications on environmental matters are maintained by the Industrial Hygienist/GEMS Coordinator. All non-written communications from external/internal parties are documented

using telephone logs or similar means. All records of external/internal communications are maintained by the GEMS Coordinator.

(4) A record of the responses to all communications from external/internal parties is maintained by the Industrial Hygienist/GEMS Coordinator in files designated for that purpose.

e. Outreach to Interested Parties:

(1) The organization solicits the views of interested parties on its GEMS, its environmental performance and other related matters. In particular, such outreach is conducted when significant changes at the facility are being considered, such as facility expansion or other actions that might affect the actual or potential environmental impacts of the organization's products, activities or services.

(2) As part of the Management Review process, the team designated to conduct the review evaluates proactive efforts to communicate with external/internal parties. Based on this evaluation and other factors, the organization's management determines the need for outreach with external/internal parties in the coming year and how such communications can be carried out most effectively.

f. External Hazard and Emergency Communications: (Note: All external/internal communications regarding emergency response are addressed in the Emergency Management Plan.)

### **Green Environmental Management Systems (GEMS) Document and Record Control**

1. **PURPOSE:** To develop written procedures to ensure proper management of Green Environmental Management Systems (GEMS) documentation and records.
2. **POLICY:** The Medical Center will maintain documents and records as recommended in the VHA Green Environmental Management Program guidelines. Documents are policies and procedures that are subject to change and update on a regular basis. Records are documents that record tests, inspections, maintenance, etc., which will not change and will serve to demonstrate past performance.
3. **RESPONSIBILITY:** The Industrial Hygienist/GEMS Coordinator is responsible to maintain facility level documents and records per requirements of this Medical Center Memorandum. Service Chiefs, Program Managers, or Supervisors are responsible for maintaining documents and records in a similar manner for their respective area.
4. **PROCEDURES:**
  - a. **GEMS Documents:**
    - (1) The Industrial Hygienist/GEMS Coordinator shall maintain and control the GEMS Manual and all other documents associated with it, such as the environmental objectives and targets and management plans to achieve them.
    - (2) In maintaining and controlling the GEMS Manual, the GEMS Coordinator shall ensure that the GEMS Manual and its associated documents are publicly available and that updates adding new information and/or removing obsolete information are made to the GEMS Manual immediately following any agreed changes to documents.
    - (3) The Industrial Hygienist/GEMS Coordinator shall preserve an original of all documents and changes, establish and maintain a record of all document changes, and ensure that all documents are numbered, dated with dates of origination or revision and, where necessary, signed and approved.
  - b. **Required Records.**
    - (1) **Audits:** Copies of all audits (Baseline, Medical Center Self-Audits, Annual and Incident) are kept on file at the GEMS Coordinator's office.
    - (2) **Manifests:** Copies of all manifests and bills of lading related to hazardous waste or recycled materials, such as batteries and used oil, shall be kept at the GEMS Coordinator's office.
    - (3) Manuals for all equipment with environmental impacts must be acquired and kept within each using Service.
    - (4) **Training:**
      - (a) Copies of records of all environmental training shall be kept with the environmental records and/or in the employee's official electronic training record (TEMPO).
      - (b) Additional copies shall be kept in accordance with other VA requirements.

(5) Annual Reports:

(a) Copies of the GEMS Annual Report shall be kept in the Industrial Hygienist/GEMS Coordinator's Office.

(b) Additional copies shall be kept in accordance with other VA requirements.

c. Location:

(1) The environmental files at the Medical Center should be kept in 3-inch binders for ready access or, if possible, electronically on shared drives.

(2) Manifests may be kept in filing cabinets within a drawer specifically designated for environmental records.

(3) Manuals shall be kept in a protected location in the work areas or on shared drives accessible to all persons who work in areas of significant environmental impacts.

d. Revision:

(1) Dated Materials:

(a) Materials that are date-sensitive will be date stamped.

(b) VA Central Office controlled documents shall be kept in accordance with their expiration dates.

(2) Annual review: Dated materials are to be reviewed annually, based on the original date stamping, to determine if the document is current.

(3) New requirements: Revise current documents as necessary.

e. Retention:

(1) VA record retention policies are to be followed.

(2) Regulatory: Environmental records shall be retained in accordance with regulatory requirements, but for a minimum of five years.

(3) The following documents shall not be disposed of:

(a) Manifests for the disposal of hazardous and non-hazardous waste.

(b) Records pertaining to the VA Medical Center's involvement in Superfund projects or other projects that involve remediation or removal actions related to environmental contamination and environmental releases.

(4) Records related to the environmental investigation conducted in conjunction with real property transactions including, but not limited to, sale and lease.

Attachment: Document Control Worksheet

Addendum 1 to Attachment G: Document Control Worksheet

<b>Worksheet: Document Control</b>				
<b>Document</b>	<b>Who Will Use It</b>	<b>Permanent Location</b>	<b>Periodic Review Schedule/ Who</b>	<b>When Can Be Destroyed</b>
			/	
			/	
			/	
			/	
			/	
			/	
			/	
			/	
			/	
Contact Person:		Date Completed:		

### Procedures for Green Environmental Management Systems (GEMS) Operational Controls

1. **PURPOSE:** To ensure that operational controls are established so all activities conform to the Green Environmental Management Systems (GEMS) policies, objectives and targets. **Note:** Operational controls include those policies, procedures and instructions in place to minimize the potential environmental impact of the VA Medical Center's activities and processes. Operational controls generally apply directly to the VA Medical Center's processes and activities (e.g., segregation of medical waste, maintenance work, boiler plant operations, etc.). A procedure is a prescribed, sequential series of activities often performed by several individuals or a team (i.e., boiler startup, disposal of contaminated sharps, etc...).
2. **POLICY:** It is the policy of this VA Medical Center to establish operational controls for significant environmental aspects.
3. **RESPONSIBILITIES:**
  - a. The GEMS Committee is responsible for ensuring that operational controls are in place for all significant environmental aspects. It also must ensure that the operational controls reflect the actual practice of Operating Units and meet environmental regulations and other requirements. When environmental aspects impact more than one Service Line/Department, the GEMS Committee ensures that operational controls are both consistent and coordinated. The GEMS Committee directs VA Medical Center organizations to change operational controls to better meet environmental compliance requirements and the requirements of the VA Medical Center GEMS.
  - b. All Medical Center Service Chiefs/Service Line Managers ensure that the Operating Units under their control develop operational controls and that these controls are consistent across the Service Line with the VA Medical Center GEMS and the direction of the GEMS Committee
  - c. Operating Units develop operational controls for significant aspects to ensure conformance with the GEMS policies, objectives and targets.
4. **PROCEDURES:**
  - a. The GEMS Committee identifies significant environmental aspects.
  - b. Operating Units develop and/or review existing operational controls to ensure that they meet GEMS requirements. These are usually contained in written Standard Operating Procedures (SOPs).
  - c. Operating Units provide operational controls to the GEMS Committee for review and approval.
  - d. A review of the effectiveness of operational controls is evaluated in the following ways:
    - During GEMS gap analysis.
    - As a result of an Environmental Compliance Audit.
    - By monitoring and measuring the objectives and targets.
    - As may occur during facility operation.
    - As identified during Environment of Care rounds
  - e. Corrective actions regarding operational controls are implemented as soon as practical after being identified.

**Green Environmental Management Systems (GEMS) Emergency Planning and Response**

1. PURPOSE: To establish and maintain procedures to recognize and mitigate the potential environmental impact associated with emergency response operations.
2. POLICY: It is the policy of this Medical Center to consider the environmental impacts associated with emergency response operations.
3. RESPONSIBILITIES:
  - a. The Industrial Hygienist/GEMS Coordinator will collaborate with the Emergency Management Committee for all procedures related to the environmental impact associated with emergency response operations, including pollution prevention and mitigation.
  - b. All other responsibilities related to emergency management are outlined in the Medical Center Emergency Management Plan.
4. PROCEDURES: This document references the Medical Center Emergency Management Plan for all procedures associated with emergency response operations. The Emergency Management Plan is an “all-hazards” approach to emergency management. The plan includes a Hazard Vulnerability Analysis accounting for the environmental impact associated with emergency response operations.

### **Green Environmental Management Systems (GEMS) Monitoring and Measuring Procedures**

1. PURPOSE: To establish and maintain procedures to accomplish monitoring and measuring activities on a regular basis as part of the Medical Center's Green Environmental Management Systems (GEMS).

2. POLICY: GEMS monitoring and measuring focuses on the key characteristics of this Medical Center's operations that have a significant impact on the environment. Through monitoring and measuring, it demonstrates:

- Compliance with environmental regulations and other requirements
- Operational control of significant aspects
- Conformance with environmental objectives and targets
- Continual improvement

3. RESPONSIBILITIES:

a. The Medical Center Director shall ensure that adequate resources are provided to maintain effective monitoring and measuring and shall approve GEMS monitoring and measuring procedures.

b. The GEMS Committee is responsible for:

- Monitoring environmental objectives and targets.
- Reviewing and approving monitoring and measuring for significant aspects.
- Tracking and reporting GEMS monitoring and measuring.
- Ensuring that the appropriate actions are taken on the results of monitoring and measuring activities to ensure an effective program that is continually improving.

c. The GEMS Coordinator is responsible for coordinating the various monitoring and measuring activities and the calibration of environmental monitoring equipment, as well as periodic environmental compliance audits.

4. PROCEDURES:

a. The GEMS Committee documents the status of objectives and targets at least quarterly in its minutes.

b. Calibration of environmental monitoring equipment will be conducted in accordance with manufacturer's recommendations, and records will be maintained in accordance with the GEMS Records Procedures.

c. As significant aspects are identified, the GEMS Committee reviews and approves monitoring and measuring activities submitted by the Operating Units.

d. Monitoring and measuring activities are those included in the "Check" part of Plan-Do-Check-Act (see Attachments A and B). These activities include:

- (1) Monitoring and measuring operational controls for significant aspects and objectives and targets. Operational controls and monitoring procedures (including frequency) for each significant aspect are identified by the Operating Unit and are reported to the GEMS Committee. The GEMS Committee approves or revises the procedures. Operational control monitoring reports are submitted by the Operating Units, along with any corrective actions resulting from the discrepancies discovered during the monitoring. These reports are reviewed and approved by the GEMS Committee. Objectives and targets are monitored in the same way.

(2) Conducting a baseline multi-media environmental compliance audit as well as follow-up audits at least every three years, using an external audit team. The compliance audit covers federal, state and local environmental regulations and Executive Orders, as well as VA policy and other requirements determined by the GEMS Committee. The GEMS Committee approves the audit tool prior to proceeding with the audit.

5. REFERENCES: The Green Environmental Management Systems (GEMS) Guidebook, (Book 6A); and the Environmental Compliance Guidebook, (Book 6B).

Attachments:     A.     Plan-Do-Check-Act Process for Operational Controls  
                      B.     Plan-Do-Check-Act Process for Environmental Compliance

PLAN – DO – CHECK – ACT

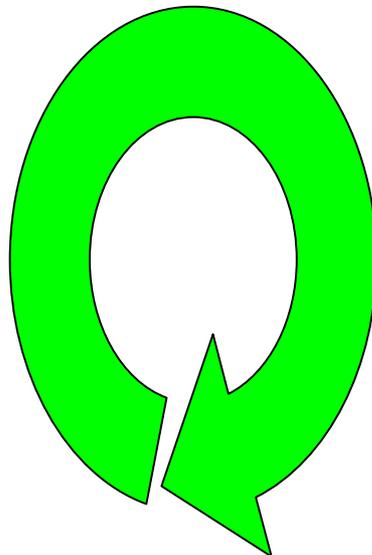
Operational Controls for Significant Environmental Aspects

**PLAN**

***Identify Significant Aspects***  
(Procedure for Environmental Aspects)

**ACT**

*Establish and Track Corrective Actions for Non-Compliance/Non-Conformance Discovered During Monitoring and Measuring and Verify Effectiveness*  
(Procedure for Corrective Actions)



**DO**

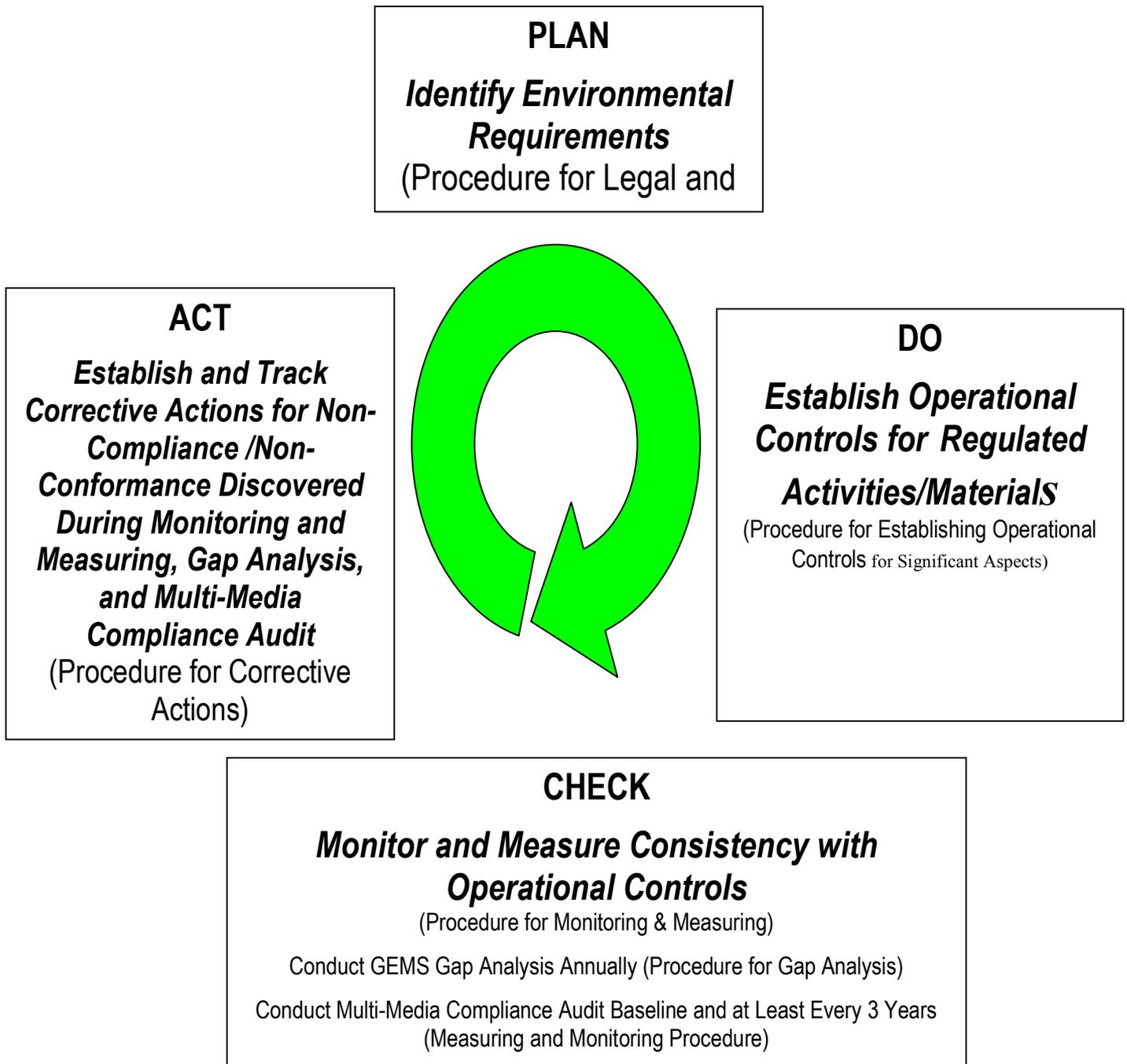
***Establish Operational Controls for Significant Aspects***  
(Procedure for Establishing Operational Controls for Significant Aspects)

**CHECK**

***Monitor and Measure Activities for Consistency with Operational Controls***  
(Procedure for Monitoring and Measuring)

PLAN – DO – CHECK – ACT

Environmental Compliance Assurance under GEMS



**Green Environmental Management Systems (GEMS)  
Nonconformance, Corrective and Preventive Action**

1. PURPOSE: This policy defines the processes that will be implemented for noncompliance, nonconformance, preventive and corrective actions.
2. POLICY: It is the policy of this Medical Center that nonconformance issues identified from GEMS audits, monitoring, measuring and other reviews will necessitate remedial action. Once remedial action is implemented, additional monitoring protocols shall be established to assure effectiveness.
3. RESPONSIBILITIES:
  - a. The Industrial Hygienist/GEMS Coordinator, in association with the GEMS Committee, will monitor and review all processes related to GEMS activities to ensure corrective actions are implemented.
  - b. The GEMS Committee shall assign responsibilities to abate nonconformance items.
4. PROCEDURES:
  - a. Identifying and Reporting. Any individual who identifies a potential nonconformance will report the issue to the Industrial Hygienist/GEMS Coordinator. The Industrial Hygienist/GEMS Coordinator will then process the information through the GEMS Committee for review and action.
  - b. Investigation and Analysis:
    - (1) Once a nonconformance is identified and submitted to the GEMS Committee, the Industrial Hygienist/GEMS Coordinator will assign an individual or team to review the issue.
    - (2) The individual or team will perform an investigation into the nonconformance, referencing all applicable standards.
    - (3) A causal analysis will be performed to determine the methods of corrective action:
      - (a) The magnitude of the causal analysis will be determined by the Industrial Hygienist/GEMS Coordinator or GEMS Committee.
      - (b) The objective of performing the causal analysis is to determine the root cause of the process or system failure, not to impose blame or enforce disciplinary action on a person.
  - c. Mitigation of Impacts: Once the team has completed the investigation, the report will be delivered to the Industrial Hygienist/GEMS Coordinator for review and will then be forwarded to the applicable Service Line Supervisor for his/her concurrence prior to implementation.
  - d. Corrective or Preventive Actions:
    - (1) The Industrial Hygienist/GEMS Coordinator will assign responsibilities to abate nonconformance items.
    - (2) The investigation report shall address continuous improvement and monitoring processes that will be implemented to assure conformance.

- (3) Determine the root cause.
- (4) Develop appropriate corrective and preventive action.
- (5) Document the corrective and preventive action.
- (6) Forward the corrective and preventive action to the GEMS Coordinator for implementation and have the Safety Officer concur.
- (7) The GEMS Coordinator will provide oversight of the implementation of the corrective action and establish realistic deadlines for implementation.
- (8) The GEMS Committee will track and verify the effectiveness of the corrective or preventive actions. Frequency of reporting shall be identified within the analysis; however, the results of the analysis and the success of the corrective or preventive actions shall be included in the annual report.

### **Green Environmental Management Systems (GEMS) Gap Analysis Program Review**

1. **PURPOSE:** To produce a gap analysis to help understand what is already in conformance with the programmatic requirements of GEMS and to evaluate ways to build on existing programs and activities. Determining what GEMS activities are already in place will result in only having to “fill in the gaps” between what is already being done and what needs to be done for the Medical Center GEMS. The primary purpose of GEMS is to bind together existing environmental programs and activities so that efficiency, effectiveness, performance and cost-effectiveness for the entire facility can be achieved.
2. **POLICY:** A review process of the GEMS program will be in place at this Medical Center as part of a continual improvement program.
3. **RESPONSIBILITIES:** The Industrial Hygienist/GEMS Coordinator will coordinate the initial and periodic gap analyses of the GEMS program using criteria consistent with the VHA GEMS Guidebook and the ISO 14001 model. The GEMS Committee will review the completed gap analysis and develop an implementation plan to address the program gaps.
4. **PROCEDURES:** The Industrial Hygienist/GEMS Coordinator will designate the team that will conduct the annual GEMS program review. The review team will use the attached GEMS initial review and gap analysis audit tool to conduct these reviews. The completed reviews should identify any “gaps” that are found and make recommendations to address areas not in conformance. The completed review and recommendations should then be forwarded to the GEMS Committee for further review and development of an implementation plan.
5. **REFERENCES:** VHA Green Environmental Management Systems (GEMS) Guidebook, (Book 6A); International Organization of Standards (ISO) 14001 Standards.

Attachment: GEMS Gap Analysis Tool

## **GEMS Gap Analysis Tool**

1. Category 1 - Environmental Policy: (ISO 14001, Section 4.2; VHA GEMS Guidebook, Sections 2.1 and 5.1, Tabs A and B).

a. Policy. Is there an environmental policy in place that supports pollution prevention, regulatory compliance and continuous environmental improvement?

b. Policy. Is the policy documented, implemented, maintained and communicated to the employees?

2. Category 2 – Planning:

a. Environmental Aspects and Impacts: (ISO 14001, Section 4.3.1; VHA GEMS Guidebook, Sections 2.2, 3.2 and 4.2 and Document 5B1-1).

(1) Aspects and Impacts: Has the facility established a procedure to identify the environmental aspects of the activity, products and services over which it has control and influence?

(2) Aspects and Impacts: Have significant impacts been determined and considered in setting environmental objectives and targets?

b. Legal Requirements: (ISO 14001, Section 4.2; VHA GEMS Guidebook, Sections 2.3 and 5.1 and Document 5B1-2).

Legal: Is there a procedure to identify, access and evaluate federal, state and local legal requirements?

c. Objectives and Targets: (ISO 14001, Section 4.3.3; VHA GEMS Guidebook, Sections 2.4, 2.5 and 3.2 Step 6 and Document 5B1-3).

(1) Setting Objectives and Targets: Has a procedure been developed to identify and document environmental objectives and targets for each relevant function and level?

(2) Setting Objectives and Targets: Does the procedure consider legal requirements, significant aspects and other operational requirements?

d. Plan For Achieving Objectives and Targets: (Environmental Programs) (ISO 14001, Section 4.3.4; VHA GEMS Guidebook, Sections 2.4 and 2.5 and Documents 5B1-3 and 5B1-4).

(1) Plan for Objectives and Targets: Is there a procedure to achieve objectives and targets and identify the means and acceptable timeframes for accomplishment?

(2) Plan for Objectives and Targets: Does the procedure include a designation of responsibility at each relevant function and level?

3. Category 3 - Implementation and Operation:

a. Accountability (Structure and Responsibility): (ISO 14001, Section 4.4.1; VHA GEMS Guidebook, Sections 2.6, 3.1 and 3.2 Steps 1-2 and Document 5B1-4).

(1) Accountability: Has top management provided adequate resources? Has top management appointed a GEMS Coordinator and a GEMS Committee to oversee, track and report GEMS status and performance?

(2) Accountability: Have roles, responsibilities and authorities been defined, documented and communicated to facility staff to ensure effective environmental management?

b. Training: (ISO 14001, Section 4.4.2; VHA GEMS Guidebook, Sections 2.7 and 3.2 Steps 2 and 7 and Document 5B1-5).

(1) Training: Has the organization identified training needs for those workers who may create a significant impact on the environment?

(2) Training: Does the training include significant environmental impacts, emergency response procedures and nonconformance with standard operating procedures?

c. Communications: (ISO 14001, Section 4.4.3; VHA GEMS Guidebook, Section 2.8 and Document 5B1-6).

(1) Communications: Is there a procedure for internal communication between the various levels/functions of the facility, the GEMS Coordinator and the GEMS Committee?

(2) Communications: Is there a procedure in place to coordinate and document inquiries from external public, private and regulatory organizations?

d. GEMS Documentation and Record Keeping: (ISO 14001, Section 4.4.4, 4.5.3; VHA GEMS Guidebook, Sections 2.9, 2.10 and 2.15 and Documents 5B1-5 and 5B1-7).

(1) GEMS Documentation: Is there a procedure requiring the documenting of the core elements of the GEMS and explaining their interaction with other facility-related documents?

(2) Record Keeping: Is there a procedure to identify, maintain and dispose of environmental, training and audit records?

(3) Record Keeping: Are environmental records identifiable, legible, readily retrievable and traceable to activity, product and service?

e. Operational Control: (ISO 14001, Section 4.4.6; VHA GEMS Guidebook, Sections 2.11 and 3.2 Step 5 and Documents 5B1-7 and 5B1-8).

(1) Operational Control: Are the operations aligned with significant environmental aspects and objectives?

(2) Operational Control: Are procedures in place to communicate the GEMS requirements to suppliers and contractors?

f. Emergency Response: (ISO 14001, Section 4.4.7; VHA GEMS Guidebook, Section 2.12 and Document 5B1-9).

Emergency Response: Is there an emergency preparedness and response procedure to recognize and mitigate potential environmental impact?

4. Category 4 - Checking and Corrective Action:

a. Monitoring and Measurement: (ISO 14001, Section 4.2; VHA GEMS Guidebook, Sections 2.13 and 3.2 Steps 8 and 9 and Document 5B1-10).

(1) Monitoring and Measurement: Is there a documented monitoring and measuring procedure for operations and activities related to significant aspects?

(2) Monitoring and Measurement: Does the procedure include requirements for calibration and recording of information to track performance, operational controls and conformance objectives and targets?

(3) Monitoring and Measurement: Has a periodic (every 3 years) and/or baseline environmental compliance audit been conducted?

b. Corrective and Preventive Action: (ISO 14001, Section 4.5.2; VHA GEMS Guidebook, Sections 2.14 and 3.2 Step 9 and Document 5B1-11).

(1) Action Plans: Is there a procedure covering the definition of roles and responsibilities for investigating and determining a cause of nonconformance?

(2) Action Plans: Does the procedure include action needed to mitigate impact and necessary preventive action?

(3) Action Plans: Do corrective and preventive action plans address the causes of the deficiency?

(4) Action Plans: Is the effectiveness of corrective and preventive actions verified before considered completed?

(5) Action Plans: Are resources assigned to corrective and preventive actions in order to complete them in a reasonable timeframe?

(6) Action Plans: Are corrective and preventive actions tracked to completion in the GEMS committee?

c. Gap Analysis: (ISO 14001, Section 4.5.4; VHA GEMS Guidebook, Sections 2.16 and 3.2 Step 8 and Document 5B1-12).

(1) Gap Analysis. Does the program have procedures for conducting annual gap analyses of GEMS?

(2) Gap Analysis. Is the scope based on the environmental importance of the activity and the results of the previous audit?

(3) Gap Analysis. Are the results reviewed by the GEMS Committee and the recommendations forwarded to top management for review?

5. Category 5 - Management Review: (ISO 14001, Section 4.2; VHA GEMS Guidebook, Sections 2.17 and 3.2 Step 9 and Document 5B1-13).

a. Annual Review: Is the management review conducted and documented on an annual basis and reported in the GEMS Committee?

b. Annual Review. Does the GEMS Committee use the gap analysis results to address the need for changes to policy, objectives and other GEMS elements?

c. Annual Review. Is there evidence that the facility director (top management) participates in the annual review (for instance, by signing annual review report)?

**GEMS Committee Report of Annual Effectiveness Review**

**Excerpt From the Minutes of the GEMS Committee, November 4, 2004  
Approved and Signed by the Medical Center Director**

1. The Committee found the GEMS effective in its first year, as indicated by:
  - Completion of 60% of the corrective actions for the GEMS Gap Analysis conducted June 2003
  - Completion of 25% of the corrective actions for the baseline Environmental Compliance Audit, conducted August 2003
  - Achievement of the objectives and targets (as modified at the January 14 GEMS Committee Meeting)
2. The Committee recommends the following new objectives and targets for FY-2005:
  - 5% reduction in lawn management chemical usage in FY-2005 compared with FY-2004 (see attached plan for monitoring and accomplishment)
  - 10% reduction in hazardous waste generation in the Research Lab (see attached plan for monitoring and accomplishment)
3. The following GEMS dashboard summarizes the status of effectiveness evaluations:

<b>GEMS Gap Analysis</b>		
<b>Performance Objectives</b>	<b>Performance Target</b>	<b>Status</b>
Appoint a GEMS Coordinator and a GEMS Committee	Coordinator and Committee will be appointed no later than the end of the first quarter.	_____ was appointed the GEMS Coordinator with participants from all organizational units. _____ was appointed committee chairperson.
Conduct a Gap Analysis to Determine Disparity in our Present Program	Gap analysis will be completed by the end of the second quarter.	The gap analysis was completed February 2004, with new policies developed as needed and routed for comments.
Develop and Implement a GEMS Program	The program will be published and in effect by the end of FY-2004.	The newly established written GEMS program was established September 1, 2004.
Environmental Rounds are Conducted Quarterly in all Areas (Patient and Non-Patient) of the Medical Center to Demonstrate Compliance with GEMS.	Surveys conducted 90% of the time and deficiencies are corrected within 30 days.	This performance standard was significantly met during FY-2004. All surveys were performed as scheduled in MCM 00-46, Environmental Rounds and in accordance with the Environment of Care Standards (JCAHO). However, not all deficiencies were abated within 30 days. Although 89% (1030/1154) of the items noted were abated within 30 days, the percentage fell below the stated goal of 100%. It should be noted that there was no duplication of deficiencies when making rounds the second time in FY-1999.

Environmental Compliance Audits/Inspections		
Compliance Standard	Compliance Problem	Status
Safe Drinking Water (SDW)	The well exceeds safe drinking water standards.	Standards met as evidenced by _____.
Resource Conservation and Recovery Act (RCRA)	Inspection log not up-to-date.	Standards met as evidenced by _____.
Air Emissions	Boiler exceeds air emission standards in permit.	Standards met as evidenced by _____.

GEMS Targets and Objectives		
Performance Objectives	Performance Target	Status
Red Bag Waste	Reduce red-bag waste by 3% by weight by end of fiscal year.	Standards met as evidenced by _____.
Pesticide Use	Change practice of scheduled pesticide application to apply when determined necessary by sampling through fiscal year.	Standards met as evidenced by _____.

Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_