SUBJECT: **Hazard Communication/GEMS Construction Safety Training Program**

Contract Name and Number: _____

Contractor Name: _____

Contract Type: Architect/Engineer Construction

This is an educational package on key points about the Jesse Brown VA Medical Center Hazard Communication/GEMS Safety Program.
DIRECTIONS: Read, sign, and date when each staff have completed this educational exercise. Thank you.

In signing below you certify that this training has been completed for each contract worker assigned to perform work at Jesse Brown VA Medical Center or its Community Based Outpatient Clinics. **(Attach Attendance Sheet with signatures and date)**

_____ _____
Name Title

_____
Date Completed

I have submitted to the VA Project Engineer for this project a summary of construction and demolition debris diversion AND disposal, quantifying all materials generated at the work site and disposed of or diverted from disposal through recycling. **(Attach Recycle/Reuse Log)**

_____ _____
Name Title

_____
Date Completed

Jesse Brown VA Medical Center

Chicago, IL

Hazard Communication/GEMS Construction safety program

Hazardous Communications/GEMS
Construction Safety Program

Index

DEPARTMENT OF VETERANS AFFAIRS
Jesse Brown VA Medical Center
820 South Damen Avenue
Chicago, IL 60612

In Reply Refer To: 537

HAZARD COMMUNICATION AWARENESS TRAINING

SUBJECT: HAZARD COMMUNICAION STANDARDS (29 CFR 1910.1200)

OBJECTIVES: To familiarize the medical center personnel with the Hazard Communication Standards at this facility and to review the process.

EQUIPMENT: Handouts

TIME: 30 Minutes

INSTRUCTOR'S NOTES & REFERENCES	TEACHING AIDES AND DEVICES

Introduction: Name and Job Description
Personnel Background
Briefly discuss presentation

I. WHAT IS THE HAZARD COMMUNICATION STANDARD?

It is an Occupational Safety and Health Administration (OSHA) regulation that requires employers to provide information to employees about the chemicals/materials with which they are working.

A. The three major components of the hazard communication standard are:

1. Inventory of hazardous chemicals and obtaining Material Safety Data Sheets (MSDS).
2. Labeling of chemicals.
3. Specific training of employees regarding the hazardous chemicals with which they are working.

B. The purpose of this training program is to explain the essential elements of a hazard communication-training program.

C. The hazard communication standard is a performance standard. It generally outlines the requirements, but does not specifically address many of the details of how and to what extent the information is covered. The generic nature of the standard has generated a lot of "stuff" about the standard.

D. "Stuff" – the right "stuff", hot "stuff", informational "stuff", expensive "stuff", -- "stuff" it!

II. PURPOSE

The purpose of the hazard communication standard is to provide employees meaningful information about the chemicals with which they work. The responsibility for utilizing this information belongs to the employee.

III. HAZARDOUS CHEMICALS

A good rule of thumb is to consider every chemical potentially hazardous. Excluded: drugs, tobacco products, articles. Included: welding rods, solder, paints, solvents, chemicals, ceramics, glues, silicone greases, detergents.

IV. Jesse Brown VAMC HAZARD COMMUNICATION PROGRAM

A. Person in charge- Industrial Hygiene /GEMS Coordinator.

B. Chemical inventory/MSDS collection.

C. Labeling.

D. Training- general and specific.

V. ESSENTIAL ELEMENTS OF HAZARD COMMUNICATION TRAINING

A. A description of JBVAMC's Hazard Communication Program.

B. A complete inventory of hazardous chemicals in the work area.

C. MSDS must be obtained for each hazardous chemical.

D. Provisions for updating inventories and MSDS must be implemented.

E. Training- All employees to receive initial training. New employees to be trained during orientation. All employees to be trained when a new material is brought into the work area, i.e. if a suspect carcinogen is brought into the work area,

training is required. If a new solvent is brought into the work area and it has similar hazards to chemicals for which training has been given, no new training is required.

F. The person responsible for conducting the training must be designated.

G. The format of the training program must be outlined (video tapes, classroom, handouts, etc.).

H. Employees shall be informed where written materials required by the standard are kept, i.e. written Standard Operating Procedures for handling materials, written hazard communication, inventory of chemicals, and MSDS.

I. Procedures to detect hazardous chemicals in the work place (airborne concentrations) shall be explained to the employees.

J. Specific training about the hazardous materials in a work area must be provided to employees. Was the specific training organized by:

1. Specific chemicals

2. Hazard category:
   a) Flammability
   b) Health hazard
   c) Reactivity
   d) Specific hazard

K. Employees must be made aware that additional information is available in MSDS.

L. Training must include the measures employees take to protect themselves (first aid, work practices, and personal protective equipment).

VI. CATEGORIES OF HAZARDS

A. Flammability- based on flash points

B. Health hazards: (If questions ask Industrial Hygienist)

1. Extremely toxic

2. Moderately toxic

3. Acute toxicity

4. Chronic toxicity

5. Carcinogenicity

C. Reactivity:

1. May detonate

2. Violent chemical

3. Unstable chemical if heated

4. Stable chemical

D. Specific Hazard

1. Oxidizer

2. Acid

3. Alkali

4. Corrosive

5. Use no water

6. Radioactivity

7. Bio-hazard

E. Carcinogenicity

For the purposes of the hazard communications standard, the following materials are considered carcinogens (positive or suspect carcinogens):

1. Materials listed with the National Toxicology Program (NTP) Annual Report on carcinogens (latest edition)

2. Materials listed in the International Agency for Research on Cancer (IARC) monographs

3. Materials listed in 29 CFR 1910.1000:

   a) Asbestos
   b) 4-Nitrobiphenyl
   c) Alpha-Naphthylamine
   d) Methyl Chloromethyl Ether
   e) 3, 3' Dicholorobenzidine (and it's salts)

f) Bis-Chloromethyl Ether
g) Beta-Nephthylamine
h) Benzidine
i) 4-Aminodipnyl
j) Ethyleneimine
k) Beta-Propiolactone
l) N-Nitrosodimethylamine
m) Vinyl Chloride (and polyvinyl chloride)
n) Inorganic Arsenic
o) 1, 2 Dibromo –3- Chloropropane
p) Acrylonitrile
q) Ethylene Oxide
r) Formaldehyde
s) Benzene

NOTE: Emphasize there is a big difference between a confirmed and suspect carcinogen.

F. Specific Expanded Health Standards

It is recommended that these health standards be addressed by separate training sessions. The materials in a medical center are:

1. Asbestos.

2. EtO.

3. Formaldehyde.

4. Benzene. (Material is not permiited at the facility)

5. Lead.

6. Noise.

7. Mercury (material is not permitted at the facility)

DEPARTMENT OF VETERANS AFFAIRS
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In Reply Refer To: **537**

Hazard Communication

1. What document should you consult for information about a chemical that you are using?

   a. The yellow pages
   b. The material safety data sheet
   c. Information on the back of the box
   d. Your Supervisor

2. What does "OSHA" stand for?

   a. Occupational Safety & Health Administration
   b. Occupational Studies & Health Administration
   c. Occupational Science & Hygiene Administration
   d. None of the above

3. MSDS binders should always be readily accessible to all employees during their tour of duty?

   a. True
   b. False

4. Which of these items would not be considered personal protective equipment (PPE)?

   a. Respirators
   b. Rubber gloves
   c. Material Safety Data Sheets
   d. Face Shield

5. Hazard Communication training must be done at least annually?

   a. True
   b. False

6. In the event of a chemical spill in your area, which of these things shouldn't you do?

   a. Try to contain the spill
   b. Check the MSDS for information on the chemical
   c. Fall to your knees and pray that no one finds out what has happened
   d. Contact your supervisor.

7. It is okay to leave an unlabeled container unattended if you know what is in it?

   a. True
   b. False

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MSDS EMERGENCY ACCESS INFORMATION SHEET

The materials in this book are broken down by sections. Each section has an index of the Material Safety Data Sheet (MSDS) that is available in that section. The sections included are:

SPD
Pharmacy
Environmental Management Service
Logistic Svc/Property Management
Unit Specific Information

24-hour access for MSDS information is centralized under Pharmacy Service. In addition to the hard copy MSDS that are placed in the yellow MSDS book located in the corridor on each unit. Pharmacy Service is providing around the clock support to access any MSDS not available in your book. Via the Internet pharmacy service will access MSDS requested by staff. Staff must identify the name of chemical, manufacturer, and location of where MSDS should be sent. Callers name, ext, and service should also be provided.

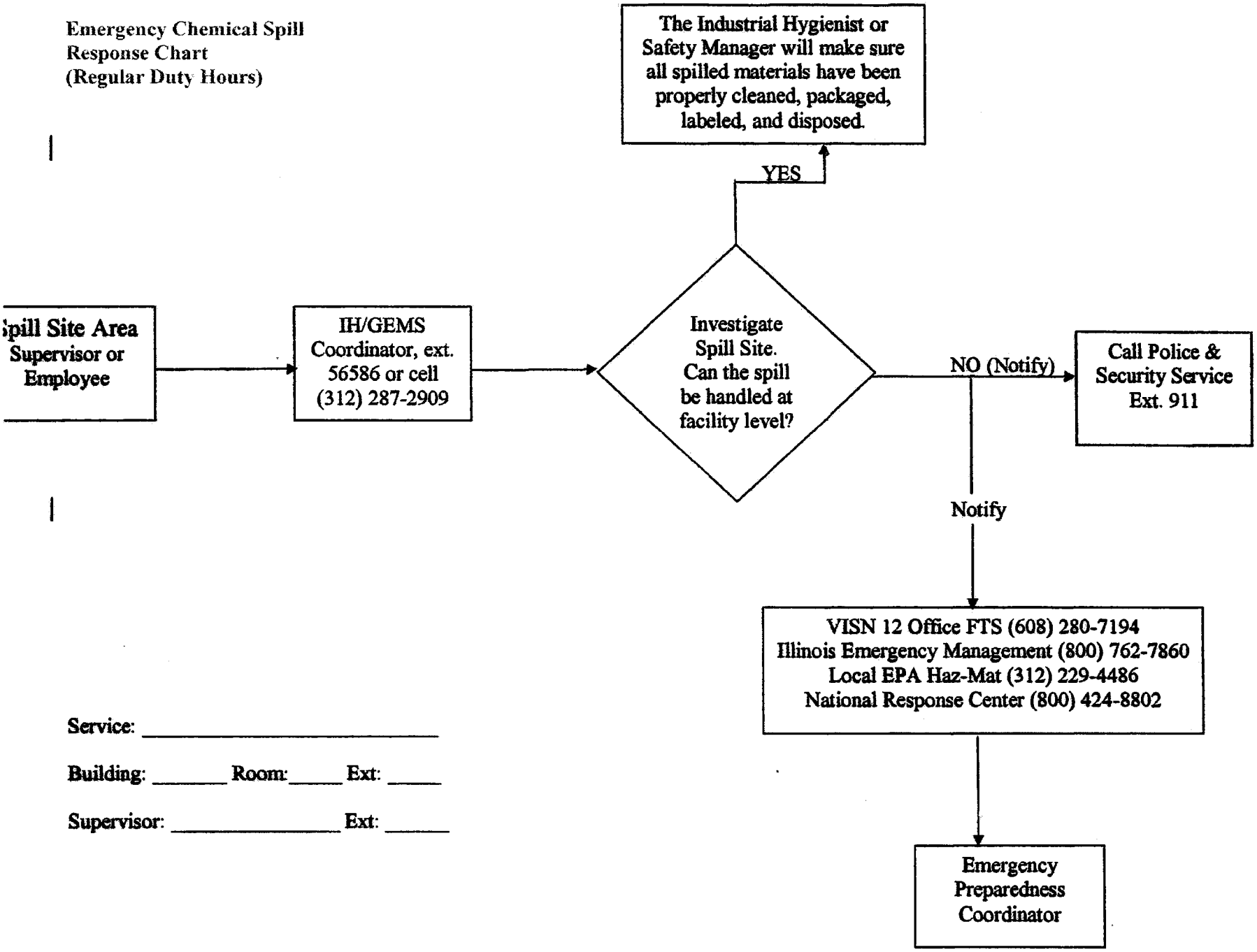
Pharmacy Service Numbers:

Jesse Brown VAMC & New Lake Side CBOC: Inpatient Pharmacy: 52885

Crown Point Clinic & Chicago Heights Clinic: ABJ Inpatient Pharmacy: 55090

Staff working at Auburn Grisham Clinic may contact either Pharmacy's

Emergency Chemical Spill
Response Chart
(Regular Duty Hours)

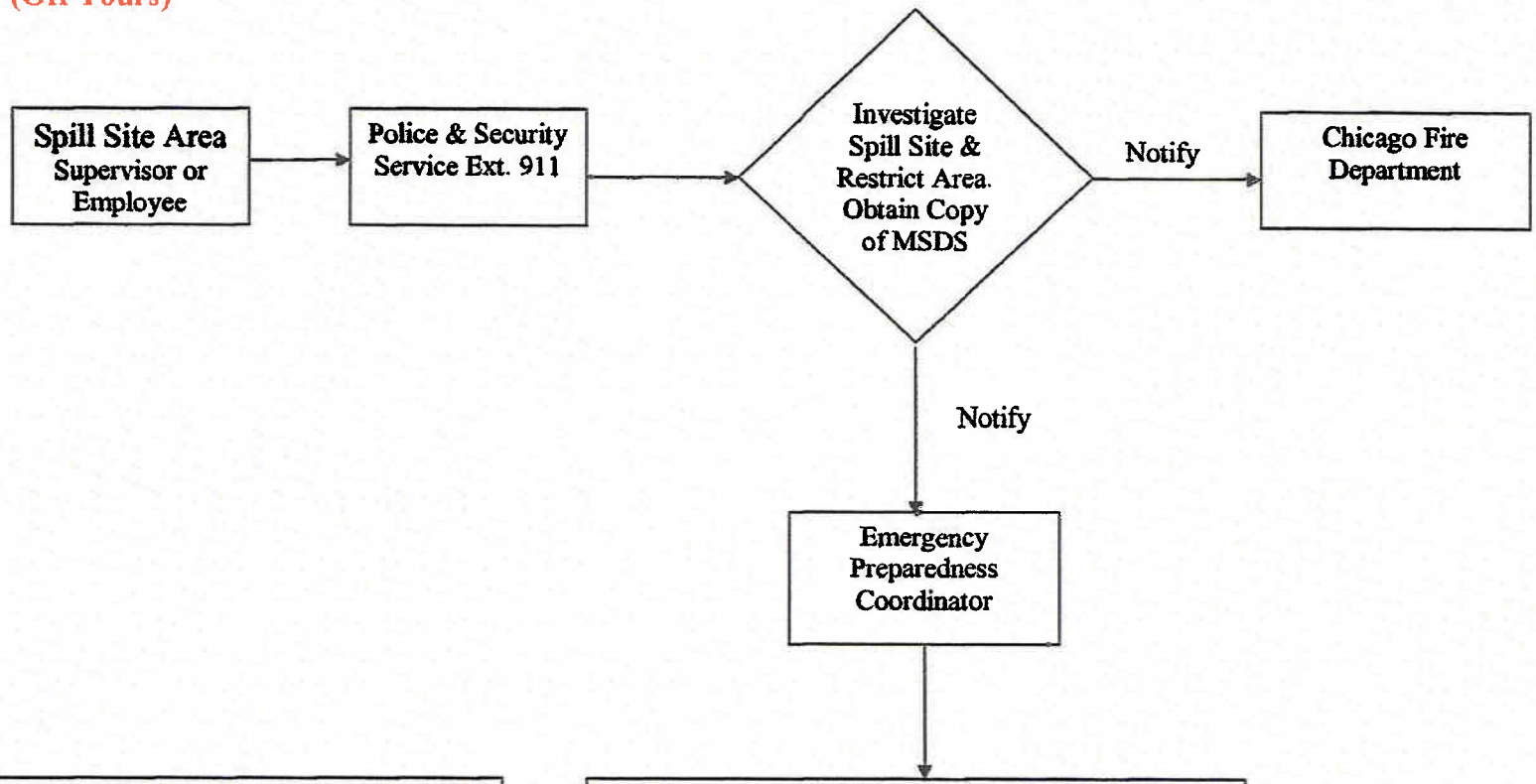


Service: _____

Building: _____ **Room:** _____ **Ext:** _____

Supervisor: _____ **Ext:** _____

Jesse Brown VA Medical Center
Emergency Chemical Spill
Response Chart
(Off Tours)



Service: _____

Building:_____ Room: _____ Ext: _____

Supervisor:_____ Ext: _____

VISN 12 Office FTS (608) 280-7194
Illinois Emergency Management (800) 762-7860
Local EPA Haz-Mat (312) 229-4486
National Response Center (800) 424-8802
IH/GEMS Coordinator (312)287-2909

Confined Space Entry Control Program

1. PURPOSE: The objective of this policy is to assure that those persons who enter confined spaces are protected from harm at all times through the use of protective equipment or safety procedures.

2. POLICY:

a. It is the policy of this medical center to safeguard employees assigned to enter and work in confined spaces in accordance with Occupational Health and Safety Administration (OSHA) 29 CFR 1910.146.

3. RESPONSIBILITIES:

a. The Chief, Engineering Service is responsible for the overall policy and implementation.

b. Engineering Service will be responsible for assuring that:

(1) The facility is evaluated to determine if there are any permit-required confined spaces;

(2) Posting of danger signs, or any other equally effective warning to alert employees to the existence, location, and danger posed by the permit spaces; and

(3) Individual employees are assigned and properly trained to comply with the specified confined space entry procedures for the following duties:

(a) Authorized entrants;

(b) Attendants; and

(c) Entry supervisors.

c. Engineering Project Managers are responsible for assuring construction contractors compliance with VA policy and OSHA standards.

d. The Industrial Hygienist will provide technical support and information and conduct periodic inspections of confined space entries.

4. DEFINITIONS:

a. **Confined Space** is a space that:

(1) Is large enough and so configured that an employee can bodily enter and perform assigned work.

(2) Has limited or restricted means for entry or exit. (For example):

(a) Utility vaults;

(b) Storm sewer systems, manholes and access points;

(c) Sanitary sewer system, manholes and access points;

(d) Grease traps;

(e) Steam tunnels;

(f) Pipe basements;

(g) HVAC air handlers;

(h) Water tanks, both elevated and underground;

(i) Incinerators;

(j) Boilers; and

(k) Et0 sterilizer tank rooms.

(3) Is not designed for continuous employee occupancy.

b. **Permit-required confined space**: A confined space that has one or more of the following characteristics:

(1) Contains or has the potential to contain a hazardous atmosphere;

(2) Contains a material that has the potential for engulfing an entrant;

(3) has an internal configuration such that entrant could be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section; or

(4) Contains any other serious safety or health hazard.

c. **Prohibited condition**: Any condition not allowed by permit during entry operations.

d. **Acceptable entry conditions**: The conditions that must exist in a permit space to allow entry and ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

e. **Entry**: The action by which a person passes through an opening into a permit-required confined space entry can safely enter into and work within the space.

f. **Entry permit (Permit):** The written or printed document that is provided by the supervisor to allow and control entry into a permit space.

g. **Entry supervisor**: The person, such as the engineering chief, general foreman, shop supervisor or designated employee, responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this policy.

NOTE: An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this policy for each role he or she fills. Also, the duties of the entry supervisor may be passed from one individual to another during the course of an entry operation.

h. **Attendant**: An individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the permit space program.

i. **Authorized entrant**: An employee who is authorized by the employer to enter a permit space.

j. **Hazardous atmosphere:** An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

(1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);

(2) Airborne combustible dust at a concentration that meets or exceeds its LFL.

NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.

(3) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.

(4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, which could result in employee exposure in excess of its dose or permissible exposure limit; and

NOTE: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment or ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.

(5) Any other atmospheric condition that is immediately dangerous to life or health.

NOTE: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets (MSDS) that comply with the Hazard Communication Standard, Section 29 CFR 1910.1200, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

k. **Hot Work Permit**: The written authorization to perform operations, for example, riveting, welding, cutting, burning, and heating, capable of providing a source of ignition.

l. **Immediately dangerous to life or health (IDLH):** Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

NOTE: Some materials, i.e., hydrogen fluoride gas and cadmium vapor, may produce immediate transient effects that, even if severs, may pass without medical attention, but are followed by sudden, possibly fatal, collapse 12-72 hours after exposure. The victim "feels normal" from recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health.

m. **Inerting**: The displacement of the atmosphere in a permit space by a noncombustible gas, such as nitrogen, to such an extent that the resulting atmosphere is noncombustible.

NOTE: This procedure produces an IDLH oxygen-deficient atmosphere.

n. **Isolation**: The process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: Blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

o. **Line breaking**: The intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

p. **Non-permit confined space**: A confined space that does not contain, or with respect to atmospheric hazards, have the potential to contain, any hazard capable of causing death or serious physical harm.

q. **Oxygen deficient atmosphere**: An atmosphere containing less than 19.5 percent oxygen by volume.

r. **Permit system**: The written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

s. **Prohibited condition**: Any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

t. **Rescue service**: The personnel designated to rescue employees from permit spaces.

u. **Retrieval system**: The equipment, including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor, used for non-entry rescue of persons from permit spaces.

v. **Testing**: The process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

5. **PROCEDURES**:

The following requirements apply to entry into permit spaces:

a. Any conditions making it unsafe to remove an entrance cover shall be eliminated before the cover is removed.

b. When entrance covers are removed, the opening shall be promptly guarded by a railing, temporary cover, or other temporary barriers that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.

c. Before an employee enters the space, he must utilize the retrieval system as defined in para.4.a., and the internal atmosphere shall be tested, with a calibrated direct-reading instrument, for the following conditions in the order given:

(1) Oxygen content;

(2) Flammable gases and vapors; and

(3) Potential toxic air contaminants.

d. There may be no hazardous atmosphere within the space whenever any employee is inside the space.

e. Continuous forced air ventilation shall be used, as follows:

(1) An employee may not enter the space until the forced air ventilation has eliminated any hazardous atmosphere;

(2) The forced air ventilation shall be directed to ventilate the immediate areas where an employee is or will be present within the space and shall continue until all employees have left the space; and

(3) The air supply for the forced air ventilation shall be from a clean source and may not increase the hazards in the space.

f. The atmosphere within the space shall be periodically tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere.

g. If a hazardous atmosphere is detected during entry:

(1) Each employee shall leave the space immediately;

(2) The space shall be evaluated to determine how the hazardous atmosphere developed; and

(3) Measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.

h. The supervisor shall verify that the space is safe for entry and that the measures required by this policy have been taken, through a written certification that contains the date, the location of the space, and the signature of the person providing the certificate. The certification shall be made before entry and shall be made available to each employee entering the space.

i. When there are changes in the use of configuration of a non-permit confined space that might increase the hazards to entrants, the employer shall re-evaluate that space and, if necessary, reclassify it as a permit-required confined space.

j. A space classified by the supervisor as a permit-required confined space may be reclassified as a non-permit confined space under the following procedures:

(1) If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are reclassified as a non-permit confined space for as long as the non-atmospheric hazards remain eliminated.

(2) If testing and inspection during that entry demonstrate that the hazards within the permit space are reclassified as a non-permit confined space for as long as the non-atmospheric hazards remain eliminated.

NOTE: Control of atmospheric hazards through forced air ventilation does not constitute elimination of the hazards, unless demonstrated that forced air ventilation alone will control all hazards in the space.

(3) The supervisor shall document the basis for determining that all hazards in a permit space have been eliminated, through a certification that contains the date, the location of the space, and the signature of the person making the determination. The certification shall be made available to each employee entering the space. (See Attachment).

(4) If hazards arise within a permit space that has been declassified to a non-permit space, each employee in the space shall exit the space. Engineering shall then re-evaluate the space and determine whether it must be reclassified as a permit space, in accordance with other applicable provisions.

k. When Engineering Service arranges to have employees of another employer (contractor) perform work that involves permit space entry, the Engineering Project Manager shall:

(1) Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a permit space program meeting the requirements of this section;

(2) Apprise the contractor of the elements, including the hazards identified and experience with the space, that make the space in question a permit space;

(3) Apprise the contractor of any precautions or procedures that Engineering Service has implemented for the protection of employees in or near permit spaces where contractor personnel will be working;

(4) Coordinate entry operations with the contractor, when both engineering personnel and contractor personnel will be working in or near permit spaces;

(5) Debrief the contractor at the conclusion of the entry operations regarding the permit space program followed and regarding any hazards confronted or created in permit spaces during entry operations.

(6) In addition to complying with the permit space requirements, each contractor who is retained to perform permit space entry operations shall:

(a) Obtain any available information regarding permit space hazards and entry operations from the host employer;

(b) Coordinate entry operations with Engineering Service, when both engineering personnel and contractor personnel will be working in or near permit spaces;

(c) Inform Engineering Service of the permit space program that the contractor will follow and of any hazards confronted or created in permit spaces, either through a debriefing or during the entry operation.

l. Permit-required confined space program. Under the permit-required confined space program, Engineering shall:

(1) Implement the measures necessary to prevent unauthorized entry;

(2) Identify and evaluate the hazards of permit spaces before employees enter them;

(3) Develop and implement the means, procedures, and practices necessary for safe permit space entry operations, including, but not limited to, the following:

(a) Specifying acceptable entry conditions;

(b) Isolating the permit space;

(c) Purging, inerting, flushing, or ventilating the permit space as necessary, to eliminate or control atmospheric hazards;

(d) Providing pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards; and

(e) Verifying that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry.

(4) Engineering Service will provide the following equipment at no cost to employees, maintain that equipment properly, and ensure that employees use that equipment properly:

(a) Testing and monitoring;

(b) Ventilating equipment needed to obtain acceptable entry conditions;

(c) Communications equipment;

(d) Personal protective equipment insofar as feasible engineering and work practice controls do not adequately protect employees;

(e) Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency;

(f) Barrier and shields;

(g) Equipment, such as ladders, needed for safe ingress and egress by authorized entrants;

(h) Rescue and emergency equipment needed except to the extent that the equipment is provided by rescue services; and

(i) Any other equipment necessary for safe entry into and rescue from permit spaces.

(5) Evaluate permit space conditions as follows when entry operations are conducted:

(a) Test conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized to begin, except that, if isolation of the space is infeasible because the space is large or is part of a continuous system, such as a sewer, pre-entry testing shall be performed to the extent feasible before entry is authorized and, if entry is authorized, entry conditions shall be continuously monitored in the areas where authorized entrants are working;

] (b) Test or monitor the permit space as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations; and

(c) When testing for atmospheric hazards, test first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors.

NOTE: Atmospheric testing conducted in accordance with Appendix B to Section 1910.146, would be considered as satisfying the requirements of this paragraph. For permit space operations in sewers, atmospheric testing conducted in accordance with Appendix B, as supplemented by Appendix E to Section 1910.146, would be considered as satisfying the requirements of this paragraph.

m. **Permit System:**

(1) Before entry is authorized, Engineering Service shall document the completion of measures required by paragraph (L) (3) of this section by preparing an entry permit. There shall be at least one attendant outside the permit space into which entry is authorized for the duration of entry operations.

(2) Before entry begins, the entry supervisor identified on the permit shall sign the entry permit to authorize entry.

(3) The completed permit shall be made available at the time of entry to all authorized entrants, by posting it at the entry portal or by any other equally effective means, so that the entrants can confirm that pre-entry preparations have been completed.

(4) The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit.

(5) The entry supervisor shall terminate entry and cancel the entry permit when:

(a) The entry operations covered by the entry permit have been completed; or

(b) A condition that is not allowed under the entry permit arises in or near the permit space.

(6) Engineering Service shall retain each entry permit, including canceled entry permits, for at least one year to facilitate the review of the permit-required confined space program. Any problems encountered during an entry operation shall be noted on the pertinent permit so that appropriate revisions to the permit space program can be made.

(7) Copies of all confined space entry permits must be sent to the Industrial Hygiene Manager.

n. **Entry permit**. The entry permit that documents compliance with this section and authorizes entry to a permit space shall identify:

(1) The permit space to be entered;

(2) The purpose of the entry;

(3) The date and the authorized duration of the entry permit;

(4) The authorized entrants within the permit space, by name or by such other means, for example, through the use of rosters or tracking systems, as will enable the attendant to determine quickly and accurately, for the duration of the permit, which authorized entrants are inside the permit space;

NOTE: This requirement may be met by inserting a reference on the entry permit as to means used, such as a roster or tracking system, to keep track of the authorized entrants within the permit space.

(5) The personnel, by name, currently serving as attendants;

(6) The individual, the name, currently serving as entry supervisor, with a space for the signature or initials of the entry supervisor who originally authorized entry;

(7) The hazards of the permit space to be entered;

(8) The measures used to isolate the permit space and to eliminate or control permit space hazards before entry;

NOTE: Those measures can include the lockout or tagging of equipment and procedures for purging, inerting, ventilating, and flushing permit spaces.

(9) The acceptable entry conditions;

(10) The results of initial and periodic tests performed, accompanied by the name or initials of the testers, and by an indication of when the tests were performed.

(11) The rescue and emergency services that can be summoned and the means, such as the equipment to use and the numbers to call, for summoning those services;

(12) The communication procedures used by authorized entrants and attendants to maintain contact during the entry;

(13) Equipment, such as personal protective equipment, testing equipment, communications equipment, alarm systems, and rescue equipment, to be provided for compliance with this section;

(14) Any other information whose inclusion is necessary, given the circumstances of the particular confined space, in order to ensure employee safety; and

(15) Any additional permits, such as for hot work, that have been issued for authorized work in the permit space.

o. **Training**:

(1) Engineering Service shall provide training so that all employees whose work is regulated by this policy acquire the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this section.

(2) Training shall be provided to each affected employee:

(a) Before the employee is first assigned duties under this section;

(b) Before there is a change in assigned duties;

(c) Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained;

(d) Whenever Engineering has reason to believe either that there are deviations from the permit space entry procedures required or that there are inadequacies in the employee's knowledge or use of these procedures.

(3) The training shall establish employee proficiency in the duties required by this policy and shall introduce new or revised procedures, as necessary, for compliance with this policy.

(4) Engineering shall certify that the training required has been accomplished. The certification shall contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification shall be available for inspection by employees and their authorization representatives.

p. Duties of authorized entrants. Engineering shall ensure that all authorized entrants:

(1) Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;

(2) Properly use equipment;

(3) Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space;

(4) Alert the attendant whenever:

(a) The entrant recognizes any warning sign or symptom of exposure to a dangerous situation; or

(b) The entrant detects a prohibited condition; and

(5) Exit from the permit space as quickly as possible whenever:

(a) An order to evacuate is given by the attendant or the entry supervisor;

(b) The entrant recognizes any warning sign or symptom of exposure to a dangerous situation;

(c) The entrant detects a prohibited condition, or

(d) An evacuation alarm is activated.

g. Duties of attendants. Engineering shall ensure that each attendant:

(1) Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;

(2) Is aware of possible behavioral effects of hazard exposure in authorized entrants;

(3) Continuously maintains an accurate count of authorized entrants in the permit space and ensures the identity of authorized entrants in the permit space.

(4) Remains outside the permit space during entry operations until relieved by another attendant.

(5) Communications with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.

(6) Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:

(a) If the attendant detects a prohibited condition;

(b) If the attendant detects the behavioral effects of hazard exposure in an authorized entrant;

(c) If the attendant detects a situation outside the space that could endanger the authorized entrants; or

(d) If the attendant cannot effectively and safely perform all the duties required under this policy.

(7) Summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards;

(8) Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:

(a) Warn the unauthorized persons that they must stay away from the permit space;

(b) Advise the unauthorized persons that they must stay away from the permit space;

(c) Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.

(9) Performs non-entry rescues as specified by the employer's rescue procedures; and

(10) Performs no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

r. Duties of entry supervisors. The employer shall ensure that each entry supervisor:

(1) Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;

(2) Verifies, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin;

(3) Terminates the entry and cancels the permit as required by this policy;

(4) Verifies that rescue services are available and that the means for summoning them are operable;

(5) Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and

(6) Determines, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

s. **Emergency Rescue Procedures**:

(1) Unless properly trained and equipped to perform confined space entry rescue, employees are not to enter confined spaces to attempt a rescue.

(2) In the event of a confined space emergency, the employee will contact Chicago Fire Department and/or V.A. Cardiac Arrest Team via JBVAMC Police (Ext. 911), and his or her supervisor.

(3) When notifying the above mentioned rescue teams, employees must clearly state the exact location of the confined space, the hazard contained in the space, and any other information requested by the rescue team before ending communication.

(4) Engineering Service will provide the rescue team with access to all permit spaces from which rescue may be necessary so that the rescue team can develop appropriate rescue plans and practice rescue operations.

6. **REFERENCES:**

Occupational Health and Safety Administration (OSHA) 29 CFR 1910.146.
Veterans Affairs Regional Memorandum dated February 26, 1993, Confined Spaces at VA Medical Centers
BNA Job and Health, BNA Policy and Practice series, Confined Space Entry No. 725:601.

7. **RESCISSIONS:**

.

A

X (10 to 138)

Attachment

ATTACHMENT A

(Sample Confined Space Entry Permits)

Regulations (Standards - 29 CFR)

Confined Space Pre-Entry Check List - 1910.146 App D

- **Part Number:** 1910
- **Part Title:** Occupational Safety and Health Standards
- **Subpart:** J
- **Subpart Title:** General Environmental Controls
- **Standard Number:** 1910.146 App D
- **Title:** Confined Space Pre-Entry Check List

Appendix D to §1910.146 -- Sample Permits

Appendix D-1

Confined Space Entry Permit
Date and Time Issued: _____ Date and Time Expires: _____
Job site/Space I.D.: _____ Job Supervisor: _____
Equipment to be worked on: _____ Work to be performed: _____

Stand-by personnel: _____ _____ _____

1. Atmospheric Checks: Time _____
   Oxygen _____%
   Explosive _____% L.F.L.
   Toxic _____PPM

2. Tester's signature: _____

3. Source isolation (No Entry):

	N/A	Yes	No
Pumps or lines blinded,	( )	( )	( )
disconnected, or blocked	( )	( )	( )

4. Ventilation Modification:

	N/A	Yes	No
Mechanical	( )	( )	( )
Natural Ventilation only	( )	( )	( )

5. Atmospheric check after isolation and Ventilation:

Oxygen	_____%	>	19.5	%
Explosive	_____% L.F.L	<	10	%
Toxic	_____PPM	<	10	PPM H(2)S

   Time _____
   Testers signature: _____

6. Communication procedures: _____
_____

7. Rescue procedures: _____

	Yes	No
8. Entry, standby, and back up persons:		
Successfully completed required training?		
Is it current?	( )	( )

9. Equipment:	N/A	Yes	No
Direct reading gas monitor - tested	( )	( )	( )
Safety harnesses and lifelines for entry and standby persons	( )	( )	( )
Hoisting equipment	( )	( )	( )
Powered communications	( )	( )	( )
SCBA's for entry and standby persons	( )	( )	( )
Protective Clothing	( )	( )	( )
All electric equipment listed Class I, Division I, Group D and Non-sparking tools	( )	( )	( )

10. Periodic atmospheric tests:

Oxygen	____%	Time ____	Oxygen	____%	Time ____
Oxygen	____%	Time ____	Oxygen	____%	Time ____
Explosive	____%	Time ____	Explosive	____%	Time ____
Explosive	____%	Time ____	Explosive	____%	Time ____
Toxic	____%	Time ____	Toxic	____%	Time ____
Toxic	____%	Time ____	Toxic	____%	Time ____

We have reviewed the work authorized by this permit and the information contained here-in. Written instructions and safety procedures have been received and are understood. Entry cannot be approved if any squares are marked in the "No" column. This permit is not valid unless all appropriate items are completed.

Permit Prepared By: (Supervisor)_____
Approved By: (Unit Supervisor)_____
Reviewed By (Cs Operations Personnel) :

_____ _____
(printed name) (signature)

This permit to be kept at job site. Return job site copy to Safety Office following job completion.

Copies: White Original (Safety Office)
Yellow (Unit Supervisor)
Hard(Job site)

Appendix D - 2

ENTRY PERMIT

PERMIT VALID FOR 8 HOURS ONLY. ALL COPIES OF PERMIT WILL REMAIN AT JOB SITE UNTIL JOB IS COMPLETED

DATE: - - SITE LOCATION and DESCRIPTION _____
PURPOSE OF ENTRY _____
SUPERVISOR(S) in charge of crews Type of Crew Phone #

COMMUNICATION PROCEDURES _____

RESCUE PROCEDURES (PHONE NUMBERS AT BOTTOM) _____

* BOLD DENOTES MINIMUM REQUIREMENTS TO BE COMPLETED AND REVIEWED PRIOR TO ENTRY*

REQUIREMENTS COMPLETED	DATE	TIME
Lock Out/De-energize/Try-out	____	____
Line(s) Broken-Capped-Blanked	____	____
Purge-Flush and Vent	____	____
Ventilation	____	____
Secure Area (Post and Flag)	____	____
Breathing Apparatus	____	____
Resuscitator - Inhalator	____	____
Standby Safety Personnel	____	____
Full Body Harness w/"D" ring	____	____
Emergency Escape Retrieval Equip	____	____
Lifelines	____	____
Fire Extinguishers	____	____
Lighting (Explosive Proof)	____	____
Protective Clothing	____	____
Respirator(s) (Air Purifying)	____	____
Burning and Welding Permit	____	____

Note: Items that do not apply enter N/A in the blank.

**RECORD CONTINUOUS MONITORING RESULTS EVERY 2 HOURS

CONTINUOUS MONITORING** TEST(S) TO BE TAKEN	Permissible Entry Level	_____							
PERCENT OF OXYGEN	19.5% to 23.5%	___	___	___	___	___	___	___	___
LOWER FLAMMABLE LIMIT	Under 10%	___	___	___	___	___	___	___	___
CARBON MONOXIDE	+35 PPM	___	___	___	___	___	___	___	___
Aromatic Hydrocarbon	+ 1 PPM * 5PPM	___	___	___	___	___	___	___	___
Hydrogen Cyanide	(Skin) * 4PPM	___	___	___	___	___	___	___	___
Hydrogen Sulfide	+10 PPM *15PPM	___	___	___	___	___	___	___	___
Sulfur Dioxide	+ 2 PPM * 5PPM	___	___	___	___	___	___	___	___
Ammonia	*35PPM	___	___	___	___	___	___	___	___

* Short-term exposure limit: Employee can work in the area up to 15 minutes.

+ 8 hr. Time Weighted Avg.: Employee can work in area 8 hrs (longer with appropriate respiratory protection).

REMARKS: _____

GAS TESTER NAME & CHECK #	INSTRUMENT(S) USED	MODEL &/OR TYPE	SERIAL &/OR UNIT #
_____	_____	_____	_____
_____	_____	_____	_____

SAFETY STANDBY PERSON IS REQUIRED FOR ALL CONFINED SPACE WORK

SAFETY STANDBY PERSON(S)	CHECK #	CONFINED SPACE ENTRANT(S)	CHECK #	CONFINED SPACE ENTRANT(S)	CHECK #
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

SUPERVISOR AUTHORIZING - ALL CONDITIONS SATISFIED _____

DEPARTMENT/PHONE _____

AMBULANCE 2800 FIRE 2900 Safety 4901 Gas Coordinator 4529/5387

[58 FR 4549, Jan. 14, 1993; 58 FR 34846, June 29, 1993]

CONFINED SPACE PERMIT

Date _____ Time of Issue _____ Length of Permit _____

Location _____ Equipment ID _____

Purpose of Entry & Description of Work _____

Authorized Entrant(s) _____

Eligible Attendant(s) _____

Authorizier(s) of this Entry _____

Will "HOT" work be authorized for this Entry? _____ No _____ Yes (describe:) _____

HAZARD IDENTIFICATION

Indicate ALL potential Hazards of this Permit Space

	Yes	N/A
a. Contains of may contain a hazardous atmosphere	___	___
b. Contains a material for potential engulfment	___	___
c. Has an internal configuration for potential entrapment	___	___

if "Yes", describe _____

d. Contains the follow recognized serious safety or health hazards:

_____

PRE-ENTRY PREPARATION

	Yes	N/A	Done Date	Done Time	Done by	Removed Date	Removed Time	Removed by
1. Lines broken and/or blanked:								
Line Contents / Location								
a.								
b.								
c.								
2. Drain or at a workable level								
3. Purge-flush and vent								
4. Force air to bottom & vent								
5. Lock out power feeds:								
Equipt/Location of Lock out								
a.								
b.								
c.								
6. Shut-off heating systems								
7. Other:								

TESTS TO BE TAKEN

	P.E.L.	Time / Tester / Yes	N/A	Results	Results	Results
% of Oxygen	19.5% to 23.5%					
Temperture	110°F/43°C					
% of LEL:	Any % over 10					
Hydrogen Sulfide	10 ppm					

GEMS Guide for Contractors

1. PURPOSE: The Department of Veterans Affairs has chosen the term GEMS to refer to the department's Green Environmental Management System. The GEMS Program is based on ISO 14001, which relates to Environmental Management Systems (EMS). The EMS provides a framework to review activities performed by, or on behalf of the organization, including work performed by contractors. This policy will establish guidelines for the GEMS program and will emphasize the importance of contractor compliance to federal, state, and local regulations; encourage pollution prevention strategies whenever possible; and focus on continued improvement on environmental issues.

2. POLICY:

a. The GEMS program documents activities at the medical center, prioritizes activities which the organization rates as the highest potential for impact (called Significant Environmental Aspects), and puts operational controls in place to reduce or mitigate environmental impacts.
b. Any parties who perform an activity identified as a Significant Environmental Aspect must be familiar with GEMS training to reduce the environmental impacts.
c. **GEMS Awareness Training** will be conducted during the initial pre-construction meeting. This training informs contractors about the GEMS Program, and the critical parts of the system. Training slides and post test can be found at the end of this chapter (Attachment C).
d. **Significant Aspect Training** is required for contractors who conduct an activity which is determined to be a Significant Environmental Aspect of the Medical Center. The contractor is required to ensure that the training is completed for each member of their staff. Examples of contractual GEMS program requirements are included in Attachment B, "Construction and Demolition Waste Management." The specification sections and language provided in this document can be used as guidance and quick reference to contract sections related to GEMS compliance.

3. GEMS Significant Environmental Aspects:

a. The following are significant environmental aspects related to construction activities:

- Chemical Storage (potential for spills) Hazardous chemicals, if no alternative is available, must be stored in accordance with OSHA, EPA (49 CFR 265 Subpart I), and NFPA requirements. Any hazardous chemicals and wastes must be stored in a manner which would prevent release into the environment and must be disposed of in accordance with local, state and federal regulations.

- Abatement activities 29 CFR 1926.1101
- Recyclable material. All contractors should recycle as much material as possible. The records of materials recycled must be submitted to the COTR for recordkeeping.

b. Work performed by contractors involving one or more significant environmental aspects must be done in compliance with above referenced laws, policies, and guidelines.
c. The preconstruction GEMS meeting overview and Recycle/Reuse log are attached. (Attachment A)

4. REFERENCE: All federal agencies are required to implement an Environmental Management System under Executive Order 13148, "Greening the Government Through Leadership in Environmental Management".

How Does Your Job Impact the Environment?

Do you...

- Use, dispose, and/or store paint?
- Use, dispose, and/or store solvents?
- Use and dispose of fluorescent light bulbs?
- Use paper, computers, batteries?
- Repair/operate motor vehicles?
- Use aerosol sprays?
- Store waste?
- Operate a boiler?
- Dispose of hazardous, radiological waste, or solid waste?
- Manage construction projects?
- Work with asbestos?
- Work with ozone depleting substances?
- Use large amounts of electricity or water?
- Purchase chemicals, medical or other supplies?

Your job activities could impact the environment by...

- Causing an unplanned spill or release of hazardous chemicals that could pollute the air, soil, or water
- Causing incorrect storage or disposal of waste that could pollute the soil and water
- Not recycling when possible and creating more waste in landfills that can pollute the soil and water

Work to...

- Maintain regulatory compliance
- Implement controls
- Prevent unplanned spills and releases
- Ensure sampling and monitoring devices are calibrated and operating correctly
- Conserve energy and water
- Use recycled products
- Prevent pollution by substituting "green" products

Environmental Contacts:

(Please write name and phone number)

VAMC GEMS Coordinator:

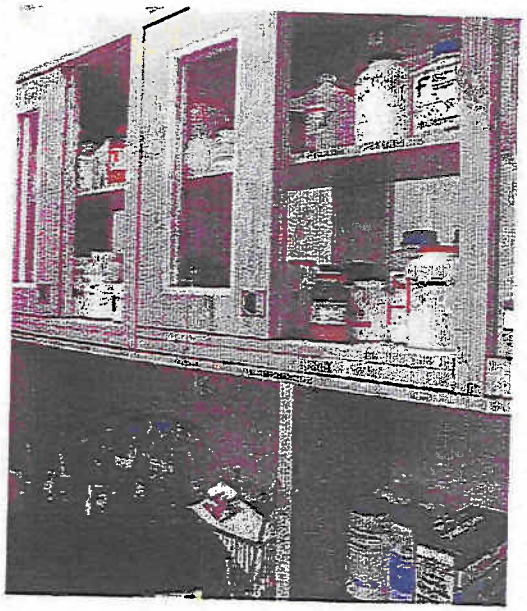
_____

VISN Safety/Industrial Hygiene Manager:

_____

Resources:

This brochure, GEMS Guidebook, Environmental Compliance Guidebook, and RCRA Guidebook are available at the CEOSH web site:
vaww.ceosh.med.va.gov



Department of Veterans Affairs

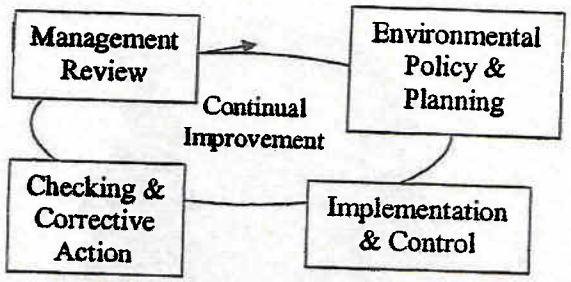
Green Environmental Management System

GEMS Concepts

What is GEMS?
The VHA Green Environmental Management System (GEMS) is a formal system for integrating the environmental footprint into the overall management of the organization. Required by presidential Executive Order 13148, the goal of GEMS is to achieve continual improvement in environmental protection.

GEMS and JCAHO.
GEMS follows the plan-do-check-act model, making it easy to integrate with the JCAHO Environment of Care programs at healthcare facilities. In fact, many of the requirements for GEMS are already in place and being tracked by facility Safety or Environment of Care committees.

PLAN - DO - CHECK - ACT



PLAN
The planning phase includes creating an environmental policy, identifying environmental aspects and impacts of the healthcare facility activities, establishing environmental objectives and targets and the plans for achieving them, and identifying legal and other requirements.

DO
Accountability for GEMS activities is established by identifying the structure and responsibilities through m[illegible] center memoranda, conducting training on GEMS concepts and for specific environmental activities, and by establishing GEMS documentation and operational controls.

CHECK
Ongoing monitoring and measuring of operational controls is augmented by periodic evaluations of the GEMS (gap analysis) and environmental compliance audits, all of which generate preventive and corrective actions which are tracked in the GEMS Committee.

ACT
Similar to other Environment of Care program elements, an annual evaluation of the effectiveness of the GEMS and recommendations for continual improvement are submitted for approval to the facility director.

Nine Steps to a Successful Green Environmental Management System (GEMS)

1. Appoint GEMS Coordinator & GEMS Committee.
A GEMS Coordinator will be appointed at each VA Medical Center to ensure that the requirements of GEMS are established, implemented and periodically reviewed in accordance with principles of the ISO 14001 model.

The GEMS Committee is a multi-disciplinary committee established to coordinate and oversee the GEMS.

2. Train GEMS Committee.
The GEMS Committee is trained first, so they can develop, monitor, and continually improve the GEMS.

3. Conduct Initial GEMS Gap Analysis.
The purpose of the initial gap analysis is to help the facility understand what it is already doing in terms of the requirements for GEMS, and to build on existing programs and activities in order to close the gap between requirements and reality.

4. Identify Significant Environmental Aspects.
This involves a process starting with identifying legal and other requirements applicable to the activities of each operating unit. Operating units then identify and score the impacts they have on the environment. The GEMS Committee determines significant aspects for further control.

5. Establish Operational Controls.
The GEMS Committee ensures operational controls are adequate for all significant aspects. This includes developing, publishing, and distributing GEMS and other environmental policies and procedures.

6. Set Objectives & Targets.
The GEMS Committee sets environmental objectives and targets and the plans to achieve them. Success with these is evidence of continual improvement.

7. Train Staff on GEMS Policies and SOPS.
The training program should provide sufficient training to employees to ensure that the GEMS is operating at the highest level.

8. Conduct Environmental Compliance Baseline and Periodic Follow-Up Audits.
The purpose of this audit is to determine the compliance status of the facility and address any non-compliance issues.

9. Annual Program Effectiveness Review and Report.
To maintain continual improvement, management will periodically review the GEMS to ensure it is operating as planned.

Guiding Principles

.aws:

- Resource Conservation and Recovery Act, ection 6002 (RCRA, 42 USC 6962, 1976)

- Pollution Prevention Act (1990)

- Energy Policy Act (1992, amended 2005)

- Farm Security and Rural Investment Act, ection 9002 (May 13, 2002)

:xecutive Orders: "Greening the iovernment" Through...

- Waste Prevention, Recycling, Federal cquisition (EO 13101, September 14, 1998)

- Energy Efficient Management EO 13123, June 3, 1999)

- Leadership in Environmental Management EO 13148, April 21, 2000)

- Federal Fleet and Transportation Efficiency EO 13149, April 21, 2000)

- Energy Efficient Standby Power Devices EO 13221, July 31, 2001)

tegulation:

- Federal Acquisition Regulation: Part 23, specially, and Parts 2, 7, 11,12, 13, 36, 37, 42, nd 52. http://www.arnet.gov/far

/A Policy and Guidance:

- VA Directive and Handbook 0052, Affirmative rocurement, Recycling, and Waste/Pollution revention Program (June 14, 2002)

- VA Directive 0057, VA Environmental lanagement System and Governing nvironmental Policy (September 14, 2004)

- Information Letters 90-01-1, 049-02-11, and 49-02-7

Go Shopping!

Comprehensive Procurement Guideline, EPA
www.epa.gov/cpg

Environmentally Preferable Products, EPA
www.epa.gov/opptintr/epp
www.epa.gov/oppt/epp/database.htm
www.epa.gov/oppt/epp/pubs/buying_green_online.pdf

Energy Star®, EPA
www.energystar.gov/products

Non-Ozone Depleting Substances, EPA
www.epa.gov/ozone/snap/lists/index.html

Energy Efficient Products and Minimal Standby Power Devices, DOE
www.eere.energy.gov/femp/technologies/eeproducts.cfm

Federal Fleet/Alternative Fuel Vehicles, DOE
www.eere.energy.gov/vehiclesandfuels/epact/

Department of Defense – DoD EMall
https://emall.prod.dodonline.net/scripts/emLogon.asp

Defense Logistics Agency (DLA)
www.dscr.dla.mil/products/epa/htms/pocs.htm

Biobased Products Program, USDA
www.biobased.oce.usda.gov

GSA Environmental Products Guide
www.gsa.gov/Portal/gsa/ep/contentView.do?P=FCOEE&contentId=9845&contentType=GSA_OVERVIEW

GSA *Advantage!*®
http://www.gsaadvantage.gov

Javits-Wagner-O'Day Program (JWOD)
www.jwod.com

UNICOR, Federal Prison Industries
www.unicor.gov

CCR-Central Contractor Registration (Small Business)
http://www.ccr.gov/sba.asp

VetBiz Veteran-owned Business, www.vip.vetbiz.gov

(rev. 01/06)

Department of Veterans Affairs

Green Purchasing

Energy Star
Recycled Content
Biobased
Alternative Fuel
Non-ozone depleting

Environmentally Preferable

Acquisition & Materiel Management
Environmental Affairs - Greening VA
www.va.gov/oamm/recycle

What is "Green" Purchasing?

:oth Congress and the President directed ederal agencies to be good stewards of the nvironment by conserving energy and other recious natural resources. One way that we n be good stewards is to buy products and rvices that conserve resources. This is enerally referred to as **"green" purchasing.**

Green" purchasing encompasses the ollowing mandatory components:

Recycled content products, also known as **Comprehensive Procurement Guideline (CPG)** Items[1]
Energy Star® and energy-efficient products; standby power devices[2]
Alternative fuel vehicles/alternative fuels[2]
Biobased products[3]
Non-ozone depleting substances[1]

ıs well as a voluntary component...

Environmentally preferable products (EPP)[1]

ın **Affirmative Procurement Plan (APP)** is n agency's plan for buying CPG items. VA's APP Directive and Handbook 0052) also addresses ıe purchasing of Energy Star®, biobased, and ther green products.

Where Can I Learn More?

'o learn more about the VA and Federal-wide **green" purchasing** program, visit:
ı OA&MM, Environmental Affairs-Greening VA
ttp://www.va.gov/oamm/recycle
ı Office of the Federal Environmental Executive
ttp://www.va.gov/ofee.gov/gp/gp.htm
ı On-line Green Purchasing Training
ttp://www.golearn.gov (Course ID OPM 008)

.S. Envir ental Protection Agency (EPA)
PA and I. ment of Energy (DOE)
.S. Departn... of Agriculture (USDA)

Why Buy "Green"?

The Federal government spends more than $200 billion on goods and services each year. The "green" purchasing program minimizes negative environmental effects through the use of environmentally friendly products.

Buying green helps to:

- Conserve natural resources and minimize our environmental "footprint"
- Improve worker safety and health
- Reduce Federal energy use, greenhouse gas emissions, and waste to landfills
- Stimulate new markets and create jobs
- Reduce liabilities
- Provide potential cost savings **$$$**

It also is...

- The law and national policy; increasingly easier to do; and, it closes the loop on the recycling process.

Who is Required to Buy "Green"?

The **"green" purchasing** requirements apply to ***all*** Federal agencies ***and*** their contractors. The requirements pertain to simplified acquisitions and large purchases, as well as to both direct purchases of products and to support services contracts.

These requirements ***also*** apply to Federal purchase cardholders and to micro-purchases.

VA is committed to being a good steward of the environment.

How Do Your Purchases Impact the Environment?

Do you purchase, contract, or initiate a request for goods or services that include...

- Paper or non-paper office products?
- Computers or other electronic equipment?
- Batteries?
- Appliances?
- Awards or plaques?
- Signs?
- Paint?
- Light bulbs?
- Vehicles, gasoline, oil, or tires?
- Park benches or picnic tables?
- Janitorial supplies or services?
- Landscaping products or services?
- Construction products or services?

Your purchases could impact the environment by...

- Containing hazardous or toxic chemicals that, if spilled or released, could pollute the air, soil, or groundwater
- Depleting the availability of natural resources if virgin or raw materials are constantly used
- Creating more waste in landfills that could pollute the soil and groundwater

Work to...

- Ensure awareness of **"green"** purchasing requirements at all levels
- Substitute **"green"** products
- Use recycled paper and recycled content office products
- Buy Energy Star® and energy- and water-efficient products
- Find alternatives for products with excessive packaging or those that contain or produce hazardous or toxic chemicals
- Consider the entire life cycle of the product

Always think "green" at the start of the acquisition process.

ATTACHMENT A

Pre-Construction Meeting
Green Environmental Management Systems (GEMS) Overview

The Jesse Brown VA Medical Center (JBVAMC) in accordance with MCM Green Environmental Management Systems (GEMS) Program 138-14-10, Waste Management, Minimization & Recycling Program 137-08-10, VA Directive 2004-069 (**Waste Minimization and Compliance Report**) and the **Federal Pollution Prevention Act** formally establishes Pollution Prevention (P2) as a national objective, and defines P2 as source reduction and other practices that reduce or eliminate pollutants. This act establishes a hierarchy of environmental protection consisting of prevention or source reduction, recycling, treatment, and disposal to the environment. The most desirable method of pollution abatement is prevention or source reduction. Disposal and other releases to the environment should be done only as last resort, and then in an environmentally safe manner.

The **Resource Conservation and Recovery Act (RCRA)**, as amended by the Hazardous and Solid Waste Amendments of 1984, has authority over generation, treatment, storage, disposal, and transportation of hazardous and non-hazardous waste and emphasizes source reduction as its highest priority. RCRA requires "cradle-to-grave" management of hazardous waste (HW), encourages recycling and reuse, and further requires HW generators to certify that the generator has a program in place to "reduce the volume or quantity and toxicity" of waste. RCRA also mandates Federal procurement of recycled products.

The 1992 Federal Facilities Compliance Act makes Federal facilities subject to Federal, State and local waste management and disposal laws and regulations.

In accordance with these Acts, the Safety Office requires contractors and project managers to monitor waste(s) taken from a project, and certify proper disposal. If recycle or reuse of a waste product (doors, light fixtures, etc.) is possible, reasonable effort should be made to reuse the product.

Items that may be reused include, but are not limited to: Doors (if in good shape), door locks, light fixtures, electronics items (nurse call wiring, other wiring, etc.), electrical panels, breakers, sinks, toilets, plumbing fixtures, power pools, accessories (mirrors and towel dispensers), handrails, and possibly corner guards. However, if these items no longer meet codes, safety, or other requirements they may not be reused.

If items are to be reused, these items should be logged on Attachment A by the Project Manager. At the conclusion of the project, this form shall be reviewed and signed by the Supervisor, Projects Engineering, with a copy given to the Maintenance & Operations Chief and the GEMS Coordinator for their records.

Project Number:_____	Project Location:_____		Page ____ of ____	
Date:_____			Project Manager:_____	
Material being reused/recycled	**Reused/Recycled**	**Quantity**	**Location Taken**	**Comments**

Cc: Projects Engineering
Maintenance & Operations
IH/GEMS Coordinator

ATTACHMENT A

ATTACHMENT B

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 Related Sections (edit as appropriate for consistency)

A. Section 01031 - Waste Management / Recycling Alternates
B. Section 01060 - Regulatory Requirements
C. Section 01094 - Definitions
D. Section 01300 - Submittals
E. Section 01600 - Materials and Equipment

1.2 Description of Work

A. This section describes the requirements for the Contractor and all subcontractors to minimize construction waste and debris and to reuse, salvage, and recycle to the greatest extent feasible.

B. This section includes a statement of [INSTITUTION]'s Waste Management Goals, requirements for the development of a draft and final Waste Management Plan, a reference to resources to assist in recycling, and steps for Management Plan Implementation.

C. This section specifies certain wastes that are required to be recycled.

D. This section specifies obligations for Reporting to the [INSTITUTION] weights of materials recycled and materials not recycled or reused throughout the project.

1.3 Intent and Waste Management Goals

A. [INSTITUTION]'s waste management goals include increased recycling and conservation of materials. Construction and Demolition Wastes have been identified as a particular target for reuse and recycling, for several reasons:

- C&D debris typically represents a large volume of material;
- Many of the waste streams generated during building demolition and construction projects are highly recyclable at reasonable prices;
- Massachusetts has banned landfill disposal of some C&D debris beginning in 2003, and expects to ban other C&D debris in subsequent years.

B. [INSTITUTION] has determined that reducing, to the maximum extent practicable, the amount of waste disposed of in this project is a high priority. The Contractor and subcontractors shall take steps to generate the least amount of waste possible by minimizing waste due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Of the inevitable waste that is generated, as many of the waste materials as economically feasible shall be segregated for reuse, salvage, or recycling, or recycled as mixed debris. In no case shall material be disposed of in a landfill or

incinerator where an approved and less costly recycling or reuse alternative exists. Waste disposal in landfills and incinerators shall be minimized and shall be considered the alternative of last resort.

D. With regard to these goals the Contractor shall develop, for the Owner's review and approval, a Waste Management Plan for this Project as described in Section 1.4.

1.4 Draft Waste Management Plan

A. Within 14 calendar days after receipt of Notice of Award of Bid, and prior to any waste removal, the Contractor shall submit a Draft Waste Management Plan to [INSTITUTION OR PROJECT MANAGER OR ARCHITECT, AS APPROPRIATE]. The Draft Waste Management Plan shall contain, as a minimum:

1. A written analysis of the project wastes expected to be generated, by type and approximate quantity.

2. Disposal options: The name of all landfill(s) and/or incinerator(s) proposed for trash disposal, the respective tipping fee(s) for each of these disposal options including transportation costs, and the projected cost of disposing of all Project waste in the landfill(s).

3. Alternatives to Landfill Disposal/Incineration: A list of each material proposed to be salvaged, reused, or recycled during the course of the Project, the proposed end use or market for each material, the respective tipping fees for each end use or market (including transportation costs), and the estimated net cost savings or cost increase resulting from recycling each material (versus land filling or other disposal), taking into account revenue from the sale of recycled or salvaged materials and tipping fees saved due to diversion of materials.

4. The Draft Waste Management Plan shall include, at a minimum, the materials included in Section 1.5 that are required to be reused or recycled.

B. Following the submittal of the Draft Waste Management Plan, [INSTITUTION] and Architect will review the plan and consider the proposed recycling and waste disposal alternatives. The Owner and/or Architect may suggest alternatives to the proposed disposal options in order to increase recycling, reduce costs, or both.

1.5 Materials for Which Recycling Is Required

A. [INSTITUTION] requires that, as a minimum, the following materials must be considered for recycling, salvage, or reuse during this project:

[ADD OR ELIMINATE MATERIALS AS APPROPRIATE TO PROJECT]
Asphalt

Concrete, concrete block, concrete masonry units (CMU), slump stone (decorative concrete block), and rocks
Asphalt Concrete
Brick
Paper, including bond, newsprint, cardboard, mixed paper, packing materials, and packaging
Cement Fiber Products, including shingles, panels, siding
Paint
Rigid Foam
Glass
Plastics
Carpet and Pad
Beverage Containers
Insulation
Gypsum Wallboard
Porcelain Plumbing Fixtures
Fluorescent Light Tubes, per [REGULATORY AGENCY] regulations
Green materials (i.e. tree trimmings and land clearing debris).
Metals including, but not limited to, stud trim, ductwork, piping, reinforcing steel (rebar), roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze. (ferrous and non-ferrous).
Soils
Wood, including clean dimensional wood, pallet wood, plywood, oriented strand board (OSB), particle board
Furnishings

B. [MODIFY FOR OTHER STATE AS APPROPRIATE] The Contractor should be aware that the Commonwealth of Massachusetts has banned the following waste streams from incineration or landfill disposal. These items may not be included in waste destined for incineration or landfills:

1. Lead-acid batteries
2. Leaves and Yard Waste
3. Whole Tires
4. White Goods (Appliances)
5. Cathode Ray Tubes (CRTs) including computer monitors
6. Metal, Plastic and Glass Containers
7. Recyclable Paper

1.6 Final Waste Management Plan

A. Once [INSTITUTION] has considered the draft Waste Management Plan and made appropriate suggested modifications, the Contractor shall submit, within 14 Calendar days of receiving such suggested modifications, a Final Waste Management Plan, incorporating [INSTITUTION]'s input. The Final Waste Management Plan shall contain the following:

1. Analysis of the proposed jobsite wastes to be generated, including types and approximate quantities.

2. Disposal options: The name of all landfill(s) and/or incinerator(s) proposed for trash disposal, the respective tipping fee(s) for each of these disposal options including transportation costs, and the projected cost of disposing of all Project waste in the landfill(s)

3. Alternatives to Land filling: A list of the waste materials from the Project that will be separated for reuse, salvage, or recycling.

4. Markets: A list of the market(s) or other on-site or off-site end use(s) that will be used for each material that will be separated for reuse, salvage, or recycling.

5. Materials Handling Procedures: A description of the means to be employed in separating and recycling the materials identified in item (3) above consistent with requirements for acceptance by designated facilities, including the means by which such materials will be protected from contamination.

6. Transportation: A description of the means of transportation of the recyclable materials (whether materials will be site-separated and hauled to designated markets, or whether mixed materials will be collected by a hauler and removed from the site and later separated for recycling).

7. Cost of Reuse, Salvage, or Recycling. An estimate of the cost, including separation, transportation, and marketing, to reuse, salvage, or recycle the materials identified in item (3) above.

8. Meetings: A description of the regular meetings to be held to address waste management. Refer to Section [XXX] - Project Meetings

1.7 Waste Management Plan Implementation

A. Manager: The Contractor shall designate a specific party (or parties) responsible for instructing workers in recycling and overseeing and documenting results of the Waste Management Plan for the Project.

B. Distribution: The Contractor shall distribute copies of the Waste Management Plan to the Job Site Foreman, each Subcontractor, the Owner, and the Architect.

C. Instruction: The Contractor or his designated waste manager shall provide on-site instruction regarding appropriate separation, handling, and recycling, salvage, reuse, and/or return methods to be used by all involved parties at the appropriate stages of the Project.

D. Separation facilities: As appropriate during each stage of the Project, the Contractor shall lay out and label a specific area(s) to facilitate separation of materials for potential recycling, salvage, reuse, and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials.

E. Hazardous wastes: Hazardous wastes shall be separated and disposed of according to Section [XXX].

1.8 Reporting Required at Time of Invoicing

A. Application for Progress Payments: The Contractor shall submit with each Application for Progress Payment a Summary of Waste generated by the Project. Failure to submit this information shall render the Application for Payment incomplete and shall delay Progress Payment. The Summary shall be submitted on a form acceptable to the Owner and shall contain the following information:

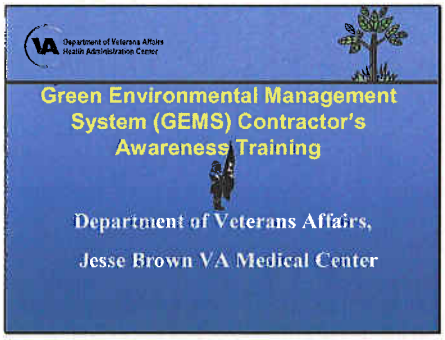
1. The amount (in tons) of material land filled from the Project, the identity of the landfill, the total amount of tipping fees paid, transportation costs (if separate) and the total disposal cost. Include manifests, weight tickets, receipt, and invoices.

2. For each material recycled, reused, or salvaged from the Project, the amount (in tons or cubic yards), the date removed from the jobsite, the receiving party, the transportation cost, the amount of any money paid or received for the recycled or salvaged material, and the net total cost or savings of salvage or recycling each material. Attach manifests, weight tickets, receipts, and invoices.

ATTACHMENT C

GEMS Construction Contractor's Awareness Training

Slide 1



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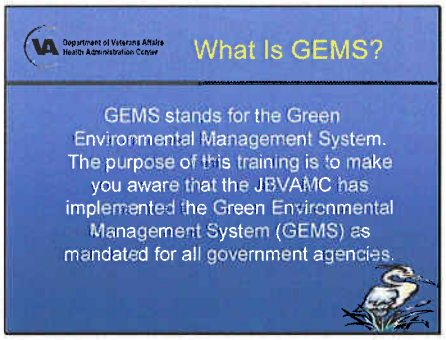

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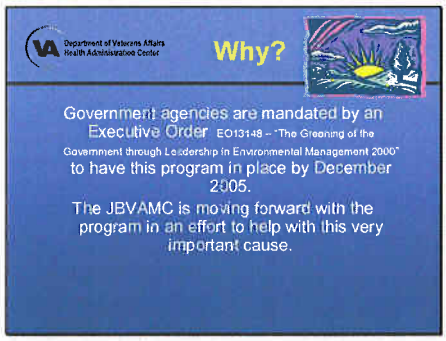

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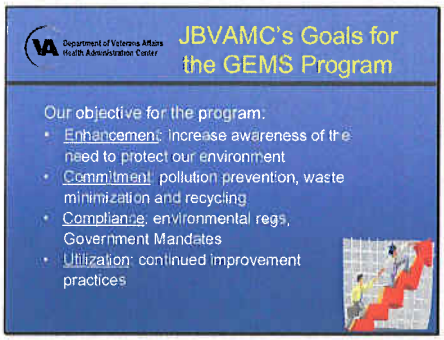

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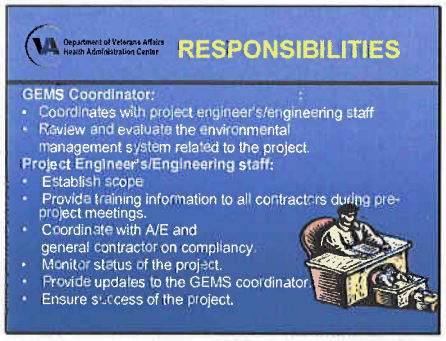

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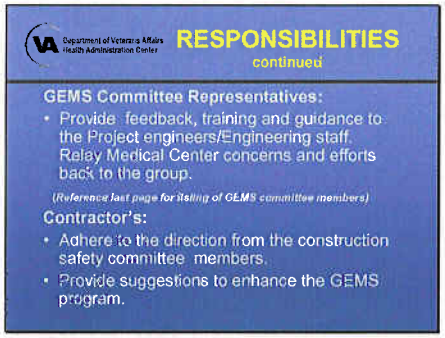

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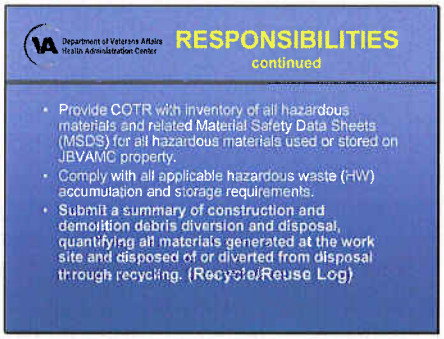

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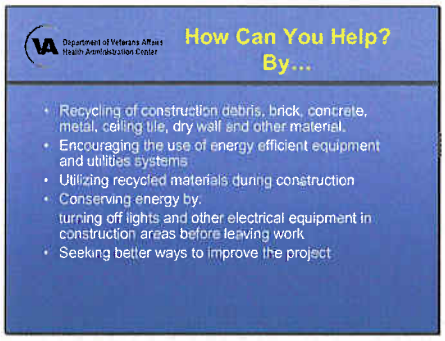

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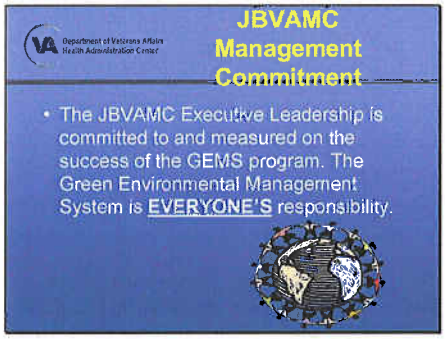

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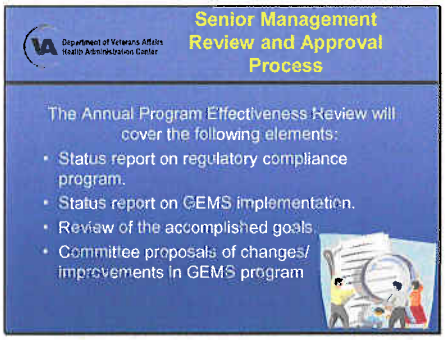

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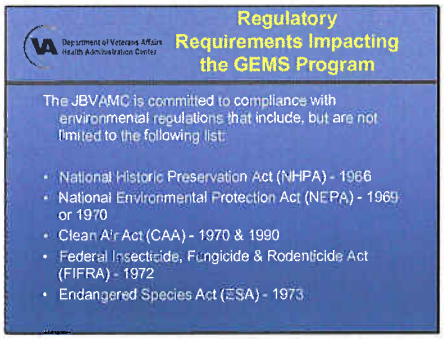

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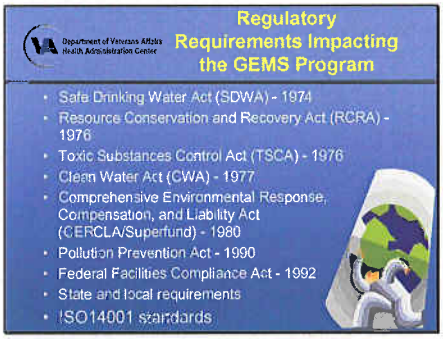

Slide 15

Contractor GEMS Training Post Test
(Take test after viewing Environmental Awareness Slides)

1. **The VHA GEMS is:**
   a. **A program for Greening the Government Through leadership in Environmental Management**
   b. **A requirement for VHA facilities to develop and implement environmental management systems**
   c. **Intended to attain continual improvement in environmental programs**
   d. **Modeled after ISO standard 14001**
   e. **All of the above**

2. **Environmental Awareness is important for:**
   a. **Environmental compliance**
   b. **Improved human health**
   c. **JC compliance**
   d. **a and b only**
   e. **a, b, and c**

3. **GEMS:**
   a. **Promotes recycling programs including closed loop (recycling and purchase of recycled products)**
   b. **Addresses solid and hazardous waste (RCRA, CERCLA/Superfund) requirements**
   c. **Helps comply with the Clean Water Act and Clean Air Act**
   d. **Helps avoid fines for noncompliance and is proactive to attain environmental conformity**
   e. **All of the above**

4. **Federal facilities such as VHA facilities are subject to only federal requirements, not state, or local environmental requirements.**
   a. **True**
   b. **False**

5. **Citations or violations of environmental laws are subject to fines and imprisonment.**
   a. **True**
   b. **False**

6. **Environmental management reviews:**
   a. **are regulatory requirements**
   b. **are voluntary inspections**
   c. **help identify areas of environmental noncompliance prior to EPA inspection**
   d. **is required for JC and OSHA compliance**

7. **EPA's role in environmental compliance:**
   a. **sets minimal environmental standards**
   b. **enforces environmental regulations**
   c. **is in partnership with facilities to maintain compliance and avoid penalties**
   d. **None of the above**
   e. **All of the Above**

8. **Recycling, reduction, and reuse practices are always more expensive than buying new products for construction jobs.**
   a. **True**
   b. **False**

9. **It is everyone's responsibility to be environmentally aware and proactive.**
   a. **True**
   b. **False**