

## **Environment of Care Hazardous Materials and Waste Management Plan - 2014**

**Revised 4.24.2014**

### **PURPOSE**

The purpose of the Hazardous Materials and Waste Management plan is to provide an environment for patients, staff, students and visitors safe from the hazards associated with the handling, storing, transporting, using and disposing of hazardous materials and waste and assure compliance with all applicable local, state and federal regulations.

### **SCOPE**

The Hazardous Materials and Waste Management Plan at TJUH Inc. applies to all facilities as listed below, and to all processes, activities, departments, structures and grounds. The Plan describes processes for managing hazardous materials and waste safely to minimize risk to patients, staff, students, visitors and the environment.

TJUH facilities covered by this management plan are as follows:

- Gibbon/Bodine Building, 111 South 11<sup>th</sup> Street - All floors and areas except 1<sup>st</sup> floor leased business occupancies.
- Main Building, 132 South 10<sup>th</sup> Street - All floors and areas.
- Thompson/Tower Building, 1020 Sansom Street - All floors and areas.
- Foerderer Pavilion Building, 117 South 11<sup>th</sup> Street – All floors and areas.
- Jefferson Hospital for Neuroscience, 900 Walnut Street – All floors and areas except for 1<sup>st</sup> floor leased business occupancy and business occupancies on the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> floors. 2<sup>nd</sup> floor Infusion space and 3<sup>rd</sup> floor Surgical Family Waiting are included.
- Medical Office Building (MOB), 1100 - 1104 Walnut Street – 1<sup>st</sup> and 2<sup>nd</sup> floor Surgicenter; 3<sup>rd</sup> and 4<sup>th</sup> floor Breast Care Imaging Center; and 8<sup>th</sup> floor Clinical Lab for Cell Therapy.
- 925 Chestnut Street – 2<sup>nd</sup> floor Infusion Center.
- Clinical Office Building (COB), 909 Walnut Street – Basement and 1<sup>st</sup> floor Radiology space; and 3<sup>rd</sup> floor Oral Surgery suite.
- Methodist Hospital, 2301 South Broad Street – All floors and areas.
- Methodist Hospital, 1300 Wolf Street – All floors and areas.
- Methodist Hospital, 2422-24 S. Broad Street - All floors and areas.

## **OBJECTIVES**

The objectives of the Hazardous Materials and Waste Management Plan include:

- Comply with standards and regulation pertaining to hazardous materials and waste.
- Develop and enforce current hazardous materials and waste practices for patients, staff, students and visitors.
- Provide hazardous materials and waste education and training as appropriate.
- Identify and implement opportunities to improve hazardous materials and waste management.

## **AUTHORITY**

The Chairperson of the Hazardous Materials and Waste Management Subcommittee is responsible for the Hazardous Materials and Waste Management Plan and Subcommittee management. The Directors of Environmental Health/Safety and Radiation Safety Officer are empowered with the authority to take prompt corrective action whenever unsafe acts or conditions exist in regards to the handling, storing, transporting, using and disposing of hazardous materials and wastes.

## **RISK ASSESSMENT**

Hazardous conditions, potentially hazardous situations, unsafe practices and relative risks are identified and assessed through ongoing facility-wide processes. These processes are designed to proactively evaluate the impact hazardous materials and waste may present should they be mismanaged. The Hazardous Materials and Waste Management Subcommittee works with the Environment of Care Committee and Risk Management Department to identify, analyze, and control environmental risks to patients, staff, students and visitors that may contribute to undesirable outcomes. These assessment processes include:

- Annual Subcommittee multi-disciplinary risk assessment
- Environmental Safety Tours
- Lab Inspections
- Pharmaceutical Waste Sort Reports
- Hazardous Gases Sampling Reports
- PADEP audits
- Weekly Central Accumulation Storage Room Inspections

## PERFORMANCE ELEMENTS

### **Standard EC.02.02.01 – The hospital manages risks related to hazardous materials and waste.**

#### **EC.02.02.01 (1)**

The hospital maintains a written, current inventory of hazardous materials and waste that is used, stored or generated.

Departments are required to compile an inventory of all hazardous materials used in the workplace and update it annually. Copies of the inventory are to be kept on file at the location of where hazardous materials are used/stored/generate and with the Department of Environmental Health and Safety. An inventory of hazardous wastes will be maintained by the Department of Environmental Health and Safety.

#### **EC.02.02.01 (3)**

The hospital has written procedures, including the use of precautions and personal protective equipment, to follow in response to hazardous material and waste spills or exposures.

In the event of a hazardous materials spill staff are trained to: 1) alert others in the immediate area, 2) report spill by dialing “811 or 77”, 3) cordon off the area/restrict access, 4) follow departmental spill procedures. These procedures are included in annual HealthStream training and are also posted on the Hospital’s Hazardous Materials and Waste Management intranet page. Specific departmental spill procedures are tailored for the unique hazardous materials they use.

#### **EC.02.02.01 (4)**

The hospital implements its procedures in response to hazardous material and waste spills or exposures.

The Hospital assures implementation of its procedures in the event of a hazardous materials spill by documenting and investigating all incidents. A log of all spills is kept and maintained by the Department of Environmental Health and Safety. Critiques of all incidents are performed by the Hazardous Materials and Waste Management Subcommittee. Employee exposures to hazardous materials are documented through accidents reports. Follow-up investigation is performed by the Department of Environmental Health and Safety, University Health Services and Healthmark.

#### **EC.02.02.01 (5)**

The hospital minimizes risks associated with selecting, handling, storing, transporting, using and disposing hazardous chemicals.

Maintaining an environment that provides for the safe and proper management of hazardous materials is accomplished through:

- Prior to acquiring new hazardous materials evaluating risks and viable alternatives.

- Educating staff on the risks associated with selecting, handling, storing, transporting, using and disposing of hazardous chemicals.
- Developing pertinent policy and procedures.
- Educating staff on the proper procedures for selecting, handling, storing, transporting, using and disposing hazardous chemicals.
- Maintaining an updated and complete inventory of all hazardous materials and wastes.
- Maintaining and having readily accessible Material Safety Data Sheets (MSDS).
- Environmental Health and Safety Lab Inspections
- Environmental Tours
- Contracting with Veolia Environmental Services for hazardous waste disposal.
- Contracting with Stericycle for infectious, sharps, pathological and pharmaceutical waste disposal.
- Contracting with Bionomics for radiological waste disposal.
- Compliance with all applicable local, state and federal regulations pertaining to the storing, transporting and disposing of hazardous materials.

**EC.02.02.01 (6)**

The hospital minimizes risks associated with selecting, handling, storing, transporting, using and disposing radioactive materials.

This is accomplished by:

- Application of radiation or radioactive materials in humans is performed under the supervision of physicians who have demonstrated sufficient and appropriate training and experience and who have been approved by the Radiation Safety Committee (RSC).
- All new uses and locations of use and/or storage (including radioactive wastes) must be approved by the RSC and/or Radiation Safety Department.
- Only trained personnel are permitted to handle radioactive materials.
- The Radiation Safety Department conducts regular inspections and audits of radioactive materials usage and of use and storage locations.
- There are established procedures for radioactive package receipt, surveying, and internal distribution.
- There are established procedures for safe radioactive materials handling.
- Radiation workers are monitored for their occupational radiation exposure through the use of personnel dosimeters. Readings above pre-established "investigation levels" are reviewed as to the cause of the readings and for possible interventions to reduce future exposure. There is a formal program to keep radiation exposures "As Low as Reasonably Achievable (ALARA)". Readings above investigation levels are reported to the RSC.
- The Radiation Safety Department investigates spills or other unusual events involving radiation with the purpose of identifying root causes and contributing factors and devising measures to minimize re-occurrence. Unusual events are reported to the RSC and to the EOC through the Hazardous Materials and Waste Management Subcommittee.

- All persons involved in preparing radioactive materials for offsite shipping must have current HAZMAT certification for radioactive materials shipping.
- There is a radioactive materials inventory and tracking program.
- All radioactive materials are secured in accordance with regulations (or Orders as issued by the Pennsylvania Department of Environmental Protection, where applicable) against unauthorized access or diversion.
- There are established procedures for radioactive waste collection, storage, and ultimate disposal.

**EC.02.02.01 (7)**

The hospital minimizes risks associated with selecting and using hazardous energy sources.

This is accomplished through the following programs and procedures:

- Application of radiation to humans is performed under the supervision of physicians who meet Pennsylvania regulatory requirements.
- Only trained personnel are permitted to operate radiation producing equipment.
- There is a program of regular inspection, quality assurance testing, and (where appropriate) calibration of radiation producing equipment.
- There is a program of regular inspection of protective garb such as lead aprons.
- Radiation workers are monitored for their occupational radiation exposure through the use of personnel dosimeters. Readings above pre-established "investigation levels" are reviewed as to the cause of the readings and for possible interventions to reduce future exposure. There is a formal program to keep radiation exposures "As Low As Reasonably Achievable (ALARA)". Readings above investigation levels are reported to the RSC.
- The Radiation Safety Department investigates unusual events involving radiation with the purpose of identifying root causes and contributing factors and devising measures to minimize re-occurrence. Unusual events are reported to the RSC and to the EOC through the Hazardous Materials and Waste Management Subcommittee.

**EC.02.02.01 (8)**

The hospital minimizes risks associated with disposing hazardous medications.

This is accomplished through a comprehensive Pharmaceutical Waste Collection Program that combines regulatory compliance and best management practices to safeguard human health and the environment. A waste characterization was performed for all pharmaceuticals to identify those which are classified as hazardous by EPA and DOT. The Pharmaceutical Waste Collection Program provides for the proper identification, collection, store and disposal of all pharmaceuticals.

**EC.02.02.01 (9)**

The hospital minimizes risks associated with selecting, handling, storing, transporting, using and disposing hazardous gases and vapors.

This is accomplished by:

- Educating staff on the risks associated with handling hazardous gases and vapors.
- Having proper warning signage in areas where hazardous gases are used.
- Making available the proper PPE employees need to protect themselves from exposure.
- Providing storage racks and restraining chains to safely secure cylinders.
- Providing the proper engineering controls to reduce employee exposure to hazardous gases such as: room ventilation, chemical fume hoods, scavenging units, abaters.
- Annual testing and certifying of general and local exhausts systems.
- Providing suitable equipment for transportation of cylinders.
- Identifying and separating empty cylinders from full.
- Monitoring employees who are at risk to exposure.

**EC.02.02.01 (10)**

The hospital monitors levels of hazardous gases and vapors to determine that they are in safe range.

Areas at risk for employees to be overexposed to hazardous gases have been identified and are monitored in accordance with applicable regulatory standards.

Location	Chemical Monitored	Frequency Tested
Surgical Pathology (CC)	Formalin	Yearly
SPCC (CC)	ETO	Yearly
Clinical Labs (CC)	Xylene	Yearly
OR's (CC/JHN/MHD)	Waste Anesthetic Gases	Semi Annually

**EC.02.02.01 (11)**

For managing hazardous materials and waste, the hospital has the permits, licenses, manifests, and material safety data sheets required by law and regulation.

The hospital is approved to collect, store and dispose of its hazardous materials under the following licenses/permits:

- EPA Generator ID: PAD980715510 (CC)
- EPA Generator ID: PAD069053197 (MHD)
- Pennsylvania Department of Environmental Protection Bureau of Radioactive Material License No. PA-0130

Manifests for disposal of hazardous materials are maintained by:

- Infectious Waste – Environmental Services
- Hazardous Waste – Department of Environmental Health and Safety (CC/JHN) and Environmental Services (MHD)
- Radioactive Waste – Radiation Safety Department

SDS's are accessible through the TJUH intranet.

**EC.02.02.01 (12)**

The hospital labels hazardous materials and waste. Labels identify the contents and hazard warning.

The proper labeling of hazardous materials is a component of the Written Hazardous Communication Program and is also addressed in New Employee Orientation, Annual Health Stream Training and in Clinical Laboratory's Policy and Procedure Manual. Secondary containers are labeled with chemical name and appropriate hazard warning. Hazardous waste containers are labeled in accordance to PADEP Hazardous Waste Regulations.

**Standard EC.04.01.01 – The hospital collects information to monitor conditions in the environment.**

**EC.04.01.01 (1)**

The hospital establishes processes for continually monitoring, internally reporting, and investigating hazardous materials and waste spills and exposures.

Policies and procedures identify processes for continually monitoring, internally reporting, and investigating hazardous materials and waste spills and exposures have been established and are in use.

Spills and exposures are monitored by Environmental Health and Safety and Workers Compensation through the collection, review, and investigation of reported incidents. Significant incidents involving the release of hazardous materials and waste are reported out in the Security Department's Daily Report which is sent out to all hospital key personnel. Incidental spills in clinical areas are entered into the Patient Safety Net database. Employee exposure to hazardous materials and waste are documented through accident reports.

**EC.04.01.01 (8)**

Based on its processes, the hospital reports and investigates hazardous materials and waste spills and exposures.

Hazardous materials and waste spills and exposures are continually monitored, internally reported, and investigated in accordance with established processes. Spills and exposures are reported by staff as incidents occur. Environmental Health and Safety investigates every incident and maintains a log of all spills. Employee exposures to hazardous materials are documented through accident reports. Follow-up investigation is performed by Environmental Health and Safety, Workers Compensation, University Health Services, and / or Healthmark. Spill and exposure incidents are reported and discussed in the Hazardous Materials and Waste and Safety Sub-committee. Data, analysis findings,

and plans of actions to improve safety are developed and reported quarterly to the Environment of Care Executive Safety Committee.

**EC.04.01.01 (15)**

Every 12 months, the hospital evaluates each environment of care management plan, including a review of the plan's objectives, scope, performance, and effectiveness.

The Environmental Health Officer, as chair of the Hazardous Materials and Waste Sub-committee leads the sub-committee in an annual evaluation of the Hazardous Materials and Waste Management Plan in terms of its objectives, scope, performance, and effectiveness. The Hazardous Materials and Waste Sub-committee analyzes the findings of the annual review and determines priorities for performance improvement and develops measures designed to improve the effectiveness of the program. A final report of the findings is reported to the Environment of Care Committee, which is forwarded to Administration. Throughout the year, action plans are developed and implemented to achieve established performance goals which were developed to improve the effectiveness of the execution of the Hazardous Materials and Waste Management Plan.

## **ORIENTATION AND EDUCATION**

Orientation and education for individuals is managed and documented through Human Resources and, individual departments. This training includes, but is not limited to:

A. New employee orientation

General Safety training regarding Bloodborne Pathogens, Hazard Communications, General Safety and Emergency Response Procedures are given to all new employees during New Employee Orientation. New employee orientation is delivered by a multi-disciplined team including employees from Environmental Health & Safety.

B. Annual continuing education

Based on requirements of various healthcare regulatory agencies, a core curriculum of mandatory course requirements are established each year. Computer based training is utilized as the method to insure compliance with annual mandatory safety training for all employees.

C. Department-specific training

Department heads design educational programs for hazardous materials management that meet their individual department needs. Supplemental education will be provided in direct response to identified needs.

D. Contract employees

Contract employees receive annual training on Jefferson Policies regarding hazardous materials management. Jefferson's Department of Environmental Health & Safety provides pertinent information to contractors in regards to the safe use, handling, storage and disposal of hazardous materials.



## **PROGRAM EFFECTIVENESS**

Program effectiveness will be regularly monitored using significant incidents as well as trending of performance measures to indicate the effectiveness of the processes and/or systems in place. Significant event and outcomes of regular trending is reported to the Hazardous Materials and Waste Management Subcommittee during its monthly meetings and at EOC Committee meetings at least quarterly or immediately as necessary.

## **PERFORMANCE MONITORING**

The following performance measures are established for 2014:

### **Proper Storage of Hazardous Materials**

The sample size for inspections will be the number of EOC tours conducted by EHS per month. The numerator is the number of areas surveyed during EOC tours which had proper storage of chemicals. The denominator is the total number of areas surveyed that stored chemicals. Results will be reported monthly to the Hazardous Materials and Waste Management Subcommittee, as well as quarterly to the Environment of Care Committee. The compliance goal is 90%.

### **Waste Manifests Signed by DOT-trained Staff**

The sample size for inspections will be all waste manifests each month. The numerator is the number of staff who has the required DOT training for signing waste manifests; the denominator is the total number of waste manifests reviewed (one staff signature per each manifest). Results will be reported monthly to the Hazardous Materials and Waste Management Subcommittee, as well as quarterly to the Environment of Care Committee. The compliance goal is 100%.

### **Hazardous waste properly stored and labeled**

The numerator is the number of hazardous waste containers collected from satellite accumulations areas which were properly stored and labeled. The denominator is the total number of hazardous waste containers collected. Results will be reported monthly to the Hazardous Materials and Waste Management Subcommittee, as well as quarterly to the Environment of Care Committee. The compliance goal is 90%.

### **Employee return rate for dosimeters**

The numerator is the number of badges returned to the Department of Radiation Safety. The denominator is the total number of badges issued by the Department of Radiation Safety (badges are issued either monthly or quarterly depending on the employee exposure risk level). Results will be reported monthly to the Hazardous Materials and Waste Management Subcommittee, as well as quarterly to the Environment of Care Committee. The compliance goal is 90%.

## **ANNUAL EVALUATION**

The annual evaluation of the Hazardous Materials and Waste Management Plan will include a review of the scope according to the current Joint Commission standards to evaluate the degree in which the program meets accreditation standards and the current risk assessment of the hospital. A comparison of the expectations and actual results of the program will be evaluated to determine if the goals and objectives of the program were met. The overall performance of the program will be reviewed by considering compliance to each standard and element of performance. The overall effectiveness of the program will be evaluated in part by reviewing the outcomes of performance improvement measures.

The performance and effectiveness of the Hazardous Materials and Waste Management Plan will also be reviewed by the Environment of Care Committee.

Reviewed and submitted by,

Stephen Baker, Environmental Health Officer  
Subcommittee Chair