

**2009 MANAGEMENT PLAN  
FOR  
HAZARDOUS MATERIALS AND WASTES**

**I. Introduction**

The Hazardous Materials and Wastes Management Plan (EC.02.02.01) defines the mechanisms for interaction and oversight for controlling biological, chemical, and radiological materials and wastes. The Management Plan addresses methods both to identify materials that need special handling and to prescribe processes to minimize the risk of their unsafe use and improper disposal. The related policies and procedures govern activities from receipt to disposal of these hazardous agents. The policies are based on regulatory requirements and are designed to assure compliance with all Federal, State, and local regulations. This Plan applies to (scope) Duke University Hospital and Clinics, the Clinical Laboratories, the Private Diagnostic Clinics, and the Duke Primary Care practices.

**II. Organization of Participants**

The administration and oversight of hazardous materials and waste management is primarily the responsibility of the Occupational and Environmental Safety Office (OESO), with the Environmental Service Department administering the Medical Waste Management Program. Specific responsibilities are as follows:

Hazardous Materials	Biological - Biological Safety (OESO)	Dr. Hunt
	Chemical - Occupational Safety and Hygiene (OESO)	Mr. Tencer
	Radioactive - Radiation Safety (OESO)	Dr. Yoshizumi
Hazardous Wastes	Biological - Environmental Services	Mr. King
	Chemical - Environmental Programs (OESO)	Dr. Brewer
	Radioactive - Environmental Programs (OESO)	Dr. Brewer

**III. Hazardous Materials Management (EC.02.02.01, EP 1 & 12)**

The responsible leader for each of the different classes of hazardous materials or wastes develops a specific management plan, which is reviewed annually by the Duke University Safety Committee (DUSC). These plans identify materials that require special handling and define the specialized management practices for each hazard class, including all relevant processes for selecting, labeling, handling, storing, inventorying, and using such materials or wastes. Inventories of hazardous materials and wastes are maintained as required by applicable laws and regulations. General provisions of each plan are as follows:

**A. Hazardous Biological Materials (IC.01.03.01, EP 4, IC.01.04.01, EP 2-4, and IC.02.01.01, EP 2)** - The primary policies for managing biological hazards in the Hospitals include the Bloodborne Pathogens Exposure Control Plan and the Tuberculosis Control Plan (Section VI. of the Duke University Safety Manual).

**A.1. Integration with Infection Control** – Based on both the past experience with Biological Materials being a part of the management process for the Environment of Care (EOC) and the necessary interactions with many of the EOC functions, Biological Materials will continue to be integrated in the overall planning and management of the EOC under the Safety Management Plan. Integration with the relevant Infection Control standards and elements of performance will be achieved through collaboration between the DUSC and the Hospital Infection Control Committee (HICC). The Chair of the DUSC is a standing member of the HICC

and the Infection Control Department is represented on the membership of the DUSC. In addition, the function leaders for Biological Materials and Wastes will be invited to present quarterly updates to the HICC.

**B. Hazardous Chemical Materials (EC.02.02.01, EP 5 and MM.01.01.03, EP 4)** - Management and control procedures for chemical hazards are presented in Section II.4 (Hazardous Materials), Section V. (Chemicals in Laboratories and Hazard Communication) within the Duke University Safety Manual. In addition, special precautions for managing cancer chemotherapy agents, Ribavirin and pentamidine are found in the Hazardous Drugs Policy (Supplement section of the Duke University Safety Manual).

The Hazardous Chemical Management Plan also references the procedures for controlling risks associated with selecting, handling, storing, transporting, using and disposing of hazardous gases and vapors, including monitoring levels of hazardous gases and vapors to determine that they are in safe ranges (EC.02.02.01, EP 9 and 10).

**C. Hazardous Radiological Materials (EC.02.02.01, EP 6)** - All procedures governing selecting, handling, storing, transporting, using and disposing of radiological materials are presented in the Duke University Radiation Safety Manual, the Duke Hospital Radioactive Materials Policy, and the Department of Radiology Safety Manual.

**D. Hazardous Energy Sources (EC.02.02.01)** – Safety related to hazardous energy sources, including radiation equipment and lasers, is addressed in the appropriate hazardous materials and wastes management plans.

#### **IV. Hazardous Wastes Management**

The responsible leader for each of the categories of hazardous wastes develops a specific management plan, which is reviewed annually by the DUSC. These Plans define the specialized management practices for selecting, inventorying (as appropriate), handling, storing, transporting, using, and disposing of such wastes through use and /or final disposal. General provisions of each plan are as follows:

**A. Medical Waste (IC.02.01.01, EP 6)** - The Institutional policy for the management of Medical waste is contained in Section VII. of the Duke University Safety Manual. Additional policies governing the collection, transport, and disposal are presented in the policies of the Environmental Services Department. Employee exposure issues related to medical waste management are covered in the Bloodborne Pathogens Exposure Control Plan (Section VI.).

**A.1. Integration with Infection Control** – Based on both the past experience with Biological (Medical) Wastes being a part of the management process for the Environment of Care (EOC) and the necessary interactions with many of the EOC functions, Biological Wastes will continue to be integrated in the overall planning and management of the EOC under the Safety Management Plan. Integration with the relevant Infection Control standards and elements of performance will be achieved through collaboration between the DUSC and the Hospital Infection Control Committee (HICC). The Chair of the DUSC is a standing member of the HICC and the Infection Control Department is represented on the membership of the DUSC. In addition, the function leaders for Biological Materials and Wastes will be invited to present quarterly updates to the HICC.

**B. Hazardous Chemical Waste (EP02.02.01, EP 5 & 8 and MM.01.01.03, EP 4) -** Chemical waste management, including hazardous medications management, is addressed in policies found in Section VII. (Chemical Waste Management) of the Duke University Safety Manual.

**C. Radiological Waste (EC.02.02.01, EP 6) -** Radioactive waste management practices are addressed in the Duke University Radiation Safety Manual and the Radioactive Waste Policy (Section VII. of the Duke University Safety Manual).

**V. Incident Reporting and Emergency Response (EC.02.02.01, EP 3-4)** - Emergency response procedures are presented in relevant sections of the Duke University Safety Manual and the Radiation Safety Manual. Information on reporting and managing incidents, exposures, and spills of hazardous materials are presented in the Incident Reporting and Spill Response Guide and the Bloodborne Pathogens Poster, which are available throughout the Institution.

As defined in the Safety Management Plan (EC.04.01.01, EP 8), all hazardous materials and waste spills, exposures and other related incidents are reported to OESO via the 911-notification system. Around-the-clock response is available for all such incidents. Details of this response are provided in the Emergency Response Guide and the Hazardous Materials and Waste Management Plans.

**VI. Performance Improvement (PI)** - The administrative leader of each function is responsible for the development of Performance Improvement indicators, which are based on priorities identified by the function and the DUSC. The DUSC has the responsibility for approving the indicators, including monitors and thresholds. All PI activities are developed in collaboration with the Accreditation and Patient Safety Office to assure that the PI activities for the Management of the Environment of Care are appropriately integrated into the Institutional initiatives defined in the Performance Improvement Plan for Duke University Hospital and its Medical Staff.

All PI activity/experience is reported at least quarterly and this information is provided to the Governing Body through the routine reporting channels. All elements of the PI program are subject to change at any time based on Institutional experience, regulatory change, or administrative input.

**VII. Training (EC.03.01.01)** - Policies and procedures for selecting, handling, storing, using, and disposing of hazardous materials and wastes, as appropriate, are included in both new employee orientation and annual update training programs for the Environment of Care. Function leaders participate in the development of these training materials. The orientation programs describe the hazards, risks, regulations, and Institutional controls; while the update training programs emphasize new information on risk, program performance experience, and control procedures.

#### **VIII. Performance Monitoring**

**A. Departmental and Employees Performance** - Departmental and employee performance is monitored during the EOC Walkthroughs, Fire Marshal inspections, and laboratory audits. Compliance with policy and employee awareness is assessed and reported to the DUSC as appropriate.

**B. Hazardous Materials and Wastes Function Performance** - External monitoring of the program effectiveness for each hazardous materials and wastes function is provided by the DUSC. Each function presents annual planning objectives for Committee review. These objectives are developed in accordance with the mission of the Institution, any applicable laws or regulations, and all relevant accreditation standards; and they define the focus for resource utilization for each function. Many of the objectives include measurable outcomes and, thus, establish performance standards for the functions. In assessing the performance of each function, the DUSC selects one to three of these planning objective and evaluates the progress towards accomplishing the stated outcome. Specific performance improvement standards, when indicated, are defined in the management plans for the function, with the monitors and thresholds being approved by the DUSC.

**C. Regulatory Review of Hazardous Materials and Wastes Functions (EC.02.02.01, EP 11)** – Each of the hazardous materials or wastes functions is subject to external review of compliance, licensure, permits, and/or manifest documentation. Each function ensures that the necessary permits, licenses, manifests, and material safety data sheets are managed in compliance with the applicable laws and regulations. Details of performance related to these responsibilities are provided in the individual management plans.

**IX. Management Plan Evaluation (EC.04.01.01, EP 15, IC.01.03.01, EP 4, IC.01.05.01, EP 3 and IC.03.01.01, EP 1)** - The function leaders will evaluate their material-specific Management Plan annually for its scope, objectives, performance, and effectiveness. Any changes in *scope* will be addressed during the annual update of the Plan, and any changes in the range of application or interactions will be incorporated into the updated Plan. Annual planning *objectives* will be developed through interactions with DUSC members and hospital administration. These objectives will address the primary operational initiatives for maintaining and enhancing the “safety” of the Environment of Care. Progress toward accomplishing these objectives will be reported at least annually to the Committee as a year-end summary of the *effectiveness* in accomplishing these objectives. The *performance* of the Plan will be assessed through progress in achieving the Performance Improvement Standards defined within the Plan. The annual evaluations, updates, and planning efforts will be presented for Committee review and action during the first quarter of the new calendar year. This information will be provided to the Governing Body through the routine reporting channels.