

# ENVIRONMENTAL MANAGEMENT PROGRAM

**1. PROGRAM NAME:** NIEHS Medical Waste Management Program

**2. Significant Environmental Aspect(s):**

Medical Waste  
Solid Waste  
Air Emissions

**3. Document Control Code:**

EMP-2007-MedWaste

**4. Date:**

November 29, 2007

**5. Program Lead:**

Paul Johnson, HSB Hazardous Waste Manager

**6. Goals and Objectives**

**Five-year Goals(s)**

Identify, technically evaluate, and implement (as appropriate) methods of medical waste disposal as alternatives to incineration.

**Annual Objective(s)**

Maintain compliance with NC Air Quality Permit (including requirement to maintain regulated medical waste at <10% of incinerated waste stream).

Maintain compliance with OSHA Bloodborne Pathogen Standard

**Performance Indicator(s)**

Results of regulatory compliance inspections and internal compliance audits

Percent of medical waste incinerated.

Results of regulatory compliance inspections and internal compliance audits

**Resource requirements**

**7. Reason(s) for Significance:**

Potential health impact  
Legal and regulatory requirements

**8. Potential Environmental Impacts:**

Soil / groundwater contamination from improper disposal to land  
Exposure to human / animal populations from potentially infectious agents  
Air quality degradation from uncontrolled incineration

**9. Legal and Other Requirements (Specify):**

Federal: EPA Solid Waste and Ambient Air Quality standards; Dept. of Transportation (DOT) regulations  
State: North Carolina DENR Division of Air Quality – NIEHS/EPA Air Quality Permit  
Local: Durham County Solid Waste Management rules; Sewer Ordinance

**10. Program Description:**

The intent of this program is the safe and environmentally sound management and disposal of pathological, biological, and infectious materials and wastes generated by NIEHS, and associated on-site clinical research programs. The North Carolina Division of Air Quality (NCDAQ) air permit limits

medical waste incineration to ten percent of the total weight of all waste types incinerated in each incinerator per calendar quarter. By adhering to this limitation, the NIEHS / EPA campus incinerators are not classified as hospital, medical, and infectious waste incinerators (HMIWI). The NIEHS complies with this limitation through recordkeeping of the weights of waste types treated by all three incinerators. Medical waste is defined as, “any waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals.”

### 11. Operational Controls

Activity	Control(s)	Responsible Person(s)	Monitoring	Records	Comments
Laboratory research projects involving human materials (e.g., blood, tissue) or potentially infectious biological agents	Review and approval of health and safety research protocols;  Health and Safety Manual, Chapter 7 – Biohazard Safety;  Waste Manual, Section D – Medical Pathological Waste  Health and Safety Manual, Chapter 6 – Hazardous Waste Disposal	HSB Safety Officer  HSB Safety Officer  HSB Hazardous Waste Manager	Periodic lab inspections  Protocol reviews and amendments	Protocol documents and protocol database	
Laboratory research projects involving animals (Pathological waste) and agent exposure	Review and approval of animal care and use protocols	CMB ACUC	Protocol reviews and amendments	Protocol documents and protocol database	
Laboratory research activities and Occup. Health Unit activities involving the use of sharps	Waste Manual, Section D – Medical Pathological Waste  Proper use of sharps containers	Principle Investigators; Health Unit Charge Nurse	Periodic lab inspections		Sharps containers are stock by the NIEHS warehouse as a supply item.
Preparation, packaging	Waste Manual, Section D	HSB Hazardous	Periodic lab		

and transport of medical waste materials from research laboratories to the Building 108 Waste Management Facility	– Medical Pathological Waste Use of facility autoclaves and/or other inactivation process	Waste Manager  Principal investigators	inspections		
Storage of medical waste materials pending disposal	MOUs between NIEHS and EPA on Building 108 operations and Joint Use of the Incineration Plant (Bldg 106)	HSB Hazardous Waste Manager	Periodic facility inspections		
Onsite incineration of medical wastes at Building 106	MOU between NIEHS and EPA on Joint Use of the Incineration Plant (Bldg 106)  NC DENR DAQ Air Quality Permit	NIH/ORF Project Officer for the NVT contract  HSB Environmental Compliance Officer	Periodic facility inspections		
Offsite shipment and disposal of medical wastes	MOU between NIEHS and EPA on Building 108 operations  Waste Management SOPs	HSB Hazardous Waste Manager		Shipping documents and manifests	

**12. Action Plan: Structure, Authorities, Responsibilities**

<b>Targets/Milestones to meet Annual Objective(s)</b>	<b>Timeframe</b>	<b>Responsibility</b>
Conduct internal audit(s) of Building 108 operations	Weekly	Hazardous Waste Manager / HSB
Conduct internal audit(s) of air quality compliance	Annual	Environmental Compliance Officer / HSB
Provide refresher training on biological safety and blood borne pathogens	Annual	Safety Officer / HSB
Collect and review data on incinerated waste stream by weight and type	Monthly	Environmental Compliance Officer / HSB

<b>13. Relevant Document(s)</b>		
<b>Document Name</b>	<b>Location</b>	<b>Document Custodian</b>
NIEHS Waste Manual	Web-based	Hazardous Waste Manager / HSB
North Carolina DENR Division of Air Quality Permit	Hard copy; electronic	Environ Compliance Officer / HSB
MOU between the NIEHS and the EPA for Joint Use of the Incineration Plant (Bldg. 106)	Hard copy; electronic	Waste Management Program officials at NIEHS and EPA
NIEHS Health and Safety Manual	Web-based	Safety Officer / HSB
NIEHS Bloodborne Pathogen Exposure Control Plan	Hard copy; Web-based	Safety Officer / HSB
<b>14. Competence of persons responsible</b>		
<b>Title</b>	<b>Basis for Competence</b>	
HSB Safety Officer	Professional level education and experience	
HSB Hazardous Waste Manager	Professional level education and experience	
Principle Investigators	Introductory and refresher training	
NIH/ORF Project Officer	Introductory and refresher training	
HSB Environmental Compliance Officer	Professional level education and experience	
<b>15. EMS Review</b>		
<b>Name / Signature:</b>	William K. Steinmetz	
<b>Date:</b>	November 29, 2007	