

Standard Operating Procedure for Biomedical Waste Collection/Disposal

- I. Collection and disposal of ECU waste
 - A. Biomedical Waste will be collected from clinics and laboratories by trained General Utility Workers, placed in a covered waste cart and transported to the incinerator to be burned by Hazardous Materials Technicians under the supervision of the University Industrial Hygienist.
 1. Full containers will be placed in the dirty queue.
 2. Carts will be emptied into the incinerator, washed and returned to the clean cart queue for re-use.
 3. Carts with biomedical waste which will not be burned within 24 hours will be placed in refrigeration unit.
 - B. The mechanical operation and maintenance of the physical incinerator/boiler complex is the responsibility of Facilities Maintenance and Operating Engineer. The University Industrial Hygienist will maintain records of waste burned, emissions monitored and other operations data and generate reports as needed.(See appendix A for division of responsibilities).
 - C. A contingency contract with a commercial waste disposal service will be maintained. Biomedical waste will be removed by this service when the incinerator is inoperative.
 - D. The burn schedule interface with PCMH regarding waste receipt is the responsibility of the Office of Prospective Health under the University Industrial Hygienist.
 - E. Waste that is not appropriately packaged will not be picked up. The General Utility Worker will call the attention of the supervisor in the lab or clinic the packaging deficiency/hazard or request his supervisor to do the same. This may result in:
 1. Education of the Lab/Clinic Personnel, or
 2. Demonstration of appropriate packaging in leak-proof impervious containers, or
 3. Recommendation for purchase of alternative receptacles by clinic or lab to adequately contain their waste per OSHA requirements (Appendix B).
 - F. Collection carts should not leak if original waste packaging is appropriate. Impervious material may be used for cart lining to ensure containment.

- G. The provision and maintenance of the waste receptacle in clinic or lab is the responsibility of the clinic or lab.
 - 1. External contamination should be cleaned by the users to prevent exposure during use.
 - 2. If the interior of the receptacle is contaminated, cleaning is indicated.
 - 3. If the interior of receptacle is filled with blood or body fluid, the use of mops and buckets may be needed and housekeeping should be called. Such an occurrence suggests that inappropriate liquid specimens are being disposed of. Education of staff may be needed.
- H. Any drips or leakage resulting from the collection activities may be cleaned by collection personnel using appropriate PPE and cleaning/disinfection procedure.

II. PCMH Waste

- A. PCMH personnel will deliver PCMH waste by truckload. Waste will be appropriately packaged in carts which are leak-proof and contain any liquid material per OSHA regulations.
- B. PCMH waste carts will be placed in the furnace queue and burned.
- C. Empty PCMH carts will be washed by ECU and returned to ECU loading dock for pickup by PCMH.
- D. When mechanical or other shut down of the incinerator, PCMH will be notified as soon as possible. 24 hours is needed per PCMH to initiate alternative waste disposal process.

III. Other Waste

- A. BSOM/HIPAA Confidential Documents – clinical documents (protected health information under HIPAA legislation) will be delivered to incinerator in locked or covered waste carts and will remain contained until loaded for incineration.
- B. ECU Radioactive Waste – (See Radiation Safety Policy/SOP)

IV. Cleaning of Spills of Blood and Body Substances

- A. Promptly clean and decontaminated spills of blood or other potentially infectious materials.

- B. Follow proper procedures for site decontamination of spills of blood or blood-containing body fluids.
 - 1. Use protective gloves and other PPE appropriate for this task.
 - 2. If the spill contains large amounts of blood or body fluids, clean the visible matter with disposable absorbent material, and discard the used cleaning materials in appropriate, labeled containers.
 - 3. Swab the area with a cloth or paper towels moderately wetted with disinfectant, and allow the surface to dry.
 - 4. Use ECU Blood Spill Kit for large volume spill of potentially infectious fluid. PPE and absorbent are provided in kit.

- C. Use germicides registered by the EPA for use as hospital disinfectants and labeled tuberculocidal or EPA registered germicides (i.e., products with specific label claims for HIV or hepatitis B virus) may be used in accordance with label instructions to decontaminate spills of blood and other body fluids.

- D. An EPA- registered sodium hypochlorite product is preferred, but if such products are not available, generic sodium hypochlorite solutions (e.g., house-hold chlorine bleach) may be used.
 - 1. Use a 1:100 dilution (500-615 ppm available chlorine) to decontaminate nonporous surfaces after cleaning a spill of either blood or body fluids in patient-care settings.
 - 2. If a spill involves large amounts of blood or body fluids, or if a blood or culture spill occurs in the laboratory, use a 1:10 dilution (5,000 – 6,150 ppm available chlorine) for the first application of germicide before cleaning. However a second application of germicide will be needed after all visible material has been removed by the cleaning process.

- E. Alternative germicidal products, reviewed by ECU Infection Control and BSOM Product Standardization are available from ECU Medical Storeroom.

- F. As a general guideline, spills of 10-20ml are considered small. Spills of 50 or 100ml or more may be considered large. Intermediate spills are handled based on pattern of dispersal, surfaces involved, etc. Spills exceeding the absorbent capacity of the spill kit may require assistance of the ECU Hazmat Team for cleanup.

- V. Prospective Health Personnel will be trained on Blood Borne Pathogens and Tuberculosis (TB) and immunized for Hepatitis B and monitored for TB in accordance with the ECU Infection Control Policies.

Appendix A

OSHA Regulated Waste in OSHA Bloodborne Pathogens Standard 49 CFR 1910.1030 (d) (4) (iii) (B)

Regulated waste shall be placed in containers which are:

1. Closeable
2. Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping.
3. Labeled or color coded
4. Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport or shipping.

If outside contamination of the regulated waste container occurs, it shall be placed in a second container. The second container shall be:

1. Closeable
2. Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping.
3. Labeled or color coded
4. Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport or shipping.

Appendix B Incinerator Operation Responsibilities

	PH	FM
Collect waste, load furnace		
Record volume, initiate burn, wash carts	X	
Perform daily, weekly, monthly monitoring/PM of Incinerator/Scrubber and other associated equipment as per written guidelines		X
Monitor physical operation and repair mechanical problems as recognized		X
Monitor environmental releases: Air emissions and stack tests	X	
Report to environmental agencies	X	
Monitor radiation levels of ash when radioactive materials are burned	X	
Transport ash to landfill		X
Pay ash disposal fee at landfill	X	
Purchase of emergency parts or services \leq \$1500		X
Authorize emergency parts or services \geq \$1500	X	
Provide existing forklift for use in incinerator	X	
Maintenance and fueling of existing forklift		X
Fund PM quarterly in 2002-03, semi annually in 2003-04, then annually per manufacturers recommendation.*	X	
Accompany reps when PM visits occur and assume regular PM tasks and followup		X
Replacement of parts when useful life ends	X	
Replace parts damaged by operator error		X
Spare parts inventory monitoring		X
Spare parts inventory purchases (usually 3 rd or 4 th quarter)	X	
Consumable parts supply replacement purchases		
CEMS gases	X	
Fuses, etc.		X
Filters		X
Caustic	X	
Provide spill supplies for caustic	X	
Replace spill supplies when used		X
Respond to and remediation of chemical spill caused by operator error is responsibility of unit causing the accident	X or	X
Respond to and remediation of chemical spill or other environmental emergency not attributable to operator error shared 50:50	X	X

*Operating fund for FM engineering will be derived from savings in PM contract after the first year.

Appendix C

1. Special Considerations for Regulated Medical Waste (CDC Recommendations)
 - A. Handling, Transporting, and Storing Regulated Medical Wastes. Inform Personnel involved in handling and disposal of potentially infective waste of possible health and safety hazards ensure that they are trained in appropriate handling and disposal methods.
 - B. Manage the handling and disposal of regulated medical wastes generated in isolation areas by using the same methods used for regulated medical wastes from other patient-care areas.
 - C. Use proper sharps disposal strategies at the user level to avoid subsequent physical injuries during final disposal.
 - D. Store regulated medical wastes awaiting treatment in a properly ventilated area inaccessible to vertebrate pests; use waste containers that prevent development of noxious odors.
 - E. Follow precautions for treating microbiologic wastes (e.g., amplified cultures and stocks of microorganisms)
 1. Biosafety Level 4 laboratories must inactivate microbiologic wastes in the laboratory by using an approved inactivation method (e.g., autoclaving) before transport to and disposal.
 2. Biosafety Level 3 laboratories must inactivate microbiologic wastes in the laboratory by using an approved inactivation method (e.g., autoclaving) or incineration.
 3. Biosafety Levels 1 and 2 laboratories should develop strategies to inactivate amplified microbial cultures and stocks onsite y using an approved inactivation method (e.g. autoclaving) instead of packaging and shipping.
 4. Sanitary sewers may be used for safe disposal of blood, suctioned fluids, ground tissues, excretions, and secretions, provided that local sewage discharge requirements are met.
- II. Special Precautions for Wastes Generated During Care of Patients with Rare Diseases
 - A. When discarding items contaminated with blood and body fluids from VHF patients, contain these regulated medical wastes with minimal agitation during handling.
 - B. Manage properly contained wastes from areas providing care to VHF patients in accordance with recommendations for other isolation areas.
 - C. Decontaminate bulk blood and body fluids from VHF patients by using approved inactivation methods (e.g., autoclaving or chemical treatment) before disposal.

- D. When discarding regulated medical waste generated during the routine (i.e., nonsurgical) care of CJD patients, contain these wastes and decontaminate them by using approved inactivation methods (e.g., autoclaving or incineration) appropriate for the medical waste category (e.g., blood, sharps or pathological waste).
- E. Incinerate medical wastes (e.g., central nervous system tissues or contaminated disposable materials) from brain autopsy or biopsy procedures of diagnosed or suspected CJD patients.

* These are applicable primarily to inpatient activities but are included here for completeness. PCMH has policies regarding these types of wastes, which are eventually transported to ECU.