

7.0 **Environmental Protection**

7.1 Waste Disposal

Numerous types of wastes are generated at MTU and their disposal is regulated under a variety of federal, state, and local laws and regulations. The following is a general description of most waste streams at MTU and how they are regulated and disposed. Occupational Safety and Health Services should be contacted for specific information regarding proper waste disposal procedures.

7.1.1 Office Waste

Michigan solid waste rules regulate the disposal of solid office waste, which includes such things as paper, cardboard, textiles, etc. These items may be placed in waste baskets and the large trash receptacles outside each building. Office equipment and machines, furniture, and liquid wastes may not be disposed in these office waste receptacles.

7.1.2 Sewer Waste

The City of Houghton municipal waste ordinance regulates the disposal of wastewater from kitchens, bathrooms, and work areas. The intent of the ordinance is to avoid the accumulation or release of toxic or flammable vapors within the system and to prevent damage to the treatment plant or contamination of the environment. Solvents, cleaners, and other substances that are not intended for use in the fixtures connected to the sewerage system may not be disposed in any drain without prior approval from Occupational Safety and Health Services.

7.1.3 Old Furniture and Equipment

Michigan solid waste rules for scrap metals apply to the disposal of metal furniture and equipment or components. As long as the scrap does not include other regulated substances like mercury, PCBs, or oil, they can be disposed by contacting the Grounds Department for removal. Also contact the Grounds Department for disposal of wood or plastic furniture and large pieces of wood. Equipment or components containing circuit boards, cathode ray tubes, mercury, PCBs, or other hazardous substances may not be disposed with other materials in this category.

7.1.4 Lighting, Computers, and Monitors

Michigan's Universal Waste rules regulate the disposal of computers, video monitors, televisions, and fluorescent lights. Facilities Management coordinates the disposal of all fluorescent light tubes at MTU unless they are broken. Broken fluorescent light tubes are disposed of as hazardous waste through OSHS. Contact Central Stores for disposal of all

fluorescent light tubes, computers, video monitors, and televisions. Computers without batteries or monitors may also be disposed as scrap metal by contacting the Facilities Grounds Department.

7.1.5 Laboratory Waste

There are a number of waste streams generated in laboratories at MTU including medical waste, hazardous waste, liquid industrial waste, broken glassware, empty containers, chemical spill cleanup debris, and disposable supplies. Prior approval must be obtained from OSHS before any laboratory waste may be drain disposed or placed in waste baskets or outdoor receptacles, except for office-type wastes. The rules and regulations affecting the collection, storage, and disposal of laboratory wastes are too extensive and complex to summarize in this document. Prior to generating chemical wastes, contact OSHS for information and assistance in identifying and classifying laboratory waste streams for disposal and to ensure compliance with applicable regulations.

Once appropriate waste collection procedures have been implemented, a waste chemical may be disposed by submitting a completed collection request form available from OSHS. OSHS will pick up the waste, place it in temporary storage, and then arrange for its disposal.

The generating department is responsible for all charges and fees related to the disposal of its laboratory waste including chemical analysis of unknowns and special handling for chemicals that are, or are suspected to be, explosion hazards. The latter can be very expensive and easily avoided through proper labeling and management of chemicals that become unstable after opening or exposure to certain conditions.

Waste disposal costs vary widely depending on the quantity and type of waste as well as the type of collection container used. It is highly recommended that OSHS be contacted during the project planning stage to discuss waste minimization and disposal options. The MTU policy on laboratory waste minimization can be found in **section 3.4**.

Broken glass must be collected in a designated broken glass container and empty reagent container labels should be defaced prior to disposal in the regular trash.

7.1.6 Non-Laboratory Chemical Waste

Chemical wastes such as old cleaning products, fuels, solvents, asbestos contaminated materials, and biohazardous wastes such as blood contaminated sharps are regulated in Michigan. A waste determination must be made at the time of generation of each waste type to determine if and how it is regulated. Storage, labeling, handling, and disposal of these wastes are subject to the requirements discussed above for laboratory wastes. Occupational Safety and Health Services should be contacted for training and information

related to the generation and disposal of these types of wastes.

7.2 Spill Prevention and Control

Highly toxic, flammable, or environmentally hazardous liquids should be stored in unbreakable containers when possible and glass containers should be placed in secondary containment devices. When these liquids are dispensed where a spill could reach a sink or floor drain, provisions must be made to prevent such a spill from entering the drain. This can be accomplished by working within a containment device or area, covering the drain opening, etc. All drum quantities of hazardous liquids should be stored in a secondary containment device. An appropriate type and quantity of liquid absorbent material should always be available wherever hazardous liquids are used or stored. Users must be trained in spill cleanup procedures as well as when and how to request outside assistance.

In the absence of a substance- or area-specific emergency spill response procedure, the emergency spill response procedures outlined in **section 2.3** of this plan should be followed.