

ARCHITECTURAL DEBRIS DISPOSAL GUIDANCE



Mississippi Department of Environmental Quality
Solid Waste Policy, Planning and Grants Branch



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Table of Contents

| | | |
|--------------|---|-----------|
| I. | INTRODUCTION | 1 |
| II. | DEFINITIONS..... | 1 |
| III. | GENERAL ARCHITECTURAL DEBRIS..... | 6 |
| | A. Introduction..... | 6 |
| | B. Architectural Debris Disposal..... | 6 |
| | C. Alternatives to Disposal..... | 7 |
| | D. Special Waste Considerations..... | 7 |
| IV. | ASBESTOS-CONTAINING DEBRIS..... | 8 |
| | A. Introduction..... | 8 |
| | B. Asbestos-Containing Material (ACM) Disposal..... | 8 |
| | 1. Residences..... | 8 |
| | 2. Facilities..... | 9 |
| V. | LEAD-BASED PAINT (LBP) CONTAINING DEBRIS..... | 10 |
| | A. Introduction..... | 10 |
| | B. LBP Disposal..... | 10 |
| | 1. LBP Abatement Waste..... | 10 |
| | 2. Demolition Debris Containing LBP..... | 11 |
| | 3. Salvageable Materials Containing LBP..... | 11 |
| VI. | FLUORESCENT LIGHT BULBS..... | 12 |
| | A. Introduction..... | 12 |
| | B. Lamp Disposal..... | 12 |
| | 1. Small Quantity Handlers of Universal Waste (SQHUW)..... | 12 |
| | 2. Large Quantity Handlers of Universal Waste (LQHUW)..... | 12 |
| VII. | PCB SMALL CAPACITORS AND FLUORESCENT LIGHT BALLASTS..... | 14 |
| | A. Introduction..... | 14 |
| | B. Capacitor/Ballast Disposal..... | 14 |
| | 1. Small Capacitors..... | 14 |
| | 2. Light Ballasts..... | 14 |
| VIII. | TREATED LUMBER (CCA, PCP, and Creosote) | 16 |
| | A. Introduction..... | 16 |
| | B. Treated Lumber Reuse and Disposal..... | 17 |
| | 1. Reuse..... | 17 |
| | 2. Disposal..... | 17 |
| IX. | CONTACT INFORMATION | 19 |

I. INTRODUCTION

Mississippi generates thousands of tons of architectural debris (often referred to as construction and demolition or C&D debris) from construction, renovation, and/or demolition projects each year. According to figures collected by the United States Environmental Protection Agency (EPA), architectural debris represents some 25% of the nation's overall waste stream. Due to the volume of architectural debris being generated each year, the proper management and disposal of such wastes is an important component of solid waste management in Mississippi. State solid waste laws and regulations prevent the unauthorized open burning of architectural debris and require that the management/disposal of such debris be conducted at an approved solid waste management facility. However, when architectural debris contains materials such as asbestos, lead based paint, fluorescent light bulbs (lamps), light ballasts, and/or treated lumber, other regulations or special restrictions may apply to the management of these wastes.

The [Mississippi Department of Environmental Quality](#) (MDEQ) has developed this guidance document to assist in the management and disposal of architectural debris generated during construction, renovation and/or demolition projects in Mississippi. While the guidance document does not address every possible solid waste material that might be encountered, the MDEQ has attempted to include some of the more common components generated when conducting construction, renovation, or demolition activities.

II. DEFINITIONS

The definitions contained herein have been developed for the purpose of this guidance document.

Abatement Wastes means paint chips, paint dust, sludges, washwater/wastewater, lead-contaminated soils, protective clothing, air purification filters, and other similar wastes generated during the lead paint removal process prior to demolition/renovation activities. This term also includes, but is not limited to, surfaces painted with lead-based paint which are removed intact such as doors windows, trim molding, or other building components.

Architectural Debris means solid wastes generated from construction, renovation and/or demolition activities/projects. Wastes include but are not limited to the following: wood, shingles, drywall, glass, plaster, brick, mortar, concrete, electrical wiring, plumbing, asbestos, light fixtures, lead based paint, flooring, siding, metal framing, etc.

Asbestos means a fibrous mineral substance used in various commercial products due to its non-combustibility, corrosion resistance, high tensile strength and low electric conductivity. Asbestos includes the asbestiform varieties of chrysotile, amosite, crocidolite, anthophyllite, actinolite, and tremolite.

Beneficial Fill means the use of uncontaminated, non-water soluble, non-decomposable class II rubbish wastes to level an area or bring the area to a grade for beneficial purposes, where an earthen cover is applied upon completion of the fill. Such beneficial purposes must not be conducted for monetary compensation and may include landscaping, erosion control or repair, land stabilization, construction base preparations or other land improvements.

Class I Rubbish Site means a permitted disposal site that has been duly authorized by the Mississippi Environmental Quality Permit Board to receive class I rubbish wastes including construction and demolition (C&D) debris, land clearing debris, yard wastes and other rubbish wastes as defined by Section VI.B. of the Mississippi Nonhazardous Solid Waste Management Regulations.

Class II Rubbish Site means a permitted disposal site that has been duly authorized by the Mississippi Environmental Quality Permit Board to receive class II rubbish wastes including natural vegetation, brick, mortar, concrete, stone, and asphalt as defined by Section VI.C of the Mississippi Nonhazardous Solid Waste Management Regulations.

Destination facility means a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in 40 CFR 273.13 (a) and (c) and 40 CFR 273.33 (a) and (c). A facility, at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

Facility as defined by NESHAP includes any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation or building containing condominiums or individual dwelling units operated as a residential cooperative); any ship; or any active or inactive waste disposal site. Residential buildings that have four or fewer dwelling units are not considered “facilities” unless they are part of a larger installation (see installation and residence definition).

Friable Asbestos Material means any material containing more than one percent (1%) asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

Generator means any person, by site, whose act or process produces hazardous waste identified or listed in 40 CFR §261 or whose act first causes a hazardous waste to become subject to regulation.

Household Waste means any solid waste (including garbage, trash, sanitary waste in septic tanks, and lead-based paint abatement wastes generated in households by residents or by contractors engaged in renovation or remodeling projects) derived on the premises of a household. A “household” may include single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day use recreation areas. Since 1980, the EPA has excluded household waste from the RCRA Hazardous Waste Management Regulations.

Installation means any building or structure or any group of buildings or structures at a single demolition or renovation site that are under the control of the same owner or operator. Installations could include an army base, company housing, an apartment or housing complex, a group of houses subject to condemnation for a highway right-of-way project, or a group of houses in a demolition project. These examples would all be considered regulated facilities.

Lamp (also referred to as “universal waste lamp”) means the bulb or tube portion of an electric lighting device specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infrared regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps.

Large Quantity Handler of Universal Waste means a universal waste handler who accumulates 5,000 kilograms or more total of universal waste (batteries, pesticides, thermostats, or lamps, calculated collectively) at any time. This designation as a large quantity handler of universal waste is retained through the end of the calendar year in which 5,000 kilograms or more total of universal waste is accumulated.

Lead-Based Paint (LBP) means paint or other surface coatings that contain elevated concentrations of lead. Generally such paints were used prior to 1978 when, at that time, the U.S. Consumer Product Safety Commission implemented a legal maximum limit of lead content in house paint. The 1978 ruling did not apply to industrial applications.

Municipal Solid Waste Landfill means a lined landfill with a leachate collection system and groundwater monitoring program that has been duly authorized by the Mississippi Environmental Quality Permit Board to receive RCRA Subtitle D wastes such as household waste, commercial solid waste, nonhazardous sludges, small quantity generator waste and industrial solid waste.

NESHAP Landfill means a municipal solid waste landfill, asbestos monofill, or other solid waste disposal site that has been duly authorized by the Mississippi Environmental Quality Permit Board to receive and manage regulated asbestos containing-materials. These landfills meet the minimum requirements set forth by NESHAP for active disposal sites as defined by 40 CFR §61.154, Subpart M.

Non-friable Asbestos-Containing Material means any material containing more than one percent (1%) asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Generally non-friable asbestos containing material may include, but is not limited to, asbestos-containing packing, gaskets, resilient floor covering and mastic, asphalt roofing products, cement siding, and transite board shingles.

Owner or operator of a demolition or renovation activity means any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated, or any person, means any person who owns, leases, operates, controls, or supervises the facility being demolition or renovation project, or both.

PCB Bulk Product Wastes means a waste derived from manufactured products containing PCBs in a non-liquid state, at any concentration where the concentration at the time of designation for disposal was greater than or equal to 50 parts per million (ppm) PCBs.

Polychlorinated Biphenyls (PCBs) means a toxic chemical substance suspected of causing cancer in humans that is used in various commercial applications due to its dielectric properties, thermal stability and flame retardance.

Regulated Asbestos-Containing Material (RACM) means friable asbestos material; non-friable asbestos material that has become friable; non-friable asbestos material that will be or has been subjected to sanding, grinding, cutting, or abrading (such as asphalt roofing products, vinyl flooring and mastic, and gaskets); or other non-friable asbestos material that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of renovation and/or demolition operations.

Residence means residential buildings that have four or fewer dwelling units. Such residential buildings are not considered “facilities” unless they are part of a larger installation. For example, an army base, company housing, an apartment or housing complex, a group of houses subject to condemnation for a highway right-of-way, or a group of houses in demolition projects would all be considered regulated facilities.

Rubbish means nonputrescible solid wastes (excluding ashes) consisting of both combustible and noncombustible wastes. Combustible rubbish includes paper, rags, cartons, wood, furniture, rubber, and plastics, yard trimmings, leaves and similar material. Noncombustible rubbish includes glass, crockery, metal cans, metal furniture and like material which will not burn at ordinary incinerator temperatures (not less than 1600 degrees F.)

Small Quantity Handler of Universal Waste means a universal waste handler (as defined in this section) who does not accumulate 5,000 kilograms or more total of universal waste (batteries, pesticides, thermostats, or lamps, calculated collectively) at any time.

TCLP (Toxicity Characteristic Leaching Procedure) refers to an analytical test used to determine whether or not a waste is a characteristic hazardous waste due to leachability and is expressed in mg/l. With respect to lead-based paint, concentrations of lead greater than or equal to 5.0 mg/l are considered hazardous under the Mississippi Hazardous Waste Management Regulations.

Universal Wastes include batteries, thermostats, pesticides, and lamps (fluorescent light bulbs).

Universal Waste Handler means (1) a generator of universal waste or (2) the owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination. This does not mean (1) a person who treats (except under the provisions of 40 CFR §273.13 (a) or (c), or §273.33 (a) or (c)), disposes of, or recycles universal waste;

or (2) a person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

Universal Waste Rule refers to federal environmental regulations for the streamlined management and collection of certain hazardous wastes, designated as universal wastes, which are traditionally generated in relatively small quantities, but by large numbers of small and large businesses. This rule is designed to reduce the amount of hazardous waste items in the municipal solid waste stream; encourage the recycling and proper disposal of some common hazardous wastes; and reduce the regulatory burden on the businesses that generate such wastes.

III. GENERAL ARCHITECTURAL DEBRIS

A. Introduction

The term *architectural debris* is used in this document to describe a wide variety of solid wastes that may be generated during construction, renovation, and demolition activities. The proper management of these wastes is an important component of solid waste management due to the large volume of waste material generated each year. The primary methods for managing architectural debris include land disposal and reuse/recycling type alternatives. However, special considerations may be necessary when architectural debris contains materials such as asbestos, lead-based paint, or other materials that could cause human health or environmental concerns.

B. Architectural Debris Disposal

Currently, most architectural debris is managed through disposal at authorized solid waste disposal facilities (a solid waste [facility listing](#) is available on the MDEQ website). There are numerous permitted municipal solid waste (MSW) landfills, class I rubbish sites, and class II rubbish sites operating throughout Mississippi that may accept certain components of architectural debris for disposal.

MSW landfills may accept most nonhazardous wastes generated during construction, demolition, and/or renovation activities (including household garbage and many of the “special” wastes discussed in later sections), subject to applicable regulations and proper management conditions.

Class I rubbish sites are more restricted than MSW landfills, but still may accept most of the common components of architectural debris including:

- Construction and demolition debris, such as wood, metal, etc.
- Brick, mortar, concrete, stone, and asphalt
- Cardboard boxes
- Natural vegetation, such as tree limbs, stumps, and leaves
- Appliances with the motor removed (except refrigerators and air conditioners)
- Furniture
- Plastic, glass, crockery, and metal (except containers)
- Sawdust, wood shavings, and wood chips
- Asphalt roofing shingles
- Wallboard and drywall
- Insulation
- Other similar wastes specifically approved by the MDEQ

Class II rubbish sites may accept only the more inert and innocuous components of architectural debris including:

- Natural vegetation, such as tree limbs, stumps, and leaves
- Brick, mortar, concrete, stone, and asphalt
- Other similar rubbish specifically approved by the MDEQ

Other wastes which are often present at construction, demolition, and renovation sites, but that are prohibited from disposal at all rubbish sites include: wastes contaminated by a possible pollutant (such

as food or chemical), household garbage, food or drink wastes, and containers such as paint buckets, oil containers, chemical containers, etc.

C. Alternatives to Disposal

Alternatives to the disposal of architectural debris may include such activities as reuse, recycling, composting, mulching, and beneficial fill projects. The open burning of solid wastes, including architectural debris, is prohibited under most circumstances.

The reuse and recycling of architectural debris typically involves source separation or landfill separation prior to the material being reclaimed, recycled, resold, or reused for its originally intended purpose. Such activities are generally excluded from regulation, provided the end use of the material is legitimate and the material does not otherwise constitute a danger to human health or the environment.

The composting and mulching of architectural debris is limited to clean wood wastes (e.g. untreated lumber without paint or other clean organic materials). Composting is typically a long-term, stationary activity and generally requires a solid waste management permit for operation. In most cases, mulching activities are infrequent, occur on-site, and do not require operating permits.

Beneficial fill projects may utilize certain class II rubbish wastes such as used concrete, brick, and asphalt to level an area or bring the area to a grade, provided an earthen cover is applied upon completion of the fill. These projects may include landscaping, erosion control or repair, land stabilization, construction base preparations or other land improvement activities, but may not be conducted for monetary compensation. Beneficial fill projects involving an area occupying less than one acre and for durations of less than 120 days generally do not require solid waste management permits or other authorization from the MDEQ. However, fill projects involving an area greater than one acre or for durations of more than 120 days generally would require a solid waste management permit unless otherwise excluded from regulation by the Environmental Quality Permit Board or the MDEQ. Contaminated, water soluble, or decomposable class II rubbish materials such as natural vegetation are not acceptable as beneficial fill materials.

The open burning of solid waste, including architectural debris, is prohibited by the Miss. Code Ann. Section 17-17-9, the Mississippi Air Emission Regulations (APC-S-1), and the Mississippi Nonhazardous Solid Waste Management Regulations. This prohibition does not apply to the infrequent *on-site* burning of agricultural wastes in the field, silvicultural wastes for forest management purposes, or land-clearing debris. Additionally, exceptions to this law may be granted during times of emergencies, natural disasters, fire department training events, or other similar circumstances. However, the MDEQ must specifically approve such extraordinary burning activities in writing.

D. Special Waste Considerations

There are certain wastes within the larger architectural debris waste stream that may require special or extraordinary management and/or disposal conditions. These wastes may include asbestos-containing materials, lead-based paint, fluorescent light bulbs (lamps), light ballasts, treated lumber, and other similar wastes. Sections IV – VIII of this document provide guidance for the proper management and disposal of these special wastes generated during construction, renovation, and/or demolition projects.

IV. ASBESTOS-CONTAINING DEBRIS

A. Introduction

The Clean Air Act (CAA) required the U. S. Environmental Protection Agency (EPA) to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112 of the CAA, the EPA established National Emission Standards for Hazardous Air Pollutants (NESHAP) to protect the public. Asbestos was one of the first hazardous air pollutants regulated under Section 112. On April 6, 1973, EPA first promulgated the Asbestos NESHAP in 40 CFR Part 61, Subpart M. These regulations set forth requirements for the notification, removal, handling, disposal and record keeping of asbestos-containing materials (ACM). In addition, the disposal of ACM is regulated under the Mississippi Solid Waste Disposal Law of 1974 (Miss. Code Ann. Section 17-17-1 et seq.) and the Mississippi Nonhazardous Solid Waste Management Regulations. These laws and regulations define acceptable methods of solid waste disposal in Mississippi. However, it should be noted that these guidelines differ slightly from EPA adopted regulations regarding ACM disposal.

B. Asbestos-Containing Material (ACM) Disposal

In Mississippi, the proper solid waste disposal site for the ultimate disposal of ACM is determined by the originating source of the material. As defined by this guidance document, there are two originating sources for ACM: residences and facilities. (Generators of ACM should note that the operator of an individual disposal facility may choose not to accept ACM for disposal, even if this policy would allow the facility to accept the material.)

1. Residences

Single Residences and Residential Structures with 4 or fewer dwelling units

Any ACM that originates from a single residence, or a residential structure that has four or fewer dwelling units, is excluded from the Asbestos NESHAP requirements for notification, removal, handling, disposal, or record keeping. Consequently, such material may be disposed of at municipal solid waste landfills, class I rubbish sites, or asbestos monofills. However, the MDEQ requests that persons conducting the removal activity notify the disposal site operator that the waste material contains (or is believed to contain) asbestos so that the disposal site operator can properly handle and dispose of the ACM.

The MDEQ generally recommends that persons remove ACM from single residences prior to conducting renovation or demolition/wrecking activities, where practical. Additionally, the MDEQ strongly recommends that persons involved in the removal of asbestos-containing materials from single residences take reasonable precautions to ensure the safe removal, handling, transport, and disposal of these materials. Asbestos-containing ceiling tiles, some types of drywall and drywall joint compounds, caulking, cement flu pipes, resilient floor covering and mastic, asphalt roofing products, cement siding, and transite board shingles are all commonly found in residential structures. These materials, if found in good physical condition, are usually *non-friable* in nature, but persons conducting the removal activity

should take necessary precautions to ensure that these materials remain non-friable and do not cause a public nuisance or health risk. Persons should avoid cutting, sanding, grinding, or conducting other removal activities that could render airborne dust particles. The MDEQ also recommends wetting the material prior to conducting the removal activity to minimize or prevent the generation of dust. If any of these materials are in poor condition, *friable*, or could be rendered friable during the removal activity, then the MDEQ recommends that the persons conducting the activity contact our Asbestos Projects Branch (601-961-5171) for additional guidance regarding the safe removal and handling of friable materials.

Multiple Residences and Residential Structures with 5 or more dwelling units

Demolition and renovation activities that involve more than one residence on a site (e.g. residences in close proximity, as on a city block) or residential buildings or structures that are part of a larger installation, such as a highway project or apartment complex, are subject to all requirements of the Asbestos NESHAP. In these instances, the proper management and disposal of ACM is the same as that for “facilities” as described below.

2. Facilities

As defined by NESHAP, a “facility” includes any institutional, commercial, public, industrial or residential structure, installation or building (including any structure, installation or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; or any active or inactive waste disposal site. In Mississippi, any friable or non-friable ACM originating from a facility must be disposed of at a [NESHAP landfill](#) (see definition, listing available on MDEQ website), such as a municipal solid waste landfill, asbestos monofill or other authorized disposal site specifically approved to accept regulated asbestos-containing materials (RACM).

A class I rubbish site may *not* accept ACM originating from a “facility”. However, if all ACM is removed and segregated from the facility prior to conducting a renovation/demolition activity, then the non-asbestos materials that meet the definition of class I rubbish may be disposed at an authorized class I rubbish site, transfer station, or municipal solid waste landfill.

Persons conducting demolition or renovation activities at a facility are required to inspect the facility for the presence of asbestos prior to initiating the activity. If threshold amounts of RACM are present, then the activity is regulated under the asbestos NESHAP and is subject to requirements for notification, removal, handling, disposal and record keeping of RACM. Consequently, the disposal activity must be conducted in accordance with §61.150 of said regulations. If threshold amounts of ACM are not present, then some provisions of the asbestos NESHAP regulations may not apply **, but in Mississippi, the material must still be disposed at a NESHAP landfill. Also, the MDEQ suggests that removal contractors contact a landfill for disposal arrangements prior to transporting the ACM to the disposal site.

*** Persons involved in demolition activities should note that all demolition projects involving a facility require notification to the MDEQ regardless of the amount of asbestos containing materials involved.*

V. LEAD-BASED PAINT (LBP) CONTAINING DEBRIS

A. Introduction

Many homes, apartments and other residential structures constructed prior to 1978 are likely to have surfaces painted with lead-based paint. In 1978, the U.S. Consumer Product Safety Commission implemented a legal maximum limit of lead content in house paint; however, this limit did not apply to industrial paints. Prior to beginning demolition and/or renovation activities on residential structures constructed prior to 1978, painted surfaces should be tested for lead-based paint. It is also recommended that painted surfaces at industrial facilities be tested for lead-based paint prior to demolition or renovation activities.

Lead from paint, chips, and dust can pose serious health hazards. Routes of entry for lead into the body generally occur from inhalation or oral ingestion of paint dust high in lead content. In children, lead can affect the developing nervous systems causing reduced IQ and learning disabilities. High levels of lead in adults' blood can cause serious health problems such as high blood pressure, headaches, digestive problems, memory and concentration problems, kidney damage, mood changes, nerve disorders, sleep disturbances, and muscle or joint pain.

B. LBP Disposal

Pursuant to the adoption of the State of Mississippi Regulations for Lead-Based Paint Activities, the following guidelines have been established for the disposal of lead-based paint containing debris. However, it should be noted that these guidelines may vary slightly from recently adopted EPA regulations.

1. LBP Abatement Waste

a. Residential Structures

Lead-based paint (LBP) abatement wastes generated through renovation or remodeling projects at residential structures, whether by residents or contractors, are considered *household wastes* (see definition) and are generally not required to be tested for toxicity prior to disposal. Consequently, LBP abatement wastes generated from households may be disposed of at an approved municipal solid waste landfill upon coordination with the landfill operator. However, it is recommended that persons participating in lead abatement projects involving larger residential structures (i.e. apartments, dormitories, barracks, etc.) contact the MDEQ at 601-961-5171 for further guidance as some aspects of Section V.B.1.b. below may be applicable.

The MDEQ encourages residents and contractors to use reasonable caution when dealing with all LBP abatement wastes. Precautions should be taken to minimize lead dust generation and exposure, to avoid the accumulation of large quantities of LBP abatement wastes, to limit the access to stored LBP abatement wastes including debris, and to maintain the integrity of waste packaging material during transport of LBP.

b. Non-residential Structures

For LBP abatement wastes originating from sources *not* considered to be households, a Toxicity Characteristic Leaching Procedure (TCLP) test for lead must be conducted on a representative sample of lead-based paint abatement wastes to determine if the wastes are characteristically hazardous. Abatement wastes with TCLP results less than 5.0 mg/l generally may be disposed at an approved municipal solid waste landfill upon coordination with the landfill operator. Abatement wastes with TCLP results greater than 5.0 mg/l generally must be disposed at a hazardous waste landfill or be treated in a manner consistent with the Mississippi Hazardous Waste Management Regulations, rendering the wastes nonhazardous for potential disposal in a municipal solid waste landfill. Since no suitable hazardous waste treatment/disposal facilities are located in Mississippi, hazardous lead-based paint abatement wastes would require shipment to facilities out-of-state.

A permanent hazardous waste generator number is not automatically required if the abatement waste tests characteristically hazardous. If more than 220 pounds of hazardous abatement wastes are generated and disposed of per month, a temporary identification number is required in order to transport the waste material to a treatment/disposal facility. Please contact the MDEQ at (601) 961-5171 for more information regarding the issuance of temporary hazardous waste identification numbers.

2. Demolition Debris Containing LBP

In instances where an entire building is demolished and the building contains or is assumed to contain lead-based paint, the MDEQ does not generally require sampling/characterization of the demolition wastes for the purpose of disposal. The demolition wastes may be disposed of at an approved Class I rubbish site or municipal solid waste landfill. The generator of such demolition debris must notify the owner/operator of the receiving disposal facility that the waste contains or is assumed to contain lead-based paint.

3. Salvageable Materials Containing LBP

In instances where salvageable metal materials contain or are assumed to contain lead-based paint and are transported to a legitimate recycling facility, an analytical characterization of the waste materials is not required. Such materials are generally exempt from the Mississippi Hazardous Waste Management Regulations, but could be subject to the applicable permit requirements of the recycling facility or to other state or federal regulations. Salvageable wood components, such as doors, windows, trim, or other building components that are reused for their original intended purpose are also not currently subject to State hazardous or nonhazardous waste regulations.

VI. FLUORESCENT LIGHT BULBS

A. Introduction

In 1995, EPA promulgated the Universal Waste Rule in an effort to streamline environmental regulations for the management and collection of certain hazardous wastes that are traditionally generated in relatively small quantities, but by large numbers of small and large businesses. This rule is designed to reduce the amount of hazardous waste items in the municipal solid waste stream; encourage the recycling and proper disposal of some common hazardous wastes; and reduce the regulatory burden on the businesses that generate such wastes. Currently, universal wastes include batteries, thermostats, pesticides, and lamps (fluorescent light bulbs).

Many used lamps exhibit hazardous waste characteristics because they contain levels of mercury and sometimes lead. Examples of common universal waste lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps. Before such lamps were added to the universal waste rule in 1999, hazardous waste generators (that were not otherwise conditionally exempt) were required to manage waste lamps as hazardous waste. Under the universal waste rule, these lamps may be managed in a streamlined approach that promotes environmentally sound collection and proper recycling while reducing the regulatory burden.

B. Lamp Disposal

In order to properly manage universal waste lamps under this rule, the amount of universal wastes accumulated must be considered:

1. **Small Quantity Handlers of Universal Waste (SQHUW)** who accumulate less than 5,000 kg (11,000 lbs or approximately 17,000 four-foot bulbs) of universal waste at any one time:
 1. Are not required to obtain an EPA identification number;
 2. Are not required to keep shipping records; and
 3. Must train employees in proper handling and emergency procedures.
2. **Large Quantity Handlers of Universal Waste (LQHUW)** who accumulate 5,000 kg or more of universal waste at any one time (with no limit on accumulation):
 1. Must obtain an EPA identification number ;
 2. Must maintain basic shipping records;
 3. Must train employees in proper handling and emergency procedures geared toward employee responsibilities.

Additionally, both large and small universal waste handlers must:

1. Manage the lamp in a manner that prevents release of any universal waste or component of a universal waste to the environment;
2. Label or mark the universal waste to identify the type of universal waste. For lamps, each container or package in which such lamps are contained must be labeled or clearly marked

with one of the following phrases: “Universal Waste – Lamp(s)” or “Waste Lamp(s)” or “Used Lamps”;

3. Remove accumulated universal wastes within one year unless wastes are being stored to facilitate proper recovery treatment or disposal;
4. Contain any lamp in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamp. Such containers must remain closed and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions;
5. Immediately clean up and place in a container any lamp that is broken or that shows evidence of breakage, leakage, or damage that could cause the release of mercury or other hazardous constituents to the environment. Containers must be closed structurally sound, compatible with the contents of the lamps and must lack evidence of leakage, spillage, or damage that could cause leakage or release of mercury or other hazardous constituents to the environment under reasonably foreseeable conditions;
6. Ship universal wastes only to other handlers, destination facilities, or foreign destinations;
7. Not dispose of, dilute, or treat universal wastes.

Although handlers of lamps (or other universal wastes) must meet these less stringent standards for storing, transporting, and collecting wastes, the wastes must comply with full hazardous waste requirements for final recycling, treatment, or disposal.

Businesses that produce less than 100 kg (220 lbs) of universal wastes per month have the option of handling their universal wastes under the universal waste rule or as a conditionally exempt small quantity generator (CESQG) per 40 CFR 273.8.

Universal wastes that are generated by individual households fall under the household hazardous waste exemption and may be disposed through normal garbage collection at municipal solid waste landfills. Although MSW landfills are designed to handle household hazardous waste, some of these wastes can be better managed through local universal waste collection and recycling programs. Therefore, the MDEQ encourages the recycling of lamps and other universal wastes whenever possible as an alternative to disposal.

For more detailed information regarding the universal waste rules and the specific requirements for universal wastes other than lamps, please contact the MDEQ at 601-961-5171 or visit the EPA Universal Waste homepage at the following internet address:

<http://www.epa.gov/epaoswer/hazwaste/id/univwast/index.htm>.

VII. PCB SMALL CAPACITORS AND FLUORESCENT LIGHT BALLASTS

A. Introduction

Small capacitors and fluorescent light ballasts may also be found as components of architectural debris. These components cause concern due to their potential to contain polychlorinated biphenyls (PCBs). One of two Federal laws that currently regulate the disposal of polychlorinated biphenyls is the Toxic Substances Control Act (TSCA). PCBs are toxic chemicals suspected of causing cancer in humans. Reports from the Centers for Disease Control indicate that workers exposed to PCBs have developed skin disorders, liver injury, irritation of the skin and mucous membranes, and adverse reproductive effects.

While small capacitors and fluorescent light ballasts generally contain small amounts of PCBs, the total quantity of PCBs is surprising due to the large quantity of capacitors and light ballasts in building structures across the U.S. In 1993, the EPA estimated that approximately 25 million pounds of PCBs are present in U.S. building structures.

B. Capacitor/Ballast Disposal

Capacitors and ballasts containing PCBs should generally be managed in the following manner:

1. Small Capacitors

Appliances that may contain PCB small capacitors include, but are not limited to, refrigerators, freezers, air conditioners, heat pumps, furnace blowers, fluorescent light ballasts, furnaces and microwave ovens. Generally, non-leaking intact "Small Capacitors" (containing less than 3 pounds of PCB dielectric fluid) may be disposed of in a municipal solid waste landfill. In instances where large numbers of small capacitors are generated, the EPA recommends that the capacitors be disposed of as PCB waste by high-temperature incineration or disposal in a chemical waste landfill. Since there are no such facilities located in Mississippi, disposal of capacitors in this manner would require shipment to facilities out-of-state. According to TSCA, manufacturers of PCB small capacitors may not dispose of any amount of small capacitors in a solid waste landfill.

2. Light Ballasts

Some fluorescent light ballasts contain PCB's only in their small capacitors and would generally only be subject to the disposal requirements for the PCB small capacitors described in the section above (B.1). However, data has shown that some fluorescent light ballasts manufactured prior to 1978 have PCB's at concentrations of 50 parts per million (ppm) or greater in their potting material. Potting material is the insulating material that fills the space between the functioning parts of the ballast and its outer metal covering. Knowing the PCB concentration in the potting material is necessary to determine how such wastes must be disposed. In determining PCB levels in the potting material, the MDEQ recommends either having PCB analysis conducted on the material; assuming the ballasts contain PCBs in concentrations greater than or equal to 50 ppm; or consulting the manufacturer of the light ballasts for information regarding PCB concentrations. Where the PCB concentration is less than 50 ppm, the ballasts generally may be disposed of at a municipal solid waste landfill.

Light ballasts that contain or are assumed to contain PCB's in their potting material in concentrations greater than or equal to 50 ppm must be disposed of in the following manner:

- a. As a TSCA regulated PCB waste at a TSCA-approved disposal facility (chemical waste landfill or high temperature incineration unit);
- b. As PCB bulk product wastes at a municipal solid waste landfill only after all PCB small capacitors have been removed. Any person disposing of PCB bulk product wastes must provide written notification to the landfill owner/operator a minimum of 15 days prior to shipment of the waste material. The notice must state that the PCB bulk product waste may include components containing PCB's greater than or equal to 50 ppm. New notification would not be required for each shipment if the chemical characteristics of the waste stream remained constant.
- c. As PCB household waste at a municipal solid waste landfill. PCB wastes generated from temporary or permanent households are excluded from notification requirements.

All light ballasts manufactured since July 1978 are required to bear a "No PCB" label; however, fluorescent light ballasts manufactured as late as 1985 have been found to contain some PCB concentrations. Consequently, light ballasts manufactured after July 1978 with markings such as "No PCB" should be disposed of, at a minimum, at a municipal solid waste landfill. Lighting ballasts are not acceptable for disposal at rubbish sites (class I or class II) in Mississippi.

VIII. TREATED LUMBER (CCA, PCP, and Creosote)

A. Introduction

Treated lumber products contain chemical preservatives, typically pesticides, which inhibit fungal or microbial decay. By some estimates, these preservatives may extend the functional life of wood products by at least 20 times that of untreated wood. However, a number of these preservatives contain chemicals known or thought to be toxic in certain concentrations. The most common pesticides of concern are chromated copper arsenate (CCA), pentachlorophenol (PCP), and creosote.

CCA is a chemical mixture consisting of three pesticidal compounds (arsenic, chromium, and copper) and has been widely used as a wood preservative. CCA-treated wood products are most commonly used in outdoor settings around the home for decks, walkways, fences, gazebos, boat docks, and playground equipment. Other common uses of CCA-treated wood include highway noise barriers, sign posts, utility posts, and retaining walls. Because arsenic is a known human carcinogen and can be acutely toxic, concern has been raised from the published results of certain scientific studies suggesting that arsenic, over time, slowly leaches from CCA-treated wood products. Although the EPA has not concluded that there is unreasonable risk to the public from these products, the agency does believe that any reduction in potential exposure to arsenic is desirable. On February 12, 2002, EPA announced a voluntary decision by the lumber industry to move consumer use of treated lumber products away from CCA pressure-treated wood by December 31, 2003. As of January 1, 2004, EPA does not allow CCA products to be used to treat wood intended for use in most residential and playground applications.

PCP was once one of the most widely used biocides in the U.S. prior to 1987. At that time, regulatory actions canceled or restricted certain non-wood preservative uses of PCP including its use as an herbicide, defoliant, mossicide, or disinfectant. PCP now has no registered residential uses and generally has become less popular as a wood preservative. However, PCP-treated wood products may still be found in a number of commercial applications including: utility poles, fences, shingles, walkways, building components, piers, docks, porches, flooring, and laminated beams.

Creosote is the product of the high temperature distillation of coal tar which itself is a mixture of hundreds of organic substances. When applied to wood products using pressure methods, it acts as a fungicide, insecticide, miticide, and sporicide. Creosote-treated wood products are primarily used in commercial applications such as utility poles and railroad ties and have no registered residential uses.

The EPA is currently reassessing all three of these treatments as part of its ongoing “re-registration eligibility decision” (RED) program for older pesticides. Other pesticides formulated with less-toxic chemicals currently utilized in treated wood products include ammonical copper quat (ACQ), copper azole, and ammonical copper citrate.

B. Treated Lumber Reuse and Disposal

As wood products reach the end of their useful life, the potential for large amounts of treated lumber to enter solid waste management facilities becomes a concern due to the potential for arsenic and other chemicals to leach from the material in a landfill environment. As a result, many states are banning the disposal of treated lumber (especially CCA) from unlined construction and demolition debris disposal facilities in favor of facilities which are constructed with liner systems. In Mississippi, treated lumber may be properly managed through the following options.

1. Reuse

MDEQ recommends that persons involved in the removal of treated wood products during renovation or demolition projects consider the reuse the material for its originally intended purpose or for other suitable purpose in lieu of landfill disposal. However, treated lumber should not be ground or otherwise processed for use as a mulch or compost material. According to a 2004 memorandum from EPA, solid wastes which consist of discarded arsenical treated wood or wood products that fail TCLP (and which are not hazardous wastes for any other reason) are generally exempted under RCRA regulations and are not considered a hazardous waste provided the material is generated by persons using the treated wood for its originally intended use. However, CCA-treated wood used to produce wood mulch or other non-construction related items does not constitute the materials' intended use as a building material and therefore would not be exempt from regulation as a hazardous waste. For example, CCA-treated wood waste generated during the construction of a deck is generated by persons using the wood for its intended use and would therefore not be regulated as a hazardous waste under this exemption. In contrast, persons who shred or chip waste CCA-treated lumber into mulch for uses such as landscaping are not using the treated wood for its intended use and would not be exempt. Additionally, treated wood should not be burned in open fires or in stoves, fireplaces, or residential boilers because toxic chemicals may be produced as part of the smoke and ash. Treated wood from commercial or industrial sources may be burned only in commercial or industrial incinerators or boilers in accordance with applicable state and Federal regulations and site specific permit conditions. Similarly, according to the Consumer Safety Awareness Program, treated lumber should not be used for cutting boards, counter tops, animal bedding, or for structures or containers used for storing animal feed or human food.

Additional guidance from EPA regarding the recommended handling procedures for persons working with treated lumber and methods for minimizing potential exposure to treated wood products may be found under the "Wood Preservative" heading of the EPA's "Pesticides: Health and Safety Fact Sheets" located at the following web address:

http://www.epa.gov/pesticides/factsheets/health_fs.htm.

2. Disposal

Where reuse is not an option, treated wood products removed from small structures, such as residential decks, fencing or piers, may be properly disposed at municipal solid waste landfills and class I rubbish sites, both of which have, at minimum, constructed or natural liner systems. However, if the activity involves large volumes of material, such as miles of

railroad ties or large commercial piers, MDEQ recommends the treated wood material be disposed of in a municipal landfill or other similarly lined disposal facility. For treated wood products that are newly manufactured or off-spec materials, class I rubbish disposal is not a suitable disposal option and generators should contact MDEQ at 601-961-5171 for additional guidance.

IX. CONTACT INFORMATION

Should you have any questions or need additional information regarding the proper disposal of architectural debris or other solid wastes, please contact:

Mississippi Department of Environmental Quality
Solid Waste Policy, Planning and Grants Branch
P.O. Box 2261
Jackson, MS 39225
Phone: (601) 961-5171
Fax: (601) 961-5785
<http://www.deq.state.ms.us>

Additional information regarding architectural debris related issues can be located on the [EPA C&D website](#).