



Purpose and Applicability of Waste Management Regulations

Everyone generates waste on a daily basis and is subject to the waste regulations. Improper management of waste can impact surface and ground water quality, as well as air quality, when the waste is improperly handled and disposed of (i.e., illegal dumping along roadsides, in the woods, in illegal landfills, in wetlands, in lakes and streams, or by being improperly burned). Your legal responsibility as a generator of any quantity of waste extends from “cradle to grave.” This covers the time from when the waste is first generated through its ultimate disposal.



Agencies and Their Laws and Rules

■ Indiana Department of Labor

The Indiana Department of Labor is responsible for enforcing Occupational Safety and Health Administration regulations in the state of Indiana. INSafe is a division of the Department of Labor that works with Indiana’s employers, employees, labor unions, professional groups, trade organizations, and others to ensure workplace health and safety. INSafe staff can be reached at (317) 232-2688. INSafe’s website is www.dol.IN.gov/insafe.

■ Indiana Department of Homeland Security

Your building must meet the building code classification requirements of the Indiana Fire Prevention and Building Safety Commission, which is staffed by the Indiana Department of Homeland Security (IDHS). The applicability of these requirements depends on several factors, including building size, type of work performed, and location of the structure (including surrounding structures). If you perform welding, use any open flame, or spray paint, your building must meet the more stringent Class H building code requirements than if your business simply exchanges parts. To obtain information specific to your business, contact the Plan Review section of IDHS’s Division of Fire and Building Safety at (317) 232-6422 or visit IDHS’s website at www.IN.gov/dhs/3658.htm.

As with the building classifications, the regulations covering flammable, combustible and incompatible materials are usually case-specific. Please note that this manual addresses only the general requirements of the IDHS’s Division of Fire and Building Safety. Many of these regulations depend upon a number of variables.



■ U.S. Department of Transportation

The U.S. Department of Transportation (U.S. DOT) incorporates Resource Conservation and Recovery Act hazardous wastes as one of the types of hazardous materials that must be transported according to U.S. DOT specifications (as set forth in Title 49, Section 171.3 of the Code of Federal Regulations [49 CFR 171.3]). To obtain information on regulations governing the packaging, labeling, placarding, and transportation of hazardous materials or hazardous waste, refer to the U.S. DOT Federal Motor Carrier Safety Administration's *How to Comply with Federal Hazardous Materials Regulations* at www.fmcsa.dot.gov/safety-security/hazmat/complyhmregs.htm. You can also contact U.S. DOT at (202) 366-4000 or the Indiana State Police's Commercial Vehicle Enforcement Division at (317) 615-7373. The Commercial Vehicle Enforcement Division's website is www.isp.IN.gov/2500.htm.

Solid Waste

Solid waste is defined as any garbage, refuse or sludge from a waste treatment plant; sludge from a water supply treatment plant; sludge from an air pollution control facility; or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, or agricultural operations or from community activities as defined in IC 13-11-2-205(a). Solid waste management as discussed in this section does not pertain to domestic sludge, manure or crop residues, or vegetative matter at registered composting facilities.

■ Waste Reduction and Recycling

Before beginning a waste reduction or recycling program, you need to know what types of waste and how much waste is being generated. The Indiana Department of Environmental Management (IDEM) encourages business and industry to implement pollution prevention and waste minimization practices. The Pollution Prevention and Recycling Branch of IDEM's Office of Pollution Prevention and Technical Assistance works with local solid waste management districts, the Indiana Recycling Coalition, and the Association of Indiana Solid Waste Management Districts, Inc. to achieve this goal.

Identifying Wastes and Waste Reduction Opportunities

A business owner or manager can conduct a waste survey to properly identify many types and quantities of waste as well as determine how to reduce waste generation. When you conduct your waste survey:

- Tour the whole facility and ask employees questions about work processes and the waste generated. Identify what is regulated as a hazardous waste, what can be managed as a solid waste, and how much waste is generated. Ask for suggestions about how waste could be reduced. Consider all wastes that are being generated from the different facility areas, including the offices.

- Trace all chemical purchases for each step of every process or activity in the facility. Consider whether materials can be substituted that would generate less or no hazardous waste.
- Identify where in-house recovery and reuse of hazardous materials are possible. Review the regulations or contact IDEM to determine if you need to be permitted as a hazardous waste treatment facility.
- Observe to see if employees are creating more hazardous waste by mixing other waste with known hazardous waste. For example, your facility can reduce its volume of hazardous waste by not placing nonhazardous paints in the same container as hazardous waste solvents.
- Determine if different wastes are being mixed together. This mixing usually makes recycling difficult—if not impossible—and also makes disposal more expensive.
- Develop and maintain accurate inventory control of all products. This helps to eliminate excessive inventory. Buying in bulk or ordering on a schedule will not be cost effective if the product has to be disposed of because its shelf life expired.

Once you know where the wastes are being generated, you may be able to reduce disposal costs by implementing waste reduction and recycling programs. Along with saving money on disposal costs, you might save money by purchasing fewer materials and even earn money by selling the collected materials. You need to have both management and worker support to make these programs work.

Waste reduction involves implementing activities that result in less waste being generated. These activities include the following:

- Improve processes so less scrap is created.
- Purchase supplies that have less packaging.
- Have materials shipped in returnable and reusable containers.
- Use materials on a *first in, first out* basis so products don't become too old to use.
- Replace disposable materials with reusable and recyclable materials.
- Establish an incentive program that encourages workers to suggest ways to reduce waste.
- Train employees in waste reduction methods.
- Install reclamation units to reduce the amount of waste needing disposal (e.g., recover spent solvents from parts washers).

Recycling involves converting materials from the waste stream into other usable goods. The first step for facilities involves the collection of those materials. If the materials cannot be used in-house, then the collected materials are marketed through private brokers or local community recycling programs. Several areas in Indiana now have reuse centers that offer these materials for community or school activities.

Chapter 4

Waste Management Regulations

Check with your broker or local program to find out what they accept, how the materials must be prepared, and other collection details. You may need to use different brokers or several different recycling programs to market your collected materials because the individual broker or program might not handle the type or volume of material you have. Commonly collected materials include:

- Drums and other containers
- Glass
- Paper, including office paper and corrugated cardboard
- Plastics
- Scrap metal
- Wood pallets

Visit www.recycle.IN.gov for:

- Information on recycling opportunities in your community
- Educational information for teachers
- Sources of funding
- Local composting and yard waste programs
- Local household hazardous waste collection programs
- Electronic waste donation and recycling options
- How to reduce junk mail delivery
- Unwanted medicine disposal options
- Waste tire disposal options
- Mercury recycling

■ Solid Waste Disposal

No matter how effective your waste reduction and recycling programs are, you probably will still need to dispose of some solid waste. Examples of solid waste that may require disposal include: nonrecyclable office paper, breakroom waste such as discarded food, and packaging materials such as nonrecyclable empty containers. Before solid waste is hauled to a licensed disposal facility, it should be stored in leak-proof, covered containers. This will help keep the waste from blowing away, prevent access by rodents and other animals, and reduce odor problems. Check to see if your local authorities have an ordinance that requires a privacy-type fence around the dumpster. Solid waste can be stored in a waste pile, but you may need to obtain a permit from IDEM. If you intend to store any waste in a pile, discuss the requirements with IDEM.

Waste management regulations prohibit open dumping of solid waste. Solid waste must be disposed of at licensed disposal facilities. You can haul your own nonhazardous solid waste to a licensed landfill, incinerator, or transfer/processing facility. Another option is to contract with a solid waste hauler to transport your solid waste to an approved facility. You should know how the hauler handles and disposes of waste because you can be held liable for damages and cleanup costs if the waste is improperly managed.

Manifests are not required for hauling and disposing of nonhazardous solid waste, with the exception of scrap tires. Although you don't have to manifest solid waste, you may want to keep records of when, where, and how much solid waste was removed from your business. This practice gives you an accurate record of waste disposal for management purposes and is valuable if a liability question arises.

Open Burning

Open burning is defined under Title 326, Article 4, Rule 1, Section 0.5, Number (6) of the Indiana Administrative Code [326 IAC 4-1-0.5(6)] as "the burning of any materials wherein air contaminants resulting from combustion are emitted directly into the air, without passing through a stack or chimney from an enclosed chamber." Open burning is generally prohibited in Indiana. For more detailed information on open burning, please refer to IDEM's website at www.idem.IN.gov/airquality/2411.htm.

Waste Tire Management

The rules governing waste tire management are located in 329 IAC 15. For confidential compliance assistance with these rules, you may call the Office of Pollution Prevention and Technical Assistance at (800) 988-7901 or (317) 232-8172. If you don't need confidential assistance, please call the Permits Section of IDEM's Office of Land Quality at (800) 451-6027, ext. 4-6951 or (317) 234-6951.

FOR MORE INFORMATION

- Registered waste tire transporters
- Indiana registered waste tire processors

www.idem.IN.gov/4862.htm

► Waste Tire Generators

Indiana Code (IC) 13-20-14-5.3 states that anyone who is the source of 12 or more waste tires per year is required to maintain a record of waste tire manifests provided by a registered waste tire transporter for at least one year. This file will show that the generator is properly managing waste tires through a registered transporter.

For detailed information on who may need to register with IDEM for the operation of a waste tire facility, what to expect, information regarding waste tire transporters, and additional information about IDEM's waste tire program, please refer to IDEM's website at www.idem.IN.gov/5893.htm.

► Waste Tire Processors

329 IAC 15-3 requires waste tire processors to possess a valid certificate of registration, maintain financial assurance, submit an annual tire summary, maintain manifest files, and develop a facility contingency plan for dealing with emergencies.

► Waste Tire Storage Sites

IC 13-11-2-251 expands the storage definition and requires the registration of waste tire storage beyond the outside accumulation of 1,000 or more scrap tires to also include inside accumulations of 2,000 or more waste tires. Enclosed storage for less than 30 days may be exempt, as may storage in a U.S. DOT-approved, fully-enclosed trailer licensed to travel on the highway.

Construction or Demolition Debris

Be sure to check with local city and county officials for local ordinances and/or regulations regulating demolition projects. You may need a permit from the city and/or county where the demolition is to occur prior to beginning a demolition project.

The U.S. Environmental Protection Agency published *Managing Your Environmental Responsibilities: A Planning Guide for Construction and Development*, which contains two different sets of checklists and detailed discussion/case studies on major environmental areas (including storm water) affecting the construction industry. It is designed to help the construction industry understand which environmental regulations apply to them, and it can be used during different phases of a construction project. An electronic copy of the guide is available at www.epa.gov/compliance/resources/publications/assistance/sectors/constructmyer/index.html. For information on Indiana's storm water requirements, please refer to the *Indiana Storm Water Quality Manual* at www.idem.IN.gov/4899.htm.

► Vegetative Wastes

New construction, especially on previously undeveloped land, can generate leaf, brush, and woody wastes from land clearing which, under IC 13-20-9, are banned from disposal at solid waste landfills. For more detailed information on this topic, as well as who may be interested in using a construction or demolition landfill, burying, burning, or grinding construction or demolition debris, please refer to IDEM's website at www.idem.IN.gov/5904.htm.

Asbestos Removal Requirements

All facilities except residential buildings that have four or fewer dwelling units must be inspected by an Indiana licensed asbestos inspector prior to the commencement of demolition or renovation activities. If the inspector finds the presence of regulated asbestos-containing material (i.e., asbestos that may be in danger of becoming airborne) in the areas where the demolition or renovation operation will occur then the demolition, renovation, or asbestos removal activities must be performed in accordance with the proper notification and emission control requirements outlined in 326 IAC 14-10, as well as those in 40 CFR 61, Subpart M (61.140–61.157). Even if no asbestos is present in the facility, proper notification of demolition or renovation activity requirements must still be followed. Homeowners are exempt from notification and removal requirements but not all disposal requirements.

For more information, including licensing requirements, please refer to IDEM's website at www.idem.IN.gov/4156.htm.

Lead-Based Paint Abatement

As per 410 IAC 32-2-2, the purpose of the Indiana lead-based paint program is to ensure that a person conducting lead-based paint activities in target housing or child-occupied facilities does so in a permanent manner that safeguards the environment and protects the health of the building's occupants, especially children who are six years of age and younger. Contractors hired to perform renovation and painting projects in homes, childcare facilities, and schools built before 1978 that disturb lead-based paint must be certified contractors and follow specific work practices. Lead abatement contractors are required to distribute information on lead to building occupants via renovation notices or informational signs, obtain certification, follow lead-safe work practices, and verify the work area is adequately cleaned and ready for re-occupancy.

FOR MORE INFORMATION

- Lead-based paint abatement requirements
- Licensing requirements for lead abatement activities

www.isdh.IN.gov/24707.htm

See Title 410, Article 32 –
Lead-Based Paint Program

Hazardous Waste

All waste generators, except households, are required by law to determine if any of their waste is hazardous waste. Your business must keep records of its waste evaluations and other information used to determine what type of waste you have. Businesses classified as small quantity or large quantity hazardous waste generators must keep these records at least three years after the waste is shipped off-site for treatment, storage, or disposal.

When reading this guide, do not confuse the term hazardous waste with hazardous material. Each term has specific regulatory definitions and requirements. Hazardous waste shipped with a manifest is also a U.S. DOT hazardous material. There are some wastes that are not regulated as a hazardous waste, yet are regulated as a hazardous material. The following information discusses the general requirements regarding hazardous and universal waste. More detailed information is provided for common waste streams. The specific requirements that you must follow depend upon the quantities of hazardous waste generated and accumulated within a specific time period at your business. If you have any questions about hazardous waste management, contact IDEM's Office of Land Quality at (800) 451-6027, ext. 2-8941 or (317) 232-8941 or IDEM's Office of Pollution Prevention and Technical Assistance at (800) 988-7901 to discuss applicable requirements.

Guidance documents on hazardous waste are available at www.idem.IN.gov/4995.htm.

■ Defining Hazardous Waste

To be a hazardous waste, the material under consideration must first be classified as a solid waste. It is important to note that the term *solid* does not refer to the physical state of the waste. Instead, solid waste refers to any material that you will no longer be using for its originally intended purpose or a material that must be reclaimed before it can be reused. Solid waste can be a solid, a liquid, or a contained gas. Not all solid wastes are hazardous wastes. Hazardous waste can be classified as a listed waste and/or a characteristic waste:

1. Listed Waste

Your waste is considered hazardous if it appears on one of four lists published in 40 CFR Part 261, which is available at www.ecfr.gov. Currently, more than 500 wastes are listed. Wastes are listed as hazardous because they are known to be harmful to human health and the environment when not managed properly. Even when managed properly, some listed wastes are so dangerous that they are called acutely hazardous wastes. Examples of acutely hazardous wastes include wastes generated from some pesticides that can be fatal to humans even in low doses.

2. Characteristic Wastes

If your waste does not appear on one of the hazardous waste lists, it still might be considered hazardous if it demonstrates one or more of the following characteristics:

Ignitable

- A waste is ignitable if it is a liquid and its flash point is less than 140°F. A waste also may be defined as ignitable if it is an oxidizer or an ignitable compressed gas as defined by the U.S. Department of Transportation regulations in 49 CFR Part 173, or if it has the potential to ignite under standard temperature and pressure and burn persistently and vigorously once ignited. Examples of ignitable wastes are paints and certain degreasers and solvents.

Corrosive

- A waste is corrosive if it is aqueous and its pH is less than or equal to two or greater than or equal to 12.5. A waste also is corrosive if it is a liquid and it corrodes steel at a rate of more than one-fourth of an inch per year under conditions specified in U.S. EPA Test Method 1110. Examples of corrosive wastes are rust removers, acid or alkaline cleaning fluids, and battery acid.

Reactive

- A waste is reactive if it is unstable and explodes or produces toxic fumes, gases, and vapors when mixed with water or under other conditions such as heat or pressure. A waste also may be reactive if it is a forbidden explosive or a Class A or Class B explosive as defined in 49 CFR Part 173. Examples of reactive wastes are certain cyanides or sulfide-bearing wastes.

Toxic

- A waste is toxic if it is harmful or fatal when ingested or absorbed, or it leaches toxic chemicals into the soil or ground water when disposed of on land. Examples of toxic wastes include wastes that contain high concentrations of heavy metals, such as cadmium, lead, or mercury. Toxic wastes may also include wastewater treatment sludge, wastes from organic manufacturing, and pesticide/herbicide wastes. You can determine if your waste is toxic by having it tested using the toxicity characteristic leaching procedure (TCLP), or by simply knowing that the waste is hazardous waste from the safety data sheet. For more information about TCLP and other test methods, refer to www.epa.gov/wastes/hazard/testmethods/sw846.

Exclusions and Exemptions

Some waste streams may meet applicable exclusion and exemption criteria and not be fully regulated as a hazardous waste. These exclusions and exemptions are too numerous to include in their entirety in this publication. For more information about exclusions and exemptions, refer to:

- *Resource Conservation and Recovery Act (RCRA) Orientation Manual* at www.epa.gov/osw/inforesources/pubs/orientat
- RCRA Training Modules at www.epa.gov/wastes/inforesources/pubs/rmods.htm

Indiana Electronic Waste Recycling Program (Indiana E-Cycle)

Electronic waste (e-waste) includes items such as televisions, tablets, e-readers, computers and their components, fax machines, digital cameras, and other similar devices. As the lifespan of electronics continues to shorten and the time between upgrades continues to shrink, the amount of e-waste grows. Electronic waste is currently the most quickly growing segment of the municipal waste stream. Electronic waste contains potentially dangerous and hazardous materials such as lead, mercury, cadmium and hexavalent chromium and valuable, reusable materials including precious metals, plastic, and steel.

Indiana E-Cycle was developed to encourage the recycling of electronic waste and therefore prohibits small businesses, households and public schools from disposing of most common electronics with their trash. Recycling of electronic waste conserves natural resources and prevents air and water pollution, as well as greenhouse gas emissions caused by the manufacturing of the raw materials for the components. Indiana E-Cycle includes requirements for manufacturers of electronics, e-waste collectors and recyclers, and retailers of electronics as well as the disposal prohibition per the Indiana Electronic Waste Law (IC 13-20.5).

► Manufacturer Requirements

Manufacturers of video display devices (VDDs) are responsible for collecting and recycling covered electronic devices (CEDs) from households, small businesses, and public (including charter) schools in Indiana. The manufacturers must collect and recycle e-waste equivalent to at least 60 percent (by weight) of the VDDs they manufacture and sell to Indiana households each year. Covered electronic devices, including VDDs, are set forth below. Manufacturers must submit a registration form to IDEM by January 1st of each year or within 20 days of the date the manufacturer begins to sell VDDs to Indiana households. Registration fees are \$5,000 for the first year and \$2,500 for each year thereafter. Manufacturers that do not fulfill their recycling obligations must pay a shortfall fee. Manufacturers are responsible for submitting an annual report by June 1st of each year that details the total weight, in pounds, of CEDs collected and recycled during the previous year and which companies collected and recycled the e-waste on their behalf.

Covered Electronic Devices (CEDs)

- VDDs (televisions or computer monitors, including laptops, netbooks, notebooks, tablets, and e-readers, that contain a cathode ray tube or flat panel screen with a screen size that is greater than four inches measured diagonally)
- Computers (i.e., computer towers)
- Fax machines
- Peripherals including keyboards, external hard drives, printers, mice, and any other device that is sold exclusively for external use with a computer and provides input into or output from a computer
 - An all-in-one printer/copier/scanner or a projector can be considered a peripheral provided that item is designed to be used exclusively with a computer.
- DVD players (including gaming systems that can play DVDs)
- Video cassette recorders
- Digital photo frames
- Digital media players
- iPods/MP3 players
- Camcorders/Cameras
- DVR/TiVo devices (including cable boxes and satellite boxes but not satellite dishes)
- Portable GPS navigation systems

► Collectors and Recyclers

Electronic waste collectors and recyclers that wish to participate in Indiana E-Cycle must submit a registration form to IDEM by November 1st of each year. The annual registration must include contact information for the program administrator, a listing

of all permanent locations, and certification that the facility is compliant with Indiana's e-waste management rules (329 IAC 16). 329 IAC 16 applies to facilities that store 23 tons or more of e-waste on site at any given time, store e-waste for more than five days at a time, and do not hold a valid permit under Indiana's hazardous waste management facility rules (329 IAC 3.1), solid waste land disposal facility rules (329 IAC 10), or solid waste processing facility rules (329 IAC 11). An e-waste collector or recycler must be registered with Indiana E-Cycle in order to assist a registered manufacturer with meeting their recycling obligation.

► Disposal Prohibitions

Indiana households, public (including charter) schools, and small businesses are prohibited from discarding covered electronic devices with trash that will be landfilled or incinerated per IC 13-20.5-10-1. Covered electronic devices that are sold to a covered entity by means of retail, wholesale, or electronic commerce are defined on the previous page.

For more information, please refer to IDEM's Indiana E-Cycle website at www.idem.IN.gov/recycle/2373.htm or contact IDEM's Office of Pollution Prevention and Technical Assistance at (800) 988-7901.

Universal Waste

The Universal Waste Rule is a modification of the hazardous waste rules enacted under RCRA. It is designed to reduce regulatory management requirements so as to foster the environmentally-sound recycling or disposal of certain specified categories of commonly generated hazardous wastes.

The effect of the Universal Waste Rule is to ease the regulatory burden on the facilities that manage universal waste, particularly by allowing more time for accumulation of these wastes in order to facilitate appropriate recycling or disposal.

What are Universal Wastes?

The Universal Waste Rule does not potentially apply unless a waste is first a characteristic or listed hazardous waste by definition under 40 CFR 261. Universal wastes include:

- **Batteries**
This category of universal waste includes, but is not limited to, nickel-cadmium (Ni-Cd) batteries and small sealed lead-acid batteries which are found in many common items, including electronic equipment, cell phones, portable computers, and emergency backup lighting.
- **Agricultural Pesticides**
This category of universal waste includes agricultural pesticides that have been recalled or banned from use, are obsolete, have become damaged, or are no longer needed due to changes in cropping patterns or other factors. They often

are stored for long periods of time in sheds or barns. Questions concerning the requirements or applicability of the Federal Insecticide, Fungicide, and Rodenticide Act to pesticide management should be directed to the Office of Indiana State Chemist, located at Purdue University, at (765) 494-1492.

- **Mercury-Containing Equipment**

Mercury-containing equipment means a device or part of a device (including thermostats, but excluding batteries and lamps) that contains elemental mercury integral to its function. It does not include damaged mercury-containing items where the mercury is no longer contained or waste generated as part of a cleanup of a mercury spill.

- **Bulbs (Lamps)**

This category of universal waste typically contains mercury and sometimes lead and is found in businesses and households. Examples include fluorescent, high-intensity discharge, neon, mercury vapor, high-pressure sodium, and metal halide lamps.

For additional information on the Universal Waste Rule, refer to www.epa.gov/osw/hazard/wastetypes/universal/index.htm and 329 IAC 3.1-16.

Does the Universal Waste Rule Apply to Me?

The Universal Waste Rule is designed to allow for reduced regulatory requirements for the management of the specified wastes that otherwise would have to be managed under the full applicable RCRA hazardous waste management standards.

Wastes managed as universal wastes in accordance with this rule do not have to be counted toward the total amount of hazardous waste generated for purposes of determining hazardous waste generator status, as set forth in 40 CFR 261.5(c)(6). Those who manage universal waste that is subject to this rule must comply with certain management standards depending on whether they are:

1. A small quantity handler, which is defined as anyone who accumulates less than 11,000 pounds of universal waste at any time;
2. A large quantity handler, which is defined as anyone who accumulates 11,000 pounds or more of universal waste at a time;
3. A universal waste transporter, regardless of quantity; or
4. A destination facility, which is a treatment, storage, and/or disposal facility (TSDF) subject to requirements in 40 CFR 264 or 265, or a recycler not engaged in storage who is subject to 40 CFR 261.6(c)(2).

In general, most management standards for small quantity handlers and for large quantity handlers are identical, except in regard to U.S. EPA notification requirements (small quantity handlers are not required to notify), employee training, and waste tracking or record keeping (not required for small quantity handlers). Do not confuse the terms for universal waste handlers with the terms for hazardous waste generators.

Universal waste transporters and destination facilities must comply with requirements (such as U.S. DOT regulations or TSDF standards, respectively) that are applicable to their activities. For more information, contact IDEM's Office of Land Quality at (317) 234-6951 or (800) 451-6027, ext. 4-6951.

■ Identifying Your Waste

To help you identify some of the waste streams common to your business, consult the table below for a list of typical hazardous wastes generated by small businesses. Commercial chemical products that are discarded might also become hazardous waste. For a complete listing of hazardous waste codes, please refer to 40 CFR 261 at www.ecfr.gov. If your waste is hazardous, you will need to manage it according to appropriate federal and state regulations.

Typical Hazardous Waste Generated by Small Businesses			
Business Type	How Waste Is Generated	Typical Waste	Waste Codes
Drycleaning and laundry plants	Commercial drycleaning processes	Still residues from solvent distillation, spent filter cartridges, cooked powder residue, spent solvents, unused perchloroethylene	D001, D039, F002, F005, U210
Furniture/wood manufacturing and refinishing	Wood cleaning and wax removal, refinishing/stripping, staining, painting, finishing, brush cleaning and spray brush cleaning	Ignitable wastes, toxic wastes, solvent wastes, paint wastes	D001, F001–F005
Construction	Paint preparation and painting, carpentry and floor work, other specialty contracting activities, heavy construction, wrecking and demolition, vehicle and equipment maintenance for construction activities	Ignitable wastes, toxic wastes, solvent wastes, paint wastes, used oil, acids/bases	D001, D002, F001–F005
Laboratories	Diagnostic and other laboratory testing	Spent solvents, unused reagents, reaction products, testing samples, contaminated materials	D001, D002, D003, F001–F005, U211

Chapter 4

Waste Management Regulations

Typical Hazardous Waste Generated by Small Businesses			
Business Type	How Waste Is Generated	Typical Waste	Waste Codes
Printing and allied industries	Plate preparation, stencil preparation for screen printing, photoprocessing, printing, cleanup	Acids/bases, heavy metal wastes, solvents, toxic wastes, ink, unused chemicals	D002, D006, D008, D011, D019, D035, D039, D040, D043, F001–F005, U002, U019, U043, U055, U056, U069, U080, U112, U122, U154, U159, U161, U210, U211, U220, U223, U226, U228, U239, U259, U359
Equipment repair	Degreasing, equipment cleaning, rust removal, paint preparation, painting, paint removal, spray booth, spray guns, and brush cleaning	Acids/bases, toxic wastes, ignitable wastes, paint wastes, solvents	D001, D002, D006, D008, F001–F005
Pesticide end-users/application services	Pesticide application and cleanup	Used/unused pesticides, solvent wastes, ignitable wastes, contaminated soil (from spills), contaminated rinsewater, empty containers	U136, P094, P123
Educational and vocational shops	Automobile engine and body repair, metalworking, graphic arts-plate preparation, woodworking	Ignitable wastes, solvent wastes, acids/bases, paint wastes	D001, D002, F001–F005
Photo processing	Negatives/prints, stabilization system cleaning	Acid regenerants, cleaners, ignitable wastes, silver	D001, D002, D007, D011
Leather manufacturing	Hair removal, bating, soaking, tanning, buffing, and dyeing	Acids/bases, ignitable wastes, toxic wastes, solvent wastes, unused chemicals	D001, D002, D003, D007, D035, F001–F005, U159, U228, U220

■ Hazardous Waste Generator Status

Your facility's hazardous waste status is based on the total quantity of the hazardous waste being generated and accumulated at your site over a specific time period. To determine your hazardous waste generator status, use your results from the previous section that identified all of the waste streams your business generates and ask yourself:

1. Is the waste material a listed or characteristic hazardous waste? If yes, then continue counting it. If no, then that waste is not subject to the hazardous waste regulations.
2. Is there a hazardous waste exclusion or exemption for that waste? If the waste has not been excluded or does not meet exemption criteria, then you have a hazardous waste that must be managed according to the hazardous waste regulations and you must count it. If the waste meets an exemption or has been excluded, then that waste is not subject to the hazardous waste regulations.

DO Measure:

- All quantities of listed and characteristic hazardous wastes that are:
 - Accumulated on the property for any period of time before disposal or recycling (drycleaners, for example, must count any residue removed from machines, as well as spent cartridge filters).
 - Packaged and transported away from your business.
 - Placed directly in a regulated treatment or disposal unit at your place of business.
 - Generated as still bottoms or sludges and removed from product storage tanks.

DO NOT Measure Wastes That:

- Are specifically exempted from counting. Examples include lead-acid batteries that will be reclaimed, scrap metal that will be recycled, used oil managed under the used oil provisions of 40 CFR 279, and universal wastes (e.g., batteries, pesticides, mercury-containing equipment, and bulbs [lamps]) managed under 40 CFR 273.
- Are in RCRA empty containers:
 - Containers have been emptied through conventional means such as pouring, pumping, or draining.
 - No more than one inch of material remains in the container or liner of the empty container.
 - No more than 3% by weight of the container remains for containers with a capacity of 110 gallons or less, and no more than 0.3% by weight remains for containers with a capacity greater than 110 gallons.
- Are reclaimed continuously on site without storing prior to reclamation, such as drycleaning solvents.

- Are managed in an elementary neutralization unit, a totally enclosed treatment unit, or a wastewater treatment unit, without being stored first.
- Are discharged directly to publicly owned treatment works (POTWs) without being stored or accumulated first. This discharge to a POTW must comply with the federal Clean Water Act. POTWs are public utilities, usually owned by the city, county, or state, that treat industrial and domestic sewage for disposal.
- Have already been counted once during the calendar month and are treated on site or reclaimed in some manner and used again.
- Have other special requirements. The federal regulations contain special, limited requirements for managing certain commonly generated wastes. These wastes can be managed following the less burdensome requirements instead of the usual hazardous waste requirements.

Generator Categories

Once you know that you generate hazardous waste, you need to measure the amount of waste you produce per month. The amount of hazardous waste you generate per month determines your generator category. Many hazardous wastes are liquids and are measured in gallons—not pounds. In order to measure your liquid wastes, you will need to convert from gallons to pounds. To do this, you must know the density of the liquid. A rough guide is that 30 gallons (about half of a 55-gallon drum) of waste with a density similar to water weighs about 220 pounds (100 kg); 300 gallons of a waste with a density similar to water weighs about 2,200 pounds (1,000 kg).

Use the totals calculated for the regulated hazardous waste streams to determine which one of the three generator categories applies to your facility (see table on next page). Your generator status may change from month to month depending on the type or quantity of activity. There are specific storage time and accumulation volume limits for any generator of hazardous waste. If the generator does not exceed these limits, a hazardous waste storage permit is not required. Reporting and record keeping requirements increase as a business generates more hazardous waste. It might be possible to reduce your generator status if you generate less hazardous waste at your business. This will result in your need to meet fewer regulations.

Hazardous Waste Generator Status		
Generator Status	Hazardous Waste Generated	Hazardous Waste Stored On-Site
Conditionally exempt small quantity generator (CESQG)	Less than or equal to 220 pounds per month (approximately one-half of a 55-gallon drum) Less than 2.2 pounds per month of acute hazardous waste	Maximum accumulation of 2,200 pounds (approximately four 55-gallon drums) Less than 2.2 pounds of acute hazardous waste on site
Small quantity generator (SQG)	Between 220 and 2,200 pounds per month (approximately one-half to four 55-gallon drums)	Maximum accumulation of 13,200 pounds (approximately thirty 55-gallon drums) and maximum storage time of 180 days Hazardous waste that is transported more than 200 miles away for recovery, treatment, or disposal can be stored for up to 270 days.
Large quantity generator (LQG)	2,200 pounds or more per month (more than four 55-gallon drums) 2.2 pounds or more per month of acute hazardous waste	Maximum storage time of 90 days

CESQGs and Hazardous Waste Management

As previously discussed, facilities that generate less than or equal to 220 pounds of hazardous waste in any one month are known as conditionally exempt small quantity generators. CESQG requirements:

- Must identify all the hazardous waste generated.
- May not accumulate more than 2,200 pounds of hazardous waste or 2.2 pounds of acute hazardous waste at any time.
- Must ensure that hazardous waste is delivered to a person or a facility who is authorized to manage it.

If you are a CESQG, IDEM does not prohibit you from discarding your non-liquid hazardous waste as part of your regular trash. However, you should not throw hazardous waste in the regular trash because:

- Your hazardous waste is subject to your hauler's and the disposal facility's approval. Disposal of hazardous waste may violate the contract with your hauler and/or disposal facility.
- Even though your trash is taken to a site that is permitted to accept solid waste, you remain liable for it. If a hazardous material ends up in the soil or ground water, you can be held financially responsible for helping with the cleanup.

- If you throw hazardous waste in with your regular trash, you cannot be certain of its final destination. There are health hazards associated with these wastes, and you do not want to harm anyone in your community. Keep in mind that children occasionally play around dumpsters and that children and trash collectors may be exposed to your hazardous wastes.

CESQGs that wish to be excluded from full hazardous waste regulations must comply with the requirements for CESQGs.

SQGs and LQGs and Hazardous Waste Management

■ Identification Numbers

SQGs and LQGs must obtain a U.S. EPA ID number. U.S. EPA and states use these 12-character numbers to monitor and track hazardous waste activities. You will need to use your U.S. EPA ID number when you manifest hazardous waste off-site.

If your business is an SQG or an LQG (or moves into one of these classifications) and does not have a U.S. EPA ID number, you should contact IDEM's Office of Land Quality at (317) 234-6951 or (800) 451-6027 ext. 4-6951 or refer to guidance at www.idem.IN.gov/5029.htm.

■ Manifests and Record Keeping

The Hazardous Waste Manifest

The multi-copy manifest forms are designed to track hazardous waste shipments from their point of generation to their final destination. Specific requirements depend on the type of waste shipped. You are required to list all the applicable hazardous waste codes for each hazardous waste you ship with the manifests.

The generator of the waste, the transporter, and the treatment, storage, and disposal facility (TSDF) that receives the waste must each sign and keep a copy of the manifest as they handle the waste. For the majority of generators, manifesting will be required.

Hazardous wastes that you send off-site must be accompanied by the Uniform Hazardous Waste Manifest form.

As the generator of the hazardous waste, you are responsible for ensuring that the manifest is correctly and completely filled out. The transporter must also be certain that the manifest is properly filled out before accepting the shipment. For this reason, many waste haulers will prepare the manifest for you and will then ask you to review and sign the manifest if all of the information is in order. Keep in mind that you are ultimately responsible for ensuring that the manifest is properly completed.

These are the specific steps to take when completing a manifest:

- Complete a Uniform Hazardous Waste Manifest each time you have hazardous waste transported to an off-site facility. You may obtain this form from your TSDF, transporter, broker, or a forms supply company.
- Ensure the person who signs the manifest has received proper training on the manifest form and procedures.
- Ensure each party that takes possession of the waste signs the original manifest and keeps one copy. The remaining portion of the manifest continues on with the hazardous waste shipment until it reaches its final destination.
- Ensure that the TSDF sends a signed copy of the manifest back to you to verify that the shipment actually arrived.
- SQGs and LQGs must maintain a copy of the completed manifest for three years.

Exception Report Requirements for LQGs

If the copy of the manifest is not sent to you within 35 days of the date the waste was accepted by your hauler, you must contact your hauler and/or the designated facility to determine the status of the hazardous waste.

If the copy of the manifest is not sent to you within 45 days of the date the waste was accepted by your hauler, you must complete an exception report and submit it to IDEM's Office of Land Quality. The exception report should be accompanied by:

- A legible copy of the manifest for which you do not have confirmation of delivery; and
- A letter that you or your designated representative has signed. The letter must explain the efforts you've taken to locate the hazardous waste and the results of those efforts.

Exception Report Requirements for SQGs

If the copy of the manifest is not sent to you within 60 days of the date the waste was accepted by your hauler, you must submit to IDEM's Office of Land Quality a legible copy of the manifest, along with a note or letter indicating that you have not received confirmation of delivery.

Land Disposal Restrictions

Small quantity and large quantity generators must send a one-time written notice with the initial shipment of hazardous waste to the TSDF containing specific language advising the TSDF whether or not the hazardous waste shipment is restricted from land disposal. A new notification must be sent when there is a waste or facility change. This is called a land ban notification.

The land disposal restriction (LDR) program requires hazardous waste not meeting LDR standards to be treated to render it less harmful to the ground water, surface water, and air when the hazardous waste is disposed of in landfills, surface impoundments, injection wells, concrete vaults, underground mines or caves, waste piles, or other land disposal locations. Both listed and characteristic hazardous wastes must meet the LDR treatment standards before being land disposed. Compare the standards that are found in 40 CFR 268 Subpart D, available at www.ecfr.gov, with the hazardous waste numbers generated at your facility.

The specific treatment standards are too numerous to include in this guide. For more information, refer to www.epa.gov/osw/hazard/tsd/ldr/ldr-sum.pdf. Discuss your specific LDR requirements with your TSDF or IDEM. Many TSDFs have preprinted the specific statements on forms that you can use to meet this requirement and will help you properly fill out the information. You are required to keep copies of the land ban notifications and certifications for at least three years after the last shipment of that waste.

Common violations regarding land ban notifications include:

- Failing to keep a copy.
- Missing a category or subcategory of waste information.
- Listing incorrect or outdated treatment standards or information that is inconsistent with the waste characterization.

Annual and Biennial Reports

Small and large quantity generators and TSDFs must submit a report each year which summarizes the hazardous waste they have shipped off-site or received from off-site during the previous year.

CESQGs that, for any one calendar month, generate more than 220 pounds or accumulate on-site at any time more than 2,200 pounds of hazardous waste will also be required to complete and submit the annual manifest report.

LQGs and TSDFs of hazardous waste must submit the annual manifest report every odd-numbered year which summarizes the RCRA hazardous waste generated, shipped off-site, treated on-site, or received from off-site during the previous even-numbered year.

In even-numbered years, LQGs and TSDFs should submit the biennial report, but not the annual manifest report, for activities conducted during the previous odd-numbered year. For more information on the annual and biennial reporting requirements, please visit IDEM's website at www.idem.IN.gov/6790.htm.

Due Dates:

Reports must be postmarked by March 1.

Extensions until April 1 may be granted for the biennial report only.

Reporting Schedule			
Report Period	Date Due	SQGs	LQGs
Jan. - Dec. 2013	March 1, 2014	Annual	Biennial
Jan. - Dec. 2014	March 1, 2015	Annual	Annual
Jan. - Dec. 2015	March 1, 2016	Annual	Biennial

■ Hazardous Waste and Universal Waste Accumulation On-Site

Accumulation Time Limits

You are allowed to accumulate hazardous waste on-site in containers or tanks for a specified number of days. If you exceed this period, you must obtain a permit for a storage facility. These limits are determined by your generator status and are identified below:

- Conditionally exempt small quantity generators (CESQGs) do not have a limited accumulation time, as long as the quantities accumulated are less than 2,200 pounds of non-acute hazardous waste or less than 2.2 pounds of acute hazardous waste. This limit was set so that a small business can accumulate enough hazardous waste to make shipping and disposal more economical.
- Small quantity generators (SQGs) can accumulate hazardous waste up to 180 days, or 270 days if the distance to the disposal site is over 200 miles. The total waste quantity must not exceed 13,200 pounds of non-acute hazardous waste or 2.2 pounds of acute or severely toxic hazardous waste.
- Large quantity generators (LQGs) can only accumulate hazardous waste up to 90 days.

During this time period, hazardous waste must be properly stored at your facility to prevent contamination of the environment. You must comply with specific state and federal regulations if your company has an SQG or LQG status. If you are a CESQG, you are not required by law to meet all of the requirements providing you do not exceed the 2,200 pounds of hazardous waste or 2.2 pounds of acute hazardous waste accumulation limit. However, you must still operate your business in a manner to prevent contamination and must assure delivery of hazardous wastes to their appropriate destination. You are also responsible for any contamination that occurs. It is recommended that you practice storage and inspection procedures similar to those required of the SQGs and LQGs to provide safeguards against environmental contamination.

Satellite Accumulation

It is permissible to accumulate up to a total of 55 gallons of hazardous waste or one quart of acutely or severely toxic hazardous waste in labeled container(s) at the point of generation as long as the operator has control of the processes generating the waste. This accumulation is generally referred to as using satellite containers. These containers must be labeled with the words “Hazardous Waste” or other words that identify the contents of the container, and be kept closed at all times except when waste is being added.

There is no limit on the number of containers that can be used at one satellite location or how long the satellite container can be kept at its location, as long as it is kept closed, and the 55-gallon total volume is not exceeded. Separate containers must be used for each waste stream, however. It further requires that when greater than 55 gallons of hazardous waste commences accumulating at a satellite area, the container(s) holding the excess of 55 gallons must additionally be marked with the date on which the accumulation of the excess of 55 gallons began, and must be managed in accordance with all applicable requirements for 90-day or less, or 180-day or less, storage [referenced in 40 CFR 262.34(a)] and removed from the satellite accumulation area to the designated 90-day or 180-day hazardous waste storage area within three days.

Universal Waste

Universal waste handlers can accumulate universal waste up to one year after generation or after receiving the waste from another handler. A longer storage time may be allowed if it is proven that it is necessary to accumulate enough universal waste to facilitate proper recovery, treatment, or disposal. A handler must be able to show how long they have had the waste. This can be done by one of the following:

- Labeling the container with the first date universal waste was put into it or when the container was received.
- Labeling the individual item with the date it was considered a waste or received as a universal waste.
- Maintaining an inventory system on-site, which identifies the date it became a waste or was received.
- Placing the universal waste in a specific accumulation area and identifying the earliest date that any universal waste was put in that area.
- Using any other method that clearly demonstrates how long the universal waste has been accumulating.

Transporters may store universal waste up to 10 days. If transporters exceed this period, they need to manage the universal waste according to the respective handler classification.

Container and Tank Requirements

Hazardous waste is commonly stored in either portable containers, such as pails, 55-gallon drums, and totes, or in above ground storage tanks. Generally, hazardous waste tanks must have secondary containment and leak detection systems; must follow special requirements for ignitable, reactive, and incompatible wastes; and must follow requirements for closure and post-closure. LQGs are required to inspect once each operating day, the overfill/spill control equipment, monitoring equipment data, and the above ground portions of the tank system, including construction materials and secondary containment, to detect releases or corrosion.

Avoid overfilling containers, especially if they are stored outdoors. Fifty-five gallons of some hazardous liquids can expand to 60 gallons or more when exposed to the heat and sun and may overflow. General requirements for all storage containers include:

- Containers must be labeled.
- Containers must be maintained in good condition.
- Any leaking containers must be replaced.
- Containers must be kept closed except when adding or removing waste.
- Containers must be compatible with the type of waste being stored in them.
- Incompatible wastes must not be placed in the same container.
- SQGs and LQGs are subject to inspecting areas where containers holding hazardous waste are stored. Areas must be inspected at least weekly, looking for leaks and for deterioration caused by corrosion or other factors. If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements.
- Containers must be kept in an area that meets the required isolation distance from property lines. Check for any local requirements. LQGs must have ignitable and reactive hazardous waste stored at least 50 feet from the property line.

There are additional federal hazardous waste regulations regarding air emissions of hazardous waste that are too complex to include in this guide. See 40 CFR Part 264 and Part 265, which address air emissions from process vents associated with certain types of hazardous waste management processes (Subpart AA) and leaks from certain types of equipment at TSDFs and LQGs (Subpart BB). At such facilities, owners and operators are required to install control equipment and employ management practices to reduce air emissions from affected units and equipment. Subpart CC regulates organic air emissions from tanks, surface impoundments, and containers located at hazardous waste treatment storage and disposal facilities and large quantity generators.

Universal Waste

Universal waste must be stored in a way that prevents any spills or releases. Containers must be kept closed, in good condition, and be compatible with the type of universal waste stored in them.

■ Labeling Requirements

The proper labeling of waste helps to ensure that it is not mismanaged. Labeling helps to protect workers. If the contents of drums are not known, the chances of a worker being exposed to hazards or being injured are great. An explosion can occur if wastes that are incompatible are mixed with unknown wastes in a drum. Labeling requirements differ for hazardous waste being accumulated on-site and that being shipped. More extensive information is required on labels for shipping. In addition to meeting the labeling requirements for containers, you should also clearly mark the accumulation area so employees know that hazardous waste is being kept there, and any special precautions, such as posting “No Smoking” signs.

U.S. Department of Transportation regulations specify which containers, packaging, labels, and placards must be used for shipping hazardous materials. The hazardous waste regulations require SQGs and LQGs and universal waste handlers to have the appropriate placards available for the transporter. For more information about these shipping requirements, visit U.S. DOT’s website at <http://phmsa.dot.gov/hazmat>.

Labeling Hazardous Waste Satellite Containers

Satellite accumulation containers must be labeled with the words “Hazardous Waste,” or other words that identify the contents, and kept closed at all times, except when waste is being added. Once the volume exceeds 55 gallons, the container holding the excess accumulation must be:

- Labeled with that date (which would be considered the accumulation date); and
- Moved into the accumulation area within three days.

Labeling Hazardous Waste for Accumulation On-Site

Each container must be labeled with the following when a waste is accumulated on-site and not in a satellite area:

- The words “Hazardous Waste.”
- An accumulation date (meaning the date waste was first put into the container, unless it was first a satellite container—then it would be the date the volume in the container met or exceeded 55 gallons).

Although not required, it is helpful for employees to also label the storage containers with the common name of the waste with which it is being filled. For example, containers also might be labeled with “Waste Solvent.”

You are not required to use any specific label to meet these requirements. You can stencil the information on the containers or you can purchase commercially made labels. You may also use the shipping label as long as the above information is filled out. Make sure the label you use does not become unreadable or dissolve if exposed to the weather or hazardous materials. This can be a problem with containers holding solvents.

Labeling Universal Waste for Accumulation On-Site

You need to label the container as “Universal Waste,” or, per IC 3.1-16-2, with other words that identify the container’s contents (such as waste batteries).

Labeling Hazardous Waste for Shipment

Hazardous waste must be shipped in containers acceptable for transportation and properly labeled. Each container must have the hazardous waste number identifying the waste as well as the following statement:

“Hazardous Waste – Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.”

A container must also have the headings “Generator Name and Address” and “Manifest Document Number,” with that information provided. This label and others are available from commercial firms including mail order companies. Properly labeled containers also include:

- Labels clearly identifying the type of waste and its hazards in that particular container.
- The accumulation date.
- Appropriate U.S. DOT labels for characteristics, such as flammable and corrosive.

Your hazardous waste transporter should be able to help you properly label the containers for transport. For information on additional transportation requirements, visit U.S. DOT’s website at <http://phmsa.dot.gov/hazmat>.

Labeling Universal Waste for Shipment

Universal waste must be properly labeled and packaged prior to shipment. For example, there are specific requirements for proper packaging and separation requirements for shipping certain batteries. If the universal waste is a hazardous material under U.S. DOT regulations, then that waste has to be packaged, labeled, marked, and placarded according to the requirements under 49 CFR 172-180. Discuss these requirements with U.S. DOT (see Chapter 6, *Hazardous Material Transportation*, for additional information).

■ Contingency Plans for Hazardous Waste Generators

The hazardous waste regulations require large quantity and small quantity generators to be prepared in case of a fire, explosion, or release of hazardous waste, and to maintain and operate their businesses in a way that minimizes these risks. Conditionally exempt small quantity generators are not required to have a contingency plan, but are highly encouraged to also be prepared. This contingency plan may be included in the generator's Emergency Action Plan.

Basically, generators of hazardous waste are required to comply with the following:

- Have the following proper emergency equipment available at the scene of operations and test and maintain that equipment as necessary:
 - Communication devices (phones, radios, intercom, etc.).
 - Portable fire extinguishers.
 - Spill control equipment (absorbents, containers, kits).
 - Water for fire control in sufficient volumes.
- Have immediate access to an internal alarm system where personnel can activate an alarm within seconds, not minutes.
- Provide and maintain sufficient aisle space in the hazardous waste handling areas to ensure access of emergency equipment and emergency personnel.
- Large quantity and small quantity generators must identify one employee as the emergency coordinator who will be on-site or on call and who will coordinate all emergency response activities. It is recommended that you identify alternative coordinators to cover when the primary person is on vacation or otherwise not available. Generators must post the following next to their telephones:
 - Name and telephone numbers of the emergency coordinator and alternates.
 - Locations of fire extinguishers, alarms, and spill control material.
 - Location of fire alarms if direct to fire department, or the telephone number of the local fire department.

Although the contingency plan provides a plan of action during and following an emergency situation, training is necessary and required to ensure that the correct actions are taken during an emergency. In addition to the training given to all personnel, the emergency coordinators should receive specialized training for this role. A crew of employees should also be specially trained to assist the emergency coordinator in dealing with an emergency.

The contingency plan must be implemented for an on-site, as well as an off-site, release that could threaten human health and the environment, even if the emergency coordinator does not believe that the wastes will leave the site. The contingency plan was designed to deal with threats to facility personnel, as well as with threats to people outside the facility.

At a minimum, the plan must map out general strategies to deal with both sudden and non-sudden events. Such strategies must involve outlining a series of steps to be taken in response to an incident and should include decision points where outside assistance may be required and the circumstances under which evacuation of the facility is advisable.

The following criteria should be used in the contingency plan implementation decision process:

The contingency plan must be implemented if an imminent or actual incident could threaten the environment or human health.

- **Spills:**
 - The spill could result in a release of flammable liquids or vapors, creating a fire or gas explosion hazard.
 - The spill could cause the release of toxic liquids or fumes.
 - The spill can be contained on-site but the potential exists for ground water pollution due to aquifer contamination.
 - The spill cannot be contained on-site, resulting in off-site soil contamination and/or ground or surface water pollution.
- **Fires:**
 - The fire could cause the release of toxic fumes. If the fire spreads, it could ignite materials at other locations at the site or cause heat-induced explosions.
 - The fire could spread to off-site areas.
 - Use of water or chemical fire suppressants with water could result in contaminated run-off.
- **Explosions:**
 - An imminent danger exists that an explosion could occur, resulting in a safety hazard due to flying fragments or shock waves.
 - An imminent danger exists that an explosion could ignite other hazardous waste at the facility.
 - An imminent danger exists that an explosion could result in release of toxic material.

Emergency Coordinators

The facility must select at least one employee who is either on the premises during normal operational periods or is available to respond to an emergency by reaching the facility within a short period of time. This employee must be designated the primary emergency coordinator. The emergency coordinator is responsible for coordinating all emergency response measures and being thoroughly familiar with:

- The facility's contingency plan.

Chapter 4

Waste Management Regulations

- All operations and activities at the facility.
- The location and characteristics of waste handled.
- The location of all records within the facility.
- The physical layout of the facility.

The emergency coordinator must have the authority to expend funds and recruit employees to implement the contingency plan. The owner/operator should also select alternate emergency coordinators if, for some reason, the designated emergency coordinator may be unavailable. The appropriate level of response to a particular incident is largely a matter of professional judgment. However, the full range of response methods to be employed in a variety of potential situations can be anticipated and, thus, should be outlined as emergency procedures. The level of detail appropriate for these response procedures is dependent upon a number of factors including:

- The type of waste handled.
- The potential for fires, explosions, or releases.
- The immediate health and safety effect of the incident upon personnel.
- The potential hazard to the outside environment.

Immediately upon discovery of an imminent or actual emergency, the first duty of the emergency coordinator is to warn the operating personnel, since they are likely to be the first group exposed to danger. Secondly, appropriate state or local emergency response agencies should be called if their assistance is needed to cope with the emergency.

In the event of a release, fire, or explosion, the emergency coordinator must identify the character, exact source, amount, and extent of any released material. He also must assess possible hazards to the environment and human health. The identification of the discharged material may be accomplished through observation, review of manifests, and, if necessary, by chemical analysis, although response should not be delayed until the analysis is complete.

If the release, fire, or explosion could threaten the environment or human health, the emergency coordinator must immediately notify the appropriate local authorities, and notify either the U.S. EPA on-scene coordinator for that geographical area or the National Response Center at (800) 424-8802, and the IDEM Emergency Response Section at (317) 233-7745, or (888) 233-7745 (toll free nationwide).

During the emergency control phase, the emergency coordinator must take all reasonable steps necessary to ensure that explosions and releases do not occur, recur, or spread to other hazardous waste at the facility. These steps include, where applicable, stopping operations. The emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever appropriate. Details should be provided to emergency personnel concerning the types of on-site emergency equipment to be used and the need for personal protective equipment.

Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material. The recovered material must be handled as a hazardous waste unless it is a characteristic hazardous waste only, which is analyzed and determined not to be hazardous. The emergency coordinator must ensure that in the affected areas of the facility, no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed. All emergency equipment must be cleaned and made fit for its intended use before operations are resumed.

The contingency plan must include a list of all emergency equipment at the facility, with the location of this equipment noted, and a physical description of each item on the list provided along with a brief outline of the equipment capabilities. Emergency equipment will vary from facility to facility, but must include the following, as required by the regulation, unless none of the hazards posed by waste handled at the facility could require the equipment's use:

- An internal communication or alarm system capable of providing emergency instructions.
- A device capable of summoning external assistance (telephone or two-way radio).
- Portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment.

Facility personnel will use this list during an emergency. The format for the list should, therefore, allow identification of any needed equipment and its location in the easiest possible manner. It is suggested that a plot plan showing the locations of the equipment also be included in the contingency plan.

Evacuation Plan

The contingency plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. Where no possibility exists that facility evacuation could ever be necessary, this plan element may be omitted. Situations that would warrant partial or complete evacuation are as follows:

- Explosions resulting in airborne debris including container fragments and hazardous waste.
- Spills or chemical reactions resulting in toxic fumes.
- Fire when it cannot be contained and is spreading to other parts of the facility, or when fire could generate toxic fumes.
- All incidents where necessary protective equipment is not available to emergency response personnel.

The evacuation plan must ensure the safe egress of facility personnel. The evacuation plan must indicate a recognizable signal to start evacuation, evacuation routes, and

alternate evacuation routes (in case primary exit routes are blocked by releases of hazardous waste or fires).

Required Reports

Within 15 days after an incident requiring implementation of the contingency plan, the owner or operator must submit a written report on the incident to the U.S. EPA regional administrator and the IDEM commissioner which includes:

- Name, address, and telephone number of owner/operator.
- Name, address, and telephone number of the facility.
- Date, time, and type of incident.
- Name and quantity of materials involved.
- An assessment of actual or potential hazards to human health or the environment.
- Estimated quantity and disposition of recovered material that resulted from the incident.

Before operations are resumed in the affected areas of the facility, the owner/operator must notify the U.S. EPA regional administrator and appropriate state and local authorities that the facility is in compliance with follow-up procedures to an emergency prior to resuming operations in the affected areas.

Amendment of the Contingency Plan

The contingency plan must be reviewed, and immediately amended, whenever the following situations apply:

- Applicable regulations are revised;
- The plan fails in an emergency;
- The facility changes its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases;
- The list of emergency coordinators changes; or
- The list of emergency equipment changes.

For guidance on hazardous waste contingency plans, refer to www.idem.IN.gov/files/la-036-gg.pdf.

Selecting a Transporter and Treatment, Storage and Disposal Facility

Ultimately, the generator is responsible for assuring proper transportation and disposal of the waste after it leaves the facility. As such, the waste needs to be properly prepared for shipment and a reputable firm hired to handle the waste. It is important to select a waste transporter and treatment, storage and disposal facility (TSDF) that you are comfortable doing business with and that provides the best services for your particular circumstances, at a reasonable price. Transporters can assist you by reviewing the manifest for correct and complete information, providing information on disposal facility options and costs, and ensuring safe and timely transport of your wastes. Transporters may be independent companies or may be affiliated with a TSDF. There are requirements for transporters hauling either hazardous waste or liquid industrial waste. Requirements for transporters include: obtaining a U.S. EPA ID number, complying with the manifest system, responding appropriately to hazardous waste discharges, and complying with all applicable U.S. DOT regulations.

You will want to select a TSDF that can handle, treat, and dispose of the waste you generate. A TSDF accepts only those types of wastes allowed by its permit or operating license. In addition, some facilities have their own requirements as to how they accept waste material. For example, some companies will not accept hazardous waste in drums even though this is a common storage and transportation method.

Because transporter and TSDF services and costs are highly varied, you should contact and interview several facilities to obtain price estimates before making a selection. You might also want to tour the TSDF yourself to see its operations. Remember that, as the generator, you are ultimately responsible for how your waste is transported and disposed, so it is wise to choose a company on more than price. Use the following list of questions as a starting point for your interviews, and compare the companies' responses before making your selection.

■ Questions to Ask Prospective Transporters and TSDFs

1. Is the hazardous waste transporter permitted and registered, and does the TSDF have an operating permit?
2. What type and amount of insurance does the transporter or TSDF carry? Because you are ultimately responsible for the waste you generate, you should make sure that the company has insurance to cover accidents and environmental spills. To protect yourself financially, ask to see proof of the insurance.
3. If you are hiring an independent transporter, find out what TSDF the transporter uses for your type of waste. If the waste is going to a treatment facility before disposal, where is the ultimate place of disposal for the treated wastes?

4. Does the transporter or TSDF serve other businesses similar to yours? If so, obtain telephone numbers and contact these companies to evaluate the services they received.
5. Does the transporter deliver waste to the treatment, storage, or disposal facility the same day that it's picked up? If not, ask questions about the company/location where the waste will be stored.
6. What steps does the transporter or TSDF operator take to avoid spills or leaks and minimize the facility's own legal liability? You may want to note for your records the method of temporary waste storage used at a treatment or recycling facility. A company that costs more to take your waste but practices an extensive environmental protection program may actually be cheaper in the long run than a company that initially costs less but does not practice adequate environmental protection. If contamination occurs, you can be held financially responsible for the site cleanup costs.
7. Have any violations of state regulations occurred? For Indiana companies, review the searchable enforcement database at www.IN.gov/apps/ide/oe/ide_oe_order or call IDEM's Office of Land Quality at (317) 234-6951 or (800) 451-6027, ext. 4-6951 to find out whether any transporter or TSDF you are considering has been subject to fines or citations for violations of state regulations. Most transporter and TSDF files are also available for public review.
8. Will they enter into a written contract with you? For liability protection, it is a good idea to have a written contract that clearly identifies what services the company will provide. Be cautious of firms that do not want to offer a written contract for services.

If you are a CESQG, you are not required to hire a permitted and registered hazardous waste transporter or dispose of your hazardous waste at a TSDF. However, it is recommended that you use a hazardous waste disposal facility or recycle your waste. In a few Indiana areas, the local household hazardous waste collection programs accept hazardous waste from CESQGs for a fee or no cost. Your waste that is not considered a liquid waste (i.e., passes the paint filter liquids test) can be disposed of at a sanitary landfill, if the landfill authority will accept it.

Disposing of Hazardous Waste On-Site

You may NOT dispose of hazardous waste on your site unless you have obtained a permit from IDEM. Under limited circumstances, it might be legal to dispose of certain types of waste into a sanitary sewer or on your site without a TSDF permit. See Chapter 2, *Water and Wastewater Regulations*, for more information. Contact your local wastewater treatment facility or IDEM's Office of Water Quality at (800) 451-6027, ext. 2-8670 or (317) 232-8670 for information about which wastes from your facility can be disposed of in this manner.

Employee Emergency Training

This section discusses emergency training requirements under the hazardous waste regulations. Other regulations also require employees to be trained on proper waste handling and how to effectively respond to emergencies in a manner that protects their safety and the environment. Training involves familiarizing employees with emergency procedures; emergency equipment; emergency systems, such as communication or alarm systems; response to fires or explosions; shutdown of operations; response to unplanned sudden or non-sudden releases of hazardous waste; and, their roles in implementing the hazardous waste contingency plan relevant to their positions.

Training is required for all employees who are involved with hazardous waste management. You can tailor your training specifically to the hazardous waste procedures relevant to your facility and employee involvement. In addition to having emergency training requirements, hazardous waste generators and universal waste handlers have release planning, notification, and response requirements. CESQs do not have specific training requirements under the hazardous waste regulations. SQGs can provide emergency training in an informal manner or concurrently with other training sessions. Written records are not required, although they are encouraged. There is no stipulated review period.

LQGs have specific employee training requirements that include keeping written records of employee training. Training records for current employees are to be maintained until the facility closes. Training records for prior employees are to be maintained for three years after the last date of employment. Hazardous waste training can be provided in a classroom setting or during on-the-job instruction by an expert or someone with significant experience in hazardous waste management. It is necessary to have a written description of the type and amount of training. Employees must be trained within six months after starting work on a job involving hazardous waste and then receive annual training. Annual training means one year from the date of the initial training. This training can be combined with other training sessions as long as a portion of the training is clearly devoted to hazardous waste requirements. Training under the Hazard Communication Standard alone, as required by the Indiana Occupational Safety and Health Administration, is not sufficient to meet the hazardous waste training requirements.

Some common hazardous waste training violations include:

- Missing or incomplete records of required training for LQGs (e.g., job title, job description, or employee name is omitted);
- Missing written training description for LQGs;
- Failing to have employees trained annually for LQGs; and/or
- Using another required emergency training program which does not have a portion clearly devoted to the hazardous waste requirements.

IDEM nonrule policy documents that pertain to this section, including *Hazardous Waste Personnel Training*, are available on IDEM's website at www.idem.IN.gov/5026.htm.

Small quantity and large quantity handlers of universal waste must inform employees who handle or have responsibility for managing universal waste about the proper handling and emergency procedures relative to their responsibilities and appropriate for the type of universal waste handled at that facility.

Managing Specific Waste Streams

For information regarding the proper management of various types of waste that are commonly found in manufacturing operations, please check IDEM guidance documents on specific waste disposal issues on IDEM's website at www.idem.IN.gov/5026.htm.

Used Oil

Used oil includes any petroleum-based or synthetic oil that has been used, such as engine oil, sludge from used oil tanks, transmission fluid, refrigeration oil, compressor oil, and hydraulic fluid. One gallon of oil can contaminate up to one million gallons of water. The effect of oil on organisms can include genetic damage, structural deformities, reduced egg volume, and reproductive failure.

■ Additives and Contaminants – Hazards and Impacts

As oil circulates through the engine, the oil may become contaminated with heavy metals, including lead. In addition, used oil is also contaminated with products of incomplete combustion, which contain a number of known carcinogens.

High concentrations of lead may make the oil a hazardous waste. Oil may also become contaminated through contact with gasoline, which could make the used oil a hazardous waste due to benzene contamination and/or flammability.

■ Used Oil Management

Two environmental management options currently exist for businesses with used oil. The first option is to recycle your used oil or to burn it for energy recovery under the Used Oil Rule. The second option is to dispose of your used oil, following all applicable solid and hazardous waste rules. Managing your used oil under the Used Oil Rule (rather than the solid and hazardous waste rules) lessens your regulatory requirements.

If you store your used oil in a tank, the tank must meet the Indiana Department of Homeland Security, Division of Fire and Building Safety's requirements for Class I liquids (even though used oil is a Class III(b) liquid). Note that the Indiana Fire Prevention and Building Safety Commission defines a tank as anything that holds more than 60 gallons.

Generators of used oil are required to:

- Clean up spills promptly.
- Keep oil storage containers and above ground tanks in good condition. Drums and storage tanks used to store oil cannot be rusting or leaking.
- Label all used oil storage tanks and piping or containers with the words “Used Oil.”
- Recycle your used oil or burn it for energy recovery in an authorized device.
- Do not mix used oil with hazardous wastes.
- Determine the halogen content of the used oil by using generator knowledge or by using a test kit for halogens (available from safety supply dealers). If the used oil contains more than 1,000 parts per million (ppm) total halogens, it is presumed to have been mixed with a hazardous waste and must be treated as a hazardous waste unless you can demonstrate that the source of the halogens was not from mixing a hazardous waste with your used oil.
- For off-site shipments, you must ensure that the transporter has a U.S. EPA ID number.
- You may transport less than 55 gallons of your own used oil (or oil that has been collected through a household do-it-yourself collection program) at any time to a used oil collection center or to your own aggregation point without a U.S. EPA ID number. An aggregation point is a collection center designed to accept small amounts of used oil and store it until enough is collected to ship it elsewhere for recycling.

Listed below are suggested best management practices:

- Instruct employees to clean hands and arms frequently if they are exposed to used oil and/or grease to prevent skin irritation. Employees must not use gasoline to cleanse themselves or for other cleaning purposes.
- Instruct employees to change oil-soaked clothing, as it is a fire safety hazard in addition to being a source of skin problems.
- Use secondary containment and keep used oil tanks and containers under cover.
- Maintain absorbent materials in used oil storage areas.
- Train employees on emergency spill procedures.

■ Recycling or Burning Used Oil for Energy Recovery (329 IAC 13)

Complying with the Used Oil Rule means that you do not have to manage your used oil or the settled solids from your used oil tank as a hazardous waste. Even if the used oil to be recycled or fuel blended is contaminated with a hazardous material from product formulation or through its intended use (such as when contaminants mix with oil in the crankcase), the used oil is still regulated under the Used Oil Rule rather than as a hazardous waste. In order to comply with the Used Oil Rule, you must properly manage your used oil (e.g., don't mix anything other than waste fuels with your used oil), and you must either recycle your used oil or burn it for energy recovery. Oil that is intentionally or accidentally mixed with a hazardous material must be managed as a hazardous waste.

Under the Used Oil Rule, both re-refining and burning of used oil for energy recovery are considered to be forms of recycling. Re-refining is the preferred method of managing used oil because it preserves our limited resources. However, in some instances, such as when you are disposing of settled solids from the bottom of your used oil tank, or disposing of petroleum contaminated wipes, sorbents, or spill materials, burning the material for energy recovery is the better management option. If you choose to burn your used oil in your own used oil furnace, be aware that there are additional rules that you must follow under the Used Oil Rule. Because small oil-burning furnaces are not as clean-burning or as efficient as industrial furnaces, IDEM recommends that you send your used oil to a fuel blender rather than burning it on-site.

Some requirements for burning used oil include:

- Have a used oil burner with a maximum capacity of not more than 500,000 Btu/hr.
- Install the used oil burner in the garage area (not the business's office) and in accordance with the regulations of IDHS's Indiana Fire Prevention and Building Safety Commission.
- Vent the heater's combustion gases outside of the building. Note that the used oil burner cannot be connected to the heating duct work.
- Burn only used oil that the business generates or used oil received from households that bring their used oil to your business.

■ Disposing of Your Own Oil

If a generator of used oil wishes to dispose of it, he must first determine whether it is a hazardous waste, and then dispose of it accordingly.

For More Information

Compliance and Technical Assistance Program (CTAP)	<p>CTAP provides free and confidential environmental assistance to Indiana businesses. CTAP is a nonregulatory program. CTAP staff are available weekdays to answer your environmental questions regarding air, water, and waste regulations, pollution prevention, and recycling. CTAP offers a Quality Assurance Guarantee that IDEM will not issue a Notice of Violation assessing a gravity-based penalty against a regulated entity that has sought out, received, and relied upon CTAP's written compliance assistance prior to the alleged violation.</p> <p>(800) 988-7901 (toll free in Indiana) or (317) 232-8172 www.idem.IN.gov/ctap</p>
Emergency Response	<p>IDEM – Office of Land Quality <i>Emergency Response Section</i> (317) 233-7745 or (888) 233-7745 (toll free nationwide) www.idem.IN.gov/4155.htm</p>
Industrial and Hazardous Waste Compliance	<p>IDEM – Office of Land Quality <i>Industrial and Hazardous Waste Compliance Section</i> (317) 234-6951 or (800) 451-6027, ext. 4-6951 www.idem.IN.gov/4996.htm</p>
Resource Conservation and Recovery Act	<p>www.epa.gov/osw</p>
Solid Waste Management Districts	<p>www.recycle.IN.gov</p>

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