

Lesson: Environmental Risk

Lesson Objectives:

- Identify the environment laws and employer's regulatory compliance to the management of waste.
- Identify the environment laws and employer's regulatory compliance governing air and water pollution.
- Identify the specific environmental laws, hazards, and controls for asbestos, lead-based paint, and mold-like contaminants

Topics

- Waste Disposal
- Water and Air Pollution
- Specific Hazards and Controls

Topic: Waste Disposal

This topic introduces the regulations for managing the handling and disposing of the various sources of waste generated by construction. Having completed this topic, you should be able to:

- Identify the long-term risk management and legal liability issues concerning waste management
- Identify the regulations imposed on construction debris, hard fill, and solid waste
- Determine the additional regulations for these special risk wastes: asbestos, PCBs, lead-based, universal wastes, and used oil
- Identify hazardous wastes and describe the three categories of hazardous waste generators
- Identify risk management associated with construction sites and underground tanks
- Explain the risk management issues of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

Topic summary:

Please take a moment to review these major points before you continue with the next topic.

- The Environmental Protection Agency (EPA) regulates all this waste under the federal Resource Conservation and Recovery Act (RCRA) and equivalent state laws govern the management and disposal of waste materials. The goal is to protect us from the hazards of waste disposal; conserve energy; and clean up waste, which may have spilled, leaked, or been improperly disposed.
- There are two aspects to be mindful of when dealing with a waste material. The first is a long-term risk management issue and the second is a legal liability issue.
- There are five basic categories of waste material that you need to be concerned with:
 - Hazardous Waste
 - Special Wastes (Asbestos, Polychlorinated Biphenyls (PCBs) and Universal Wastes)
 - Solid Waste
 - Construction and Demolition (C&D) Debris and Yard Waste
 - Clean Hard Fill
- A "generator" includes any person who first creates or produces a hazardous waste or first brings a hazardous waste into the RCRA system. The degree of regulation to which each generator is subject depends upon how much waste the generator produces each month.
- Most construction sites will be Conditionally Exempt Small Quantity Generators (CESQGs), but it is important to remember that it is the entire amount of waste generated at the entire site in

each month that dictates the facility's regulatory status not the amount of waste generated by each contractor.

- Underground storage tanks (USTs) have been commonly used for many years as a means of storing flammable, combustible and other hazardous materials.
- Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the "Superfund" law, in 1980. This law imposes liability for releases or threatened releases of hazardous substances that may endanger public health or the environment. Liability at Superfund sites often runs into the millions of dollars.

Topic: Water and Air Pollution

In addition to waste disposal, the construction treatment of air and water need to be managed to protect the environment. This topic provides an overview of the regulations that prevent air and water pollution. Having completed this topic, you should be able to:

- Evaluate the water environmental laws governing storm water, wetlands protection, and spill prevention
- Apply for a permit to install and operate air emission sources
- Define the standards set by the National Emission Standards for Air Pollutants
- Recognize the prohibition of open burning
- Identify the risks and regulations applied to lead-based paint
- Explain the notification and annual reporting policies under the Emergency Planning and Community Right-to-Know Act (EPCRA)

Topic summary:

Please take a moment to review these major points before you continue with the next topic.

- Construction needs to follow environmental laws imposed on storm water, wetlands protection, spill protection, and other water pollutants
- Air pollution regulations apply to permits, National Emissions Standards for Hazardous Air Pollutants (NESHAP), open burning, and lead-based paint
- The Emergency Planning and Community Right-to-Know Act (EPCRA) mandates initial and annual reporting of the presence of hazardous chemicals at a facility

Topic: Specific Hazards and Controls

In this topic you will learn specific hazards and controls for several environmental risks. Having completed this topic, you should be able to:

- Identify the health effects and actions required for working with asbestos
- Identify the health effects and actions required for working with lead-based paint
- Identify the health effects and actions required for working with mold contamination

Topic summary:

Please take a moment to review these key points before you continue with the next topic:

- Asbestos is a microscopic, fibrous mineral silicate that is strong, durable, heat resistant, and virtually indestructible. In construction it is used for insulation, fireproofing.
- Because extended exposure to asbestos can cause serious side effects including lung cancer, the EPA requires a site inspection and consultation with an industrial hygienist to address health hazards on the job.

- Lead-based paint, which has been used in construction for years coats steel structures, exterior wood framing, and many interior components. Its removal produces high concentrations of airborne lead dust and fumes. In time this coating becomes cracked, chipped, corrodes and dislodges lead into the air.
- Lead is highly toxic and affects every system in the body. At low levels it can cause stomach pain, headaches, anxiety, and poor appetite. At high levels it can cause comas, convulsions, and death.
- OSHA and NIOSH recommends that all lead containing paint coating be removed prior to conducting hot work and other lead hazards be removed from the work. There are many mechanical and chemical means to strip the paint.
- Mold is simply a universal term used to describe organisms grouped in the phylum fungi, which are organisms that obtain nutrients by breaking down organic materials and then digesting its nutrients.
- Health effects from mold exposure fall into the following categories: allergy, infection, irritation, and toxicity.
- If you find mold on your project, call your Safety Director. Do not disturb the mold. Take no steps to self-remediate. There are several outside resources you can use for information and guidance including contractors' associations (like AGC), your environmental firm, or your insurance company.