

INTRODUCTION TO HAZWOPER **RETRAINING**

COURSE OUTLINE

- **What is "hazardous waste"?**
 - Some people see it as "spent" chemicals.
 - Others think of it as an industrial by-product.
 - But most of us do recognize that it is something that can cause us harm.
 - To truly understand what "hazardous" means, we need to look at regulations that have been set up by several different government agencies.
- **In the Hazard Communication Standard, OSHA defines a "hazardous chemical" as any chemical which is either a physical hazard or a health hazard.**
- **According to OSHA, chemicals that present "physical hazards" include:**
 - Combustible liquids.
 - Compressed gases.
 - Flammables.
 - Explosives.
 - Oxidizers
 - Organic peroxides.
 - Reactive chemicals.
- **"Health hazards" include chemicals that are:**
 - Sensitizers.
 - Irritants.
 - Corrosives.
 - Toxic agents.
 - Carcinogens.
- **The U.S. Department of Transportation defines a "hazardous material" as a substance which can pose an "unreasonable risk to health, safety or property when transported".**
 - This includes any material listed in the appendix to the DOT hazardous materials table.

- **When the U.S. Environmental Protection Agency (EPA) defines "hazardous substance" in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), they refer you to lists of materials in:**
 - The Clean Water Act.
 - The Resource Conservation and Recovery Act (RCRA).
- **In RCRA, the EPA defines "hazardous waste" as "any discarded material which is regulated... because it exhibits the characteristic of ignitability, corrosivity, reactivity or toxicity."**
- **As you can see, these definitions vary. Taken together, however, a common picture emerges. The DOT, the EPA and OSHA agree that hazardous materials and waste:**
 - Can injure, sicken or kill.
 - Has the potential to do this to many people at the same time.
- **Now that we have defined hazardous waste, we must be able to recognize it. The most obvious places to look are:**
 - Container labels.
 - Warning stickers.
 - Hazard placards.
- **More detailed hazard information can be found on:**
 - Safety Data Sheets (SDSs).
 - Shipping papers.
 - Other official documentation.
- **However, in some cases hazardous waste can only be identified through:**
 - Air monitoring.
 - Laboratory analysis.
- **How do we protect ourselves from hazardous waste? That's where "HAZWOPER" comes in... OSHA's Hazardous Waste Operations and Emergency Response Standard.**
 - To get a good understanding of HAZWOPER, let's start at the beginning.

- **In 1976, the EPA passed the Resource Conservation Recovery Act (RCRA). It covers operations where hazardous waste is:**
 - Generated.
 - Treated.
 - Stored.
 - Disposed.
- **The act regulates the handling of hazardous waste from "cradle to grave"... from its creation to its final destination.**
- **In 1980, the EPA passed the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).**
 - It provides for cleanup of hazardous materials at sites not covered under RCRA.
 - These so-called Asuperfund sites are mainly abandoned or uncontrolled hazardous waste sites.
- **In 1986, the EPA amended CERCLA with the Superfund Amendments and Reauthorization Act (SARA).**
 - SARA provided nine billion dollars to fund hazardous waste cleanup operations.
 - It charged OSHA with setting standards to protect workers involved in cleaning up superfund sites.
- **In response to SARA, OSHA created the Hazardous Waste Operations and Emergency Response Regulation (HAZWOPER), which took effect in 1990. HAZWOPER covers workers:**
 - At hazardous waste treatment, storage and disposal facilities.
 - At hazardous waste cleanup sites.
 - Taking part in emergency response operations involving hazardous substances.
- **As a worker covered by HAZWOPER, you receive various types of training and information based on the job you do and the environment you work in.**
 - You must also undergo "refresher training" at least once a year.
 - That is the purpose of this program.
- **HAZWOPER requires your operation to establish and maintain several written plans.**
 - The first is the "site safety and health plan."

- This plan is designed to help identify, evaluate and control workplace hazards.
- **The site safety and health plan contains:**
 - A description of your group's organizational structure.
 - A comprehensive work plan for your operation, including standard operating procedures.
 - A site-specific safety and health training program.
 - Guidelines for the medical surveillance of workers who may be exposed to hazardous waste.
- **Your operation also has a written "emergency response plan" which provides instructions on how to report and handle emergencies, including information on:**
 - The roles of various personnel.
 - Lines of authority.
 - Methods of communication.
 - Training for emergency response.
- **The emergency response plan also addresses:**
 - Recognizing and preventing emergencies.
 - Site security.
 - Evacuation procedures.
 - Hazardous spills.
 - First aid.
 - Emergency medical treatment.
 - Decontamination procedures.
- **The emergency response plan and the site safety and health plan both need to address the specific hazards present in your workplace.**
- **To do this, the site must first be accurately described. This process is called "site characterization" and:**
 - Identifies the specific hazards that are present.
 - Determines the equipment, procedures and other controls necessary to protect workers at the site.

- **Site characterization starts with a "preliminary evaluation".**
 - This determines what precautions need to be taken to do a thorough analysis of the site.
 - The initial investigation focuses on conditions which are "Immediately Dangerous to Life and Health" (IDLH).
- **These conditions include:**
 - Confined spaces.
 - Potentially flammable or explosive atmospheres.
 - Visible vapor clouds.
 - Other immediate dangers.
- **When these hazards have been controlled, a more detailed hazard evaluation can be performed.**
- **Once the area has been thoroughly characterized, a "site control program" must be established.**
 - This is part of your group's safety and health plan.
- **The program outlines the "system of controls" used to minimize hazards at the site, including:**
 - Engineering controls.
 - Work practices.
 - Standard operating procedures.
 - Personal protective equipment (PPE).
- **"Engineering controls" are equipment designed to prevent or reduce your exposure to hazards. This can include:**
 - Ventilation systems which remove contaminated air from your work area.
 - Pressurized cabs which protect operators of material handling equipment from contaminated air.
- **"Work practices" are policies, procedures, or activities which can reduce or prevent your exposure to hazardous waste. Examples include:**
 - Wetting down dusty operations.
 - Staying upwind of possible airborne hazards.
 - Removing non-essential personnel from areas of potential exposure.
- **Whenever engineering controls and work practices alone are not enough to keep you safe, personal protective equipment must also be used.**

- **When selecting PPE, remember that it must always match the potential hazards of the work environment.**
 - There are four basic levels.
- **"Level A" provides the greatest degree of skin, respiratory and eye protection. This includes a:**
 - Full-facepiece self-contained breathing apparatus (SCBA).
 - Supplied-air respirator (SAR).
- **"Level A" environments also require the use of:**
 - Totally-encapsulating chemical protective suits.
 - Other appropriate gear and clothing, such as work boots and overalls.
- **"Level B" provides the same high level of respiratory protection, but less skin protection.**
 - This means using a SCBA or SAR.
 - But only hooded, chemical-resistant clothing is needed.
- **"Level C" protection is used when the concentrations and types of airborne contaminants are known, and are within acceptable limits for using full-face or half-mask air-purifying respirators.**
 - Hooded, chemical-resistant clothing is still needed to provide protection against skin-contact hazards.
- **"Level D" provides only basic protection in the form of a standard work uniform or generic work clothing.**
 - No respiratory protection is required.
- **With all levels of PPE, the need for decontamination will depend on your work environment.**
 - Check with your supervisor to see what is appropriate for your situation.
- **In addition to using PPE, safe work practices and engineering controls, it is important to follow your group's "standard operating procedures".**
 - These are the approved ways of doing specific tasks at your site or in your facility.

- **Since the safe handling of containers is a vital part of minimizing exposure to contaminants, HAZWOPER specifies its own standard operating procedures for working with drums and other containers of hazardous waste.**
 - Drums and other containers used for storing or transporting hazardous substances must meet the DOT, OSHA and EPA packaging requirements for the types of materials they contain.
 - Containers should also be inspected for integrity before, during and after use.
- **All containers must be labeled. If you discover an unlabeled drum or other container, you must treat it as if it contains a hazardous material until:**
 - The contents have been positively identified
 - The container is properly labeled.
- **Other precautions must be taken if sealed containers need to be opened. These may include:**
 - Keeping other workers at a safe distance.
 - Using non-sparking equipment and explosion-proof barriers.
 - Relieving excess pressure within the container before opening it.
- **Hazardous waste containers should be moved as little as possible. However, when it is necessary to handle or transport containers you should take special precautions, such as using handling equipment with protective shielding, for materials that are:**
 - Radioactive.
 - Flammable.
 - Shock-sensitive.
- **Containers which seem to be bulging or swelling from excess pressure should not be moved until the cause of the pressure can be determined and the proper precautions can be taken.**
 - This may include releasing the pressure or reinforcing the container.
 - See your supervisor for the specific procedures to be used at your location.
- **It is important to remember that containers must be identified and classified in a staging area prior to shipping.**
 - This way everyone down the line knows what they are handling.

- **Under HAZWOPER, other activities also play important roles in the prevention of overexposure to hazardous substances, including:**
 - Exposure monitoring.
 - Decontamination.
 - Medical surveillance.
- **"Exposure monitoring" is performed to identify and measure the levels of contaminants in the air.**
 - This helps to determine the proper engineering controls, work practices and PPE to be used at the location.
- **Monitoring begins during the preliminary evaluation stage of site characterization, to determine if there are any:**
 - Conditions which are "Immediately dangerous to life or health".
 - Airborne contaminant levels greater than published exposure limits.
 - Radiation levels which exceed a radioactive material's dose limit.
 - Other dangerous conditions such as flammable atmospheres and oxygen-rich or oxygen-deficient environments.
- **Monitoring can be done continuously, or at specified intervals. Some form of monitoring is necessary as long as:**
 - IDLH conditions or flammable atmospheres can develop.
 - Exposure levels have the potential to rise above published exposure limits.
- **Air monitoring will also take place any time:**
 - Work begins at another location in the site.
 - A new type of activity begins.
 - A new hazardous material is involved.
- **Monitoring is also required whenever:**
 - Workers are handling leaking drums or containers.
 - Workers are in areas with obvious liquid contamination, such as a spill or contaminated water.
- **Decontamination comes into play when you get ready to leave a contaminated area.**
 - While you may think your work is finished, you, your clothing, and your tools still need to be decontaminated.
 - This not only protects you, but prevents you from exposing anyone you come into contact with, including family and friends.

- **Your company provides you with the facilities and supplies needed for decontamination.**
 - Personal protective equipment and tools must all be treated.
 - Clothing must be laundered or properly disposed of properly.
- **If your clothing is not "impermeable", and hazardous material can pass through it while you work, you must shower to remove any contamination from your body.**
 - Showering is also necessary if you become contaminated in the process of removing impermeable protective clothing.
 - Remember, any equipment or solvents used for decontamination also need to be decontaminated or disposed of properly.
- **HAZWOPER also requires your operation to institute a "Medical Surveillance Program" to:**
 - Monitor workers' health.
 - Help protect workers from health hazards associated with their jobs.
- **You'll participate in this program if:**
 - You work in an environment where there is potential for exposure above published limits for 30 days or more during a 12 month period.
 - You wear a respirator for 30 days or more within 12 months.
- **Other situations that require medical surveillance include:**
 - Developing symptoms which could be caused by exposure to hazardous substances.
 - Being a member of a hazmat emergency response team.
- **Medical surveillance starts with an initial examination before you begin working around hazardous waste.**
 - OSHA recommends additional examinations at least once every 12 months, but requires them every 24 months.
- **You will also need an examination if you:**
 - Display symptoms of overexposure.
 - Are injured on the job.
 - Are accidentally exposed to a hazardous substance at a level higher than its published exposure limits.

- **All medical exams will be conducted by a licensed physician, or under their supervision.**
 - The doctor may have you take several medical tests in addition to the exams.
 - All exams and tests will be given at no cost to you.
 - They will be at a reasonable time and place.
 - You won't lose any pay if they take place during working hours.
- **Based on the results of these medical exams and tests, the doctor will provide your employer with a "written medical opinion."**
 - This will discuss any medical conditions which would put you at increased risk from work involving hazardous waste, or from wearing a respirator.
 - It will also contain any recommendations the doctor may have for limiting your work activity.
- **This report will only include medical findings related to your job.**
 - Any other information gathered by the doctor is strictly confidential.
 - Your employer will provide you with a copy of the doctor's written opinion for your own records.
- **So far, we have talked primarily about people who work in various types of hazardous waste operations.**
 - But HAZWOPER also has training requirements for personnel who are involved in emergency response to incidents involving hazardous materials.
- **There are five levels of training for emergency response.**
 - Each level corresponds with the role a worker is likely to play during a hazardous materials Incident.
- **The "First Responder: Awareness Level" is for people who might encounter an accidental release of a hazardous substance, such as a leak or spill.**
 - These workers are trained on the reporting procedures that are necessary to initiate an emergency response.
- **The "First Responder: Operations Level" is for workers who will initially respond to accidental releases (from a safe distance). They are trained to protect nearby people, property and the environment by:**
 - Containing the release.
 - Keeping it from spreading.
 - Preventing exposures.

- **The next level of emergency response training is for "Hazardous Materials Technicians".**
 - They are trained to safely approach the point of a release to plug, patch or otherwise seal it.
- **A "Hazardous Materials Specialist" gets the same level of training as a HAZMAT Technician.**
 - They also receive more detailed information about the specific substances that may be encountered at a site.
 - HAZMAT Specialists may be called upon to act as site liaisons with federal, state, local or other government authorities.
- **The individual with the most authority during an emergency response to a hazardous materials release is the "Incident Commander".**
 - This person goes through a great deal of special training to be prepared to take control of the incident scene and coordinate the entire emergency response operation.
- **No matter which role you play during an incident, it is important to be familiar with the emergency response plan for your group or operation, since the plan outlines how hazardous material incidents should be handled.**
- **Hazardous waste can present an immediate danger to life and health, and has the potential to cause long-term health problems... whether you work:**
 - At a superfund cleanup site.
 - In a hazardous waste treatment, storage or disposal facility.
 - As a first responder to HAZMAT emergencies.
- **That's why OSHA created HAZWOPER. So you will get the information, training, and equipment you need to stay safe... no matter what you may encounter!**