

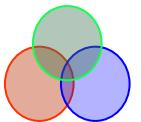
# Hazardous Waste Management for Building Managers

## *Course Overview*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008



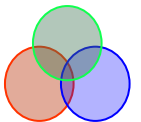
# Hazardous Waste Management for Building Managers

- ▶ **Every federal facility generates solid waste (garbage) that is potentially harmful or hazardous to people and our environment. Federal, state, and local waste regulatory programs govern PBS and tenant operations and activities that generate the following regulated categories of harmful wastes:**
  - *Hazardous Waste (such as paints and solvents)*
  - *Universal Waste (such as lamps and batteries)*
  - *Used Oil (such as lubricating and refrigeration oil)*



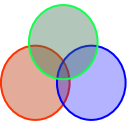
# Hazardous Waste Management for Building Managers

- ▶ One of the essential responsibilities of GSA Building Managers is to oversee the proper management of hazardous wastes, universal wastes, and used oil. Building Managers must be aware of their responsibilities to ensure compliance with regulatory requirements in order to reduce the risks of:
  - *Property damage;*
  - *Financial liability; and*
  - *Legal liability.*



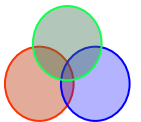
# Hazardous Waste Management for Building Managers

- ▶ **If hazardous wastes, universal wastes, and used oil are not properly managed, the potential for property damage increases.**
  - *Notice the image to the right shows improper storage of hazardous materials in corroded storage drums. Accidental spills and leaks of hazardous waste can render a room, a floor, or an entire property unusable, depending on the scale of the accident.*
  - *Building Managers can minimize the potential for property damage by ensuring proper hazardous waste management at GSA facilities.*



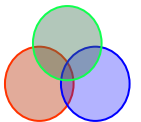
## Hazardous Waste Management for Building Managers

- ▶ **GSA is not immune from penalties for violations of federal and state directives, laws,**
- ▶ **For example, violations for noncompliance with universal waste regulations can result in fines of up to \$27,500 per day.**
- ▶ **Building Managers need to be aware of universal waste, hazardous waste, and used oil management requirements in order to avoid costly fines.**



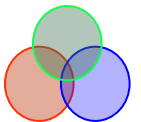
## Hazardous Waste Management for Building Managers

- ▶ **If GSA is found to be in violation of any hazardous waste management requirement, the U.S. Environmental Protection Agency (EPA) or a state may take an administrative action or a criminal action that can result in fines or imprisonment depending on the nature of the violation. Building Managers need to maintain communication with their Regional Environmental, Health, and Safety Specialists to ensure compliance with hazardous waste, universal waste, and used oil management regulations.**
  
- ▶ **The EPA and state environmental agencies can inspect GSA facilities at any time to review:**
  - *Waste storage, handling, and disposal records;*
  - *Take samples (e.g., of a hazardous waste); and*
  - *Observe facility operations for compliance*



## Hazardous Waste Management for Building Managers

- ▶ **After completing this training course, you will gain an awareness of basic hazardous waste, universal waste, and used oil management requirements. This course also delineates key responsibilities in overseeing contractors and communicating with tenant agencies to ensure proper waste management at GSA facilities.**
- ▶ **With this knowledge, you will be able to:**
  - *Prevent accidental harm to building occupants and visitors;*
  - *Take steps to prevent damage to GSA property; and*
  - *Ensure GSA facility compliance with regulations to avoid costly fines and time-consuming administrative penalties.*



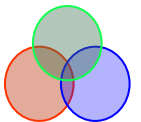
# Managing Hazardous Waste

## *Training Chapter 1 of 6*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008





# Managing Hazardous Waste

- ▶ While the image below is a fantastic representation of hazardous wastes in the workplace, federal agencies do commonly generate wastes that you may not always recognize as hazardous to human health and our environment.



# Managing Hazardous Waste

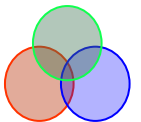
- ▶ Hazardous wastes typically found in PBS buildings are cleaning, painting, and maintenance chemicals or chemicals related to tenant operations, such as laboratories or print shops. Other hazardous wastes are generated as well.



# Managing Hazardous Waste

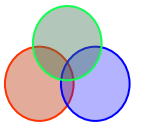
- ▶ **Hazardous wastes pose a risk with respect to human exposure and environmental contamination. Major releases or spills of hazardous waste can also lead to a complete building shutdown resulting in significant PBS and client agency mission impairment. In general, hazardous wastes need to be minimized and handled, stored, and disposed properly to avoid these risks.**
- ▶ **The EPA and state environmental agencies regulate hazardous waste based on its composition and the amount generated in a given timeframe.**
  - *The hazardous waste generator is usually the owner of the location where the waste originated. Generators that produce volumes of hazardous waste beyond an EPA-defined threshold are assigned an EPA identification (ID) number. Many PBS buildings are exempt from the requirement to obtain an EPA ID number because they fall below the threshold.*

**Important:** Regardless of the volume of hazardous waste generated at a facility, improper handling, storage, and disposal of hazardous waste can result in environmental liabilities for PBS.



# Managing Hazardous Waste

- ▶ **GSA Building Managers must oversee the proper management of even small quantities of hazardous wastes at GSA facilities. This lesson on managing hazardous wastes provides an overview of the basic management requirements.**
- ▶ **Once you have completed this training chapter, you will be able to:**
  - *Identify hazardous wastes generated at GSA facilities.*
  - *Explain why it is important to track the amount and type of hazardous waste generated at GSA facilities.*
  - *Recognize management practices and requirements for minimizing hazardous wastes.*
  - *Describe storage requirements for hazardous wastes.*
  - *Describe disposal requirements for hazardous wastes.*



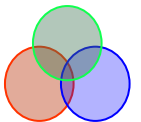
# Identifying Hazardous Waste

## *Training Chapter 1, Section 1 of 5*

***Prepared for:*** GSA Building Managers

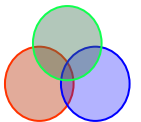
***Prepared by:*** PBS Environment Program Team

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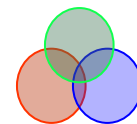
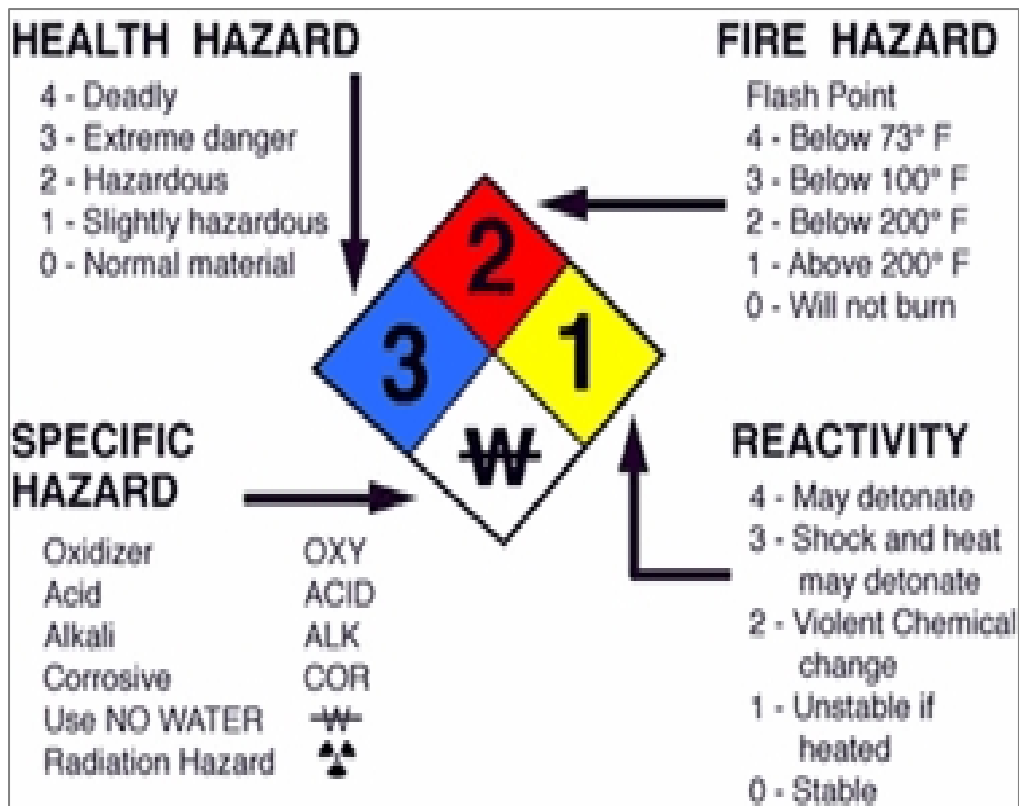
# Identifying Hazardous Waste

- ▶ **A hazardous waste is a material or substance that is:**
  - *HAZARDOUS --- Dangerous or potentially harmful to human health or the environment. It appears on a list of regulated wastes or it exhibits characteristics of ignitability, toxicity, corrosivity, or reactivity.*
  - *WASTE --- No longer in use or discarded. It may be a solid, semi-solid, liquid, sludge, or contained gas material.*
- ▶ **Hazardous wastes are regulated under the Resource Conservation and Recovery Act (RCRA) and associated regulations.**



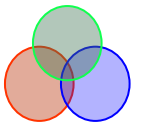
# Identifying Hazardous Waste

- ▶ **Hazardous wastes can have the following characteristics:**
  - *Ignitable - Create fires under certain conditions; spontaneously combust.*
  - *Toxic - Harmful or fatal when ingested or absorbed.*
  - *Corrosive - Acids or bases that corrode metal containers (drums, tanks).*
  - *Reactive - Unstable under "normal conditions"; cause explosions or toxic fumes.*



# Identifying Hazardous Waste

- ▶ **Several PBS and tenant operations and activities commonly generate hazardous waste.**
  - *Firing ranges, wastewater treatment plants, laboratories, medical facilities, incinerators, printing shops, and photo labs are examples of operations that generate hazardous waste.*
- ▶ **The following routine activities at a property may also generate hazardous waste: pest control, painting, cleaning, vehicle maintenance, electrical and plumbing work, landscaping and grounds maintenance, and renovations and repairs.**





# Identifying Hazardous Waste

## ► How Do You Know if a Waste is Hazardous?

- *All materials must be labeled to identify hazards. Refer to the following sources to find out if a waste is hazardous:*
  - Container label
  - Material Safety Data Sheet
  - Manufacturer of the material or product
  - Your Regional Environmental Specialist



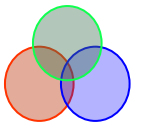
# Identifying Hazardous Waste

- ▶ All hazardous materials must have Material Safety Data Sheets (MSDSs) that are easily accessible at PBS facilities.
- ▶ While the appearance of the form varies, MSDSs should have the following information:
  - *Product & company information*
  - *Composition information on ingredients*
  - *Hazards identification*
  - *First aid & fire fighting measures*
  - *Accidental release measures*
  - *Handling & storage*
  - *Exposure controls / personal protection*



# Identifying Hazardous Waste

- ▶ **What do you do if you find a container of unknown waste?**
  - *Do not handle (relocate, disturb, transfer, and the like) containers of unknown hazardous waste unless there is an immediate health and safety risk to building occupants and employees.*
  - *First communicate with the waste management contractors or tenants to identify the unknown material.*
  - *If the material in the container is still unknown, contact your Regional Environmental Specialist to have the waste identified.*



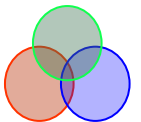
# Tracking Hazardous Waste

## *Training Chapter 1, Section 2 of 5*

***Prepared for:*** GSA Building Managers

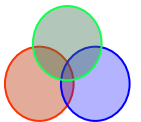
***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008



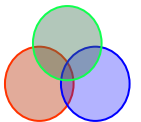
# Tracking Hazardous Waste

- ▶ **GSA facilities fall into one of three general groups of hazardous waste generators according to the amount and type of waste produced at a facility in a calendar month. As defined by the Resource Conservation and Recovery Act (RCRA), the three hazardous waste generator classifications are:**
  - *Large Quantity Generators (LQG): Generate more than or equal to 1,000 kilograms (kg) hazardous waste or 1 kg acute hazardous waste per month. On-site accumulation is limited to no longer than 90 days. There is no on-site accumulation quantity limit.*
  - *Small Quantity Generators (SQG): Generate between 100 to 1,000 kg hazardous waste per month. On-site accumulation is limited to no longer than 180 days. The on-site accumulation quantity is limited to 6,000 kg.*
  - *Conditionally Exempt Small Quantity Generators (CESQG): Generate less than or equal to 100 kg hazardous waste or less than or equal to 1 kg acute hazardous waste per month. There is no on-site accumulation time limit. The on-site accumulation quantity is limited to 1,000 kg hazardous waste and 1 kg acute hazardous waste.*



# Tracking Hazardous Waste

- ▶ **Building Managers need to track the amount and type of hazardous waste generated, accumulated, and disposed each month. Why?**
- ▶ **The extent of regulation to which GSA facilities are subject depends on the volume and type of hazardous waste generated at a facility at any time.**
- ▶ **The regulatory burden is lessened by minimizing the amount of hazardous waste generated and by maintaining a CESQG status. Most GSA facilities fall under the CESQG category.**



# Tracking Hazardous Waste

- ▶ **The hazardous waste generator categories, in order of most to least regulated, are:**
  - Large Quantity Generators (LQG)
  - Small Quantity Generators (SQG)
  - Conditionally Exempt Small Quantity Generators (CESQG)



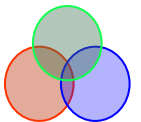
# Minimizing Hazardous Waste

## *Training Chapter 1, Section 3 of 5*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

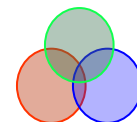
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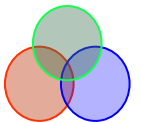
# Minimizing Hazardous Waste

- ▶ **Federal directives, laws, and regulations require GSA to minimize the amount of hazardous waste generated and discarded. Moreover, GSA Building Managers can realize multiple benefits by implementing the best management practice of hazardous waste minimization.**
- ▶ **By minimizing the amount of hazardous waste generated at GSA facilities, you can MINIMIZE:**
  - *Potential harm to tenants, workers, and visitors.*
  - *Potential property damage.*
  - *Potential harm to the environment (contaminant spills).*
  - *Costs (waste management & disposal, legal liability from leaks & spills).*
  - *Time (recordkeeping; paperwork).*
  - *Potential for compliance violations.*



# Minimizing Hazardous Waste

- ▶ **The most effective way of minimizing the amount of hazardous waste generated is to reduce or eliminate the amount of hazardous materials purchased or used before it becomes hazardous waste.**
- ▶ **You can also minimize hazardous waste by doing the following:**
  - *Recycle hazardous wastes so that they are productively reused rather than dumped in landfills.*
  - *Maintain an up-to-date inventory of hazardous materials and do not overstock hazardous materials beyond the expiration date.*
  - *Ask manufacturers for environmentally preferable substitutes for hazardous materials (such as paints, pesticides, and cleaning chemicals).*
  - *Purchase Environmental Items that are non-toxic, environmentally friendly, and Green Seal approved from GSA Advantage!*



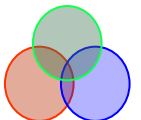
# Hazardous Waste Storage Requirements

*Training Chapter 1, Section 4 of 5*

***Prepared for:*** GSA Building Managers

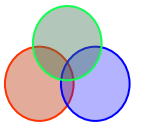
***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008



# Hazardous Waste Storage Requirements

- ▶ **The Resource Conservation and Recovery Act (RCRA), its associated federal regulations, and state and local environmental regulations require all federal agencies to properly store hazardous waste generated at facilities. The purpose of the storage requirements is to prevent or minimize potential harm to people and the environment. Some of the basic storage requirements are as follows:**
  - *Store hazardous wastes in containers or storage tanks that are in good condition. Wastes stored in defective containers (signs of rust, cracks, leaks, or other deterioration) must be transferred to containers in good condition.*
  - *Store hazardous wastes in containers that are chemically compatible with the container itself and other wastes in the container.*
  - *Store hazardous waste containers in secured areas to reduce the risk of exposure to people and the environment.*
  - *Keep containers closed or sealed at all times during storage, except when transferring waste to or from the container.*



# Hazardous Waste Storage Requirements

- ▶ Label all storage containers and tanks with the words “Hazardous Waste” (see the sample hazardous waste label below), the type or name of waste and associated hazards, and the following:
  - *Storage, handling, and disposal information.*
  - *Start date of waste accumulation.*
  - *Contact information.*



**HAZARDOUS WASTE**  
**FEDERAL LAW PROHIBITS IMPROPER DISPOSAL**  
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY  
OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERATOR NAME \_\_\_\_\_ EPA # \_\_\_\_\_  
ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
EPCRA SECTION 304 NAME \_\_\_\_\_ HAZARD CLASS \_\_\_\_\_  
CONSTITUENTS \_\_\_\_\_ UNPAK NO. \_\_\_\_\_  
CONSTITUENTS \_\_\_\_\_ DATE OF FIRST ACCUMULATION \_\_\_\_\_  
EPA HAZARD CODE \_\_\_\_\_  
CHARACTERISTIC \_\_\_\_\_  
START DATE OF ACCUMULATION DATE \_\_\_\_\_ EMERGENCY RESPONSE GUIDE # \_\_\_\_\_

IF THIS HAZARDOUS WASTE IS BEING STORED IN A CONTAINER, IT MUST BE LABELED WITH THE FOLLOWING INFORMATION:

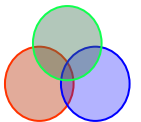
- ☐ Flammable
- ☐ Corrosive
- ☐ Toxic
- ☐ Irritant
- ☐ Reacts with Water
- ☐ Oxidizing
- ☐ Poisonous
- ☐ Volatile
- ☐ Other

REPORTABLE QUANTITY: 100 LBS. IF REQUIRED, LIST QUANTITY OF EACH HAZARDOUS WASTE IN THIS SPACE.

HAZARDOUS WASTE IDENTIFICATION NUMBER: \_\_\_\_\_

IN THE EVENT OF A SPILL OF THIS HAZARDOUS WASTE, CONTACT THE U.S. ENVIRONMENTAL PROTECTION AGENCY AT 1-800-424-9333 FOR ASSISTANCE AND INFORMATION. FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY, CONTACT THE U.S. ENVIRONMENTAL PROTECTION AGENCY AT 1-800-424-9333.

HAZARDOUS WASTE PUBLISHING CO. • 1000 ANDERSON • KUTZTOWN, PA 17030

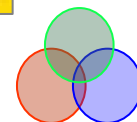


# Hazardous Waste Storage Requirements

- ▶ **Hazardous wastes may be accumulated at a Satellite Accumulation Area, at or near the point where they are generated & collected during daily operations, with an accumulation limit of 55 gallons of hazardous waste or 1 quart of acute hazardous waste.**
  - *Once that limit is reached, the wastes must be moved to a central hazardous waste storage area for disposal.*
  - *Storage areas must be inspected at least once a week.*
  - *Maintain accessible Material Safety Data Sheets (MSDSs).*

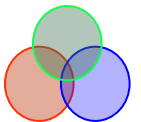


<b>SAA</b>	
<b>Satellite Accumulation Area</b>	
<b>For Hazardous Waste</b>	
<b>Responsible Party:</b>	
NAME	John Smith
BLDG/ROOM	85/118
EXTENSION	x 5877
TYPE OF WASTE	Acids, solvents, oil
DO NOT ADD WASTE TO THIS SAA WITHOUT PRIOR AUTHORIZATION FROM THE RESPONSIBLE PARTY	



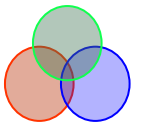
# Hazardous Waste Storage Requirements

- ▶ **Building Managers should ensure that hazardous waste storage areas are inspected at least once a week. During inspections, check for the following:**
  - *Storage of flammable wastes, such as paints and solvents, in flammable storage cabinets.*
  - *Maintenance of accessible Material Safety Data Sheets (MSDSs).*
  - *Maintenance of a contingency plan and emergency procedures. Ensure that emergency information is current and easily accessible to occupants, employees, and/or contractors.*
  - *Maintenance of all personal protective equipment required for managing the waste. This equipment should be readily accessible and not be expired.*
  - *Possible spills, leaks, or areas prone to a release of hazardous waste near storage areas.*



# Hazardous Waste Storage Requirements

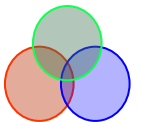
- ▶ **Some hazardous waste containers and tanks require secondary containment units and release / leak detection systems as a backup system to prevent a release to the environment should primary containment (i.e., the container) fail.**
- ▶ **If waste spills or leaks into the secondary containment unit, properly remove the waste to prevent overflow.**





# Hazardous Waste Storage Requirements

- ▶ The next few slides show examples of “proper” and “improper” storage of hazardous wastes.
- ▶ GSA is responsible for ensuring proper storage of hazardous wastes at its facilities.
- ▶ Improper storage of hazardous wastes can result in penalties assessed by the U.S. EPA and state government agencies.



# Hazardous Waste Storage Requirements

- ▶ The image to the bottom left is an example of a proper secondary containment unit for hazardous waste. The image to the bottom right is an example of an improper secondary containment unit.



Example of proper storage:  
Waste drums can sit on a drip deck, like the one shown above, within an enclosed secondary containment unit.



Example of improper storage:  
Waste drums sit in a secondary containment unit that allows spills to the ground (hole in containment unit located at bottom left).

# Hazardous Waste Storage Requirements

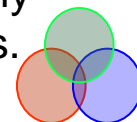
- ▶ The image to the bottom left is an example of proper storage of hazardous wastes, and the image to the bottom right of improper storage.



Example of proper storage:  
Wastes are stored in sealed containers that are in good condition and have hazardous waste identification labels.



Example of improper storage:  
Wastes are stored in open containers with no labels. Wastes are not properly contained and sealed to prevent spills.



# Hazardous Waste Storage Requirements

- ▶ The image to the bottom left is an example of proper storage of hazardous wastes, and the image to the bottom right of improper storage.



Photo Source: DEC

Example of proper storage:  
Hazardous waste containers are stored in a covered area (under a roof or within a shed).



Example of improper storage:  
Wastes are illegally dumped outdoors. Rusted and uncovered containers may have leaked hazardous waste.

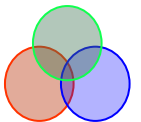
# Hazardous Waste Disposal Requirements

*Training Chapter 1, Section 5 of 5*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008



# Hazardous Waste Disposal Requirements

- ▶ **Do not dilute or mix hazardous waste with municipal solid waste (general trash) because it creates more hazardous waste. Dispose of materials used to clean up hazardous waste as hazardous waste.**

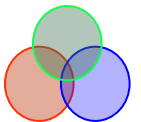
**Hazardous wastes must be disposed of or recycled at one of the following:**

- *A permitted hazardous waste treatment, storage, or disposal facility.*
- *A facility authorized to manage hazardous wastes.*
- *A facility that is authorized to beneficially use, reuse, or reclaim the waste.*



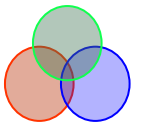
# Hazardous Waste Disposal Requirements

- ▶ **Some hazardous wastes can be recycled. Check the Material Safety Data Sheet and container label to see if the hazardous material or product can be recycled.**
- ▶ **Otherwise contact the manufacturer or your Regional Environmental Specialist for more information.**
- ▶ **Recordkeeping is a good management practice. Maintain all hazardous waste management related records, including waste sampling, characterization, and shipping records.**



# Hazardous Waste Disposal Requirements

- ▶ **Depending on the GSA facility's hazardous waste generator classification and state regulations, the following pre-transport requirements may be needed:**
  - U.S. EPA identification number.
  - Hazardous Waste Manifest (multi-copy tracking document for hazardous waste shipments that is required by the EPA and DOT).
  - DOT requirements (packaging, labeling, placarding of waste shipments).





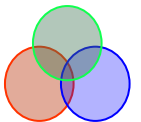
# Managing Universal Waste

## *Training Chapter 2 of 6*

***Prepared for:*** GSA Building Managers

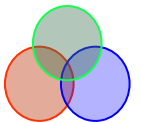
***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008



# Managing Universal Waste

- ▶ **Certain hazardous wastes generated through routine activities such as facility maintenance and personal / small electronics operations are regulated as universal wastes and cannot be disposed in the regular trash.**
- ▶ **Universal wastes include lamps, batteries, pesticides, and mercury-containing equipment. The EPA developed the Universal Waste Rule to provide an alternative set of management standards for this group of hazardous wastes that would otherwise be subject to the same stringent standards as other hazardous wastes. The purpose of the Universal Waste rule was to:**
  - *Reduce the regulatory burden of managing this group of hazardous wastes;*
  - *Encourage recycling of hazardous wastes; and*
  - *Reduce the amount of hazardous waste items illegally disposed in municipal solid waste landfills.*



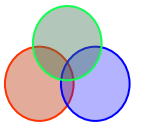
# Managing Universal Waste

- ▶ **Universal wastes contain toxic elements, like mercury, that have adverse human health effects (such as damage to the central nervous system and kidneys) when inhaled, absorbed, or ingested.**
- ▶ **When mercury-containing lamps are broken (see broken light tube in image to the right), mercury vapors can be released and absorbed through the lungs into the bloodstream.**
  - *Mercury vapors released to the atmosphere can also be deposited in our lakes and rivers through rain water. Mercury can thus be accumulated in the fish we consume.*



# Managing Universal Waste

- ▶ **GSA Building Managers must oversee the proper management of universal wastes at GSA facilities to minimize human health risks, environmental risks, and financial and legal risks (as from compliance violations). This lesson on managing universal wastes provides an overview of the basic management requirements.**
- ▶ **Once you have completed this training chapter, you will be able to:**
  - *Identify universal wastes generated at GSA facilities.*
  - *Describe storage requirements for universal wastes.*
  - *Describe recycling requirements for universal wastes.*



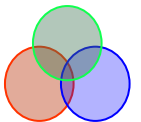
# Identifying Universal Waste

## *Training Chapter 2, Section 1 of 3*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008



# Identifying Universal Waste

- ▶ **Certain hazardous wastes, defined as universal wastes, have specific waste management and disposal requirements under federal and state regulations. Examples of universal waste include:**

- Lamps;
- Batteries;
- Pesticides; and
- Mercury containing equipment.

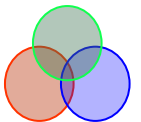
NOTE: Refer to state-by-state requirements for other items.



# Identifying Universal Waste

## ► Examples of universal wastes are as follows:

- *LAMPS such as fluorescent, incandescent, high pressure sodium, mercury vapor, metal halide, high intensity discharge (HID), and neon bulbs or tubes.*
- *BATTERIES such as nickel-cadmium and small, sealed lead-acid batteries found in electronic equipment, mobile telephones, portable computers, and emergency back-up lighting. Automobile batteries are excluded from the definition of universal waste.*
- *PESTICIDES that have been recalled or banned from use, are obsolete, have become damaged, or are no longer needed.*
- *MERCURY-CONTAINING EQUIPMENT such as thermometers, manometers, barometers, relay switches, mercury regulators, meters, pressure gauges, and sprinkler system contacts.*



# Identifying Universal Waste

- ▶ **Other universal wastes generated at GSA facilities and regulated as universal waste on a state-by-state basis include: electronics; cathode ray tube (CRT) computer monitors; ballasts; aerosol cans; antifreeze; oil-based finishes; and paint and paint-related wastes.**
  - *Remember: If these items are still in use and stored for use, they are not universal wastes. These items become universal wastes on the date that they are no longer in use and accumulated for disposal or discarded.*





# Identifying Universal Waste

- ▶ **PBS and tenant activities that commonly generate universal wastes include:**
  - *Replacement of lamps (fluorescent light tubes, etc)*
  - *Replacement of electronic office equipment (batteries, thermometers, barometers, U-tube manometers, etc)*
  - *Pest control*
  - *Renovations & repairs*
  - *Electrical and plumbing work*
  - *Custodial and cleaning services*
  - *Laboratory operations*



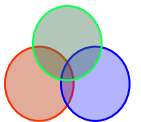
# Universal Waste Storage Requirements

## *Training Chapter 2, Section 2 of 3*

***Prepared for:*** GSA Building Managers

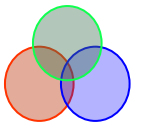
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***Date:*** January 2008



# Universal Waste Storage Requirements

- ▶ **Package universal wastes carefully when storing and transporting them to avoid breakage. Maintain up-to-date and accessible Material Safety Data Sheets and spill cleanup kits near universal waste storage areas.**
  
- ▶ **If a fluorescent lamp breaks:**
  - *Sweep up the debris with a broom;*
  - *Do NOT vacuum lamp debris;*
  - *Seal the debris in an airtight container and label it for recycling; and*
  - *Open windows or doors to disperse the mercury vapor. If a large number of lamps break, follow emergency notification procedures.*



# Universal Waste Storage Requirements

- ▶ **Light bulb crushers are NOT recommended at GSA facilities. Disposal costs of crushed bulbs may be comparatively higher to bulbs packaged intact and recycled. And light bulb crushers pose a health hazard if not properly managed.**
- ▶ **Contact your Regional Environmental Specialist for more details.**



# Universal Waste Storage Requirements

- ▶ **Store and transport fluorescent lamps and tubes in the original box or another protective container. Ask the approved universal or hazardous waste transporter for a supply of fluorescent lamp recycling kits. Also, be sure to:**
  - Keep universal wastes in secure storage areas designated for universal wastes.
  - Store universal wastes in a covered area, out of the weather and protected from rain and snow.



# Universal Waste Storage Requirements

- ▶ Label storage containers of universal wastes or the waste itself with the words “Universal Waste”.
- ▶ The label must at least identify the following:
  - *Contents of the container;*
  - *Accumulation start date; and*
  - *Contact information.*

**UNIVERSAL WASTE**

CONTENTS CRT - WASTE  
(MONITOR)

ACCUMULATION START DATE 10/18/04

SHIPPER B46-134

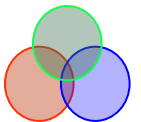
ADDRESS \_\_\_\_\_

CITY, STATE, ZIP \_\_\_\_\_

HAZARDOUS PKG-UP DATE: 10/18/04

# Universal Waste Storage Requirements

- ▶ **Manage wastes to avoid the “Large Quantity” classification.**
- ▶ **The extent of regulation to which GSA facilities are subject depends on the amount of universal waste accumulated at a facility at any one time.**
  - *If 5,000 kilograms or more (“Large Quantity”) of universal waste is accumulated on-site at any one time, then a U.S. EPA identification number is required for the facility.*
  - *Keep track of the amount of universal waste generated and accumulated.*
  - *Document accumulation start dates and shipping information.*
  - *On-site storage of universal waste is limited to one year from the accumulation start date.*



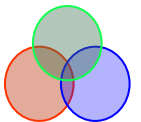
# Universal Waste Recycling Requirements

## *Training Chapter 2, Section 3 of 3*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

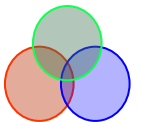
***Date:*** January 2008





# Universal Waste Recycling Requirements

- ▶ **Recycle universal wastes. Universal wastes can only be sent to another universal waste handler, an authorized recycling facility, or a universal waste consolidator for shipment to an authorized recycling facility. You may not send universal waste to a municipal solid waste landfill or to a non-hazardous waste recycling center.**
  - *Do not dispose of universal waste with municipal solid waste (general trash).*
  - *Do not dispose of universal waste with hazardous waste. Universal waste management regulations are different from hazardous waste management regulations.*



# Universal Waste Recycling Requirements

- ▶ If universal wastes are not recycled, they must then be managed under more stringent hazardous waste regulations.
  - *Manage universal wastes in a way that prevents releases to the environment.*
  - *Comply with the applicable Department of Transportation requirements for shipping universal wastes.*
  - *Click on [EPA Recycling](#) or [Earth 911](#) to find universal waste recyclers in your area OR contact your Regional Environmental Specialist.*



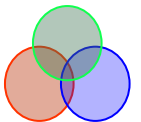
# Managing Used Oil

## *Training Chapter 3 of 6*

***Prepared for:*** GSA Building Managers

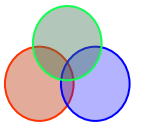
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# Managing Used Oil

- ▶ **In 1980, Congress passed the Used Oil Recycling Act requiring the EPA to address the hazards posed by used oil.**
- ▶ **The EPA subsequently developed a used oil program to ensure proper management and disposal practices by generators (such as GSA facilities), transporters, transfer facilities, collection centers, processors, and refiners, burners and marketers of used oil.**
  - *In developing regulations for used oil, the EPA has endeavored to balance the Resource Conservation and Recovery Act (RCRA) mandate to protect human health and the environment with the RCRA mandate to conserve resources through used oil recycling.*
  - *The current used oil program presumes that all used oil (petroleum-based and synthetic oils) will be recycled, through re-refining or burning for energy recovery.*
  - *Therefore, used oil is not regulated as a hazardous waste under RCRA unless it exhibits characteristics of a hazardous waste, it contains hazardous chemicals (such as halogens), or it is mixed with hazardous waste, among other exceptions.*



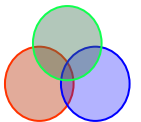
# Managing Used Oil

- ▶ If used oil is improperly disposed --- poured down a sanitary sewer drain or onto the ground --- it can contaminate drinking water, poison fish, and kill aquatic organisms. Used oil cannot be disposed of in a municipal solid waste landfill. One pint of oil can form a slick as big as a football field on a lake or pond.



# Managing Used Oil

- ▶ **GSA Building Managers must oversee the proper management and recycling of used oil generated at GSA facilities. This lesson on managing used oil provides an overview of the basic management requirements.**
  
- ▶ **Once you have completed this training chapter, you will be able to:**
  - *Identify types of oils that are defined as used oil.*
  - *Explain when used oil is considered a hazardous waste.*
  - *Describe storage requirements for used oil.*
  - *Describe recycling requirements for used oil.*
  - *Describe measures for preventing and controlling oil spills and leaks.*



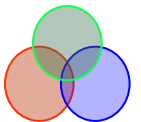
# What is Used Oil?

## *Training Chapter 3, Section 1 of 5*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008



# What is Used Oil?

- ▶ **Used oil is any oil that is petroleum- based or any synthetic oil that has been used. If it is still in use, then it is not used oil. Animal and vegetable oils are excluded from this definition of used oil. Examples of used oil typically generated at GSA facilities include:**
  - *Lubricating oils (automotive; mechanical room equipment)*
  - *Transmission fluids*
  - *Engine oils*
  - *Hydraulic oils (elevators)*
  - *Refrigeration oil or compressor oils from refrigeration units*





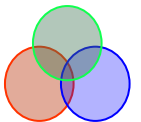
# When is Used Oil a Hazardous Waste?

## *Training Chapter 3, Section 2 of 5*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008



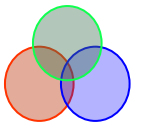
# When is Used Oil a Hazardous Waste?

- ▶ **Used oil is a valuable, recyclable commodity and it is not considered a hazardous waste, with a few exceptions. Used oil is not considered a hazardous waste, unless the used oil is:**
  - *Characteristically hazardous (i.e., ignitable, corrosive, toxic, or reactive).*
  - *Contaminated with hazardous substances (halogens).*
  - *Mixed with hazardous waste.*



# When is Used Oil a Hazardous Waste?

- ▶ **Some oils can become contaminated with hazardous substances through the normal use of the oil. Examples of such oils include:**
  - *Vacuum pump oil for laboratory equipment.*
  - *Cutting oils or metalworking oils.*
  - *Refrigeration compressor oils with chlorofluorocarbons (CFCs).*
- ▶ **Important Note: Each state has specific regulations on used oil management and hazardous waste management. Some states regulate used oil as a hazardous waste. Contact your Regional Environmental Specialist for further information specific to your location and facility.**



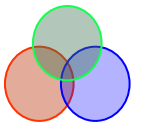
# Storage Requirements for Used Oil

## *Training Chapter 3, Section 3 of 5*

***Prepared for:*** GSA Building Managers

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***Date:*** January 2008



# Storage Requirements for Used Oil

- ▶ Do not "over-accumulate" used oil. Arrange for an approved waste transporter to regularly pick up used oil for recycling. Store used oil separately from all solvents and chemicals, and do not mix oil with hazardous materials or waste.



If the oil storage threshold is exceeded, more stringent regulations go into effect. Ask your regional Environmental Specialist for facility specific requirements.



If used oil is mixed with hazardous materials or waste, it must then be managed under more stringent hazardous waste management requirements.

# Storage Requirements for Used Oil

- ▶ Store used oil in appropriate storage containers and aboveground storage tanks that are in good condition.
- ▶ Remove, repair, or replace containers and tanks that have structural defects immediately. Use of a secondary containment unit or system is a good practice in the event of a leak or spill from a storage container or tank (see orange secondary containment unit holding two storage drums in image). Remove accumulated oil from secondary containment for recycling as used oil.



# Storage Requirements for Used Oil

- ▶ **Inspect used oil storage areas to ensure the proper labeling of containers, tanks, and pipes.**
- ▶ **Label all containers, aboveground tanks, and fill pipes for the collection, transfer, and storage of used oil with the following:**
  - *The words “Used Oil”;*
  - *Start date of used oil accumulation;*
  - *Source and type of used oil; and*
  - *Contact information.*



# Storage Requirements for Used Oil

- ▶ **Keep all used oil storage containers sealed, except when filling the containers.**
- ▶ **Do not stack containers on top of each other.**
- ▶ **Minimize the amount of water in the oil.**



**Important Note:** Protect floor drains and storm water sewer drains from potential oil spills. Keep used oil away from storm water and sanitary sewer drains.



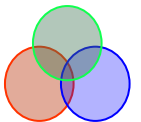
# Recycling Requirements for Used Oil

## *Training Chapter 3, Section 4 of 5*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008



# Recycling Requirements for Used Oil

- ▶ **Require contractors and transporters to recycle used oil, oil filters, oily water, and oily absorbents at state or local –approved used oil collection and recycling centers. Contact your Regional Environmental Specialist for a list of disposal and recycling centers.**
- ▶ **Used oil transporters must have an EPA identification number (with some exceptions), track used oil acceptance and shipping records, and analyze used oil for hazardous substances. Building Managers must maintain copies of these records.**



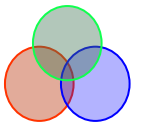
# Preventing Accidents & Responding to Leaks and Spills

*Training Chapter 3, Section 5 of 5*

***Prepared for:*** GSA Building Managers

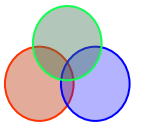
***Prepared by:*** PBS Environment Program Team

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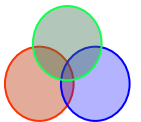
# Preventing Accidents & Responding to Leaks & Spills

- ▶ **Used oil leaks and spills present a financial and legal liability to facilities.**
  - *Building Managers need to take steps to prevent potential leaks and spills.*
  - *Building Managers must also be prepared to cleanup or respond to accidents.*
  - *Maintain Material Safety Data Sheets (MSDSs) for oils in accessible areas where oils are used and stored. MSDSs contain recommendations on spill cleanup and appropriate personal protective equipment (respirator, gloves, protective clothing, etc.).*



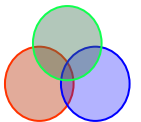
# Preventing Accidents & Responding to Leaks & Spills

- ▶ **Other management practices for preventing and responding to leaks and spills include:**
  - *Maintain up-to-date spill control kits, first aid kits, and personal protective equipment in the used oil storage area and Building Manager's office, along with an inventory of these materials.*
  - *Develop a spill response plan. Some PBS facilities require a Spill Prevention Control and Countermeasures (SPCC) Plan based on the amount of oil used and stored on-site.*
  - *Contact your Regional Environmental Specialist for more information.*



# Preventing Accidents & Responding to Leaks & Spills

- ▶ **Preventive measures are key to effective used oil management at any facility. Simple steps can be taken to minimize the potential for accidental releases of used oil.**
  - *Keep machinery, equipment, storage containers, and tanks in good working condition and be careful when transferring used oil. In the event of a major oil release, follow emergency response measures and contact your Regional Environmental Specialist within 24 hours of the release.*
- ▶ **In the event of a minor oil spill, take the following steps:**
  - Stop and contain the released used oil. Recover spilled oil for use or recycling, unless it is hazardous.
  - Rags, pads, and absorbents used to absorb leaks and drips during regular maintenance and to clean up accidental spills may be recyclable. Store oily absorbents in a sealed container and label it with the type of contents.
  - Record accidental spills and report them to your Regional Environmental Specialist.



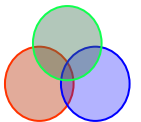
# Communicating with Contractors

## *Training Chapter 4 of 6*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008



# Communicating with Contractors

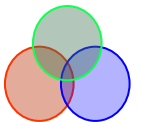
- ▶ **Contractor oversight is integral to proper waste management because:**
  - *GSA relies on contractors to provide effective comprehensive waste management services; and*
  - *Contractors generate hazardous wastes through on-site work activities.*





# Communicating with Contractors

- ▶ **This training chapter sets forth a Building Manager's general responsibilities of contractor communication and oversight to ensure compliance with hazardous waste, universal waste, and used oil management regulations.**
  - *It applies to all contractors, including waste management, janitorial, O&M, recycling, pest management, landscaping, mechanical, and electrical contractors, and subcontractors.*
  
- ▶ **Once you have completed this training chapter, you will be able to:**
  - *Describe requirements and practices for oversight of contractors managing hazardous waste, universal waste, and used oil.*
  - *Describe contractors' responsibilities in managing hazardous waste, universal waste, and used oil.*



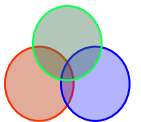
# Contractor Oversight & Communication

## *Training Chapter 4, Section 1 of 2*

***Prepared for:*** GSA Building Managers

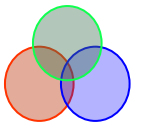
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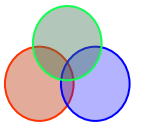
# Contractor Oversight & Communication

- ▶ **All GSA contractors are required to carry out work in accordance with federal, state, and local laws and regulations regarding hazardous waste, universal waste, and used oil management.**
  - *GSA Building Managers should work with GSA Contracting Officers to ensure that contractors have the appropriate qualifications and training to meet management requirements (storage, handling, and disposal) for hazardous wastes, universal wastes, and used oil.*
  - *Once the contract is in effect, Building Managers must oversee contractor operations and coordinate with their Regional Environmental Specialist to ensure that contractors abide by these requirements. Your Regional Environmental Specialist are the primary contacts to assist you in carrying out these responsibilities.*
  - *If a contractor fails to adhere to waste management requirements, Building Managers must notify their Regional Environmental Specialist and Contracting Officer.*



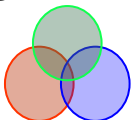
# Contractor Oversight & Communication

- ▶ **Building Managers should inspect storage and disposal areas for hazardous wastes, universal wastes, and used oil at least once a week to ensure proper waste management by contractors. Also, inspect work areas where contractors may be generating hazardous wastes. Record inspections and maintain records for at least three years.**
  
- ▶ **Inspections should include the following items:**
  - *Containers are in good condition, sealed, labeled, and show no signs of potential leaks.*
  - *Accessible Material Safety Data Sheets (MSDSs) near waste storage areas.*
  - *Current and accessible emergency information, personal protective equipment, and emergency equipment.*
  - *Maintenance of waste management records (manifests, bills of lading, type of waste, waste volume, accumulation dates, etc.).*



# Contractor Oversight & Communication

- ▶ **Building Managers should notify their regional Environmental Specialist of any hazardous conditions and spills.**
  - *Environmental Specialists should also be notified of renovations, alterations and repairs that may generate hazardous wastes prior to the start of planned work activities.*
- ▶ **While contractors should be aware of their responsibilities to comply with all applicable regulations, Building Managers should remind them of their responsibilities in managing and handling hazardous wastes, universal wastes, and used oil while working on GSA property.**
- ▶ **Prior to the start of work activities, Building Managers should make contractors aware of waste management policies, procedures, or any unique conditions at the facility. Building Managers should also provide contractors with a GSA facility hazardous waste management plan, if one exists.**
  - *Contractors should be prohibited from abandoning hazardous wastes in place at GSA properties.*



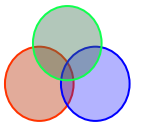
# Contractor Responsibilities

## *Training Chapter 4, Section 2 of 2*

***Prepared for:*** GSA Building Managers

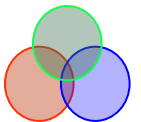
***Prepared by:*** PBS Environment Program Team

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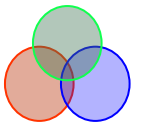
# Contractor Responsibilities

- ▶ **Contractors should be held responsible to provide GSA Building Managers with the following:**
  - *A hazardous waste management plan.*
  - *A plan to minimize hazardous waste and purchase environmentally friendly, non-toxic products prior to the start of work activities or a project.*
  - *A list of potential hazardous wastes associated with planned work activities.*
  - *Verification that hazardous wastes generated from work activities are stored and disposed in accordance with federal, state, and local waste management regulations.*
  - *Permits, if applicable, for the temporary storage of hazardous materials and wastes on GSA property.*



# Contractor Responsibilities

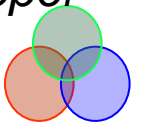
- ▶ **Contractors should be held responsible to provide GSA Building Managers with the following:**
  - *Copies of Material Safety Data Sheets for hazardous chemicals brought onto GSA property.*
  - *Records of universal waste, hazardous waste, and used oil, including type of waste, quantity, bills of lading, manifests, DOT shipping records, EPA identification numbers, recycling or disposal certificates, and other shipping records.*
  - *Confirmation that all wastes removed from GSA property are transported to and disposed of or recycled at approved facilities.*





# Contractor Responsibilities

- ▶ **Contractors must ensure and verify that their subcontractors meet the same requirements and responsibilities that GSA requires of the contractors themselves. Contractors must communicate responsibilities for complying with applicable waste management guidelines and regulations to their subcontractors.**
  
- ▶ **Contractors must also provide Building Managers with evidence of:**
  - *An employee training program for the proper management of hazardous wastes, universal wastes, and used oil.*
  - *Proper personal protective equipment for workers.*
  - *An understanding to immediately notify the Building Manager of a spill or accident involving hazardous materials or waste, universal waste, and oils/used oil.*
  - *Preparedness to cleanup any spills or other releases related to improper hazardous waste management.*



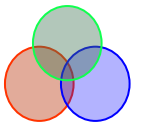
# Communicating with Tenants

## *Training Chapter 5 of 6*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008



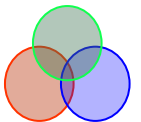
# Communicating with Tenants

- ▶ **GSA's tenant operations are diverse.**

- *For example, tenants operate laboratories, firing ranges, photo labs, and dog kennels at GSA facilities. All of these operations may generate hazardous wastes, and tenants need to be aware of their joint responsibilities in meeting federal, state, and local hazardous waste management requirements.*

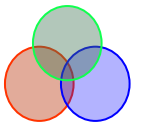
- ▶ **GSA Building Managers must maintain communication with tenants to ensure that GSA facilities are in compliance with these management requirements, and to contribute to GSA's goals and policy to:**

- *Strive to be the premier provider of healthy built environments for Federal employees.*
- *Strive to prevent waste and pollution and adopt practices that minimize harmful effects of our operations on the natural environment.*
- *Carry out social, environmental, and other responsibilities as a Federal agency.*



# Communicating with Tenants

- ▶ **The purpose of this lesson is to provide general responsibilities for GSA Building Managers to oversee tenant operations and facilitate communication between GSA and tenant agencies.**
- ▶ **Once you have completed this training chapter, you will be able to:**
  - Describe information that Building Managers should communicate to tenant agencies.
  - Describe information that Building Managers should obtain from tenants.



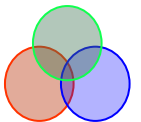
# Communication: Building Manager to Tenant

## *Training Chapter 5, Section 1 of 2*

***Prepared for:*** GSA Building Managers

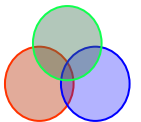
***Prepared by:*** PBS Environment Program Team

***Date:*** January 2008



# Communication: Building Manager to Tenant

- ▶ **GSA Building Managers have some basic responsibilities in maintaining communication with GSA's tenants. Building Managers should:**
  - *Communicate requirements for the proper management of hazardous waste, universal waste, and used oil management to the tenant agency.*
  - *Communicate with tenant agencies to implement waste minimization plans, including the purchase of environmentally friendly, non-toxic products and the recycling of wastes.*
  - *Ensure that tenants know to contact GSA Building Managers about waste management issues.*
  - *Inform tenants of the need to contact GSA Building Managers prior to initiating a contract for any building maintenance, repair, alteration, and renovation work in PBS facilities.*
  - *Coordinate with your Regional Environmental Specialist to develop informational brochures for tenants.*



# Communication: Building Manager to Tenant

- ▶ Regularly inform tenants that universal waste must be recycled, and not dumped in the municipal solid waste (garbage). Communicate with tenants to prevent abandonment and disposal of universal wastes (such as electronic equipment) in PBS facilities and general trash.



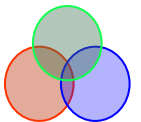
# Communication: Tenant to Building Manager

## *Training Chapter 5, Section 2 of 2*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

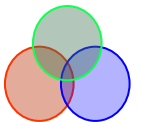
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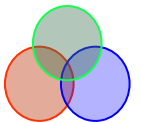
# Communication: Tenant to Building Manager

- ▶ **Building Managers should ask tenants about the type, volume, location, and frequency of hazardous waste they generate, transport, treat, or store at GSA facilities.**
- ▶ **Examples of tenant operations that generate hazardous waste include:**
  - *Firing Ranges*
  - *Wastewater Treatment Plants*
  - *Laboratories & Medical Facilities*
  - *Vehicle Maintenance*
  - *Photo Labs & Printing Shops*



# Communication: Tenant to Building Manager

- ▶ **Since some tenant operations and activities generate hazardous wastes, GSA Building Managers need to maintain communication with tenants to ensure GSA facility compliance. The tenant agency should provide a point of contact for Building Managers to communicate on issues related to hazardous waste management. And GSA Building Managers should:**
  - *Ensure that tenants maintain Material Safety Data Sheets (MSDSs), contingency plans, and emergency procedures in areas of hazardous materials and wastes.*
  - *Ensure that tenants are aware of proper storage and disposal requirements for all hazardous waste, universal waste, and used oil that they generate.*
  - *Communicate with the tenant to maintain an up-to-date inventory of hazardous materials and wastes, universal wastes, and used oils generated by tenant operations. Tenants must maintain an accurate hazardous materials inventory and records of material use.*
  - *Be aware of tenant operations to ensure that tenants are following waste management requirements, and if not, implement measures to increase tenants' awareness of such requirements.*





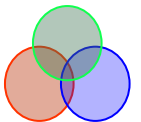
# Assessment

## *Training Chapter 6 of 6*

***Prepared for:*** GSA Building Managers

***Prepared by:*** PBS Environment Program Team

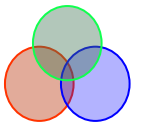
***Date:*** January 2008



# Assessment

- ▶ **What possible risks are associated with generating, handling, and storing hazardous wastes at GSA facilities? Select all that apply.**
- A. Human health risks
- B. Environmental contamination
- C. Pandemic influenza
- D. PBS building shutdown after a major release

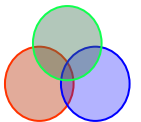
Answer: A, B, and D



# Assessment

- ▶ **Which of the following aspects of hazardous waste management should GSA Building Managers be familiar with? Select all that apply.**
- A. Identifying hazardous wastes
- B. Storing hazardous wastes.
- C. Minimizing hazardous wastes.
- D. Disposing or recycling hazardous wastes.

Answer: A, B, C, and D

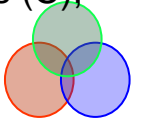


# Assessment

- ▶ **Several PBS and tenant operations and activities commonly generate hazardous wastes. Match the operations / activities to the hazardous wastes they generate by placing the letters on the left to the corresponding boxes on the right. Choose the best answer. Use each letter only once.**

- |                                    |                          |                                        |
|------------------------------------|--------------------------|----------------------------------------|
| A. Firing ranges                   | <input type="checkbox"/> | Pesticides, herbicides, fungicides     |
| B. Custodial cleaning services     | <input type="checkbox"/> | Paints, coatings, paint thinner        |
| C. Landscaping/grounds maintenance | <input type="checkbox"/> | Lead dust                              |
| D. Renovations & repairs           | <input type="checkbox"/> | Solvent to clean electrical components |
| E. Electrical & plumbing work      | <input type="checkbox"/> | Floor care products, window cleaners   |

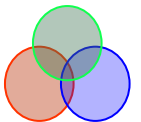
Answer: Lead dust (A), Floor care products, window cleaners (B), Pesticides, herbicides, fungicides (C),  
Paints, coatings, paint thinner (D), Solvent to clean electrical components



# Assessment

- ▶ **Under the Resource Conservation and Recovery Act (RCRA), a waste is considered a "hazardous waste" if it exhibits which of the following characteristics? Select all that apply.**
- A. Corrosivity
- B. Friability
- C. Reactivity
- D. Toxicity
- E. Ignitability

Answer: A, C, D, and E



# Assessment

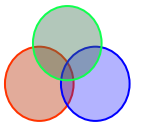
- ▶ Under the Resource Conservation and Recovery Act (RCRA), there are three hazardous waste generator classifications. The extent of regulation to which GSA facilities are subject depends on the volume and type of hazardous waste generated per month. Put the hazardous waste generator classifications in order of most to least regulated by placing a number (1-3) in the corresponding boxes on the right (1 = most regulated).

A. Small Quantity Generators (SQG)

B. Conditionally Exempt Small Quantity Generators (CESQG)

C. Large Quantity Generators (LQG)

Answer: 1: LQG, 2: SGQ, 3: CESQG

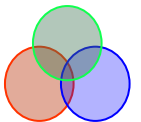




# Assessment

- ▶ **One of the critical responsibilities of Building Managers is to ensure that the volume and type of hazardous waste generated at GSA facilities are accurately tracked each month. Which of the statements below correctly explains why it is important to track hazardous waste? Choose the best answer.**
- A. Hazardous waste generator regulations are unique to federal agencies.
  - B. As the volume of hazardous waste grows beyond specific thresholds, regulations become more stringent.
  - C. Any volume of hazardous waste must be disposed on a monthly schedule.
  - D. As the volume of hazardous waste decreases below specific thresholds, regulations become more stringent.

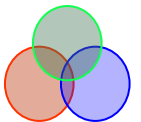
Answer: B



# Assessment

- ▶ **GSA Building Managers should look for ways to minimize hazardous waste generated and discarded at GSA facilities. Hazardous waste minimization is not only a best management practice, it is also required by federal directives, laws, and regulations. Which of the following are appropriate ways of minimizing hazardous waste? Select all that apply.**
- A. Reduce or eliminate the amount of hazardous materials purchased or used.
- B. Recycle hazardous wastes so that they are productively reused.
- C. Purchase non-toxic, environmentally friendly, and Green Seal approved products from GSA Advantage!

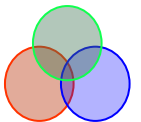
Answer: A, B, and C



# Assessment

- ▶ **What are some ways of ensuring that the purchase and use of hazardous materials, and thus the production of hazardous waste, is minimized at GSA facilities? Select all that apply.**
- A. Ask manufacturers for environmentally preferable substitutes.
- B. Maintain an up-to-date inventory of stored hazardous materials.
- C. Purchase environmentally friendly and Green Seal products.
- D. Reprocess or treat expired hazardous materials for use.

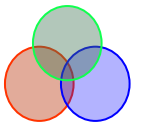
Answer: A, B, and C



# Assessment

- ▶ **The Resource Conservation and Recovery Act, its associated federal regulations, and state and local environmental regulations require all federal agencies to properly store hazardous waste generated at facilities. What are some of the basic storage requirements for hazardous wastes? Select all that apply.**
- A. Maintain accessible Material Safety Data Sheets in hazardous waste storage areas.
- B. Storage containers must have "Hazardous Waste" labels.
- C. Store containers and tanks in secondary containment units.
- D. Maintain a contingency plan.

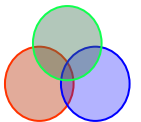
Answer: A, B, C, and D



# Assessment

- ▶ **Building Managers should ensure that hazardous waste storage areas are inspected at least once a week. Which of the following storage requirements should you check for during an inspection? Select all that apply.**
- A. Storage containers and tanks must be in good condition with no signs of deterioration.
  - B. Storage containers may be kept unsealed and open during storage, until ready for disposal.
  - C. Storage containers and tanks must have "Hazardous Waste" labels.
  - D. Storage containers must be placed in secured areas to reduce the risk of exposure to employees or the environment.
  - E. The number of storage containers must be minimized by collecting all hazardous wastes in one storage container, regardless of chemical compatibility.

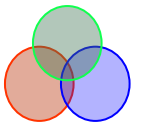
Answer: A, C, and D



# Assessment

- ▶ **The disposal or recycling of hazardous waste is permitted at which of the following facilities? Select all that apply.**
- A. A permitted hazardous waste treatment and disposal facility.
- B. A facility authorized to manage hazardous wastes.
- C. A municipal solid waste landfill.
- D. A facility authorized to beneficially reuse or reclaim hazardous waste.

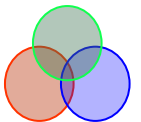
Answer: A, B, and D



# Assessment

- ▶ **Which of the following considerations apply to the proper disposal of hazardous waste? Select all that apply.**
- A. Dispose of hazardous waste with municipal solid waste (general trash).
- B. Maintain a copy of hazardous waste manifests.
- C. Recycle hazardous waste with other recyclable solid waste.
- D. Label hazardous waste containers for shipment.
- E. Maintain all records related to hazardous waste shipments.

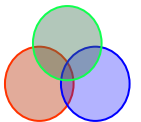
Answer: B, D, and E



# Assessment

- ▶ **What was the EPA's intent in creating an alternative set of management standards for certain hazardous wastes through the Universal Waste Rule? Select all that apply.**
- A. Encourage the purchase of mercury-containing equipment.
- B. Reduce the regulatory burden of managing certain wastes.
- C. Encourage recycling of hazardous wastes.
- D. Reduce illegal disposal of wastes in municipal waste landfills.

Answer: B, C, and D

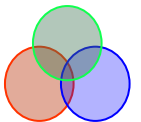




# Assessment

- ▶ **Which of the following potential adverse impacts on human health and the environment can result from a release of mercury contained in broken universal waste materials? Select all that apply.**
- A. Damage to the human central nervous system and/or kidneys.
- B. Contamination of waterways and water bodies.
- C. Contamination of fish in our lakes, rivers, and oceans.
- D. Contribution to global warming as a greenhouse gas.

Answer: A, B, and C

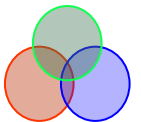


# Assessment

- ▶ **Which of the following spent items are examples of universal wastes?  
Select all that apply.**

- A. Fluorescent lamps
- B. Refrigeration oils
- C. Nickel-cadmium batteries
- D. Mercury-containing pressure gauges
- E. Dry chemical fire extinguishers

Answer: A, C, and D

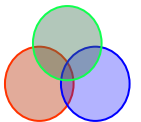


# Assessment

- **Several PBS and tenant operations and activities commonly generate hazardous wastes. Match the operations / activities to the hazardous wastes they generate by placing the letters on the left to the corresponding boxes on the right. Choose the best answer. Use each letter only once.**

- |                                       |                          |                                         |
|---------------------------------------|--------------------------|-----------------------------------------|
| A. Maintaining lab equipment          | <input type="checkbox"/> | Banned or recalled pesticides           |
| B. Replacing electronic office equip. | <input type="checkbox"/> | Lamps                                   |
| C. Servicing electronic office equip. | <input type="checkbox"/> | Batteries                               |
| D. Lighting an office space           | <input type="checkbox"/> | Mercury containing equipment            |
| E. Pest control                       | <input type="checkbox"/> | Computers (CRT) monitors & other equip. |

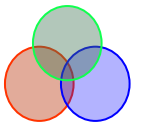
Answer: Mercury containing equipment (A), Computers monitors & other equipment (B), Batteries (C), Lamps (D), Banned or recalled pesticides (E)



# Assessment

- ▶ **Which of the following practices would you require of your employees or contractors handling and managing universal waste at a GSA facility? Select all that apply.**
- A. Package fluorescent and other lamps to avoid breakage.
  - B. Maintain spill cleanup kits near universal waste storage areas.
  - C. Store universal waste with non-recyclable municipal waste.
  - D. Label all universal wastes with "universal waste" labels.

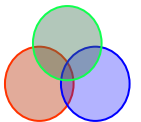
Answer: A, B, and D



# Assessment

- ▶ **Which of the following are proper storage requirements for universal wastes generated at GSA facilities? Select all that apply.**
- A. Store universal wastes in covered areas, out of the weather and protected from rain and snow.
  - B. Store universal wastes only in locked storage buildings.
  - C. Use light bulb crushers to avoid the "large quantity" generator classification.
  - D. Store fluorescent lamps in the original box or a protective container.
  - E. Label universal wastes with the accumulation start date.

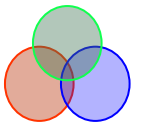
Answer: A, D, and E



# Assessment

- ▶ **Which of the following are requirements for the proper recycling and disposal of universal wastes? Select all that apply.**
- A. Comply with U.S. DOT universal waste shipping requirements.
- B. Keep batteries and fluorescent light bulbs out of the trash.
- C. Send universal wastes to an authorized recycling facility.
- D. Do not dispose of universal waste with hazardous waste.

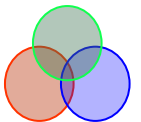
Answer: A, B, C, and D



# Assessment

- ▶ **Which of the following are requirements for the proper recycling and disposal of universal wastes? Select all that apply.**
- A. Dispose of universal waste with municipal waste (general trash).
  - B. Recycle universal wastes to avoid more stringent hazardous waste disposal requirements.
  - C. Implement measures to prevent accidental releases to the environment from universal waste.
  - D. Send universal waste to a universal waste consolidator for shipment to an authorized recycling facility.
  - E. Compress or crush universal wastes prior to disposal.

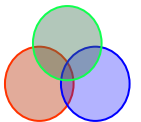
Answer: B, C, and D



# Assessment

- ▶ **If used oil is released to the environment by accident or through improper disposal down a sanitary sewer or storm water drain, which of the following are potential negative impacts on the environment? Select all that apply.**
- A. Cause acid rain.
  - B. Contaminate drinking water.
  - C. Poison or kill animals and fish.
  - D. Create algal blooms.

Answer: B and C

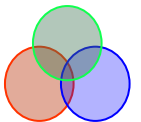




# Assessment

- ▶ **EPA regulations and standards on used oil management apply to which of the following entities? Select all that apply.**
- A. Used oil generators.
  - B. Used oil collection centers.
  - C. Used oil transporters.
  - D. Used oil processors.

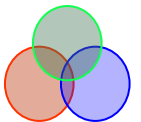
Answer: A, B, C, and D



# Assessment

- ▶ **Used oil is a valuable recyclable commodity that is generated through routine PBS and tenant operations. Which of the following are considered "used oil" as defined by the federal used oil management standards? Select all that apply.**
- A. Lubricating oils
  - B. Animal and vegetable oils
  - C. Hydraulic oils
  - D. Refrigeration oil or compressor oils from refrigeration units
  - E. Engine oils

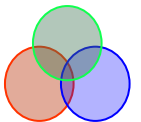
Answer: A, C, D, and E



# Assessment

- ▶ **Under the federal used oil management standards, a "used oil" is any oil that is petroleum-based or any synthetic oil that has been used. Which of the following are used oils that may be potentially generated through routine PBS and tenant operations? Select all that apply.**
- A. Refrigeration oil or compressor oils from refrigeration units
  - B. Hydraulic oils (elevators)
  - C. Engine oils
  - D. Transmission fluids
  - E. Lubricating oils

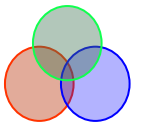
Answer: A, B, C, D, and E



# Assessment

- ▶ **Used oil is a valuable, recyclable commodity and it is not considered a hazardous waste, with a few exceptions. When is used oil considered a hazardous waste? Select all that apply.**
- A. Only when recycled
- B. Characteristically hazardous (for example, reactive)
- C. Contaminated with hazardous substances
- D. Mixed with hazardous waste
- E. Varies according to state hazardous waste regulations

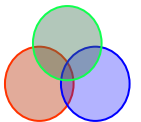
Answer: B, C, D, and E



# Assessment

- ▶ **Some oils can become contaminated with hazardous substances through the normal use of the oil. Which of the following are examples of used oil that may be considered a hazardous waste? Select all that apply.**
- A. Vacuum pump oil for laboratory equipment
  - B. Used oil mixed with vegetable cooking oil
  - C. Cutting oils or metalworking oils
  - D. Used oil that is characteristically hazardous
  - E. Refrigeration compressor oils with chlorofluorocarbons (CFCs)

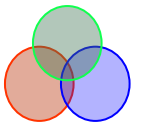
Answer: A, C, D, and E



# Assessment

- ▶ **Which of the following are used oil storage requirements that you would expect and want to see during an inspection of a GSA facility? Select all that apply.**
- A. A funnel retained in the mouth of a storage container.
  - B. A used oil storage container near a sanitary sewer drain to collect leaked oil.
  - C. Used oil storage containers labeled with the words "used oil".
  - D. Used oil stored in containers that are in good condition.

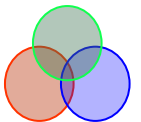
Answer: C and D



# Assessment

- ▶ **Federal, state, and local laws and regulations require all federal agencies to properly store used oil generated at facilities. What are some of the storage requirements for used oil? Select all that apply.**
- A. Repair or replace storage containers with structural defects.
- B. Inspect used oil storage areas to ensure proper labeling.
- C. Stack used oil containers to maximize storage space.
- D. Accumulate used oil, regardless of storage thresholds, to limit disposal costs.
- E. Use secondary containment units to catch leaks or spills.

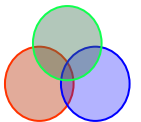
Answer: A, B, and E



# Assessment

- ▶ **When used oil is transported off-site for recycling by a contractor, Building Managers must maintain copies of the shipping records. Which of the following records are required of used oil transporters? Select all that apply.**
- A. EPA identification number (with some exceptions).
  - B. Analysis of used oil for hazardous substances.
  - C. Used oil accumulation and shipping records.
  - D. Proof of shipment to a state or local-approved used oil collection and recycling center.

Answer: A, B, C, and D

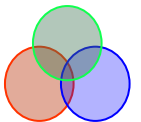




# Assessment

- ▶ **Which of the following records should Building Managers inspect and maintain for shipments of used oil to off-site used oil collection and recycling centers? Select all that apply.**
- A. Analysis of used oil for hazardous substances.
- B. DOE identification number.
- C. Used oil accumulation and shipping records.
- D. EPA identification number (with some exceptions).

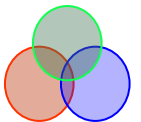
Answer: A, C, and D



# Assessment

- ▶ **Building Managers need to coordinate with their regional Environmental, Health, and Safety Specialist to implement preventive measures and emergency response procedures in the event of an accidental release of used oil. What steps should you take to prevent and control accidental releases of used oil? Select all that apply.**
- A. Require all employees and tenants to maintain personal protective equipment at their work stations.
- B. Maintain an inventory of oils and used oil generated at facilities.
- C. Maintain machinery, equipment, storage containers, and tanks in good working condition.
- D. Request a spill response plan from your Regional Environmental Specialist at the time of an accidental release.
- E. Maintain up-to-date spill control kits near used oil storage areas.

Answer: B, C, and E

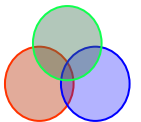


# Assessment

- ▶ **In the event of a minor oil spill or leak at a GSA facility, cleanup steps must be performed by appropriate staff responsible for managing the used oil. Put the steps in the correct sequence by dragging the numbers on the left to the corresponding boxes on the right.**

- |    |                                                                                                                      |                      |
|----|----------------------------------------------------------------------------------------------------------------------|----------------------|
| A. | Clean up the released oil and properly recycle or dispose the spilled oil and absorbent materials.                   | <input type="text"/> |
| B. | Record the accidental spill within 24 hours of the incident.                                                         | <input type="text"/> |
| C. | Contain the used oil release.                                                                                        | <input type="text"/> |
| D. | If necessary, repair or replace any leaking used oil storage containers or tanks prior to returning them to service. | <input type="text"/> |
| E. | Stop the used oil release.                                                                                           | <input type="text"/> |

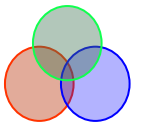
Answer: A: 3, B: 5, C: 2, D: 4, E: 1



# Assessment

- ▶ **Which contractors must Building Managers oversee to ensure the proper handling and management of hazardous waste, universal waste, and/or used oil? Select all that apply.**
- A. Waste management contractors
- B. Janitorial contractors
- C. Pest management contractors
- D. Electrical contractors

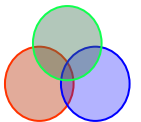
Answer: A, B, C, and D



# Assessment

- ▶ **Which of the following responsibilities are critical for a Building Manager to ensure proper waste management by contractors (in this specific case, a janitorial service contractor)? Select all that apply.**
- A. Communicate with contractors about waste management.
  - B. Choose to work with contractors that do not require oversight.
  - C. Oversee contractors to ensure compliance with regulations.
  - D. Rely on contractors for professional consultation on any environmental regulations.

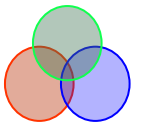
Answer: A and C



# Assessment

- ▶ **GSA Building Managers must oversee contractor operations to ensure that they abide by regulations regarding hazardous waste, universal waste, and used oil management. Which of the following are good practices for Building Managers to implement as part of their responsibility to oversee contractors? Select all that apply.**
- A. Ensure that contractors have appropriate qualifications and training to meet hazardous waste management requirements.
  - B. Notify contractors of their hazardous waste management responsibilities.
  - C. Inspect hazardous waste storage and disposal areas managed by contractors.
  - D. Maintain inspection records for no more than one year.
  - E. Allow contractors to abandon hazardous wastes in place at GSA facilities.

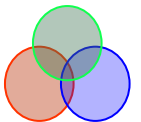
Answer: A, B, and C



# Assessment

- ▶ **Building Managers must oversee contractor operations and coordinate with their regional Environmental, Health, and Safety Specialist to ensure that contractors abide by hazardous waste management requirements. At which occasions should Building Managers notify their regional Environmental Specialist? Select all that apply.**
- A. For information on federal, state, and local waste management regulations.
- B. Immediately after a major hazardous waste spill.
- C. To perform work that requires hazardous waste operations training.
- D. Prior to the start of a renovation, alteration, repair, or other planned work activity that involves hazardous materials.
- E. If a contractor fails to adhere to waste management requirements.

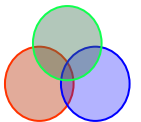
Answer: A, B, D, and E



# Assessment

- ▶ **GSA contractors need to provide evidence to Building Managers of their compliance with federal, state, and local laws and regulations regarding hazardous waste management. As a Building Manager, which of the following should you expect from a contractor handling, storing, and managing hazardous waste? Select all that apply.**
- A. An employee training program on hazardous waste management.
- B. Evidence that contractors have communicated hazardous waste management requirements to their subcontractors.
- C. Proper personal protective equipment for workers.
- D. An emergency plan for tenants to respond to a hazardous waste spill or accident.
- E. A work plan that minimizes coordination with the Building Manager.

Answer: A, B, and C

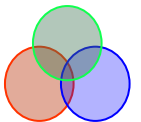




# Assessment

- ▶ **GSA contractors need to provide evidence to Building Managers of their compliance with federal, state, and local laws and regulations regarding hazardous waste management. As a Building Manager, which of the following should you expect from a contractor handling, storing, or managing hazardous waste? Select all that apply.**
- A. Hazardous waste management and minimization plans.
- B. Shipping records for hazardous wastes.
- C. Permits and shipping records for transporting hazardous wastes.
- D. Material Safety Data Sheets for hazardous materials used for work activities on GSA property.
- E. Contractors do not have to report their hazardous waste related activities to Building Managers.

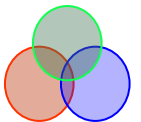
Answer: A, B, C, and D



# Assessment

- ▶ **GSA Building Managers must maintain communication with tenants to ensure that GSA facilities are in compliance with hazardous waste management requirements, and to contribute to which of the following GSA goals and policies? Select all that apply.**
- A. GSA must hold tenants liable for all generated waste.
- B. GSA must provide a healthy environment for tenants.
- C. GSA must prevent or minimize waste and pollution.
- D. GSA must adopt practices that minimize the harmful effects of PBS and tenant operations on the natural environment.

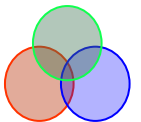
Answer: B, C, and D



# Assessment

- ▶ **Why must GSA Building Managers maintain communication with tenants with respect to hazardous waste management at GSA facilities? Select all that apply.**
- A. Ensure compliance with waste management requirements.
- B. Ensure tenants are aware of their waste management responsibilities.
- C. Strive for GSA goal to eliminate hazardous waste by 2020.
- D. Prohibit tenants from generating hazardous waste.

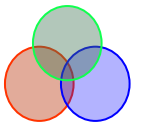
Answer: A and B



# Assessment

- ▶ **What information about waste management at GSA facilities should Building Managers communicate to tenants? Select all that apply.**
- A. Requirements for proper hazardous waste, universal waste, and used oil management.
- B. Federal requirement to dispose of lamps with non-recyclable trash.
- C. GSA contact information to address waste management issues.
- D. GSA's policy to dispose of computers with non-recyclable trash.
- E. Procedure for contacting GSA prior to initiating building maintenance, repair, alteration, and renovation work.

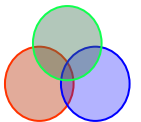
Answer: A, C, and E



# Assessment

- ▶ **What information should Building Managers communicate to tenants?  
Select all that apply.**
- A. Universal wastes must be recycled and not dumped with trash.
  - B. Contact Building Managers about waste management issues.
  - C. Lamps, electronic equipment, and batteries must be recycled and not dumped in the general trash.
  - D. Benefits of implementing a waste minimization plan.
  - E. GSA's policies on hazardous waste, universal waste, and used oil management.

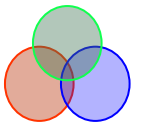
Answer: A, B, C, D, and E



# Assessment

- ▶ **Various tenant operations generate hazardous wastes, universal wastes, and used oil at GSA facilities. What information regarding hazardous waste generation and management should Building Managers obtain from tenants? Select all that apply.**
- A. The chemical composition and analysis of all hazardous wastes.
- B. A description of tenant operations that generate hazardous wastes.
- C. The location of hazardous waste generated by tenant operations.
- D. Material Safety Data Sheets and contingency plans for hazardous wastes generated by tenant operations.
- E. Building Managers should not ask for information from tenants.

Answer: B, C, and D



# Assessment

- ▶ **Various tenant operations generate hazardous wastes, universal wastes, and used oil at GSA facilities. What information regarding hazardous waste generation and management should Building Managers obtain from tenants? Select all that apply.**
- A. Building Managers should not ask for information from tenants.
- B. A description of tenant operations that generate hazardous wastes.
- C. The location of hazardous waste generated by tenant operations.
- D. Emergency procedures in case of a chemical spill or accident.
- E. A hazardous materials inventory and records of material use.

Answer: B, C, D, and E

