

**Natural Disaster
Waste Collection Pad (WCP) Set-up and Management
United States Environmental Protection Agency (USEPA)
Region 6, United States Coast Guard (USCG), Texas General
Land Office (TGLO) & Texas Commission on Environmental
Quality (TCEQ) Disaster Response Procedures**

1.0 Purpose

1.1 Waste Collection Pad (WCP)

Purpose: The purpose of the WCP is to centralize the temporary storage of orphan containers, above ground storage tanks (AST or ASTs), compressed gas cylinders and other hazardous and non-hazardous materials, while final transportation and disposal arrangements are finalized. The WCP can also be utilized as a base of field operations and as a staging area for recovery equipment.

2.0 Objective

2.1 Waste Collection Pad Objective: After a natural disaster occurs, significant quantities of displaced orphan containers, ASTs, compressed gas cylinders, hazardous and non-hazardous materials, household hazardous waste (HHW), electronic waste and/or white goods are displaced from their original location and subsequently removed from the environment by disaster response personnel. These items require a secure area in which to be processed and temporarily stored for subsequent recycling, disposal, or return to the original owner.

2.1.1 This SOP outlines the overall procedures to establish a WCP and the on-site activities associated with the assessment/categorization, segregation, bulking, packaging, manifesting, transportation and disposal or recycling of the materials transported to the WCP.

Note: Only federal government representatives may supervise federal contractor personnel and only state government representatives may supervise state contractor personnel.

2.2 Waste Collection Pad Site Location Requirements & Access

2.2.1 The pad area should be sized according to the amount of projected waste to be collected for the response. The following considerations should be evaluated for creation and operation of a WCP:

- Size (e.g. 3-6 acres);

- Proximity to operational area, major roadways and highways;
- Electricity and water;
- Hard surface;
- Security;
- Industrial areas are preferred;
- Sites that require minimal improvements;
- And, drainage/flooding.

Examples of ideal WCP locations are: port facilities, parking lots, and county/state facilities (e.g., equipment yards and other publicly owned facilities). Improvements to the area such as the addition of gravel, run off controls, and fencing, etc. should not initially exceed \$25,000 in total cost. If it is anticipated that the improvements will exceed \$25,000 in total cost then the Waste Collection Pad Leader (WCPL) must receive authorization from the Branch Director or Division Supervisor, who must receive authorization from the Operations Section Chief, prior to authorizing the improvements.

2.2.2 Access to utilize the property must be documented using the EPA/TCEQ Right of Access and Land Use Agreement. EPA/TCEQ personnel or their contractors should not enter private property without consent from the property owner. EPA/TCEQ personnel will provide the property owner with the attached EPA/TCEQ Right of Access and Land Use Agreement. This form must be provided to and signed by the property owner authorizing EPA/TCEQ to use the property. Any improvements must be approved by the property owner and be reflected in the EPA/TCEQ Right of Access and Land Use Agreement. A signed copy must be provided to the Division/Group Supervisor and Operations Section Chief prior to mobilization and set-up of the Waste Collection Pad. A signed copy must also be kept on-site during operations.

2.2.3 If the surface of the site is not constructed of concrete or asphalt, the following procedures relating to soil sample collection must be followed. The attached WCP Quality Assurance Sampling Plan (QASP) must be followed to document potential levels of contaminants in the soil prior to beginning operations at the WCP and after operations have concluded. The objective of this sampling event is to compare the laboratory analyses of the soil samples to determine if any discharges or releases of regulated substances occurred at the WCP during the disaster response waste consolidation activities. The exact sample locations of samples collected for laboratory analysis prior to beginning operations at the WCP will be determined in the field by sampling personnel. The sample locations of both sample events, to the greatest extent possible, will correspond exactly.

2.2.4 The site selected will need to have an EPA ID number and also meet state requirements related to ID numbers and or notifications and waste stream codes. Contact the TCEQ Waste Coordinator in the geographical area that is being worked and request a site specific number and appropriate waste stream codes. The waste codes assigned to the wastes managed through the WCP site(s) are authorized contingent to the situation.

The number will be utilized for all hazardous waste shipments during the operations of the site. The TCEQ Waste Coordinator will be available to assist with any specific state requirements related to waste ID, shipment and on-site management requirements.

3.0 Waste Collection Pad Group Structure

3.1 Waste Collection Pad Leader

The WCPL reports to the Branch Director or the Division Supervisor. The WCPL is in charge of planning daily operations. Additionally, the WCPL ensures personnel have appropriate assignments and supervises all operations associated with the WCP. If any contract or health and safety incidents occur, the WCPL is required to notify the Branch Director or Division Supervisor and the Assistant Safety Officer for their work area.

3.2 Waste Collection Pad Team Composition

A typical WCP team in a large scale disaster may consist of the following personnel or groups of personnel:

- Government representative;
- (0-4) EPA Superfund Technical Assessment Response Team (START) or state contractor personnel;
- And, (3-20) EPA Emergency Rapid Response Services (ERRS) or state contractor personnel.

The government representative will serve as the WCPL. The WCPL will request additional support through the Branch Director/Division Group Supervisor or the Operations Section Chief. The WCPL will ensure that the number of contract personnel will be directly proportional to the work load. The EPA START contractor or state contractor will be in charge of the following tasks;

- Documentation of the number of items/containers and their contents which are received at the pad daily using the Daily Collection Inventory Form (attached);
- Performance of daily air monitoring;
- Maintenance of site files;
- Maintenance of a field notebook and completion of the daily 214B NDOW form
- And, photo documentation of site activities.

The EPA ERRS contractor or state contractor will be in charge of:

- Setup and maintenance of the WCP;
- Placement of all items/containers in the appropriate assigned hazard class area;
- Consolidation of compatible hazardous and non-hazardous materials into larger containers for more efficient transportation to disposal or recycling facilities;
- And, coordination of transportation, disposal and/or recycling of the hazardous and non-hazardous materials.

Hazard categorization (Hazcat), air monitoring and waste tracking can be performed by either EPA or state contractors.

4.0 Core Resources Required

4.1 Contractor Resources

The possible resources needed for the EPA contractors (ERRS and START) involved in operating the WCP can be found in the EPA ERRS and START Resource List (attached). State contractor resources will be similar to EPA contract resources and can be found in the state Contractor Resource List (attached). Contracted resources (personnel and equipment) will be maintained at a level sufficient to complete all tasks as determined by the WCPL.

5.0 Waste Collection Pad Layout (Support & Exclusion Zones)

5.1 Support Zone

A typical support zone area will contain administrative trailers at the entrance, a designated vehicle parking area and a location where all personnel including visitors will be required to sign in and out. The trailers will be used by any government employees and contractors. Trailers or other mobile structures (e.g., Conex shipping containers) containing necessary support supplies such as PPE, water, health and safety supplies and other waste consolidation equipment will also be located in this area. There should be a covered break area, a hand wash area, eye wash station and portable toilets. Separate toilets for male and female personnel should be maintained on site. There should be one portable toilet for every five personnel that are on site on a daily basis. Example sketches of a typical WCP layout can be found in the attachments.

5.2 Exclusion Zone

A typical Exclusion Zone is where the collection teams will bring all recovered items for temporary storage and where the following major activities will take place:

- Segregation of items per hazard class;
- Sampling of containers with unknown contents through the hazard categorization process to identify the correct hazard classification of the material for disposal or recycling;
- Consolidation (bulking) of compatible materials;
- Decontamination of containers;
- Container crushing operations;
- Staging of materials for transport off-site for disposal or recycling;
- And, return of any containers to the original owner as warranted.

The site should be secure. A stop sign will be located at the entrance along with a map showing the location of the specific staging locations and a traffic route map. All personnel who enter this area will be required to wear a hard hat, safety shoes, safety glasses and a high visibility vest. Also, at the entrance of the Exclusion Zone, there should be a first aid station, an emergency shower and one eye wash station. It is also

recommended that additional emergency eye wash stations be located within the exclusion zone as warranted. The potential additional locations include:

- Battery staging area;
- Hazcat area;
- Oxidizer staging area;
- And, compressed gas cylinder staging area.

The exclusion zone will consist of the following main areas to ensure that only compatible materials are stored together to eliminate the potential threats to public health and the environment and will include areas that support the daily functions of the staging area. To review hazard class compatibility, see the attached Department of Transportation (DOT) Hazard Class Compatibility Chart (DOT Chart 14).

- Inspection & Counting Area - This area is located at the entrance to the exclusion Zone. The entrance can be staffed with personnel whose role is to make sure that everyone who enters the Exclusion Area has on the appropriate protective clothing, to make sure that those personnel who enter know where they are going, and that they are aware of the traffic route. Each load entering this area will be inspected to identify any unstable or unsafe loads. Any unsafe loads will be reported to the WCPL so that immediate and appropriate actions can be taken to stabilize and/or secure the load. Contract personnel will count the items/materials being delivered and create written documentation of each load using the Daily Collection Inventory Form. If the name of the owner or manufacturer is located on any of the containers larger than 55-gallons or on any of the compressed gas cylinders, it should be noted to provide the information necessary to contact the owner or manufacture for the purpose of returning the container to the owner or manufacturer.
- Recovered Container Staging Area – Any containers with unknown contents should be dropped off at this secured and cordoned off location for later identification using Hazcat technologies to determine the appropriate hazard classification staging area. Precautions should be taken to ensure that containers are segregated per container type, appropriate containment is in place, and are quickly processed to go to their appropriate hazard class staging area.
- Hazard Identification Area (Hazcat) - This designated area is where any unknown material/container is taken to be field analyzed, the appropriate hazard class is determined and the material/container is moved to the proper hazard class staging area for staging and processing. Chemicals may react with each other while being stored in this staging area, and/or during transportation. This may cause a fire, toxic vapors, explosion, or other reaction if not performed properly.
- Compressed Gas Cylinder Area - Commercial-size cylinders are stored in segregated areas, grouped as flammables, non-flammables, oxidizers and unknowns. Any cylinder that does not have a protective valve cap (bonnet) must have one installed. If a cylinder has an identifying label then the owner will be

contacted and asked to retrieve their property. Orphan oxygen and carbon dioxide cylinders can be vented on site. The oxygen cylinders need to be vented in a secure downwind area away from any hazard classes that are deemed flammable/combustible. The empty containers can be labeled as empty and then properly recycled.

- Propane Cylinder Area – There are two types of cylinders that are most common that will be received. These are small, vertical, 5-25 gallon (20 - 100 lbs.) propane cylinders, and the larger, horizontal, residential cylinders which are 200 – 850 gallon (800 – 3400 lbs.). Small cylinders should be secured on pallets with plastic wrap. The WCPL needs to delegate WCP personnel to contact local propane dealers to initiate pickup and recycling of these cylinders. Periodic checks need to take place to ensure that cylinder valves are secure and that no leaking is occurring.
- Latex & Oil Paint Area - All latex and/or oil paints should be delivered to this area and palletized. Once the paints are delivered to the area they need to be further sub-divided into latex and oil paints. The oil based paints can be bulked in 55 gallon drums for fuel blending and the empty cans can be recycled. The latex paints can be dried and then placed in a roll off box for disposal at a permitted facility. If time does not allow for bulking and drying, the paint cans can be palletized and placed into their respective roll-off boxes pending disposal.
- Battery Area – Automobile size batteries are placed on pallets until the pallet is considered full and then the pallet is plastic wrapped (secured) for pick up. Small batteries are separated per type and drummed accordingly. The WCPL needs to delegate WCP personnel to locate a local reputable battery recycler for pickup and recycling. The WCPL needs to confirm that the battery recycler is reputable with no current enforcement related environmental violations.
- Flammable & Combustible Liquid and Associated Bulking Area – All gasoline, fuel additives, paint thinners/turpentine and kerosene etc. should be delivered to this area for bulking and then the empty containers can be relocated to the Scrap Salvage Station. During the transfer of all flammable liquids the containers must be grounded to prevent the build up of static electricity and sparking. In addition to the protective clothing worn by all area workers, this area requires respirators and splash aprons. Workers need to bulk and secure all material received each day prior to leaving for the night. Fire extinguishers and eye wash stations need to be located in these areas.
- Poison & Aerosol Poison Area - The term “poison,” according to the DOT classification, simply means that it has been classified as toxic even in small doses. Products may contain the word “poison” in the warning label as a warning against ingestion, but not necessarily fall under the DOT classification. Examples of common poisonous gases include insecticides, herbicides, isocyanates, refrigerants, and chlorinated materials under pressure. These items should either

be capped, or have their spray nozzle heads removed prior to packing. Examples of common poisonous solids include medicines (frequently found in prescription pharmacy containers), pesticides & herbicides (powders or granules in bags).

- Oxidizer Area - This designated area receives oxidizers including bleach, certain pool chemicals, and peroxides. These chemicals give off oxygen and can cause or enhance the combustion of other materials. Chemical names ending in “ate” or “ite” such as chromate or nitrite, or beginning with “per” or “peroxy” indicate oxidizers.
- Oil & Associated Bulking Area – All oil containers (new & used) should be delivered to this area for bulking and then the empty containers can be relocated to the Scrap Salvage Station.
- Scrap Salvage Station - The scrap salvage “crushing” station is where empty metal and plastic tanks and/or containers are crushed and placed into larger containers for recycling and/or trash roll off bins. Contractor personnel need to have a cage/shield attached to their equipment during this process.
- Shipping & Bulk Waste Area – This designated area is where secured, packed and labeled drums, and wastes in Gaylord boxes are stored prior to shipment. Shipment of waste or bulk materials for disposal or recycling shall conform to DOT regulations.
- Electronic Waste Area (E – Waste) – All electronic components with a electrical plug like clocks, computers, monitors, televisions, VCRs, CD players, small kitchen appliances (toasters, microwaves etc) should be delivered to this area and palletized for recycling. There will be special cases in which some items may not be accepted due to PCB contents (e.g. older microwaves). E - Waste operations can be co-located at a WCP or a separate location that is specifically designated for E - Waste collection activities.
- White Good Area (WG) – All refrigerators, freezers, washers, and dryers should be delivered to this area or an alternate location specifically designated for WG for further processing and recycling. Depending on the number of refrigerators and freezers collected that contain putrescible waste (food products), it may be more appropriate to have the putrescible waste removed and the item decontaminated at a permitted landfill. Once the putrescible waste has been removed and the item decontaminated, the Freon and/or oil needs to be removed from the item. Some recycling facilities will provide the Freon/oil recovery service. Once the Freon/oil has been removed, the items are potentially crushed and/or bulked prior to transportation to a recycling center. WG operations can be co-located at a WCP or a separate location that is specifically designated for WG collection activities.

- Household Hazardous Wastes (HHW) – WCP operations primarily function to safely consolidate and dispose of hazardous materials that are removed from the environment during orphan container recovery activities. Orphan container recovery activities are associated with the removal of hazardous materials that are contained in buckets, tanks, totes and compressed gas cylinders that are greater than or equal to five gallons in volume. HHW are generally considered consumer products that contain chemicals and are commonly utilized at households in quantities less than or equal to 5 gallons. Common HHW includes products such as: corrosive cleaners; drain cleaners; fluorescent light bulbs; fuels (gasoline and diesel); paints (oil based and latex); pesticides; herbicides; pool chlorine and acid; wood stains; varnishes; antifreeze; and, motor oil. HHW operations can be co-located at a WCP or a separate location that is specifically designated for HHW collection activities. HHW operations follow similar operational processes and procedures described in this SOP for segregation, consolidation and disposal or recycling of hazardous materials that are removed from the environment during a disaster.
- Ammunition Area – All ammunition should be delivered to this area for proper storage until transportation and disposal can be arranged.

5.3 Items That Can Not Be Received At the WCP

Guns and explosives should not be collected and transported to the WCP. Any of these materials transported to the area should either be rejected or the WCPL needs to contact the local authorities for collection and disposal. In many circumstances, the local or state police stations can receive these items for disposal. Special wastes like radioactive materials and medical waste are not to be received at the WCP unless these wastes have been included in the FEMA Mission Assignment (or other tasking) and/or approved by Unified Command.

5.4 Responsible Party owned containers and returning of property

The WCPL is responsible for delegating the task of determining potential ownership of displaced containers, cylinders or tanks. This task also includes the following: identifying the potential owner, attempting to make contact with the potential owner, and return of container to the potential owner. The WCP personnel must follow the attached Responsible Party Container Recovery SOP and complete forms included in the plan. An attempt should be made to return any containers with information that identifies the owner. This is not necessary for containers less than 55-gallons in size unless there are numerous small containers owned by one company or individual. Some examples are the following: AST owned by an oil company or compressed gas cylinders owned by a gas/welding supply co.

6.0 Air Monitoring

6.1 Monitoring Procedures

Air monitoring at the WCP is performed by either the EPA START contractor or by a state contractor. The monitoring is performed daily and is made operational by START or state contractor each morning prior to the EPA ERRS or state contractor crews entering the exclusion zone. START or state contractor personnel will perform a field verification check of the air monitoring equipment daily before placing the monitors in the appropriate station/location (in the exclusion zone). Each air monitor should be periodically checked and the current and maximum readings for each parameter are recorded in a field notebook and downloaded at the end of every day. The ERRS or state contractor crews at each station shall be made aware of the monitors and will be instructed to move away from the area if the alarm on a monitoring instrument continues to sound. START or state contractor personnel shall also perform periodic air monitoring of the support zone with handheld direct reading instruments not dedicated to a specific location and document the observed concentrations of the instrument in their field notebook.

6.2 Air Monitoring Equipment

Air monitoring equipment needed at a WCP should include: a multi-gas (4/5 gas) meter; a hydrogen cyanide meter; an anhydrous ammonia single gas detector; a chlorine single gas detector; and, a Photo Ionization Detector and Flame Ionization Detector. The multi-gas meter needs to detect percent oxygen (%O₂), carbon monoxide (CO, in ppm), percent Lower Explosive Limit (%LEL), hydrogen sulfide (H₂S, in ppm) and volatile organic compounds. It should be noted that additional air monitoring instruments may be needed on a site by site basis. The location for each air monitoring station (at the WCP) will be recommended by START or the state contractor.

A typical WCP will have air monitoring stations located in the oxidizer section, the hazardous waste storage section, the cylinder section, the flammable/bulking section, the Hazcat section and in the container offloading section.

7.0 Definitions

Non-Hazardous Waste (Industrial)

Any industrial waste that is not listed as hazardous and does not have hazardous characteristics. Class 1 non-hazardous industrial waste can include certain levels of constituents and specified properties that, at higher levels, might otherwise render the waste hazardous. Reference the attached TCEQ guidance document “Guidelines for the Classification and Coding of Industrial and Hazardous Wastes” to assist with waste classification procedures established in Texas.

Hazardous Waste

Hazardous waste (HW) is defined as any chemical, biological, or radioactive agent that because of quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness or pose a substantial hazard to human

health or the environment when improperly treated, stored, transported, disposed, or otherwise managed. As per the Resource Conservation and Recovery Act, a hazardous waste is any solid waste that is defined under 40 CFR, part 260-279 and corresponding state regulations. The US EPA defines hazardous waste as solid waste that exhibits one of the four characteristics of a hazardous waste; namely reactivity, corrosivity, ignitability, and/or toxicity or is specifically designated as such by the US EPA. Any hazardous materials removed from commercial establishments must be handled as hazardous waste. Hazardous Waste would also include explosives such as ammunition.

Hazardous Material

Hazardous Material (HM) is defined by US DOT as any materials that have been designated as hazardous under 49 U.S.C. 5103 and is required to be placarded under subpart F of 49 CFR Part 172 or any quantity of a material listed as a select agent or toxin in 42 CFR Part 73. Examples of hazardous materials resulting from hurricane recovery include gas cylinders, virgin or specification grade oils, lubricants, gasoline, used oil, and other petroleum products. If these items were recovered in sealed original containers, they can be reused. If these items have owner information on their labels, they can be returned to the owner.

Universal Waste

Universal Waste (UW) is defined as low risk hazardous waste generated by a variety of people. This waste has three waste categories: cathode ray tubes (CRT), thermostats, batteries, and lamps (fluorescent tubes, discharge lamps, mercury vapor lamps, all batteries except auto, and mercury thermostats). These wastes must be disposed of properly. As the result of hurricane recovery, numerous universal waste items have been recovered, reclaimed, recycled, treated, and disposed.

LIST OF ATTACHMENTS:

EPA/TCEQ Right of Entry & Land Use Agreement

Department of Transportation (DOT) Hazard Class Compatibility Chart (DOT Chart 14)

EPA Waste Collection WCP QASP

Daily Collection Inventory Form

ERRS and START Resource List

Example Sketches of typical WCP layout

EPA Responsible Party Container Recovery SOP

TCEQ Guidelines for the Classification and Coding of Industrial and Hazardous Wastes