

## **ATTACHMENT 1-6 CHWSF PREPAREDNESS AND PREVENTION PLAN**

### **1.0 INTRODUCTION**

1.01 This attachment discusses preparedness and prevention for the Central Hazardous Waste Storage Facility (CHWSF) required by the Utah Administrative Code (Utah Admin. Code) R315-264-31 through 37. This attachment consists of the following sections:

- Design and Operation of the Facility,
- Equipment Requirements,
- Testing and Maintenance of Equipment,
- Access to communications or alarm system,
- Required Aisle Space,
- Arrangements with Local Authorities, and
- References.

### **2.0 DESIGN AND OPERATION OF THE FACILITY: UTAH ADMIN. CODE R315-264-31**

2.0.1 The following design or operational considerations minimize the possibility of fire, explosion, or any unplanned release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

#### **2.1 UNLOADING OPERATIONS: UTAH ADMIN. CODE R315-270-14(b)(8)(i)**

2.1.1 All containers are inspected by CHWSF personnel and shall be in good condition prior to transport from a satellite accumulation point or 90 day storage area to the CHWSF. Storage site personnel shall unload the delivery vehicle at the designated loading/unloading area using the appropriate material handling equipment. This equipment includes a forklift, pallet jack, and a drum dolly. Loading and unloading operations are described in standing operating procedure (SOP) HWSF-03, Pick Up and Transportation of Hazardous Waste, and SOP HWSF-10 Material Handling Program.

2.1.2 When containers are removed from the CHWSF to be sent to an off-site treatment, storage, or disposal facility, they are loaded onto a truck using the procedures described in SOP HWSF-03. The CHWSF technician shall monitor loading operations to assure that the correct items and quantities are loaded. To prevent accidental releases of wastes, the containers are sealed tightly and equipment that is appropriate for handling the containers and type of waste is used. If a container is damaged to the degree that the contents are released from the container, spill response procedures are implemented.

#### **2.2 RUN-OFF CONTROL: UTAH ADMIN. CODE R315-270-14(b)(8)(ii)**

2.2.1 Run-off from the CHWSF is prevented by containment curbs, which surround the drum bays, as well as sloping floors inside the Container Storage Building.

#### **2.3 WATER SUPPLY: UTAH ADMIN. CODE R315-270-14(b)(8)(iii)**

2.3.1 Dugway Proving Ground (DPG) obtains its water supplies from groundwater in the Skull Valley drainage basin aquifer and the Dugway Basin aquifer. Due to the impervious composition of the soil on DPG and the depth of the aquifers, it is highly unlikely that any release of hazardous

waste at the CHWSF would result in damage to the installation's potable water supplies before the release could be contained.

- 2.3.2 Precautions are taken at the CHWSF to prevent contamination of water supplies. The Container Storage Building is a fully enclosed building with a concrete floor that has been epoxy-coated. Because the storage building is located approximately four (4) miles from the nearest potable water well, direct release of waste to water supplies is highly unlikely. Further, all drinking water wells at DPG are equipped with devices to prevent backflow.

**2.4 EQUIPMENT AND POWER FAILURE: UTAH ADMIN. CODE R315-270-14(b)(8)(iv)**

- 2.4.1 Operations in the container storage building areas shall be discontinued during power failures. Auxiliary and secondary lighting and power shall be furnished for the necessity of continued operations inside the Container Storage Building.

**2.5 PERSONAL PROTECTIVE EQUIPMENT: UTAH ADMIN. CODE R315-270-14(b)(v)**

Personal protective equipment (PPE) is provided for all facility personnel involved in hazardous waste management to protect them from exposure to hazardous waste. As part of the training program described in Attachment 1-4, all personnel are trained in the proper use, inspection, and maintenance of this equipment. All handling operations and requirements for PPE shall be in accordance with standing operating procedures. Table 1 lists available PPE at the Central Hazardous Waste Storage Facility.

<b>Table 1. Personal Protective Equipment at the Central Hazardous Waste Storage Facility</b>		
<b>Description</b>	<b>Quantity</b>	<b>Location</b>
Respirator – full face	3	office
Rubber boots	6 pairs	office
Goggles	2 boxes	office/warehouse
Full face shields	2	office
Hearing protection	1 box	office
Gloves – Neoprene (heavy rubber)	2 pairs	office
Gloves – Nitrile (disposable)	12 pairs	office/warehouse
Gloves – brown cloth (general use)	12 pairs	office/warehouse
Coveralls – Tyvek® (chemical resistant)	12 pairs	office/warehouse
Cartridges combined organic vapors/acid gas type	1 each	office
Dust Masks	1 box	office/warehouse
Self Contained Breathing Apparatus	4 each	office
<b>Note:</b> Quantities and Locations provided above are listed as an example, with the actual quantities and storage locations varying as needed.		

- 2.5.2 This PPE is provided in the CHWSF office trailer. Additional Tyvek® suits and gloves are maintained in the Container Storage Building. The type of PPE to be worn for each type of operation is listed in the SOP for each operation.
- 2.5.3 The requirements for inspection and the recording of deteriorations and malfunctions of PPE and emergency response equipment are listed in Attachment 1-3.
- 2.5.4 Procedures for decontamination of PPE and equipment are taken from “Occupational Safety and

Health Guidance Manual for Hazardous Waste Site Activities” prepared by; National Institute for Occupational Safety and Health (NIOSH), Occupational Safety and Health Administration (OSHA), US Coast Guard (USCG), and the US Environmental Protection Agency (EPA), et al., 1985).

**2.6 PREVENTION OF RELEASES TO THE ATMOSPHERE: UTAH ADMIN. CODE 315-207-14(b)(8)(vi)**

- 2.6.1 Containers of waste are kept sealed at all times except when waste is added or removed from the container. Only containers that meet Department of Transportation (DOT) specifications are used at the CHWSF to minimize releases to the atmosphere.
- 2.6.2 In the event of a container spill or leak, the spilled material is promptly cleaned up, minimizing releases to the atmosphere.

**2.7 PRECAUTIONS FOR HANDLING IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE: UTAH ADMIN. CODE R315-264.17(a) and (b)**

- 2.7.1 Ignitable or reactive waste is separated from other waste types by containment curbs. "No smoking" signs are conspicuously placed at the CHWSF. Spark-producing equipment and tools shall not be used near flammable materials. Operations involving welding and cutting, open flames, high friction, or high heat are prohibited in the CHWSF. Ignitable wastes in the Container Storage Building are protected from radiant heat by a metal roof and walls around the storage area.
- 2.7.2 Wastes stored in the CHWSF Container Storage Building are segregated into basic storage groups, stored in separate bays, and stored in accordance with the "Compatibility of Hazardous Wastes," EPA 600/2-80-076. This ensures that incompatible wastes are not mixed and that they are stored separately. In addition, all drums brought to the storage facility are inspected prior to storage and are cross checked with forms which specify the type and quantity of waste turned in.
- 2.7.3 Containers of ignitable waste are stored at the CHWSF Container Storage Building, which is located approximately two (2) miles from the DPG property line as shown on the topographic map in File Document 1. Laboratory quantities of reactive wastes shall be stored in Occupational Safety and Health Administration (OSHA)-approved storage cabinets at the CHWSF.

**3.0 EQUIPMENT REQUIREMENTS: UTAH ADMIN. CODE R315-264-32**

- 3.0.1 This section presents the equipment and procedures used to prevent or mitigate hazards associated with storage in the CHWSF. This section consists of the following:
- Internal Communications,
  - External Communications,
  - Emergency Equipment, and
  - Water for Fire Control.

**3.1 INTERNAL COMMUNICATIONS: UTAH ADMIN. CODE R315-264-32(a), R315-264-34**

- 3.1.1 Inside the Container Storage Building voice and hand signals are used for communication. There are three air horns inside the Container Storage Building that may be used to notify personnel outside the building of an emergency. In addition, there is a telephone inside the warehouse that

has intercom capabilities and loudspeakers are located throughout the CHWSF complex.

**3.2 EXTERNAL COMMUNICATIONS: UTAH ADMIN. CODE R315-264-32(b)**

3.2.1 The CHWSF has a telephone in the Container Storage Building and there are telephones in the administrative trailers that may be used to summon emergency assistance. In addition, there are two-way radios available in the administrative trailer and in vehicles that can be used to contact Range Control. All facility personnel will have immediate access to either a telephone or a two-way radio.

**3.3 EMERGENCY EQUIPMENT: UTAH ADMIN. CODE R315-264-32(c)**

3.3.1 Table 2 lists the emergency response equipment maintained at the CHWSF.

<b>Table 2.</b>		
<b>Emergency Response Equipment Maintained at the Central Hazardous Waste Storage Facility</b>		
<b>Equipment Type</b>	<b>Equipment</b>	<b>Use</b>
Spill Response	SCBAs	Entry into toxic atmosphere
	Spill control pillows	Absorb spilled material
	Chemical absorbent material	Absorb spilled material
	Various mixed drum plugs	Plug open drums
	Recovery drums	Hold spill material and absorbent
	Drum bung wrench	Open or close drums
	Teflon® thread sealant tape	Seal threaded openings
	First-aid kit	For injuries
	ABC fire extinguisher (dry chemical)	Extinguish most fire types, except reactive solids
	Eye wash bottle	Rinse eyes that have contacted chemicals
	Broom, rubber dust pan	Sweep up spill solids
	Paper towels	Absorb liquids
	Flashlight	See into dark areas
	Stop leak putty	Drum repair
Portable Fire Extinguishers	ABC type (carbon dioxide)	Extinguish most fires, except reactive metals
	Dry Chemical type	Extinguish reactive metal fires
Material Handling	Drum lifting device	Assist in drum movement
	Drum dolly	Assist in drum movement
Protective Clothing	Safety boots	Foot protection for dropped hazards
	Hard hats	Head protection
Communication	Two-way hand held radios	Communication within CHWSF or to police
	Telephones	Communication with police
	Internal public address system	Communication with CHWSF
	Air Horns	Distress communication
Decontamination	Emergency shower	Rinse off contamination
	Portable eyewash	Rinse eyes

<b>Table 2.</b>		
<b>Emergency Response Equipment Maintained at the Central Hazardous Waste Storage Facility</b>		
<b>Equipment Type</b>	<b>Equipment</b>	<b>Use</b>
CHWSF	Central Hazardous Waste Storage Facility	
SCBA	Self-contained Breathing Apparatus	

**3.4 WATER FOR FIRE CONTROL: UTAH ADMIN. CODE R315-264-32(d)**

- 3.4.1 The CHWSF does not have a continuous water supply sufficient for firefighting. The DPG fire department has two tankers used to fight fires in locations away from continuous water supplies. Each tanker has a capacity of 1,200 gallons and can be refilled from water storage tanks located in the developed portions of DPG. DPG has water at adequate volume and pressure to supply firefighting equipment on the fire fighting vehicles. The water is stored in storage tanks at English Village, Fries Park, Baker, Carr Facility, Ditto Technical Center (DTC), and Avery Technical Center. The storage tanks range in size from 60,000 gallons at Baker Laboratory to 400,000 gallons at English Village.
- 3.4.2 Water for English Village is pumped from wells to a 400,000-gallon storage tank and then to two 400,000-gallon tanks. The pumping station has four water line pumps with a total rated capacity of 2,450 gallons per minute (GPM).

**4.0 TESTING AND MAINTENANCE OF EQUIPMENT: UTAH ADMIN. CODE R315-264.33**

- 4.0.1 All alarm systems, spill control equipment, decontamination equipment, and communication devices are inspected weekly by CHWSF personnel. The fire extinguisher levels are checked weekly by CHWSF personnel and recharged or replaced if necessary.
- 4.0.2 If weekly inspections reveal that the air horns used as the alarm system are not functioning, they are replaced. Likewise if any spill control equipment or decontamination equipment is missing or unusable, it is replaced. Decontamination equipment is cleaned and if necessary, repaired after use. If the telephone in the warehouse used for internal and external communication is not functioning a work order is written for repair.

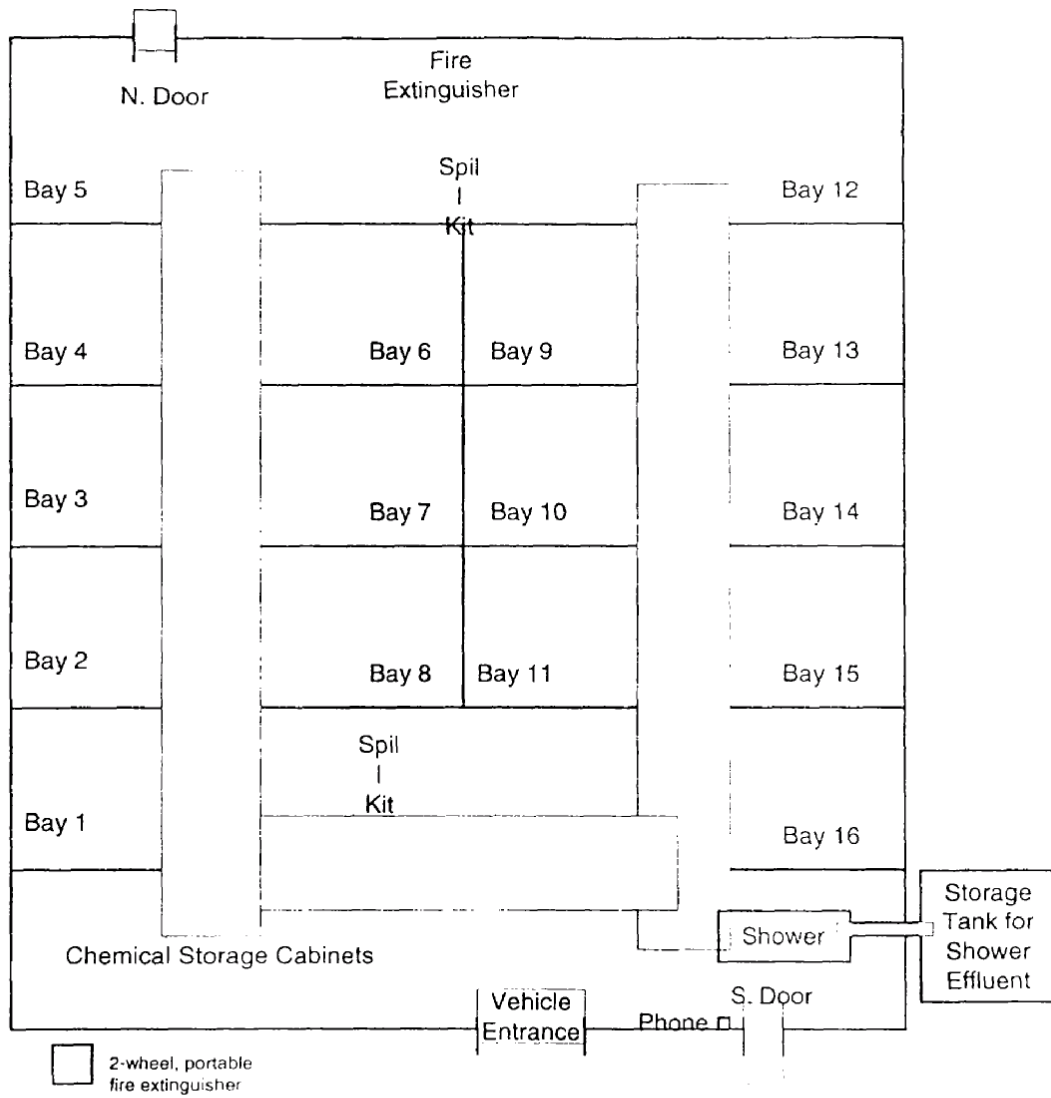
**5.0 REQUIRED AISLE SPACE: UTAH ADMIN. CODE R315-264-35**

- 5.0.1 Sufficient aisle space is maintained within the CHWSF to allow the unobstructed movement of personnel, fire protection equipment or spill control equipment in the event of an emergency.
- 5.0.2 In the CHWSF Container Storage Building, main aisles are 14 feet 10 inches wide to allow a forklift to pass through. Pallets within drum bays are located adjacent to each other in a single row; there is sufficient space behind the pallets in each bay to allow inspection by personnel. Two feet of aisle space is maintained between and behind the rows to allow inspection (see Figures 1 through 3.)

**6.0 ARRANGEMENTS WITH LOCAL AUTHORITIES: UTAH ADMIN. CODE R315-264.37**

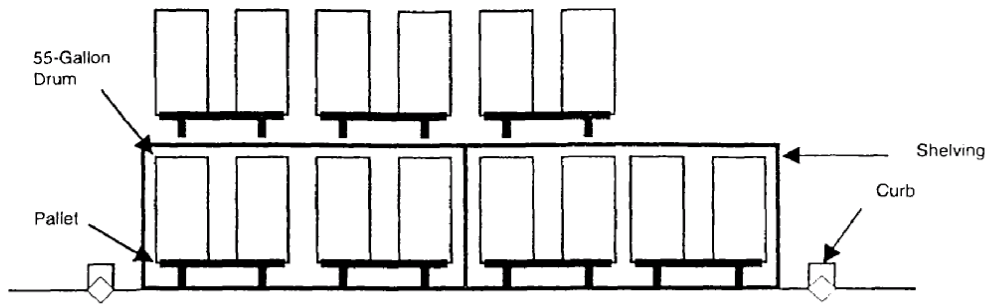
- 6.0.1 DPG Fire, DPG Police, and CHWSF response personnel are located at DPG and are familiar with the layout of the CHWSF and the properties of hazardous wastes at the installation, entrances and exits, and evacuation routes from the facility. These local authorities are designated as the primary response teams for any incidents at the CHWSF.

**Figure 1. Representative Storage Plan for the Container Storage Building**

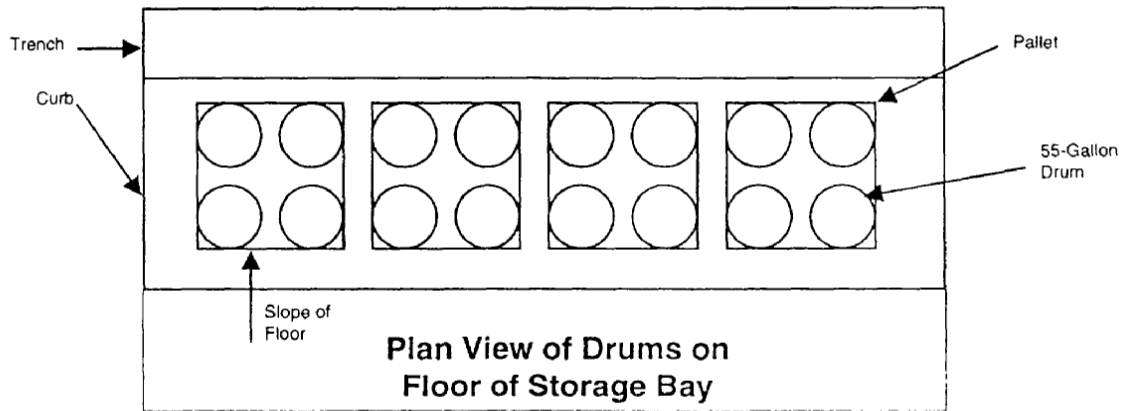


\* Storage will be based on availability and will vary. Multiple and unique hazards will need isolation. This is a representative plan that has been changed as the waste inventory has fluctuated in each general waste category.

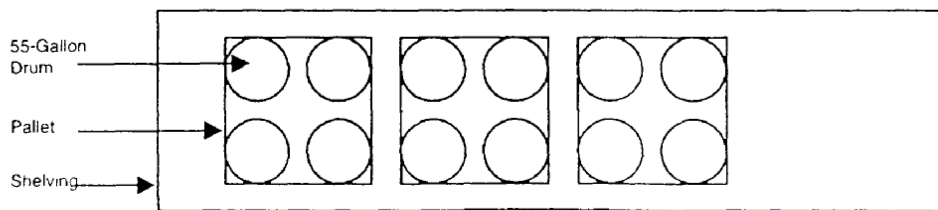
**Figure 2. Layout of 55-Gallon Drums in Storage Bay**



**Front View of Storage Bay**

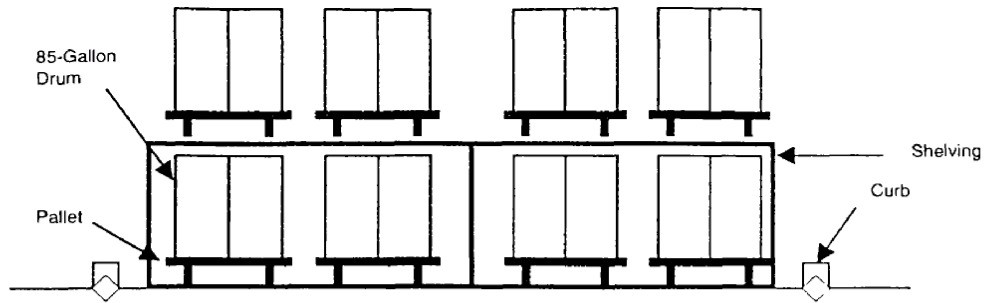


**Plan View of Drums on Floor of Storage Bay**

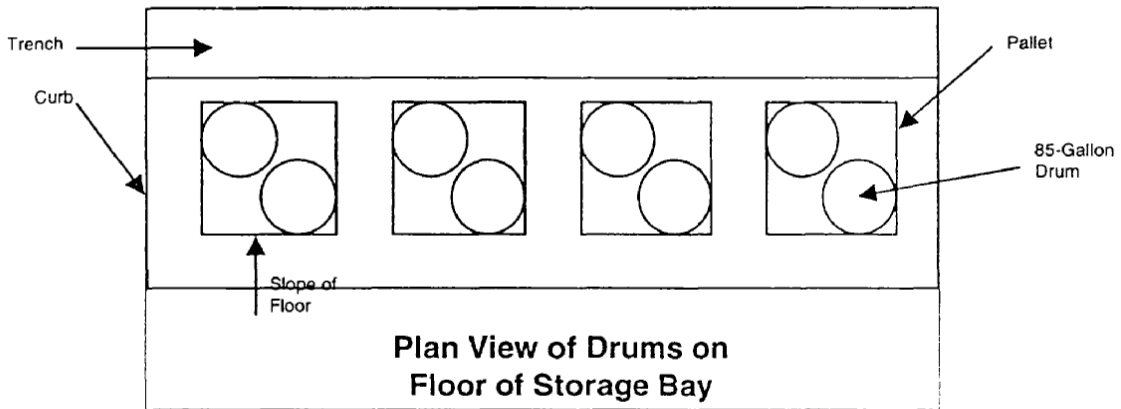


**Plan View of Drums on Shelving of Storage Bay**

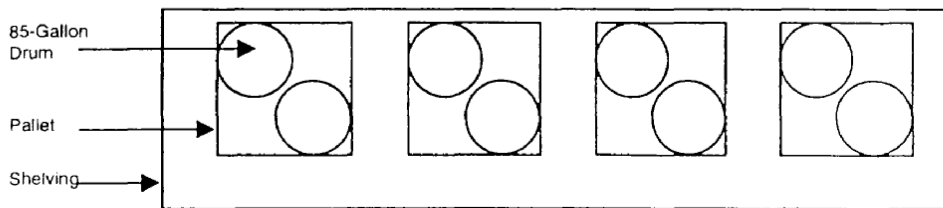
**Figure 3. Layout of 85-Gallon Drums in Storage Bay**



**Front View of Storage Bay**



**Plan View of Drums on Floor of Storage Bay**



**Plan View of Drums on Shelving of Storage Bay**