

SECTION 8.0

PREPAREDNESS AND PREVENTION

8.1 INTRODUCTION

GLOBALFOUNDRIES' hazardous waste storage facility is designed, maintained, and operated to minimize the possibility of a fire, explosion, or any other unplanned sudden or non-sudden release of hazardous waste to the air, soil, or surface water.

8.2 INTERNAL AND EXTERNAL COMMUNICATION SYSTEMS

The entire GLOBALFOUNDRIES site is equipped with telephones for internal and external communications and a central public address system for general and emergency announcements. The Chemical Distribution Center (CDC) has its own public address systems for emergency announcements. All GLOBALFOUNDRIES personnel have access to telephones to communicate emergencies. Security and Emergency Services personnel are supplied with hand-held two-way radios. A central GLOBALFOUNDRIES paging system provides immediate summons through FM transmission to personnel who carry receivers. This paging system is activated by telephone. The CDC public address system is shown in Figures D-2-H and D-2-K.

8.3 FIRE DETECTION AND CONTROL EQUIPMENT

Fire extinguishers are inspected monthly and maintained by the GLOBALFOUNDRIES Emergency Services Department in compliance with the National Fire Protection Association Standard 10 to assure that they will operate properly in a time of emergency. Each portable fire extinguisher is numbered, and assigned locations are inspected monthly. A computer inventory of the status of all fire extinguishers, including those at the storage units, is maintained by the Emergency Services Department. Fire mains have adequate water pressure and volume to supply the building sprinkler systems. Fire mains are flow tested annually and sprinkler system pressure and alarm reporting is inspected quarterly. The public address system is also tested during annual evacuation drills, and fire detection systems are tested annually. Self-contained breathing apparatus is inspected monthly by the Emergency Services Department.

Fire protection systems for the CDC building and the CDC Tank Farm are shown in Figures D-2-G, D-2-I, D-2-J, D-2-K, and D-2-L. The figures show locations of fire protection devices, evacuation routes, eyewashes, sprinkler systems, and detection systems.

8.4 PREPAREDNESS AND PREVENTION DURING LOAD/UNLOAD OPERATIONS

Two types of loading and unloading operations occur at GLOBALFOUNDRIES: bulk unloading of hazardous waste from CDC storage tanks, and loading of liquid and solid hazardous waste stored in containers. For all deliveries and shipments, truck wheels are chocked and, where appropriate, vehicles are grounded to ensure safe operations.

8.4.1 CDC Tank Farm and Building 963 North Tank

A heat-actuated water-deluge system protects the CDC tank farm and the tank farm's two load/unload areas. Load/unload areas at the CDC are protected by two interconnected steel-lined secondary containment vaults with a total volume of 22,015 gallons. A large fire extinguisher mounted on a hand truck is positioned at the load/unload area. Ramp areas are concrete structures with room for transport access. The load/unload area at the north end of Building 963 is protected by a concrete secondary containment vault. The vault is lined as described in Figure D-2-3. The Building 963 north tank is protected with an automatic sprinkler system.

8.4.2 Containers

Containers within the CDC are loaded and unloaded with gas- or electric-powered forklifts that are rated as Double E (no source of ignition). Single container transfers are made with forklifts fitted with drum-handling devices.

The CDC is equipped with a truck dock and adjustable metal ramp. This dock and ramp allow safe and efficient loading and unloading of containers with forklifts. The truck dock is spill-contained. Refer to Figure D-2-D.

The aisle space allowed for use by the forklift trucks in the configuration described in Figure D-1-1 is 9 feet 6 inches minimum. The forklift trucks have unobstructed movement all along the aisles. Movement of containers is easily accomplished in the configuration. Emergency equipment (other than the building sprinkler system) is hand carried or moved through the use of forklift trucks. The aisle spaces allow easy access to all areas.

8.5 RUNOFF CONTROL

No runoff from GLOBALFOUNDRIES' hazardous waste management areas will occur. Containers are managed within GLOBALFOUNDRIES' buildings, and the CDC tank farm and the Building 963 north tank are covered to prevent the accumulation of precipitation and generation of runoff. GLOBALFOUNDRIES' storage facilities are not in the 100-year flood plain.

8.6 PREVENTION OF CONTAMINATION OF WATER SUPPLIES

Contamination of potential water supplies, including surface water and groundwater, is prevented by steel-lined spill containment for tanks. These are located at the CDC, the CDC tank farm, the Building 963 north tank, and the CDC load/unload areas. Details of these systems and GLOBALFOUNDRIES' procedures are provided in Sections 2.0, 4.0, and 5.0.

8.7 MITIGATION OF EQUIPMENT FAILURE AND POWER OUTAGES

A 325,000-watt diesel electrical generator, which starts automatically, protects the CDC from electrical power failure. Pumps, tank liquid level indicators, public address systems, power

exhausts, alarms, heat tapes, and lighting at the CDC are powered during an electrical interruption. This emergency unit is capable of supplying full electrical service to the CDC. It is inspected and maintained by GLOBALFOUNDRIES' Facilities Department or contractors. The diesel generator is tested periodically to ensure it works properly.

8.8 PERSONNEL PROTECTION PROCEDURES

GLOBALFOUNDRIES employees who may come in contact with hazardous waste are provided with the following safeguards:

- Work areas are equipped with eyewashes and emergency showers (See Figures D-2-G and D-2-K).
- Self contained breathing apparatus (SCBAs), telephones, fire alarms, fire extinguishers, sprinkler systems, fire hoses, and public address systems are available as provided in Section 9.0 - Contingency Plan (see Figures D-2-G, D-2-H, D-2-I, D-2-J, D-2-K, and D-2-L).

Locations of spill response materials and equipment are shown in Figures D-2-E and D-2-F.

All personnel are properly trained, including participation in internal chemical safety courses. All personnel wear appropriate personal protective equipment whenever operations are performed which might result in employee exposure to hazardous waste. Employee work areas are well ventilated; emergency power venting is provided where toxic gases may be present. OSHA requirements in 29 CFR 1910 Subpart I - Personal Protective Equipment are met at this facility.

8.9 MANAGEMENT OF IGNITABLE WASTES

Bulk tanks at the CDC and drums in the CDC's flammable waste storage room are used to store ignitable wastes. These ignitable wastes are compatible with their containers and are stored to prevent contact with materials or conditions that may cause the waste to ignite. Additional container management practices can be found in Section 4.0.

No smoking or open flames are permitted near stored ignitable waste. Signs warning against smoking and the presence of unauthorized personnel are posted. Spark-proof tools are used when working with containers of ignitable wastes. The ignitable wastes stored are listed in Section 3.0.

Figures B-1 and B-6 demonstrate that all of GLOBALFOUNDRIES' ignitable waste is stored at least 15 meters (50 feet) from the site's property line. Ignitable wastes stored in tanks meet the buffer zone requirements for stable liquids (operating pressure 2.5 pound-force per square inch gauge [psig] or less) found in the National Fire Protection Association's 1980 "Flammable and Combustible Liquids Code" (NFPA 30-21, Table 2.1) for horizontal tanks with emergency relief venting. These storage tanks are designed to relieve pressures and vacuums in excess of 0.5 psig. The GLOBALFOUNDRIES Emergency Services Department provides primary emergency response to the CDC tank farm; additional support may be requested from local municipal

departments. Details on the tank farm, including tank construction and buffer zones, can be found in Section 5.0.

8.10 MANAGEMENT OF INCOMPATIBLE WASTES

Waste-generating departments or areas fill out a Chemical Waste Disposal Authorization (CWDA) Form and submit the form to the hazardous waste engineer or hazardous materials coordinator for review and approval (bulk waste streams are piped directly to storage tanks and are reviewed for handling during the design of processes). Compatibility of the waste being generated and the container to be used to store the waste is evaluated during the CWDA review process. The CWDA form used to authorize the disposal of chemicals is included in Attachment 3-1. Further information regarding waste handling may be found in Section 3.2.1.

8.10.1 Management of Incompatible Wastes in Containers at the CDC

Containers storing wastes that are incompatible with wastes in other containers stored at the CDC are segregated within the room. In the event of a release, liquid organic waste would be contained in a 3,000-gallon spill tank located in the Empty Drum Room. Liquid acids, liquid caustics, poisons, and PCB materials are segregated from liquid organics and each other through the use of spill containment pallets (see Section 4.3.4).

At the CDC, ignitable wastes are stored in the flammable waste storage room and are protected by pallet containment trays and fire walls.

At no time shall hazardous waste be placed in an unwashed container that previously held an incompatible waste or material.

Additional container management practices can be found in Section 4.0.

8.10.2 Management of Incompatible Waste in Tanks

Wastes stored at the CDC tank farm and at the Building 963 north tank are compatible with the tank material. These wastes are separated for reclamation and treatment purposes only. Each waste stream has a separate piping system (see Section 5.0). These tanks are routinely inspected to ensure safe operation.

Wastes transferred to the bulk storage tanks through the CDC transfer room are evaluated for compatibility during the CWDA review process.

8.11 MANAGEMENT OF REACTIVE WASTES

No reactive wastes are stored in the waste storage tanks. Any reactive wastes in containers are stored at the CDC to protect them from any materials or conditions that may cause them to react.