SECTION F

PROCEDURES TO PREVENT HAZARDS

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2523 Mutahar Street
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F.1 INTRODUCTION

The Siemens Water Technologies Corp. (SWT) facility is equipped with safety and emergency equipment and devices for the purpose of minimizing the possibility of an explosion, fire, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. The facility also has security measures and devices to prevent unauthorized site entry and minimize the possibility of livestock or persons contacting hazardous waste or hazardous waste management units.

The facility also has a comprehensive inspection schedule and inspection procedures to ensure that all facility equipment is in proper operating condition and is being operated properly.

The following document describes those safety, emergency and security devices and procedures maintained at the facility in compliance with 40 CFR 270.14(b)(4), 270.14(b)(8), and 270.14(b) (9). The facility may obtain other devices or adopt other procedures from time to time as emergency planning and safety needs evolve. This document also provides the inspection schedule and inspection procedures.

F.2 SAFETY AND SECURITY DEVICES

This section describes the safety and security measures and devices used at the SWT Parker facility to prevent hazards and ensure operator safety. The SWT Parker facility employs standard industrial safety and hygiene practices such as providing protective equipment and clothing for its workers, prohibiting smoking and eating, except in designated areas (outside the operating portions of the facility), providing eye wash and emergency shower stations located throughout the operating portions of the facility, and providing restrooms, showers, and locker facilities.

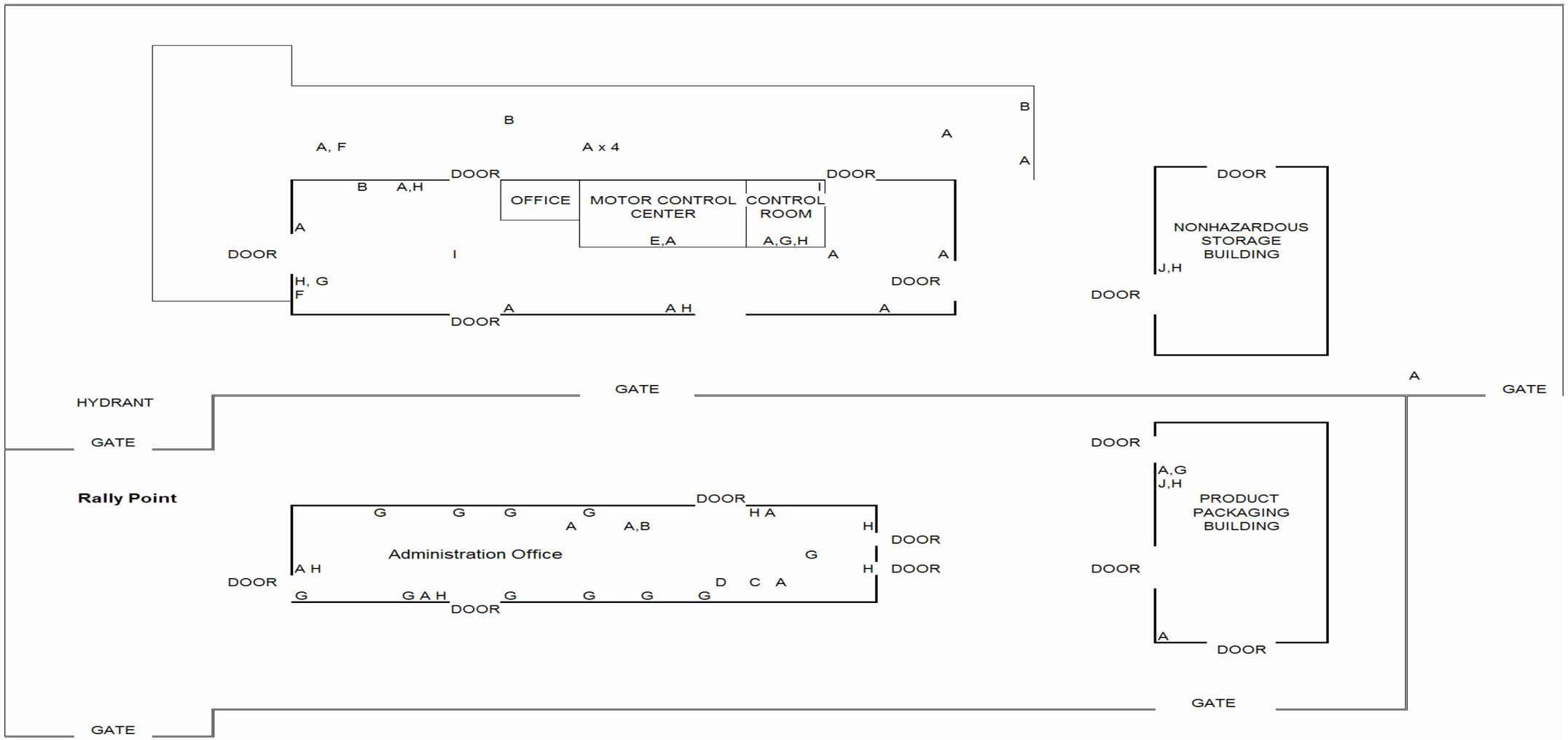
F.2.1 EQUIPMENT AND DEVICES

SWT maintains an inventory of safety and emergency equipment that includes at a minimum the equipment described in Table F-1. The location of the safety and emergency equipment described in Table F-1 is shown in Figure F-1. A list of facility equipment and corresponding safety devices is presented in Table F-2.

Table F-1 -- List of Safety and/or Emergency Equipment

Equipment	Description
Goggles, safety glasses and face shields	Resistant to chemicals and impact
Coveralls and Boot Covers	Variety of materials for special applications
Acid Suits	PVC-double-coated on polyester
Acid Boots	Vinyl-coated; over the sock
Acid Gloves	Vinyl-coated
Regular Gloves	Variety of materials for special applications
Respirators	Resistant to chemicals; with cartridges for dust, acids, organic vapor, pesticides, fumes and mists
Self-Contained Breathing Apparatus	Self-contained escape unit with a 5-minute air supply
	Self-contained breathing apparatus with a 30-minute air supply
Emergency Shower and Eye Wash	Used for flushing and irrigating eyes and skin
First Aid Kit	Used for the immediate treatment of minor injuries and/or illnesses
Fire Extinguishers	Typically 10-pound ABC dry chemical
Alarm System	Electrically powered alarm system activated by buttons throughout the plant

Figure F-1. Location of Emergency Equipment (Ground Floor)



FENCE	A. FIRE EXTINGUISHERS	D. PROTECTIVE CLOTHING	G. PHONES WITH PAGING	J. FIRE HOSE
OUTSIDE PROCESS AREA	B. EMERGENCY SHOWE/EYE \ASH	E. FIRST AID KITS	H. FIRE ALARM	
STORAGE CONTROL & MAINTENANCE	C. RESPIRATORS	F. SPILL CONTROL KITS	I. SPRINKLER SYSTEM	

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TABLE F-2 – Facility Equipment and Devices

Activity Area	Equipment	Safety Features
Off-Loading	Flexible Off-Loading Hoses	Acid/alkaline resistant, pressure resistant hoses
		Lockable "cam-lok" couplings (or equivalent)
	Fork Lifts and Portable Ramps	Mechanical devices provided to assist in lifting, and transport.
	Receiving Tanks	Railing where necessary around tanks to prevent operators from falling
		Secondary containment equipped with sump and transfer pump to protect against subterranean waste migration in event of primary vessel rupture; also provides inspection of primary vessel from all sides
Treatment and Storage Areas	Piping and Transfer Hose (all wastes)	Piping and hose used to transfer spent carbon is rated for at least 125% of the nominal operating pressure.
		All piping and hose is compatible with waste which it is to service
		Piping runs, where feasible, are along walls, overhead, containment sill, etc. to minimize trip hazards
	Pumps	All pumps are constructed of materials compatible with wastes which they will service
		Pumps are located within containment areas to prevent releases outside the contamination area in the event of a leak

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TABLE F-2 – Facility Equipment and Devices

Activity Area	Equipment	Safety Features
Treatment and Storage Areas (continued)	Pumps (continued)	Pump motors are TEFC to minimize chances of electrical shorting if liquids contact the motors
		All rotating parts of pumps are fitted with guards
	Tanks	All tanks are constructed of materials compatible with wastes they contain
		All tanks reside within spill containment areas. The pad is designed or operated to contain 100% of the volume of the single largest RCRA tank plus the precipitation from a 25-year, 24-hr storm event
		All waste tanks are labeled with tank designation numbers
		Railings are provided where necessary around tanks to prevent operators from falling
	Berms, Trenches, Sumps,	Containment of spills and prevention of runoff from hazardous waste handling areas.
	Lighting	Sufficient overhead artificial lighting is provided, as necessary, during all hours of operation.
Reactivation Furnace	Backup power for control room computer system	Provides continuing control functions in the event of a power failure
	Automatic waste feed cutoff interlocks	Automatically stops waste feeds in the event of deviation from permitted operations or in an emergency. Minimizes potential for emissions.

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F.2.1.1 SAFETY EQUIPMENT

F.2.1.1.1 RESPIRATORS

A variety of respirator cartridges are available for use at this facility. Examples include organic vapor, acid gas, particulate and other special use types.

F.2.1.1.2 SELF-CONTAINED BREATHING APPARATUS

Self-contained breathing apparatus are available for safety purposes. These units are used when confined spaces must be entered. Thirty-minute units (equipped with a 30-minute air supply) are available for use when the confined space area is large enough to accommodate both the employee and the apparatus. A 5-minute escape unit (equipped with a 5-minute air supply) is available for those confined space situations where the space does not permit the use of a 30-minute unit.

F.2.1.1.3 PROTECTIVE CLOTHING

All employees who may come in contact with wastes are supplied with work uniforms consisting of long-sleeved shirts and trousers and/or coveralls for use within the facility. PPE such as goggles, safety glasses, face shields, hard hats, rubber boots, gloves, overalls, tyvek suits and jackets are available on-site and are required to be worn (as appropriate) during waste transfer activities.

F.2.1.2 EMERGENCY EQUIPMENT

F.2.1.2.1 COMMUNICATIONS EQUIPMENT

Telephones are available for summoning aid. The general location of these phones is shown on Figure F-1. A notice listing the location and phone number of the nearest medical emergency treatment facility is posted in the plant control room and office areas. A cellular telephone is maintained at the facility to summon outside assistance during an emergency and/or evacuation situation.

F.2.1.2.2 WARNING OR ALARM SYSTEM

Electrically powered internal alarms to notify employees of an on-site emergency or the need for evacuation are provided. Alarm activators are located as noted on Figure F-1.

The following additional alarm systems are installed at the facility.

All storage tanks in the treatment facility are equipped with level gauging systems and/or high-level alarms. This system is connected to a main control system located in the Control

Room. Should an overfill situation occur, on-site personnel will be alerted via an alarm displayed on the plant computer system.

F.2.1.2.3 SAFETY SHOWER AND EYEWASH

An emergency shower and an eye-wash fountain are provided in the carbon reactivation area and an emergency shower and an eye-wash fountain are provided in the spent carbon storage area.

F.2.1.2.4 FIRST-AID

One first-aid cabinet has been provided. It is routinely stocked by a medical service firm or appropriate on-site personnel. This cabinet is located in the Employee Lunchroom.

F.2.1.2.5 FIRE EXTINGUISHERS

Dry chemical fire extinguishers are located in marked boxes throughout the facility. The locations of these extinguishers are identified on Figure F-1. All extinguishers are routinely serviced by a fire prevention service firm.

F.2.1.2.6 SPILL CONTROL EQUIPMENT

The following types of spill control equipment are available on-site in case of emergency:

1. Inert adsorbents
2. Shovels
3. Neutralizing agents (caustic soda, lime)
4. Wet/dry shop vacuum cleaner
5. Absorbent pads and spill booms.

The location of the spill control equipment is identified on Figure F-1.

F.2.1.2.7 DECONTAMINATION EQUIPMENT

The following types of decontamination equipment may be used, as appropriate, after spills have been cleaned up:

1. Detergents (for oil removal)
2. Steam cleaning equipment
3. Pressure washing equipment.

F.2.1.3 EQUIPMENT TESTS

Applicable facility emergency equipment will be inspected and maintained as necessary to ensure its proper operation in time of emergency. If the equipment fails in use or a problem is detected during routine inspections, the problem will be remedied as soon as practical. A

schedule for equipment inspection, testing, and maintenance is presented in the General Inspection Schedule (see Appendix XII).

F.2.2 SECURITY MEASURES

F.2.2.1 SITE SURVEILLANCE

The site is staffed 24 hours per day. The site is totally enclosed by fencing, with locked gates. These additional access control measures are discussed below.

F.2.2.2 GATES

Three gates, two vehicle gates and one coded man-gate, are provided for site access and exit and are located as shown in Figure F-1. During the day shift and the night shift, the drive gates and the man-gate are locked when not in use.

F.2.2.3 FENCING

A minimum of six foot high chain link fence surrounds the entire facility. The gates are also chain link.

F.2.2.4 WARNING SIGNS

Signs are posted at all gates and fences on all sides of the facility in sufficient number to be seen from any approach. The signs are visible and legible from a distance of 25 feet and contain the following notice:

"CAUTION – UNAUTHORIZED PERSONS KEEP OUT"

AND

"CUIDADO – SE PROHIBE LA ENTRADA A PERSONAS SIN AUTHORIZACION

Smoking is prohibited at most locations within the facility and is permitted only in those areas so designated by a "Smoking Permitted" sign. "No smoking" signs are posted at each entrance to the facility.

F.2.2.5 LIGHTING

Floodlights are provided for illuminating the treatment and storage tank areas, when necessary. These lights are controlled from the MCC room.

F.2.3 WATER SUPPLY

F.2.3.1 ADEQUACY

An adequate supply of water for cleaning equipment and sanitation is provided from the Colorado River Indian Tribes Water System. An adequate supply is also available for fire fighting. Fire hydrants are located along the Mutahar Street utility right-of-way. The nearest hydrant is located near the entrance to the fenced hazardous waste storage area as shown on Figure F-1.

F.2.3.2 PREVENTION OF CONTAMINATION

The facility employs backflow preventers on the potable water supply to prevent contamination. Bottled water is supplied to employees for drinking.

F.3 INSPECTION SCHEDULE AND PROCEDURES

F.3.1 GENERAL INSPECTION SCHEDULE AND CHECKLISTS

To protect human health and the environment and to ensure all equipment is in good working condition, an inspection schedule has been developed for the facility in compliance with the requirements of 40 CFR 264.15. Any deterioration or malfunction discovered during the inspections will be corrected as soon as possible. Records of inspections are maintained at the SWT facility for a period of at least three years. Appendix XII contains example copies of the facility's Inspection Schedule and Checklists. The Inspection Schedule lists the equipment, devices and structures to be inspected and the frequency with which the inspections are to be performed. Appendix XII also contains inspection checklists to be used to implement the Inspection Schedule. The facility may add inspection parameters to its checklists in addition to those discussed in this schedule. Such additional parameters are for the facility's internal use and are not intended to fall within the scope of 40 CFR 264.15

F.3.1.1 DESCRIPTION OF EQUIPMENT LISTED ON INSPECTION SCHEDULE

The following sections describe the equipment listed on the Inspection Schedule.

F.3.1.1.1 OPERATING EQUIPMENT (EXCEPT THERMAL TREATMENT SYSTEMS)

Waste Feed Cut-Off Systems. This equipment is used to stop the feed of spent carbon into the reactivation unit and will be visually inspected daily to ensure proper operation.

Monitoring Equipment. Equipment used to monitor process operations will be visually inspected daily to ensure that accurate data is being collected.

Transfer Equipment. Transfer equipment includes the equipment used to transfer spent carbon from containers and tank trucks to the spent carbon storage tanks, and from the spent carbon storage tanks to the reactivation unit feed hopper, and from the reactivation unit feed hopper to the reactivation unit. This includes pumps, valves, piping, and unloading stations. This equipment is to be visually inspected daily for signs of corrosion and/or leaks and for proper operation.

Carbon Adsorbers. Carbon adsorbers are used on certain process systems to ensure against the release of organic vapors. Engineering calculations have been made to conservatively predict each adsorbers carbon life.

Pumps. Pumps are inspected daily to ensure that they are free of leaks and that they are operating properly.

F.3.1.1.2 THERMAL TREATMENT SYSTEMS

Furnace/Air Pollution Control Systems. The reactivation unit, air pollution control equipment and ancillary equipment (pumps, valves, pipes) will be visually inspected daily to ensure the absence of leaks, spills, fugitive emissions, and signs of unauthorized tampering.

CEMS Results. The calibration data from the continuous emission monitoring systems will be checked daily to ensure the CEMS are operating within proper parameters.

Alarms. Alarms used to notify the operator that an operating parameter is outside of a predetermined set point will be tested monthly to ensure proper operation.

Automatic Waste Feed Cutoff System. The control system includes an automatic waste feed cutoff (AWFCO) system that stops the feed of spent activated carbon when operating conditions are at or near limits necessary to comply with specific permit conditions. In addition, the spent activated carbon feed is automatically stopped if the range of the a regulatory compliance measurement instrument is exceeded or if there is a malfunction of the continuous monitoring system. If any of these parameters deviates from the established limit, an electronic signal from the control system will stop the carbon weigh belt feeder.

On a monthly basis, during RF operations, the AWFCO system will be tested, without feed interruption, by running a software routine to check PLC logic functions and alarm logging associated with the AWFCO subsystem. Each of the regulatory AWFCOs will be tested by using a control system console to input a software value which corresponds to an exceedance of the permit limit. Verification will then be made that the control system, in response to the test input, sends out a signal to trigger AWFCOs. The alarm logs will be checked to verify that the appropriate alarm was recorded. It should be noted that during the brief period of time when the AWFCO parameters are being tested, regulatory AWFCOs will be precluded. A maximum time limit of one minute per test for each parameter will be imposed so as to minimize AWFCO downtime. Non-regulatory AWFCOs will not be affected by the test.

F.3.1.1.3 STRUCTURAL AND STORAGE FACILITIES

Containers. Containers used to transport and store spent carbon will be visually inspected weekly to ensure the absence of corrosion and/or leaks as per 40 CFR 264.174.

Container Storage Area. The area used to store containerized spent carbon prior to introduction into the process will be visually inspected weekly to ensure the integrity of the secondary containment system. The containment system is to be inspected for cracks and surface erosions per 40 CFR 264.174.

Loading/Unloading Area. The area used to load/unload containerized and bulk spent carbon will be visually inspected weekly for cracks and spills.

Spent Carbon Storage Tank Systems. The spent carbon storage tank systems, including any valves and piping associated with these tank systems, will be visually inspected daily for leaks, cracks, and external corrosion. The overfill protection systems and valve position and level monitoring systems will also be visually inspected daily for proper operation. Pursuant to the requirements of 40 CFR 264.195(b)(1), these inspections will occur in addition to the procedures established in Section F.3.3 below.

Secondary Containment. This area includes the construction materials and the general area immediately surrounding the secondary containment area associated with the storage tanks and reactivation process. This area is to be visually inspected daily to ensure the integrity of the construction materials and the secondary containment system and to determine whether any liquids have accumulated. Pursuant to the requirements of 40 CFR 264.195(b)(3), the containment system is to be visually inspected for cracks, surface erosion and signs of leakage.

F.3.1.1.4 SAFETY/SECURITY

Fire Extinguishers - Fire extinguisher tank pressure will be visually checked monthly.

Telephones - Telephones will be inspected daily for proper operation.

Cellular Telephone - The Cellular Telephone will be inspected daily for proper operation.

Security Lighting - Outdoor security lights will be visually inspected daily.

Fences/Gates - The fence surrounding the hazardous waste storage and treatment areas of the facility will be visually inspected monthly.

Warning Signs - Warning Signs on the fence ("Danger" and "No Smoking") will be visually inspected monthly.

First Aid Cabinet - The contents of the first aid cabinet will be checked weekly to ensure it is fully stocked. It will also be checked for accessibility.

Self-Contained Breathing Apparatus (SCBA) - SCBAs will be visually inspected weekly to ensure proper condition. Tank pressures will be checked monthly. Spare SCBA tanks will also be inspected weekly.

Eye Wash/Shower - The emergency eye wash and shower stations will be tested monthly to ensure proper water pressure and visually inspected monthly to ensure accessibility and operability.

Emergency Alarm - The emergency alarm to notify employees of an on-site emergency will be tested monthly.

Respirators - A respirator component inventory inspection will be conducted monthly to ensure availability.

Spill Control/Decontamination Equipment - Adsorbents and the spill boom located on-site will be visually inspected monthly for deterioration, accessibility, and inventory control.

Protective Clothing - Protective Clothing used for spill control and decontamination will be visually inspected monthly for deterioration, accessibility, and inventory control.

Emergency Lighting - Emergency lighting will be inspected monthly for proper operation.

Fire Protection System - The alarms associated with the fire protection system will be checked monthly for accessibility and proper operation. The system water pressure will also be checked monthly.

F.3.1.2 TYPES OF PROBLEMS

The types of problems that may be discovered during the scheduled inspections are summarized on the Inspection Schedule (see Appendix XII).

F.3.1.3 FREQUENCY OF INSPECTION

The frequency of inspection for each system, area, and equipment type is presented in the Inspection Schedule (see Appendix XII).

F.3.1.4 INSPECTION CHECKLISTS

Daily, weekly, monthly, and inspection checklists have been developed. Example copies of these checklists can be found in Appendix XII. The most up to date copies of these checklists are maintained at the facility. These checklists will be completed during each inspection. Each item on the checklist must be marked either satisfactory or unsatisfactory.

F.3.2 RETENTION OF WRITTEN SCHEDULE, CHECKLISTS AND INSPECTION RECORDS

All inspection reports will be filed in the facility's operating record. All reports will be maintained for at least three years from the date of the inspection.

F.3.3 SCHEDULE AND PROCEDURES FOR ASSESSING THE CONDITION OF EACH TANK

The spent carbon storage tanks (T-1, T-2, T-5, T-6 and T-18) will be inspected externally on a daily basis as specified in Section F.3.1.1.3. They will also be internally inspected on a periodic basis. Internal and external tank inspection procedures are as follows:

1. Visually inspect tank walls and pad for wetness, cracks, holes, etc.
2. Check for leaks around valve areas, couplings, and threaded nipples, as applicable.
3. Check tank markings for weathering and proper identification of tank contents.
4. Check external tank walls for signs of corrosion and pitting.
6. Data resulting from an internal inspection will be recorded on an appropriate form and maintained at the facility for at least three (3) years.