SECTION F - PROCEDURES TO PREVENT HAZARDS

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SECTION F - PROCEDURES TO PREVENT HAZARDS

1.0 SECURITY

In accordance with 40 CFR 264.14, 270.14(b)(4), and OAC 252:205-3-2(f), the Systech Tulsa plant has developed a security plan in conjunction with the CPCC facility to prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of the facility. Maintaining a secure facility minimizes the risk of unauthorized persons or livestock from encountering the hazardous waste operations.

Section F-1 of this application includes the Security Plan that describes how Systech meets the requirements of these regulations.

2.0 INSPECTION PLAN

A written inspection plan has been developed for the timely detection of equipment malfunctions or deterioration, operator errors and waste discharges at the Systech facility to meet the requirements of 40 CFR 264.15 and 270.14(b)(5).

Section F-2, Inspection Plan, of the application discusses the equipment and inspection requirements for the waste management units, security, and safety and emergency equipment at the facility.

3.0 PREPAREDNESS AND PREVENTION

This facility is designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned release of hazardous waste or hazardous waste constituents to air, soil, or surface water that could threaten human health or the environment. Should an unavoidable incident occur, personnel are trained to respond to emergencies and to minimize associated risks.

To comply with 40 CFR Part 264, Subpart C, the plant has:

- Designed and equipped the plant for maximum safety;
- Prepared emergency response plans; and
- Made arrangements with local authorities for emergency response.

3.1 Emergency Equipment

To be able to respond effectively to emergencies, the following types of equipment are provided:

- Internal alarms and communications devices to provide immediate emergency instruction to facility personnel;
- External communications equipment to summon outside assistance;
- Fire-fighting equipment;
- Spill control and decontamination equipment; and
- Adequate spill clean-up equipment.
3.1.1 Internal Communications

Facility personnel can alert others to the existence of a possible emergency situation by voice contact, two-way portable radios, a telephone system, and an alarm system. Operations personnel typically carry portable radios when working outside the office/laboratory complex and thus have immediate access to emergency communication equipment. Using these radios, they can communicate with the laboratory, other operations personnel, or the cement plant. If no phone is available, personnel will carry portable radios.

3.1.2 External Communications

The telephone system accesses outside telephone networks and can be used to summon emergency response teams. Telephones are located in the laboratory/office complex. Emergency phone numbers are posted next to the telephone.

3.1.3 Emergency Equipment

Attachment G-2, Emergency Response Resources, of the Contingency Plan identifies the location of fire control equipment, spill control equipment, and decontamination equipment. The emergency equipment has been selected to provide an adequate amount of equipment for those employees directly involved in responding to an emergency; all other employees will evacuate the immediate response area and report to the rally point.

Fire Control Equipment

Portable fire extinguishers are available around the tank containment, at the truck off-loading area and in the laboratory. ABC extinguishers of several sizes are available in all other areas.

Foam fire systems provide coverage for the tank storage area. The foam system for the container storage area and tank farm is activated automatically by heat. An alarm sounding at the facility and in the cement plant control room signals activation of the foam system. A horn signals trouble within the tank system, such as a closed valve.

Spill Control Equipment

Solvent absorbent booms and absorbents stored in drums or buckets can be used to contain and clean up spills. The boom systems range in length from 4 to 10 feet and can be linked together to form containment dikes or to absorb spills. Other equipment such as shovels, brooms, and containers are readily available on-site. Heavy equipment is available upon request from the cement plant.

Decontamination Equipment

Equipment and clothing that cannot be decontaminated is sealed in containers and subsequently transported to an appropriate facility for disposal. Equipment and clothing that can be cleaned will be placed in containers until the cleaning and decontamination can be accomplished. A pressure washer, cleaner, clean mineral spirits solvent, and soap and water are available.
3.1.4 Water for Fire Control

The primary water supply for fire control is an 8-inch city water main. Figure F-1 illustrates the locations of the fire hydrants.

3.2 Equipment Testing and Maintenance

All emergency communications equipment, alarm systems, and fire protection, spill control, and decontamination equipment is inspected according to the inspection schedule included in Section F-2.

3.3 Access to Communication or Alarm System

Systech personnel carry portable radios when working outside the office/laboratory complex, providing them immediate access to emergency communications equipment. The internal alarm system can be activated by means of any telephone in the plant. Telephones throughout the cement plant and kiln control room are manned 24 hours per day when the kiln is in operation.

3.4 Aisle Space Requirement

In accordance with 40 CFR 264.35, adequate aisle space is maintained in all areas of the facility to provide unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment. Aisle space in the container storage area is maintained with a minimum of 2-foot aisle spacing between the bulk tankers that may be in storage in the truck off-loading area, or between the limited number of non-bulk containers and the truck trailers that may be present in the same area.

3.5 Arrangements with Local Authorities

The Systech plant has made arrangements with local authorities as described in the Contingency Plan in Section G of this application including the Police Department, the Fire Department, the hospital, and ambulance Service, to provide emergency services during a fire, explosion, or major release of hazardous waste. The primary or alternate Emergency Coordinator, or his/her designee, can contact the local authorities by telephone to request emergency services. These groups are briefed on the following information:

- Layout of the plant;
- Properties of hazardous wastes handled at the plant and associated hazards;
- Places where personnel would normally be working;
- Entrances to and roads within the plant area; and
- Evacuation routes.

All local authorities who enter into an agreement with the Systech plant receive a copy of the plant's Contingency Plan and any updates or modifications to the Plan as they become available. Systech will maintain copies of the agreements or refusals to enter into agreements in the facility operating record. Attachment F-1 includes an example of the form for agreements to provide emergency services.
3.6 Waiver of Preparedness and Prevention Requirements

The Systech plant does not request a waiver of preparedness and prevention requirements.

4.0 PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT

This facility has been modeled on the proven designs and operating procedures developed since 1979 at this and other Systech facilities. The design and operating objectives focus on providing the best possible control of waste constituents to minimize personnel exposures and possible releases to the environment. The following sections highlight some of the more important facets of the proposed facilities and operations.

4.1 Loading/Unloading Operations

Loading/unloading operations of FQW from tanker trucks are carried out at the Systech storage facility. There are numerous design features, pieces of specialized equipment, and standard operating procedures to minimize the risk of fires, spills, and personnel exposure during unloading operations.

Section D, Process Information, of this application presents the details of all major design features that minimize hazards in unloading operations. These features include, but are not limited to, such items as:

- Concrete secondary containment sloped to sumps for unloading areas.
- Level indicators on all tank systems.
- Electrical grounding systems.
- All electrical equipment designed to meet Class 1, Division 2 of the National Electric Code (NEC) or better.

4.2 Run-on/Run-off

All vehicle and container unloading, secondary containment areas, and pumping stations are sloped and drained to sumps to contain any spills or leaks. All of these areas or their containment walls are sufficiently higher than the surrounding ground to prevent run-on to the waste management unit.

Since all spills inside a secondary containment area are cleaned up immediately, collected water is expected to not be contaminated with hazardous waste. Rainwater collected in the tanks’ secondary containment area is tested to determine if it has been contaminated by hazardous waste per the procedure explained in Section C, Waste Analysis Plan. That section also discusses how the rainwater will be managed depending upon whether it has been determined to be contaminated or not.

4.3 Water Supplies

As stated above, precautions are in place to prevent the run-off of hazardous waste in the unlikely event a spill occurs. Because potential run-off of hazardous waste is controlled, the possible contamination of surface water from a spill is minimized. There is little chance of rainwater contacting the hazardous waste, and if it does, it will be collected before it can reach the environment.
There are no drinking water wells within ¼ mile from the plant boundary. Groundwater is not generally used for drinking water supplies.

4.4 Equipment Failure and Power Outages

In a power failure, all pumps stop and thus all material processing, flow, and/or transfer stops. Fail-safe devices in all systems hold materials in place and prevent backflow or siphoning. There are no other critical systems or functions that would result in a risk to human health or the environment in the event of a power or mechanical failure.

4.5 Personnel Protection Equipment

Protective equipment is selected according to Mining Safety and Health Act (MSHA) or Occupational Safety and Health Act (OSHA) standards. A list of protective equipment is provided in the Contingency Plan section. Training in the use of protective equipment is covered in the Personnel Training section.

The Waste Analysis Plan describes the hazardous characteristics of the wastes and procedures to identify the presence of toxic or health-threatening waste constituents. The majority of these wastes can be handled safely by using eye protection, chemical-protective gloves, chemical-resistant suits, and respirators. Some wastes may require additional precautions to provide adequate protection of personnel based upon a review of the chemical hazards; these additional measures are provided as needed.

4.6 Releases to the Atmosphere

Potential emissions of organic constituents are controlled from the working or breathing losses of the tanks by venting the tanks through a closed-vent system to the cement kilns where the organic-laden vapors are combusted in the flame zone of the kilns. The vapors can be vented to either kiln. If the kilns are not operational, Systech has provided a carbon adsorption system as a back-up control device which is designed to provide at least 95% control of the organic emissions.

5.0 PREVENTION OF REACTION OR IGNITION

Reactive wastes could create the potential for unwanted and dangerous reactions; corrosive wastes could also cause incompatibility reactions and could cause damage to the tank systems. Wastes exhibiting the characteristics of corrosivity or reactivity are not accepted for blending into the FQW at the Systech Tulsa facility. The identification of these potentially dangerous characteristics is discussed in the Waste Analysis Plan and begins with a critical review of the Generator Qualification Form and an analysis of the qualification sample if required in accordance with the Waste Analysis Plan.

5.1 Precautions for Handling Ignitable Wastes

All wastes received at the facility are assumed to be ignitable and are managed accordingly. All wastes are separated and protected from sources of ignition or reaction, including, but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition, and radiant heat.
Tank systems, container storage, and processing areas for ignitable wastes are designed to NFPA standards, where applicable, and thus are physically isolated from sources of ignition to the greatest extent possible.

Open flames, cutting, and welding are all normally prohibited within 50 feet of the tanks and container storage buildings. Under certain circumstances where repairs must be made, special precautions will be followed. These precautions include stopping operations, vapor monitoring, and obtaining a written welding permit.

"No Smoking" and "No Unauthorized Personnel" signs are posted on all sides of the tank farm and around the container management and unloading areas. Non-smoking areas are enforced.

Other precautions include the following:

- The tanks are painted a light color to reflect solar heat;
- All electric motors and electrical systems are properly grounded and rated for their intended use;
- Tanks are grounded;
- Tankers are bonded when being off-loaded;
- An organic vapor sensor is available on-site and can be used to detect the presence of flammable vapors at or near the explosive limit.

5.2 Precautions to Prevent Reactions

Uncontrolled reactions due to waste-to-waste incompatibility are prevented by early identification of potentially incompatible waste streams and physical separation of such wastes. Compatibility testing performed during the qualification and receiving analyses identifies potential incompatibilities. Screening procedures include checking for unwanted reactions when incoming waste samples are mixed with samples of stored waste. Based on the laboratory findings, the material is unloaded into the appropriate compatible tank, rejected back to the generator, or forwarded to an alternate RCRA facility.

5.3 Management of Ignitable or Reactive Wastes in Containers

The container storage area is designed to conform to NFPA standards. The property line is at least 50 feet from the boundaries of the container storage area. Containers of hazardous waste, both bulk and non-bulk, are stored on an impermeable containment surface.

5.4 Management of Incompatible Wastes in Containers

Compatibility testing during the receiving analysis ensures that only compatible wastes are accepted for processing.

5.5 Management of Ignitable or Reactive Wastes in Tanks

The storage tanks are designed and installed to conform to specifications of the NFPA "Flammable and Combustible Liquids Code". The tanks are operated at ambient temperature and are equipped with level indicators and high-level alarms.
5.6 Management of Incompatible Wastes in Tank Systems

Compatibility of incoming waste shipments is verified during the receiving analysis procedure. Wastes with a pH $\leq 2$ or $\geq 12.5$ will not be placed in the tanks.
FIGURE F-1  FIRE HYDRANT LOCATIONS
ATTACHMENT F-1

EXAMPLE OF FORM FOR EMERGENCY SERVICES AGREEMENTS WITH LOCAL AUTHORITIES
AGREEMENT FOR EMERGENCY ASSISTANCE BY AND BETWEEN SYSTECH TULSA FACILITY AND _____________________

This agreement has been prepared to make arrangements for emergency services to be provided by the _____________________ in the event of emergencies that may result from fires, explosions, or a major release at:

Systech Environmental Corporation
2701 N. 145th East Avenue
Tulsa, Oklahoma 74116
918-437-3902

Any request for emergency assistance will be issued by telephone by the primary emergency coordinator, the on-site coordinators, or their designee. Systech will have someone at the plant entrance to give specific directions to the incident. One of the emergency coordinators will be at the scene to brief you on the assistance required.

The materials primarily being handled at the Tulsa facility are organic compounds which have been used as industrial solvents, coats, etc., that have been blended into Fuel Quality Waste (FQW). Heavy metals will be present within the FQW. A Material Safety Data Sheet for typical waste fuel is enclosed for your use. If an emergency arises, the specific compounds involved will be immediately identified by consulting material inventory and analytical records at the Systech facility which is located within the Systech Tulsa facility. A copy of the Systech Contingency Plan, which describes emergency response procedures, identifies the type and location of emergency equipment and sets forth emergency assistance requirements, is enclosed with this agreement.

(Name of Responder Company)___________________________ agrees to provide emergency assistance to the Systech Tulsa facility, at their request, if an incident occurs which requires facilities, equipment or expertise not available at the facility.

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<thead>
<tr>
<th>On behalf of Systech Environmental Company:</th>
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<tbody>
<tr>
<td>Print Name:</td>
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Please sign in the space indicated above to indicate your agreement to provide emergency response services to the Systech facility, a hazardous waste permitted Fuel Quality Waste storage and processing facility. Please return your original signed copy via mail or overnight delivery to the address provided above for Systech Environmental Corp.