



**SPILL PREVENTION CONTROL AND  
COUNTERMEASURES PLAN**

**FOR**

**SOUTHEAST MISSOURI STATE UNIVERSITY  
CAPE GIRARDEAU, MISSOURI**

*Submitted to*

**SOUTHEAST MISSOURI STATE UNIVERSITY  
Facilities Management Department**

*Prepared by*

**SOUTHEAST MISSOURI STATE UNIVERSITY  
Risk Management Department**

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**TABLE OF CONTENTS**  
**Spill Prevention Control and Countermeasures Plan**

<b><u>Section</u></b>	<b><u>Title</u></b>	<b><u>Page</u></b>
1.0	Introduction .....	1
2.0	General Facility Identification Information .....	1
3.0	General Description of Fuel and Chemical Storage and Transfer .....	6
4.0	Spill History .....	9
5.0	Prediction of Direction, Flow Rate, and Quantity of Potential Spill Events .....	10
6.0	Spill Prevention, Containment and Diversionary Measures .....	12
7.0	Spill Response and Countermeasures .....	14
8.0	Records.....	15
9.0	Security.....	16
10.0	Personnel, Training and Spill Prevention Procedures .....	17
11.0	Plan Certification.....	18
12.0	SPCC Review Page .....	19

**Appendices**

Appendix A – Integrated Contingency Plan

## 1.0 Introduction

The purpose of this plan is to provide information on Southeast Missouri State University's compliance with EPA requirements for Spill Prevention Control and Countermeasure (SPCC) under the Oil Pollution Prevention regulations, Title 40, Code of Federal Regulations section 112.1-7. This SPCC Plan describes the equipment, manpower, procedures, and countermeasures for preventing and controlling chemical spills.

This SPCC plan addresses primarily the main campus and surrounding area. However, it should be noted that the University owns and operates several off-campus operations within the city of Cape Girardeau that currently use hazardous materials. Those operations are also addressed in this plan.

## 2.0 General Facility Identification Information

- a. Facility name: Southeast Missouri State University
- b. Owner/operator/agent: Southeast Missouri State University, an agency of the State of Missouri
- c. Physical address and telephone number of the facility:  
Southeast Missouri State University  
One University Plaza  
Risk Management  
Cape Girardeau, MO 63701  
573-986-6860  
FAX 573-986-6835
- d. Mailing address of the facility (correspondence contact)  
One University Plaza  
C/O Risk Management, MS 3875  
Cape Girardeau, MO 63701
- e. Other identifying information:  
Hazardous Waste Generator ID Number:  
(SEMO Generator's U.S. EPA ID NO: MOD 981727647)
- f. Key contact(s) for plan development and maintenance  
Thomas M. Nelson-Risk Manager  
573-986-6860  
John Nelson (Safety Specialist)  
573-651-2581  
Al Stoverink-Director for Facilities Management  
573-651-2224

### 2.1 Facility Operations:

Southeast Missouri State University (Figure 2-1) enrolls approximately 9,000 students during the fall and spring semesters. The main campus is approximately 110 acres

(boundaries include Henderson to Sprigg Streets, and Greek Drive to Broadway), and is comprised of numerous buildings for classroom and facility operations. During the summer session months (May, June, July, August), the enrollment decreases to approximately 2,000. In addition to the student population, the university employs approximately 1,000 staff and faculty members. At any given time during the day and evening, numerous activities are also conducted that involve the participation of the general public. The largest events held for public attendance are football and basketball games, commencement exercises, and events at the Show Me Center. There are also student housing on campus, and residential populations in the immediate vicinity of the campus. The most heavily populated residential areas directly adjacent to the campus are on the southeast, west and northwest boundaries of the campus.

The University operations that involve the storage and use of petroleum products or hazardous materials are defined in the following paragraphs (tank information is summarized on Table 3-1; locations of tanks are presented on Figure 2-1):

- Fuel Storage Tank Locations
  - Pole Barn-This is a maintenance and storage area located on the northern part of the main campus. This area is accessed by a gravel drive off of North Sprigg Street.
  - General Services-1 (GS-1)-This is a maintenance and storage building area located to the immediate west of the Power Plant in the central part of the main campus. The GS-1 area is loosely divided into “north” and “south” areas.
  - North Chiller Building-Located to the north of the Towers Complex, and contains the air conditioning units for that complex. A diesel generator is located in the building that has a 550 gallon fuel tank.
  - Show-Me Center-Located on the northern part of the main campus, and contains a diesel generator with a 275 gallon fuel tank.
  - Power Plant-Located in the central part of the main campus.
  - Dempster Hall- located in the north central part of the campus, and has a diesel generator with a 200 gallon fuel tank.
  - University Demonstration Farm-This farm is located in the county several miles north of the city limits. The farm operates two fuel tanks for diesel and unleaded gasoline.
- Chemical Waste Storage Areas
  - Pole Barn-Small amounts of PCB containing waste materials are stored at this location.
  - General Services-3 (GS-3)- This is a maintenance and storage building area located off-campus at 122 South Ellis Street.
  - Print Shop-This is a facility operated by the university for production of printed materials. The shop is located off-campus at 221 North Fountain Street.
  - Facility Management Service Center (FMSC)-This building is located off-campus at 601 Washington Street.
  - Magill Hall-This is the science building that has an attached storage bunker where waste chemicals are stored prior to disposal. The bunker

also contains chemical stock that is used in research and teaching laboratories. The storage bunker waste disposal facility will be eliminated in the near future (FY01) when the hazardous materials storage locker is installed at the Pole Barn.

- Bulk Chemical Storage
  - Power Plant- There is a product bulk storage shed located at the Power Plant. This shed contains bulk sulfuric acid tanks, boilers treatment chemicals.
  - North Chiller Plant-large cooling system that utilizes bulk stores of lithium bromide.

## 2.2 Drainage Pathway and Distance to Navigable Waters

The surface drainage of the campus and surrounding area is depicted in Figure 2-2. The primary direction of surface drainage across campus is towards the northeast. Storm sewers and surface ditches direct surface runoff towards the northeast and eventually discharge into Sloan Creek. Sloan Creek flows toward the east and eventually discharges to the Mississippi River. The approximate distance from the main university campus to the river is 4,000 feet.

**FIGURE 2-1**  
**Campus Layout**

**Figure 2-2**  
**Surface Drainage of Campus and Surrounding Area**

### 3.0 General Description of Fuel and Chemical Storage and Transfer

Several areas, both on the main campus and off-campus are used for the storage or transfer of oil or oil-type products, as well as other hazardous materials. This section provides a description of each of these areas.

#### 3.1 Fuel Storage Tanks

The fuel storage tanks located at the facility are listed in Table 3-1.

<b>Southeast Missouri State University's Tank Designation Number</b>	<b>Tank Location<sup>1</sup></b>	<b>Tank Contents</b>	<b>Total Tank Capacity</b>	<b>Physical Tank Containment</b>
3	Pole Barn	#2 Diesel	2500 gallon	Steel
5	GS1 South	Diesel	2000 gallon	None
6	GS1 South	Diesel	2000 gallon	None
7	Show-Me Center	Diesel	275 gallon	None
8	GS1 North	Unleaded gas	1000 gallon	Concrete
9	GS1 North	#2 Diesel	1000 gallon	Steel
10	North Chiller Bldg	#2 Diesel	550 gallon	Steel
11 <sup>3</sup>	Power plant	#2 Diesel	4000 gallon	Steel
NA	Dempster Hall	#2 Diesel	200 gallon	Steel
NA	Power plant	#2 diesel	250 gallon	None
NA	Demonstration Farm <sup>2</sup>	#2 diesel	300 gallon	None
NA	Demonstration Farm <sup>2</sup>	Unleaded gas	300 gallon	None
<b>TOTAL FUEL STORAGE CAPACITY ON UNIVERSITY CAMPUS</b>				<b>9775 GALLONS</b>

<sup>1</sup>Locations are shown on Figure 3-1

<sup>2</sup>Demonstration Farm located in Cape Girardeau County, and is not contiguous to the University campus

<sup>3</sup>Tank 11 is not yet in service and will eventually replace tanks No.5 and No. 6 at GS1 South.

The fuel vendor for Southeast Missouri State University is determined each month by the lowest bidder. Normally, the vendor is one of the following companies: MFA Oil, Coop Exchange, or Kidd Oil Company.

### 3.2 Chemical Waste Storage Areas

Southeast Missouri State University has several types of chemical waste materials, including waste oil, PCB material, parts cleaner, science department laboratory waste, and used developer from the print shop. These materials are stored at various locations on campus and several offsite buildings owned and operated by the University.

- Waste oil is stored at two locations. There are four 55-gallon drums containing waste oil at Facilities Management Service Center (FMSC) and a 300-gallon waste oil tank located outside GS-3. The waste oil is poured into the containers using a funnel. There is a steel containment for the tank at GS-3 and a poly-tank spill containment under the 55-gallon drums at FMSC.
- Polychlorinated Biphenyl (PCB) containing-materials (fluorescent light ballasts) are stored in 55-gallon drums at the pole barn.
- The University has three parts-cleaners that use a Safety Kleen™ solvent, which contains petroleum naphtha as the primary ingredient. The parts cleaners are located at the *power plant, the print shop, GS-3, and FMSC*. The waste is pumped out of the container when full, transferred to truck, hauled off as hazardous waste, and recycled in a fuel blending process. The current waste disposal vendor is Safety Kleen.
- Science-department laboratory chemical waste is stored in the bunker located adjacent to the south foundation wall of Magill Hall. These liquid and solid waste materials are stored in glass containers or 55-gallon drums, and are disposed of through a licensed waste hauler.

### 3.3 Product Bulk Storage Area

#### 3.3.1 General Services 3

There are various types of chemicals stored at GS-3, including 55-gallon drums of isopropyl alcohol and paint products.

#### 3.3.2 Power Plant

There is a product bulk storage shed located at the Power Plant. This shed contains:

- Two 165-gallon sulfuric acid polytanks. Neither container has a spill valve or containment. The polytanks are transferred in and out of the shed by forklift.
- One 550-gallon Betz-Dearborn Dianodic DN300 tank with containment,
- One 55-gallon barrel of Sno-Glo Bleach with no containment, and
- One 120-gallon Betz-Dearborn NX106 container with containment.

There are also various types of chemicals used for maintenance operations located throughout the Power Plant, including:

- Miscellaneous containers of Boiler Treatment Chemicals, and

- Four 55-gallon drums of sodium hydroxide.

#### **4.0 Spill History**

In accordance with 40 CFR Part 112.7 (a), the facility has not experienced any spill events prior to January 10, 1974, the effective date of the regulation.

## **5.0 Prediction of Direction, Flow Rate, and Quantity of Potential Spill Events**

This section addresses the prediction of direction, flow rate, and quantity of a spill in the event of a potential equipment failure or human error.

There are three major types of potential failures that could result in a discharge to the campus sewer or storm drain. These potential spill events include a leak or rupture of a tank or drum, overfilling of a tank, or a spill during loading/unloading or transfer operations of bulk containers.

- In the event of a small-contained spill, cleanup will be performed by on site personnel using absorbent material.
- In the event of a large contained spill, the University personnel will be responsible for containing the spill, then pumping the material into secondary containment for either use in the operations or disposal by a licensed vendor.

### **5.1 Fuel Storage Tanks**

- Pole Barn (2500 gallon) #2 diesel fuel tank: A tank rupture or leak at the Pole Barn would result in fuel flowing down the side wall of the tank and then accumulating in the steel physical containment tank. Rate of leakage could be as high as 2500 gallons per hour depending on the location and size of the rupture. In the event of leakage beyond the secondary containment, fuel would flow northward toward Sloan Creek.
- GS-1 South (2000 gallon) #2 diesel fuel tanks: A tank rupture or leak from the two (2) diesel tanks would result in fuel flowing into the storm sewer system. A storm sewer grate is located near the tanks in the parking lot area. The storm sewer flows toward the east and eventually outfalls in the ditch across Sprigg Street at the Show-Me Center. Surface water in the ditch flows northeastward and eventually intersects Sloan Creek. Rate of leakage could be as high as 2000 gallons per hour depending on the location and size of the rupture.
- Show-Me Center (275 gallon) #2 diesel fuel tank: A tank rupture or leak from the diesel fuel tank would result in fuel accumulating on the concrete floor of the mechanical room. Floor drains are connected to the City's sanitary wastewater treatment system.
- GS-1 North (1000 gallon) #2 diesel fuel tanks: A tank rupture or leak from the diesel fuel tanks would result in fuel accumulating in the containment tank. Rate of leakage could be as high as 1000 gallons per hour depending on the location and size of the rupture. In the event of leakage beyond the secondary containment, fuel would flow into the storm sewer system. A storm sewer grate is located near the tanks in the parking lot area. The storm sewer flows toward the east and eventually outfalls in the ditch across Sprigg Street at the Show-Me

Center. Surface water in the ditch flows northeastward and eventually intersects Sloan Creek.

- North Chiller Plant (550 gallon) #2 diesel fuel tank: A tank rupture or leak from the diesel fuel tank would result in fuel accumulating on the concrete floor of the chiller plant. Rate of leakage could be as high as 1000 gallons per hour depending on the location and size of the rupture. Floor drains are connected to the City's sanitary wastewater treatment system.
- Dempster Hall (200 gallon) #2 diesel fuel tank: A tank rupture or leak from the diesel fuel tank would result in fuel accumulating in the secondary containment tank. Rate of leakage could be as high as 200 gallons per hour depending on the location and size of the rupture. In the event of leakage beyond the secondary containment, fuel would flow into the storm sewer system. A storm sewer grate is located near the tanks in the parking lot area. The storm sewer flows toward the east and eventually outfalls in the ditch across Sprigg Street at the Show-Me Center. Surface water in the ditch flows northeastward and eventually intersects Sloan Creek.

## 5.2 Miscellaneous Chemical Storage Areas

### 5.2.1 Chemical Waste Storage Areas

A leak in the waste oil tank located at GS-3 would be contained by the steel containment system. If overflow of the containment should occur, the spill would enter the storm drain.

A leak in one of the waste oil drums located at FMSC would be contained by the poly-spill containment system. If overflow of the containment should occur, the used oil would collect on the concrete floor. Floor drains are connected to the City's sanitary wastewater treatment system.

### 5.2.2 Power Plant Product Bulk Storage Area

A sulfuric acid or a Sno-Glo™ bleach spill could result from a leaking container, such as damage to the container during transfer to the shed by forklift, or during transfer of liquids to or from the containers. The results of a spill would depend on the size and location of the rupture. A small leak in the acid containers would be noticed in the daily inspection. The concrete floor would prevent seepage into the ground. A large rupture would quickly cover the floor with acid, which would then seep out under the door onto the ground. Maintenance personnel are trained in the methods to contain a small spill and have the necessary equipment to clean up a spill immediately. Containment for the tank of Betz-Dearborn Dianodic DN300 or the Betz-Dearborn NX106 would be sufficient to contain a leak in either container.

## **6.0 Spill Prevention, Containment and Diversionary Measures**

### 6.1 Fuel Storage Tanks

#### *6.1.1 Underground Piping*

Underground piping conveys diesel fuel from the GS-1 South diesel tanks to the Power Plant to be used to power backup generators. Future plans for the Power Plant call for the discontinued use of those tanks once the new 4000-gallon tank is brought online. Integrity testing of the underground pipes have not been performed in the past. Facility personnel have reported that there are no indications of leakage from the GS-1 tanks, piping, or connections.

#### *6.1.2 Storage Compatibility*

The fuel tanks are used for the storage of diesel and unleaded gasoline. The tanks are made of steel.

As described on p. 23-14 of Perry's Chemical Engineers' Handbook, carbon steel "...is little affected by neutral water or organic chemicals..." and is often utilized in "storage tanks for organic solvents and similar chemicals." Also, corrosion charts developed by Nibco indicate that carbon steel materials possess good corrosion resistance to gasoline and diesel fuel. In addition, similar utilization of the tanks in previous unit operation has not resulted in any corrosion-related problems.

Based on the information derived from the Chemical Engineers' Handbook, corrosion charts, and similar past use of the tank, the materials of construction used for the fuel storage tanks are considered to be acceptable for the storage of unleaded gasoline as well as diesel fuel.

#### *6.1.3 Integrity Testing*

Daily inspections are conducted for signs of tank deterioration, leaks that might cause a spill, or accumulation of fuel product inside the contained area. Corrosion testing should be performed every five years to determine the wall thickness of the tanks.

#### *6.1.4 Secondary Containment*

Rainwater is drained from the containment dikes after each storm by means of a manually operated spill valve. Prior to draining rainwater from the contained area, the water surface is examined for any visible signs of fuel product. In the event that any fuel product is detected, the campus Risk Management Office is notified and clean-up

measures are implemented. The drain valve is kept in the closed position unless draining rainwater.

For containment systems that do not have spill valves, the rainwater is pumped out using manual pumps.

## 6.2 Miscellaneous Chemical Storage Areas

### 6.2.1 *Storage Compatibility*

Primary chemical containers are vendor supplied and are compatibility with the chemical intended for its use.

### 6.2.2 *Secondary Containment*

Secondary containment systems for the various chemicals and waste materials are checked for compatibility with the chemicals prior to purchasing the systems.

## **7.0 Spill Response and Countermeasures**

The Southeast Missouri State University campus maintains an emergency response program in the event of a spill or release (see Appendix A). The goal of this Integrated Contingency Plan (ICP) is to minimize hazards to human health and the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous constituents to air, soil, or surface water. The ICP contains the elements of the University's Integrated Contingency System (ICS) to be implemented during emergency response actions. The system is comprised of a team of University and Cape Girardeau Fire Department personnel who are trained in (1) response techniques, (2) communications during response actions, and (3) appropriate equipment to safely mitigate hazards related to chemical releases.

Implementation of the ICP is the responsibility of the Risk Management Department under the Occupational Safety and Environmental Health (OSEH) Program.

## **8.0 Records**

Daily visual inspections are conducted at all locations on the University Campus that contain potential hazardous waste per the Resource Conservation and Recovery Act (RCRA) requirements.

Weekly inspections are conducted at all bulk fuel storage locations on the campus. This inspection consists of visually inspecting containers for leaks and ensuring spill valves are locked in the closed position. Findings are recorded on the OSEH Daily Inspection Sheet and maintained at the Risk Management Office, Room 304, Academic Hall. Records are maintained for three years.

## **9.0 Security**

Spill valves on the containment systems are secured with keyed locks in the off position. For those systems subjected to the weather elements, precipitation is drained from the containment tanks and the valves locked by the maintenance personnel.

Access to the waste oil tank at GS-3 is locked to ensure that no other chemicals except waste oil are placed into the tank.

## **10.0 Personnel, Training and Spill Prevention Procedures**

The designated contact for spill prevention is Mr. John Nelson.

Operational personnel are instructed in the proper operation and maintenance of equipment to prevent the inadvertent discharge of fuel to the environment. Potential training updates are provided by means of regularly scheduled safety meetings. Operational personnel potentially responding to a spill are made aware of the content and intent of this SPCC Plan as well as applicable pollution control laws, rules, and regulations.

### 11.0 Plan Certification

This SPCC Plan for Southeast Missouri State University at One University Plaza, Cape Girardeau, Missouri has been prepared in accordance with good engineering practices under the direction or supervision of the undersigned whose seal as a professional engineer is affixed below.

\_\_\_\_\_  
Signature of Owner/Operator

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Signature of Registered P.E.

\_\_\_\_\_  
Name of Registered P.E. and  
Registration Number

## 12.0 SPCC Review Page

In accordance with 40 CFR 112.5(b), a review and evaluation of this SPCC Plan is conducted at least once every three years. As a result of this review and evaluation, Southeast Missouri State University will amend the SPCC Plan within six months of the review to include more effective prevention and control technology if: (1) such technology will significantly reduce the likelihood of a spill event from the facility, and (2) if such technology has been field-proven at the time of review. Any amendment to the SPCC Plan shall be certified by a Professional Engineer within six months after a change in the facility design, construction, operation, or maintenance occurs which materially affects the facility's potential for the discharge of oil into or upon the navigable waters of the United States.

REVIEW DATE	SIGNATURE

### Management Approval

Southeast Missouri State University is committed to the prevention of discharges of oil to navigable waters and the environment, and maintains the highest standards for spill prevention control and countermeasures through regular review, updating, and implementation of this Spill Prevention Control and Countermeasure Plan for the University campus.

Authorized Facility Representative:

**Signature:**

**Title:**

**Appendix A**  
**Southeast Missouri State University**  
**Integrated Contingency Plan**