# SPILL PREVENTION, CONTROL, AND COUNTER MEASURES PLAN

## MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

**1201 NORTH STATE STREET**

**ROLLA, MISSOURI**

**FEBRUARY 2016**

PREPARED BY

Weaver Consultants Group

# MANAGEMENT APPROVAL [112.7][1]

| | |
|---|---|
| Name of Facility | MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY<br>1201 North State Street, Room 108<br>ROLLA, MISSOURI 65409-0110 |
| Owner | BOARD OF CURATORS OF THE UNIVERSITY OF MISSOURI<br>316 UNIVERSITY HALL<br>COLUMBIA, MISSOURI 65211 |

Missouri University of Science and Technology of Rolla, Missouri is committed to preventing discharges of oil to the environment through implementation and regular review and amendment to the Spill Prevention, Control, and Countermeasures Plan and commitment of necessary resources to implement the measures described in this SPCCP. The SPCCP has the full approval of Missouri University of Science and Technology management.

Signature _____ Date _____

Name Ms. Michelle Bresnahan

Title Director of Environmental Health and Safety

**The undersigned member of management has read and reviewed this Spill Prevention Control and Countermeasures Plan and determined that no changes[2] have been made to the site which affect the implementation of this SPCCP and that the contact names and phone numbers are current. [112.5]**

November 2016 _____

November 2017 _____

November 2018 _____

November 2019 _____

November 2020 _____

This SPCCP must be re-certified by a professional engineer when significant changes are implemented or after five (5) years, whichever occurs first.

[1] The text in brackets [ ] references the applicable section of the SPCC regulation from the Code of Federal Regulations Title 40 CFR Part 112.

[2] Significant changes may include but are not limited to: changes in the oil storage facility design: construction, operation, or maintenance that affects the potential for a release, changes in site drainage; the addition of additional storage or oil transfer points; reconstruction or movement of tanks; construction or demolition that might affect the secondary containment structures; reconstruction or additions to the piping system; or changes in products stored. Amendment of the SPCCP must occur no later than six (6) months following the change and implemented no later than six (6) months following the amendment.

**PROFESSIONAL ENGINEER CERTIFICATION [112.3 (d)]**

Weaver Consultants Group certifies that the Missouri University of Science and Technology Facility of Rolla, Missouri, located at 1201 North State Street, Room 108, Rolla, Missouri 65409 attest to the best of our knowledge the information contained in this SPCCP is true, complete, and accurate; and being familiar with the provisions of 40 CFR Part 112.1 through Part 112.8, attest that this SPCCP has been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of this part, and is adequate for the facility. This certification in no way relieves the owner or operator of the facility of his/her duty to prepare and implement this SPCCP. Procedures for required inspections and testing have been established herein; however, this SPCCP is valid only to the extent that the facility owner and operator maintains, tests, and inspects equipment, containment, and other devices as prescribed in this SPCCP.

Daniel Landrum, P.E.

Printed Name of Registered Professional Engineer

_____

Signature of Registered Professional Engineer

Date: _____ Registration No. 2014008201 State Missouri

**CERTIFICATION OF SUBSTANTIAL HARM DETERMINATION [112.20 (e)]**

Facility Name: Missouri University of Science and Technology
Facility Address: 1201 North State Street, Room 108
Rolla, Missouri 65409

1. Does the facility have a maximum storage capacity greater than or equal to 42,000 gallons AND do operations include over the water transfers of oil to or from vessels?

☐ Yes ☒ No

2. Does the facility have a maximum storage capacity greater than or equal to 42,000 gallons AND does the facility lack secondary containment for each aboveground storage area that is sufficiently large to contain the capacity of the largest aboveground storage tank within the storage area?

☐ Yes ☒ No

3. Does the facility have a maximum storage capacity greater than or equal to 1 million gallons AND is the facility located at a distance (calculated using the Environmental Protection Agency formula) at which a discharge from the facility could cause injury to an environmentally sensitive area as defined in Appendix III?

☐ Yes ☒ No

4. Does the facility have a maximum storage capacity greater than or equal to 1 million gallons AND is the facility located at a distance (calculated using the Environmental Protection Agency formula) at which a discharge from the facility would shut down a public drinking water intake?

☐ Yes ☒ No

5. Does the facility have a maximum storage capacity greater than or equal to 1 million gallons AND has the facility experienced a reportable spill in an amount greater than or equal to 10,000 gallons within the last five years?

☐ Yes ☒ No

**CERTIFICATION**

I certify under penalty of law that I am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

_____ Environmental Health and Safety Director
Signature Title

_____Michelle Bresnahan_____ _____
Name Date

**SPCC REGULATORY CROSS REFERENCE CHART [112.7]**

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## 1.0 INTRODUCTION

The purpose of this Spill Prevention, Control, and Countermeasures Plan (SPCCP) is to document procedures designed to prevent the occurrence of a spill of oil and oil products, and in the event of a spill, to document the procedures to control a spill, and the resources to respond to a spill in a manner to minimize hazards to human health and the environment. This SPCCP has been prepared for Missouri University of Science and Technology (S&T) pursuant to 40 CFR Part 112 and replaces the earlier SPCCP dated February 2011.

A complete copy of the SPCCP shall be maintained at S&T's Environmental Health and Safety Department (EH&S) and be made available to the U.S. Environmental Protection Agency (USEPA) Regional Administrator and his/her agents, upon request, for onsite review during normal working hours.

This SPCCP shall serve as a tool to communicate practices on preventing and responding to discharges of oil with employees and as a resource during emergency response. All employees at the facility shall become familiar with the contents of the SPCCP.

The SPCCP provides guidance on key actions that S&T must perform to comply with the Spill Prevention, Control, and Countermeasures rule, including, but not limited to:

- Complete quarterly and annual site inspections as outlined in the Inspections section of the SPCCP (Section 5.2) using the inspection checklists found in Appendix A. [112.7(e)]

- Perform preventative maintenance of equipment, secondary containment systems, and discharge prevention systems described in this SPCCP as needed to keep them in proper operating condition.

- Conduct annual employee training as outlined in the Training section of the SPCCP (Section 5.5) and document that training on the log included in Appendix A.

- If either of the following occurs, submit the SPCCP to the USEPA Region 7 regional administrator and the Missouri Department of Natural Resources (MDNR) along with other information as detailed in Appendix B.
  - ❖ The facility discharges more than 1,000 gallons of oil into or upon the navigable waters of the U.S. or adjoining shorelines in a single spill event; or

  - ❖ The facility discharges oil in quantity greater than 42 gallons in each of two spill events within any 12-month period. [§112.4]

- ❖ The SPCCP and additional information must be submitted to the following address:

  Regional Administrator, Region VII
  U.S. Environmental Protection Agency
  901 North 5th Street
  Kansas City, Kansas 66101

- Review the SPCCP at least once every five (5) years and amend it to include more effective prevention and control technology. SPCCP amendments must be recertified by a Professional Engineer on the certification page (page ii) of this SPCCP.

- Amend this SPCCP within six (6) months whenever there is a change in facility design, construction, operation or maintenance that materially affects the facility's spill potential. The revised SPCCP must be recertified by a Professional Engineer.

- Review the SPCCP on an annual basis. Update the SPCCP to reflect any administrative changes that are applicable, such as phone numbers. Completion of this review will be documented by completion of the bottom portion of the Management Approval (page i).

## 2.0 FACILITY DESCRIPTION [112.7 (a)(3)][3]

### 2.1 General

| | |
|---|---|
| Owner Name: | Board of Curators of the University of Missouri |
| Mailing Address: | 316 University Hall<br>Columbia, Missouri 65211 |
| Site Address: | 1201 North State Street, Room 108<br>Rolla, Missouri 65409-0110<br>(Environmental Health & Safety) |
| Telephone: | (573) 341-4305 |
| Location: | From Highway 44, take the exit for State Highway E east. Follow State Highway E east to the entrance of the University. |
| Manager: | Ms. Michelle Bresnahan Director, EH&S |
| Operating Hours: | 8:00 a.m. to 5:00 p.m. M-F |
| Number of Employees: | 9 |
| Facilities: | S&T is a public educational and research institution located in Rolla, Missouri. The institution is composed of multiple facilities. Fleet vehicles are fueled at this facility. An inventory of oil storage units at the facility and a diagram showing their locations is contained in Appendix C. A total of 14 such units currently exist at separate locations. Each bulk storage container has a secondary containment system in the event of a discharge.<br><br>Products are stored in aboveground storage tanks located throughout the campus. Also stored on campus are used oils from routine vehicle and equipment maintenance, elevator hydraulic fluids, transformer oils, and oils associated with other processes (cooking oils, pump lubricating oils, etc.). |

[3] The text in the brackets [ ] references the applicable section of the SPCC regulation from the Code of Federal Regulations Title 40 CFR Part 112.

## 2.2 Description of Site Area

S&T is a public educational and research institution located in Rolla, Missouri. The institution is composed of multiple facilities largely located in Section 2, Township 37 North, Range 8 West, and Phelps County. However, some of S&T's facilities extend to the south and southwest and are located in Sections 10 and 11 (Appendix C). The terrain within this relatively extensive area is somewhat varied. Gentle slopes characterize the eastern and southern parts, but the ground becomes rougher and steeper to the north and west. Three major channels drain stormwater from the Rolla area. Dutro Carter Creek and its tributaries (Burgher Branch, Deible Branch, and Love Branch) drain most of the City southeastward toward Dry Fork Creek (Appendix J). This drainage system includes most of the S&T facility. To the north, Spring Creek is the principle drainage. It includes the northernmost part of S&T. Drainage in the extreme western part of Rolla flows toward Little Beaver Creek which includes a part of the S&T facility (Appendix J).

## 2.3 Operations

S&T generally operates small machinery involved in campus grounds maintenance and vehicles for building and ground maintenance. In addition to these typical operations that involve storage and usage of fluid hydrocarbons are smaller storage vessels utilized in academic education and technical research.

Typically, fuels are delivered to S&T in tanker trucks and unloaded into the listed storage vessels and tanks.

The following is a list of materials stored and used at S&T that are regulated under provisions of 40 CFR Part 112. This includes materials stored in tanks and drums (bulk storage containers).

- **Diesel fuel** is used to fuel fleet vehicles and equipment.
- **Unleaded Gasoline** is used to fuel fleet vehicles and equipment.
- **Lubricating fluids** (motor oil, gear oil, etc.) are used in fleet vehicles and heavy equipment.
- **Hydraulic fluids** (brake fluid, etc.) are used in fleet vehicles and heavy equipment.
- **Used motor oil and hydraulic oils** are stored onsite prior to collection for disposal or recycling.
- **Kerosene** is used to fuel space heaters.

- **Oil** contained in transformers is utilized for power distribution.

- Various hydrocarbon fluids are utilized in education and research.

### 2.4 Stormwater Discharges

Drainage from diked storage areas must be restrained by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharges. Diked areas may be dewatered by pumps or ejectors. However, these pumps or ejectors must be manually activated and the condition of the accumulation must be inspected before starting to ensure no oil will be discharged.

Valves of manual, open-and-closed design must be used for the drainage of diked areas. Flapper-type drain valves may not be used to drain diked areas. If the facility drains directly into a watercourse and not into an on-site wastewater treatment plant, uncontaminated retained stormwater may be drained after being inspected.

The basins are to be drained via manual gate valves only after a careful examination for any oil sheen has been conducted by qualified personnel. If petroleum products are present, or an oily sheen is observed, spill control and containment equipment will be used to remove petroleum residues before discharging the contents of the basin.

### 2.5 SPCCP Location [112.3 (e)]

This SPCCP will be maintained at S&T's Environmental Health and Safety Department (EH&S), located on campus at 1201 North State Street, and will be made readily available to the Regional Administrator for on-site review during normal working hours. Additionally, a copy of the plan will be made available to each respective SPCCP Coordinator.

## 3.0 POTENTIAL RELEASE SOURCES AND CONTAINMENT

### 3.1 Recent Spill History

S&T operates using environmentally sound engineering practices and has had no reportable releases of oil products.

### 3.2 Potential Release Sources at the Facility and Containment [112.7 (c), 112.7 (a)(3)(ii), 112.7 (a)(3)(iii), 112.8 (b), 112.8 (c), 112.8 (c)(3), 112.8 (c)(11), 112.8 (d)]

Potential sources of a spill event are summarized below. Figure 1 shows the location of each oil source and storage area. An inventory of oil products and a summary of Aboveground Storage Tanks (ASTs) are presented in Table 1 as well as locations identified in Figure 1 of Appendix C.

The Power Plant Tank (SPCCP-TK2) and Power Plant Used Oil Tank (SPCCP-UOTK2) are located approximately one-half mile north of Dutro Carter Creek. SPCCP-TK2 is located in the southeast corner of the power plant area and the used oil tank SPCCP-UOTK2 is located about 25 feet south of the northern boiler exhaust stack. These tanks are maintained and managed for spill prevention by the Power Plant Superintendent, Mr. Jerry Planitz. A storm drain, which drains into a tributary of Dutro Carter Creek, is located on State Street approximately 150 feet from these two tanks. Discharge from SPCCP- UOTK2 will flow to the south and southwest respectively, while flow from SPCCP-TK2 will flow to the east. Discharge from these tanks would eventually flow into the storm drain on State Street and enter the Dutro Carter Creek drainage system. It is important to highlight that S&T's Power Plant terminated operations May 2014. As such, the respective applicable tanks are now of limited use.

The Grounds Shop Tank (SPCCP-TK3) is a double walled tank that is located approximately one-half mile north of Dutro Carter Creek. This is a split tank that holds both 500 gallons of diesel and 500 gallons of gasoline. The tank is located along the southeastern part of the building. This tank is maintained and managed for spill prevention by Mr. Jim Duncan, Manager Custodial and Landscaping Services. Discharge from this location flows southward via storm drains or open channels that ultimately flow into Dutro Carter Creek.

The Golf Course Tank (SPCCP-TK4) is located approximately one-half mile northwest of Dutro Carter Creek. Surface drainage from this area flows to the southeast through ditches that drain into Dutro Carter Creek. This tank is maintained and managed for spill prevention by, Mr. Tom French, Operations Manager, Student Affairs Auxiliary Services. Any discharge from Tank SPCCP-TK4 will flow approximately 150 feet to the south until it reaches one of the drainage ditches.

The General Services Tank (SPCCP-TK6) is located approximately one mile north of Dutro Carter Creek. Discharge from these tanks would flow to a storm drain, approximately 20 feet from the tanks, which then discharges into a system of drainage ditches before entering Dutro Carter Creek. This tank is maintained and managed for spill prevention by the Supervisor of the Mechanical Trades.

The Thomas Jefferson Hall Tank (SPCCP-TK8), located in northeastern Rolla, is within the Spring Creek watershed. Drainage from this area flows to the north approximately 0.25 miles before entering unnamed tributaries of Spring Creek. This tank is maintained and managed for spill prevention by Mr. Tom French, Operations Manager, Student Affairs Auxiliary Services.

The Experimental Mine Tank (SPCCP-TK11) is located within the drainage of Little Beaver Creek. Any discharge from this tank would flow to the southwest to an unnamed tributary, which eventually discharges into Little Beaver Creek, a distance of approximately 2.5 miles. This tank is maintained and managed for spill prevention by Mr. Jimmie Taylor, Supervisor Experimental Mine.

Spills from drums and containers stored indoors throughout the main campus could result in a maximum spill of approximately 100 to 200 gallons of hydraulic, vegetable, transformer, lubricating, mineral, or used oils stored in any one location. Some of the rooms containing oils have floor drains, including the boiler rooms, elevator service rooms, and the service garages. In the event of a release of oil in the vicinity of floor drains, the oil could pass through the stormwater system into surface waters.

A private contractor performs loading of the bulk storage containers with facility personnel present. Secondary containment and spill containment equipment at the loading areas serves as spill control for each location. Secondary containment for the bulk fuel storage tanks are in the form of a concrete dike containment area, steel secondary containment basins, and double walled vessels. Spill containment equipment may consist of a drip bucket or catch basin, a supply of absorbent compounds, non-sparking shovels, brooms, and containers for the cleanup of spilled material.

Private contractors performing the loading will be provided with a copy of the “Oil Loading/Unloading Procedures,” included in Appendix D, which includes procedures for the contractor to follow when loading or unloading oil storage containers.

Fuel is transferred to equipment by fuel lines from the oil storage containers. Secondary containment at the loading areas serves as spill control for each location. Absorbent materials are located near the storage containers for use in case of a discharge. Personnel who are trained in the proper use and operation of equipment and spill control and countermeasures shall operate all equipment. Spill containment equipment may consist of a drip bucket or catch basin, a supply of absorbent compounds, non-sparking shovels, brooms, and containers for the cleanup of spilled material.

The following practices shall be followed during facility transfers:

- Only trained personnel while under responsible supervision will operate transfer equipment;
- Personnel will be instructed in the proper use and operation of equipment, procedures, location of spill recovery material and equipment, and spill prevention control and countermeasures;
- Unauthorized personnel will be restricted from the area;
- Contents of containers will not be transferred if the receiving vessel is not compatible with the material to be transferred;
- Pumps will be operated only when attended continuously or with an operator in the general vicinity;
- Receiving tank volume and level should be checked prior to transfer of material to ensure adequate remaining capacity. Levels should be monitored during loading and unloading;
- All valves and outlets will be checked prior to transfer of material. All deficient equipment should be repaired or replaced prior to the transfer of material;
- All piping, valves, fittings, and supports will be maintained in accordance with manufacturer's specifications;
- Containers will be stored in a manner and area to minimize or prevent damage or rupture of containers;
- Containers will be closed when not in use, and;
- S&T personnel will observe all transfer operations to ensure the SPCCP requirements are being fulfilled.

S&T is required to provide appropriate secondary containment, diversionary structures, or equipment to prevent a discharge, including transformers with capacities in excess of 55 gallons. The entire containment system, including walls and floor, must be capable of containing oil and constructed so that any discharge from a primary containment system, such as a tank or a pipe, will not escape the containment system before cleanup occurs. Acceptable preventions systems are:

- Dikes, berms, or retaining walls sufficiently impervious to contain oil;
- Curbing;
- Culverting, gutters, or other drainage systems;
- Weirs, booms, or other barriers;
- Spill diversion ponds;
- Retention ponds, and;

- Absorbent materials.

Oil storage tanks are equipped with secondary containment in the form of catch basins located around the tanks as well as double walled tanks. The basins are constructed to hold the entire contents of the tanks with sufficient freeboard. Transformers should be evaluated on a case-by-case basis to determine that appropriate secondary containment are in place.

Equipment to prevent a discharge into the drainage system should be readily available. Spill control and containment equipment can include booms, pads, drain covers, berms, and other absorbent materials. A listing of emergency response equipment is contained in Appendix I.

## 4.0 FACILITY CONFORMANCE

### 4.1 Equivalent Environmental Protection [112.7 (a)(2), 112.8 (c)(6)]

40 CFR 112.8 (c)(6) stipulates that tank inspections, criteria, and qualifications are to be performed in accordance with industry standards. The Steel Tank Institute (STI) has provided criteria and guidelines for inspections of aboveground storage tanks pursuant to SP001 Inspection Standard. All S&T tanks are aboveground having adequate secondary containment and are less than 5,000 gallons in capacity. As such, the Standard classifies these tanks as Category 1, and poses the least amount of risk. Category 1 tanks do NOT require any Formal External or Internal inspections by a Certified Inspector. These tanks only need to have Periodic Inspections by the owner or designated employee.

S&T will conduct routine visual observations of the applicable tanks and will perform quarterly formal inspections. These observations and inspections will be conducted by personnel as designated by the university's Environmental Health & Safety Department. Visual observations will be conducted routinely when university personnel are in vicinity of the subject tanks. Formal written and documented inspections will be conducted on a quarterly basis and records will be retained in the university's EH&S Department. Formal inspections will provide equivalent environmental protection from oil release when accompanied by the following actions:

- The personnel performing these inspections are knowledgeable of storage facility operations,
- The type of aboveground storage tank, and its associated contents and characteristics of the liquid stored.

Quarterly and annual inspections are described in Section 5.2 and Appendix A.

All indoor containers are protected from releases to the environment by being within the building which serves as a containment device. There is no threat from soil or rainwater for these containers so the corrosion potential is insignificant.

According to the STI SP-00, elevation, along with regular provides an effective means. Elevation of the outdoor containers, along with regular visual inspections of the containers according to the STI SP-001 quarterly and annual checklists provides an effective means of verifying container integrity, as noted by USEPA in the preamble to the SPCC rule at 67 FR 47120. Containers will be inspected by competent, qualified personnel, and replaced or repaired, should the results of the routine observations and/or quarterly inspections indicate signs of leakage or deterioration.

## 4.2 Modifications Required to Comply with SPCCP [112.7 (a)(1), 112.8 (c)(8)]

The following actions should be taken to comply with the SPCCP:

1. Each AST must be equipped with one of the following overflow devices:

    a. High liquid level alarm with an audible or visual signal,

    b. High liquid level pump cutoff device set to stop flow at a predetermined container content level, or

    c. A fast response system for determining the liquid level of each container, such as direct vision gauges.

## 5.0 RELEASE PREVENTION MEASURES

### 5.1 Product Unloading Procedures [112.7 (a)(3)(ii)

The bulk fuel tanks located adjacent to the structures identified in Table 1 and Appendix C are loaded by tanker truck. The containers have secondary containment structures to control any spills or leaks from the loading process. The secondary containment structures are designed to contain at least the maximum capacity of the largest single container with sufficient freeboard to contain accumulated precipitation (Table 2). The facility has absorbent materials located near the tanks for use in the event of a spill. The facility does not receive any tank cars by rail.

Each tanker truck is subject to inspections as required by the Department of Transportation (DOT). Due to the DOT inspection requirements, the potential for a discharge from a tanker truck is low. The greatest potential for a discharge exists when transferring the oil from the truck to the storage containers.

Tank truck drivers loading or unloading material at the facility shall abide by the following guidelines:

1. Exercise caution when maneuvering to avoid damage to containment structures.

2. Chock the truck wheels before beginning fuel transfer.

3. Inspect tank, fittings, and liquid level indicator prior to filling each tank to verify product has sufficient free capacity.

4. Place drip pans under all pump hose fittings or connections, if any, prior to loading/unloading.

5. Remain with the vehicle at all times while loading/unloading to visually monitor product level throughout the transfer operation.

6. Drain the loading/unloading lines to the storage tank and close the drain valves before disconnecting said lines, and make sure a drain pan or other appropriate containment device is located under all connections, if any.

7. Verify that all drain valves are closed before disconnecting loading/unloading lines, if any.

8. Inspect the vehicle before departure to be sure all loading/unloading lines have been disconnected and all drain and vent valves are closed.

9. Immediately report any leakage or spillage, including quantity, to the Facility Emergency SPCC Coordinator(s) or other management personnel.

Tank truck drivers shall be notified of these instructions via the sample Notice to Tank Truck Drivers found in Appendix D or equivalent.

## 5.2 Inspections [112.7(e), 112.8(c)(6), 112.8(b), 112.8(c)(10)]

All inspections shall be documented and a signed, written record of inspection will be provided to the SPCCP Coordinator/Assistant EH&S Director. These records will be retained in EH&S environmental files for a period of three years. Appendix A contains the forms that should be used for recording quarterly documented inspections or a similar form may be used. If a problem is detected during the inspection, the SPCCP Coordinator/Assistant EH&S Director should be immediately notified and the appropriate action initiated.

All ASTs (including totes and drums) containing oil shall be examined visually for condition and the need for maintenance on a quarterly basis by competent S&T personnel who are trained with SPCCP requirements and who is familiar with the site and can identify changes and developing problems. The visual inspection will include the following items:

1. Containment structures should be checked for water, debris, fire hazards, and vegetation.

2. Drain valves should be operable and in a closed position. Drainage paths should be clear.

3. Liquid level gauges should be readable and in good condition.

4. The outside of the containers shall be observed for visible signs of leakage around the tank, concrete pad, and containment structure.

5. Portable containers should be designated storage areas.

6. The portable containers should also be checked for buckling, denting, bulging or distortions.

7. All aboveground valves and piping shall be examined for general condition of items such as supports, flange joints, expansion joints, valve glands and bodies, locking mechanisms, metal surfaces, and drip pans.

Water that has accumulated in a containment structure must be discharged only after inspection for the presence of oil. Records of the inspection of the accumulated water and the discharge should be

documented on the Rainwater Discharge Reporting Form found in Appendix A. [112.8 (b)(1) and 112.8 (b)(2)]

All visible discharges must be promptly corrected including those from seams, gaskets, piping, pumps, valves, rivets, and bolts. Any accumulation of oil in diked areas must be promptly removed. [112.8 (c)(10)]

Additional items must be checked on an annual basis. Those items are as follows:

1. The container shell and associated piping, valves, and pumps should be inspected for paint failure.

2. Earthen berms should be checked for holes, washout, and cracking. Integrity of containment walls shall be verified.

3. Absence of washout, settling, and cracking of steel containment structures, and aboveground foundation and tank structural supports should be verified.

4. All vents should be free of obstructions and operable.

5. Electrical equipment associated with the containers and the fueling areas, such as lights, should be checked for proper operation.

As outlined in Section 4.1, non-destructive integrity evaluation is not performed on any containers at the site. Visual observations conducted on a routine basis and quarterly documented inspections provide equivalent environmental protection from oil release for the elevated containers. Containers will be replaced or repaired according to results of the inspections, as needed.

### 5.3 Security [112.7 (g)]

Security procedures at the S&T campus have been implemented to prevent oil spills due to unauthorized entry and vandalism. Since the S&T campus covers a vast and distinctive geography, relative to regulated tank locations, security is unique for each one. The following is a brief description of each tank's security measures that have been implemented to prevent unauthorized entry and vandalism:

- SPCCP-TK2 is the diesel storage tank located at the university's Power Plant. This tank, which has a capacity of approximately 3,000 gallons, is used to supply fuel for the emergency diesel generator (located inside the Power Plant) as well as a fuel supply for student small engine studies. Security lighting is provided for the tank area and the area is routinely checked by

campus security personnel monitoring the campus nightly. All tank, pump, and starter controls are physically located inside the Power Plant. Student Small Engine Studies pump and starter controls are located in the locked and secured Engine Room. These measures appear adequate to prevent discharges due to acts of vandalism and to assist in the discovery of discharges by both facility and non-operating personnel during nighttime hours.

- The 1,000 gallon tank, SPCCP-TK3, located at the university's Grounds Shop Building is a double walled tank. All controls/switches are located inside the adjoining, secure building and all plumbing fixtures are above tank fluid height and/or enclosed. These physical security features are sufficient to prevent unauthorized entry and vandalism.

- SPCCP-TK11 is a 250-gallon diesel storage tank is approximately located at the university's Experimental Mine, approximately 2 miles from the main campus. The Experimental Mine is secured by a ten-foot tall chain link fence, with a locked entrance gate. Further security includes night lighting around the facility buildings as well as routine patrol and check by S&T University Police. These implemented security measures applicable to SPCCP-TK11 are sufficient in preventing discharges due to acts of vandalism and unauthorized entry.

- The emergency generator's (SPCCP-EM1 thru SPCCP-EM8) diesel storage is integral components of the units and is typically located at the base of the engines/generators. The fuel storage is double walled metal and the entire engine/generator units on campus are enclosed by solid fencing with locked entrances. These physical security features are satisfactory in preventing discharges due to acts of vandalism and/or unauthorized entry.

- The two used oil storage locations (SPCCP-UOTK1 and SPCCP-UOTK2) on campus contain fluids in drum(s) which are contained within locked box, enclosed structures. These used oil containment structures are typical, standard of used oil material, and are adequate in preventing discharges due to acts of vandalism and unauthorized entry.

- SPCCP-TK4 is secured for unauthorized access via a double locked entry. Further security includes night lighting around the facility buildings as well as routine patrol and check by S&T University Police. These implemented security measures applicable to SPCCP-TK4 are sufficient in preventing discharges due to acts of vandalism and unauthorized entry.

- SPCCP-TK8 is a fuel oil tank that is located in a deep walled, metal secondary containment that is a secured, top filled vessel. This tank's product utilization is via underground plumbing. These physical features of infrastructure limitations in addition to night lighting around the facility buildings as well as routine patrol and check by S&T University Police provide adequate security.

## 5.4 Overfill Prevention Systems [112.8 (c)(8)]

All tanks will be equipped with an overfill prevention system to minimize the possibility of a release to the environment. The following systems are acceptable in accordance with good engineering practice:

1. High liquid level alarm with an audible or visual signal,

2. High liquid level pump cutoff device set to stop flow at a predetermined container content level, or

3. A fast response system for determining the liquid level of each container such as direct vision gauges.

The liquid level sensing devices must be tested annually to ensure proper operation. Compliance with the testing requirement will be documented on the annual inspection checklist found in Appendix A.

All oil storage containers will use the following procedure to avoid discharges during filling activities:

1. Verify that all valves used to control drainage from the secondary containment are closed.

2. Verify that the container that will receive the product has sufficient free capacity.

3. Visually monitor the product level during the transfer operation.

## 5.5 Training [112.7 (f)]

Facility personnel who handle oil and fuel products shall participate in annual training that teaches them to perform their duties in a way to prevent the discharge of harmful quantities of oil or hazardous substances. Similarly, new personnel shall be trained when they have been delegated SPCCP responsibilities. Transient personnel shall be advised of applicable spill prevention measures upon entering the facility.

The Annual training shall include familiarization with the contents of the facility SPCCP. This training will be conducted by each individual tank's SPCCP Coordinator. The annual training must highlight and describe known discharges or failures, malfunctioning components and any recently developed precautionary measures. Appropriate facility personnel shall be trained annually in spill and emergency response procedures. This training includes reporting, stopping, containing, cleaning up, and disposing of all spill materials, emergency communications, etc.

Facility personnel shall be instructed annually as to their responsibilities for compliance with the requirements of the applicable pollution control laws, rules, and emergency response regulations applicable to the facility.

## 6.0 REPORTABLE RELEASE AND RESPONSE PROCEDURES [112.7 (a)(5)]

### 6.1 Reportable Release Definition [112.7 (j)]

If the **release meets either** of the following criteria, the release must be reported to the Missouri Department of Natural Resources (MDNR) at (573) 634-2436 at the earliest practical moment within 24 hours of discovery of a release.

1. More than 25 gallons of oil product is spilled on the ground surface, or

2. Any volume of oil product that reaches or threatens a body of water.

Releases of less than 25 gallons of oil product, which have been stopped and are easily cleaned up with oil-dry, DO NOT require reporting. Releases that are completely contained within a secondary containment structure DO NOT require reporting. However, if in doubt, contact the SPCCP Coordinator/EH&S Assistant Director for guidance.

### 6.2 Activation of the Response SPCCP [112.7 (a)(3)(iii), 112.7 (a)(3)(iv), 112.7 (a)(3)(vi), 112.7 (a)(4)]

The response procedures outlined in Appendix E and in the flow chart in Appendix F will be initiated when any of the following occur:

1. A reportable release as defined in Section 6.1 above occurs,

2. The source of the release cannot be stopped, or

3. The reasonable threat of a fire is present.

In the event of an accident or spill at the facility, the manager with direct responsibility for the day-to-day operation of the facility shall contact the individuals listed below as soon as practical after the incident has occurred. If spill discharge to surface waters is imminent, the regulatory emergency agencies should be notified of the potential immediately as described below.

1. Internal Reporting

In the event of a spill, the following internal contacts shall be made:

| Name | Telephone Number(s) |
|---|---|
| Tony Hunt, SPCCP Coordinator<br>EH&S Asst. Director | (573) 341-4305 Office<br>(573) 578-8515 Mobile<br>(573) 341-7645 Alternate Office<br>(573) 341-4300 Outside Office hours |
| Jerry Planitz, SPCCP Spill Coordinator<br>Power Plant | (573) 341-4252 |
| Jim Duncan, SPCCP Spill Coordinator<br>Custodial & Landscaping Services | (573) 341-4247 |
| Tom French, SPCCP Spill Coordinator<br>Student Affairs Auxiliary Services | (573) 341-6487 |
| Supervisor, SPCCP Spill Coordinator<br>Mechanical Trades | (573) 341-4252 |
| Jimmie Taylor, SPCCP Spill Coordinator<br>Experimental Mine | (573) 341-6406 |
| University Police | (573) 341-4300 Office |

2. Reporting to Outside Agencies

**After the SPCCP Coordinator (or designee) has been notified, he/she shall conduct reporting to outside agencies.** If a spill threatens to reach an off-site waterway and the spill cannot be contained and recovered by S&T personnel, or the spill meets the definition of a reportable release, then the following contacts shall be made in addition to the contacts listed above:

| | |
|---|---|
| Meramec Regional Planning Commission<br>(Local Emergency Planning Committee) | (573) 265-2993 |
| MDNR Emergency Spill Line | (573) 634-2436 |
| Missouri Emergency Response Commission<br>(Before or after normal business hours) | (800) 780-1014 |

| | |
|---|---|
| National Response Center | (800) 424-8802 |
| City of Rolla Fire and Rescue Department | (573) 364-3989<br>Or 911 |

3. Other Emergency Contacts

| | |
|---|---|
| Hospital/ambulance: | |
| Phelps County Regional Medical Center | (573) 458-8899<br>Or 911 |
| Rolla Police Department | (573) 364-1213<br>Or 911 |
| Phelps County Sheriff | (573) 426-3860 |

If S&T personnel and response team cannot contain and recover a spill, then the Rolla Fire and Rescue Department will be contacted to provide assistance:

### 6.3 Duties and Responsibilities

Responsibilities are assigned to individuals by name. Keep in mind, however, that responsibilities are designated primarily by position/title/descriptions. If individuals are not available due to vacations, trips, transfers, terminations, etc., the person filling the position automatically assumes responsibility.

All management and supervisory persons must review this SPCCP annually to ensure they are familiar with it. There is no time to do so after the emergency occurs. Direct coordination between all persons is encouraged to help eliminate problems.

Suggestions for improvement or modifications should be directed to the SPCCP Coordinator for review and inclusion in the next revision. Manager and Supervisors/SPCCP Spill Coordinators shall assist the SPCCP Coordinator in training their personnel as necessary and training shall be held at least annually.

Individuals are responsible for notifying the SPCCP Coordinator of any changes in home or office telephone numbers and position so the call list can be updated regularly and accurately.

| SPCCP Coordination | |
|---|---|
| SPCCP Coordinator Tony Hunt | (573) 341-4305 Office |
| EH&S Asst. Director | (573) 578-8515 Cell |
| Asst. SPCCP Coordinator Donna Kreisler | (573) 341-4305 Office |
| EH&S Professional | (573) 263-4896 Cell |

The SPCCP Coordinator shall direct and coordinate all emergency SPCCP activities and shall advise supervisors as to the extent of the emergency and possible consequences. The SPCCP Coordinator shall be familiar with all environmental control devices and hazard response firms/teams. This person also is responsible for coordination of first aid to injured persons and will probably be one of the first responders to the emergency.

After the emergency is under control, this person shall direct the salvage and restart operations. The SPCCP Coordinator assures the establishment of liaison and communications as necessary with appropriate agencies and allocates resources necessary to carry out the duties of this SPCCP, etc. He/she also directs emergency maintenance, utility, and electrical work to prevent injury and minimize damage to property, product, and the environment. Maintenance personnel are responsible for the safe shutdown of the facility.

**TABLE 1**
**APPLICABLE CAMPUS WIDE TANK LISTING**
**MIssouri University of Science & Technology; Rolla, MO**
**February 2016**

| SPCCP IDENTIFICATION | TANK DESCRIPTION | CONTENTS | CAPACITY (gal) |
|---|---|---|---|
| SPCCP-TK2 | Tank #2-Power Plant | Diesel Fuel | 3000 |
| SPCCP-TK3 | Tank #3 - Grounds Shop | Gasoline/Diesel | 1000 |
| SPCCP-TK4 | Tank #4 - Golf Course | Gasoline | 250 |
| SPCCP-TK6 | Tank #6 - General Services | Diesel Fuel | 250 |
| SPCCP-TK8 | Tank #8 - Thomas Jefferson | Fuel Oil | 1500 |
| SPCCP-TK11 | Tank #11 - Experimental Mine | Diesel Fuel | 250 |
| SPCCP-UOTK1 | UO1 - Used Oil Phy Facilites | Used Oil | 55 |
| SPCCP-UOTK2 | UO2 - Used Oil Power Plant | Used Oil | 55 |
| SPCCP-EM1 | Emergency Disel Day Tank - Thomas Jefferson | Diesel Fuel | <250* |
| SPCCP-EM2 | Emergency Disel Day Tank - Butler/Civil Bldg | Diesel Fuel | 100* |
| SPCCP-EM4 | Emergency Disel Day Tank - Computer Science | Diesel Fuel | <250* |
| SPCCP-EM5 | Emergency Disel Day Tank - Parker Hall | Diesel Fuel | <250* |
| SPCCP-EM7 | Emergency Disel Day Tank - Mechanical Annex | Diesel Fuel | 700 |
| SPCCP-EM8 | Emergency Disel Day Tank - Campus Police | Diesel Fuel | <250* |

**NOTE:** Missing tank numbers from the above chronology are due to previous listed tanks being removed from the system

* Estimated

**TABLE 2**
**Missouri University of Science and Technology**
**SPCCP 12/2015**
**APPLICABLE CAMPUS WIDE TANK LISTING - SECONDARY CONTAINMENT CAPACITY**

| TANK ID | MS&T LOCATION | SECONDARY CONTAINMENT DIMENSIONS | | | | TANK CAPACITY | % |
|---|---|---|---|---|---|---|---|
| | | Depth (in) | Width (in) | Length (in) | Capacity (gallons) | gallons | CONTAINMENT |
| SPCCP-TK2 | Power Plant | 26.5 | 108 | 276 | 3,420 | 3,000 | 114% |
| SPCCP-TK3 | Grounds Shop | Double wall tank | | | | | |
| SPCCP-TK4 | Golf Course | 16 | 68 | 72 | 339 | 250 | 136% |
| SPCCP-TK6 | General Services | 16 | 68 | 72 | 339 | 250 | 136% |
| SPCCP-TK8 | Thomas Jefferson | 32 | 90 | 196 | 2,444 | 1,500 | 163% |
| SPCCP-TK11 | Experimental Mine | 16 | 68 | 72 | 339 | 250 | 136% |
| SPCCP-UOTK1 | Waste Oil Power Plant | | | | 135 | 55 | 245% |
| SPCCP-UOK2 | Waste Oil General Services | | | | 135 | 55 | 245% |
| SPCCP-EM1 | Thomas Jefferson | Double wall tank | | | | | |
| SPCCP-EM2 | Butler/Civil Engineering | Double wall tank | | | | | |
| SPCCP-EM4 | Computer Science | Double wall tank | | | | | |
| SPCCP-EM5 | Parker Hall | Double wall tank | | | | | |
| SPCCP-EM7 | Mechanical Annex | Double wall tank | | | | | |
| SPCCP-EM8 | Campus Police | Double wall tank | | | | | |

*NOTE: emergency diesel generator's day tanks, located at the base of the unit are double walled reservoirs.

## APPENDIX A

## INSPECTION FORMS AND CHECKLISTS

**Missouri University of Science & Technology**
**SPCCP**

# TANK QUARTERLY INSPECTION CHECKLIST

| SPCCP ID | LOCATION | VOLUME (gallons) | CONTENTS | CONTAINER TYPE |
|---|---|---|---|---|
| | | | | |

| | YES | NO |
|---|---|---|
| Tank/drum leaking? | ☐ | ☐ |
| Pipes, hoses, valves, pumps, etc. leaking? | ☐ | ☐ |
| Oils stains on exterior walls? | ☐ | ☐ |
| Oil or petroleum produts/residue on the ground, around the tank, machinery, or equipment, or in secondary containment area? | ☐ | ☐ |
| Indications of corrosion at fitting joints or seals? | ☐ | ☐ |
| Raised spots or dents on the tank's surface? | ☐ | ☐ |
| Foundation cracked, shifted, and/or settled? | ☐ | ☐ |
| If rainwater is present in secondary containment area, is sufficent volume remaining for spill control? | ☐ | ☐ |
| Tank labels and/or loading procedure signs, labels, and/or placards missing or unreadable? | ☐ | ☐ |

***GENERAL COMMENTS AND OBSERVATIONS:***

_____

_____

_____

_____

_____ _____

Inspector Print / Signature Date

# Spill Prevention, Control, and Countermeasure Plan
# Missouri University of Science & Technology
# February 2016

## Training Documentation Form

*This certifies that _____ has successfully completed the following training program(s).*

Employee name:_____

Trainer:_____

Date:_____

Type of Training:_____

Employee's signature:_____

Trainer's signature:_____

# Spill Prevention, Control, and Countermeasure Plan
# Missouri University of Science & Technology
# February 2016

## Oil Loading/Unloading Procedures for Outside Personnel

To prevent a discharge of oil substances to the environment, outside personnel entering this facility to perform a transfer of an oil substance are to comply with the following procedures:

1. Use caution when driving to avoid damage to containment walls, tanks, or piping.
2. Inspect tanks, fittings, and liquid levels prior to filling.
3. Place drip pans under all pump hose fittings prior to loading/unloading.
4. Set brakes and block truck wheels prior to loading/unloading.
5. Remain with the vehicle at all times during the loading/unloading process.
6. After loading/unloading, tighten all valves, drain all hoses, remove unloading hoses, and tighten manways.
7. Verify that all drain valves are closed before disconnecting loading/unloading line to storage tank.
8. Inspect vehicle prior to departure to ensure that all loading/unloading lines have been disconnected and vent valves are closed.
9. Check the oil discharge containment barrel and drip pans to see if they are in place. Properly dispose of any oil and/or water contained within the barrel or pan.
10. Immediately report any leakage or spillage to the SPCC Coordinator or other facility personnel.

*I have read the above procedures and agree to comply with them.*

Name:_____ Signature:_____

Date:_____ Time:_____

**SPCC Coordinator**:

**Facility Contact:**

# Spill Prevention, Control, and Countermeasure Plan
# Missouri University of Science & Technology
# February 2016

## Review and Amendment History

| Date of Review or Change | Signature | Why was Plan Modified (Spill, Leak, Government Mandated, etc.) | Was Modification Submitted: To Whom (if necessary) | What Part of the Plan was Modified | Comments |
|---|---|---|---|---|---|
| | | Original Plan | No | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 12/17/15 | | Site Recon for 5 year renewal | No | NA – field assessment | Site recon of all known tanks |
| 02/2016 | | 5 year renewal | No | Entire plan updated | 5 year update per site recon |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**Note: By regulation, this document must be reviewed and updated at a minimum of every 5 years.**

**Missouri University of Science and Technology**
**SPCCP**

## PERSONNEL TRAINING RECORD
## SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

Description of Training _____

Instructor _____ Date _____

---

**EMPLOYEE NAMES**

| Printed Name | Signature |
|---|---|
| | |
| | |
| | |
| | |
| | |
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| | |

MISSOURI S&T

MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

May 10, 2016

To: Bulk Oil/Petroleum Suppliers

**RE: Missouri University of Science and Technology (Missouri S&T) Spill Prevention Control & Countermeasure Plan (SPCC).**

As required by 40 CFR 112.1(b), Missouri S&T has implemented a Spill Prevention Control & Countermeasure (SPCC) Plan. The SPCC plan requires Missouri S&T to notify all companies, which deliver petroleum products to the Missouri S&T campus, of the Tank Loading Procedures outlined in the SPCC plan.

The SPCC plan requires the following procedures to be followed when delivering petroleum products to fuel storage tanks on Missouri S&T's campus:

1) No Smoking
2) Chock Wheels
3) Insure Spill Diversion / Spill Clean-up materials are available
4) Verify tank capacity to insure no overfills occur
5) Insure all valves, hoses, and caps are secured and are not leaking before departure
6) Driver / Delivery Operator must be present at all times during product transfer
7) In Case of Spill or Emergency,
   a) Immediately notify Missouri S&T Police at 341-4300.
   b) Take appropriate measure to contain / control the spill.

Please communicate this information to all your delivery personnel who make deliveries to the Missouri S&T campus. Copies of these procedures have also been affixed to all applicable fuel storage containers and should be read prior to any product transfer. Please signify the receipt of this notice by signing below and mailing or faxing to this office.

If you have questions or need additional information, please contact me at (573) 341-6441.

Sincerely,

Environmental Health and Safety

Donna Kreisler
Environmental Management System Coordinator/
Environmental Health Professional I

Name: _____ Company/Business Name: _____

Environmental Health and Safety • 108 Campus Support Facility • 1201 North State Street • Rolla, MO 65409-0110
Phone: 573-341-4305 • Fax: 573-341-6077 • Email: ehs@mst.edu • Web: ehs.mst.edu

## APPENDIX B

## DISCHARGE REPORTING FORMS AND EMERGENCY CONTACTS

**Missouri University of Science and Technology**

**SPCCP**

# EMERGENCY CONTACTS

| | | |
|---|---|---|
| A. | SPCC Coordinator | (573) 341-4305 Office |
| | Tony Hunt, Asst. EH&S Director | (573) 578-8515 Cell |
| B. | Asst. SPCC Coordinator | (573) 341-4305 Office |
| | Donna Kreisler, EH&S Technician | (573) 263-4896 Cell |
| C. | SPCCP Spill Coordinators | |
| | Jerry Planitz, Power Plant | (573) 341-4252 |
| | Jim Duncan, Custodial & Landscaping Services | (573) 341-4247 |
| | Tom French, Student Affairs Auxiliary Services | (573) 341-6487 |
| | Supervisor, Mechanical Trades | (573) 341-4245 |
| | Jimmie Taylor, Experimental Mine | (573) 341-6406 |
| D. | Local Emergency Planning Committee | (573) 265-2993 |
| E. | Missouri Emergency Spill Line (24-hour) | (573) 634-2436 |
| F. | Missouri Department of Natural Resources | (800) 361-4827 |
| G. | Missouri Emergency Response<br>(Before or after normal business hours) | (800) 780-1014 |
| H. | National Response Center | (800) 424-8802 |
| I. | Rolla Fire Department | (573) 364-3989 or 911 |
| J. | Rolla Police Department | (573) 364-1212 or 911 |
| K. | Phelps County Sheriff | (573) 458-8899 |
| L. | Phelps County Regional Medical Center | (573) 875-9000 |

**Missouri University of Science and Technology**
**SPCCP**

# DISCHARGE REPORTING FORM

1. Name of Facility: _____
2. Address of Facility: _____
3. Name of Person Reporting: _____
4. Phone Number of Person Reporting: _____
5. Exact Location of Spill/Release: _____
6. Type of Material Released: _____
7. Quantity of Material Released: _____
8. Source of Material Released: _____
9. Cause of Release: _____
10. Nearest Body of Water: _____
    i. Is Water Impacted? _____
    ii. Distance from the Site _____
11. Actions Taken to Contain and Cleanup: _____

    _____
12. Estimated Quantity Recovered: _____
13. Extent of Injuries (if any): _____
14. Time and Date of Incident: _____
15. Possible Hazards to Human Health or Environment: _____

    _____
16. Medical Precautions: _____

    _____

**Missouri University of Science and Technology**
**SPCCP**

# INCIDENT REPORT FORM

1. TIME PROBLEM DISCOVERED _____ DATE _____
2. TIME PROBLEM STOPPED _____ DATE _____
3. APPROXIMATE LOCATION AND TYPE OF ACCIDENT (E.G., FIRE, EXPLOSION, SPILL) _____
4. MATERIAL SPILLED _____
   APPROXIMATE AMOUNT _____
5. EXTENT OF INJURIES (IF ANY) _____
   _____
6. WHAT DAMAGE TO PEOPLE OR THE ENVIRONMENT IS LIKELY _____
   _____
   _____
7. ESTIMATED AMOUNT OF MATERIAL RECOVERED _____
   _____
8. WHAT WAS DONE WITH RECOVERED MATERIAL _____
   _____
9. ACTION TAKEN TO CONTROL THE PROBLEM AND PREVENT FURTHER PROBLEMS
   _____
   _____
   _____
   _____
   _____

SIGNATURE (SPCC Coordinator) _____
DATE _____

**Missouri University of Science and Technology**
**SPCCP**

# Regional Administrator Report [112.4]

One Spill Greater Than 1,000 Gallons? □
Two Spills Each Greater Than 42 Gallons? □

Name of Facility_____
Name of Person Reporting Spill(s)_____
Location of Facility _____
_____
Maximum Storage Capacity of Facility_____
Normal Daily Throughput of Facility _____
Description of corrective action and countermeasures taken, including equipment repairs and replacements _____
_____
_____
_____
_____
Description of Facility (attach copies of Figures 1 and 2)_____
_____
_____
_____
Cause of the discharge and failure analysis _____
_____
_____
_____
_____
_____
Additional Preventive Measures Taken or Contemplated to Minimize Possibility of Recurrence _____
_____
_____
_____
_____

## APPENDIX C

## FIGURES AND SITE PHOTOGRAPHS

7.5 MINUTE SERIES TOPOGRAPHIC MAP OF THE ROLLA QUADRANGLE TAKEN FROM THE USGS WEBSITE IN MARCH, 2011.

SITE LOCATION

OFF SITE MINE (LOCATION OF TK#11)

APPROXIMATE GRAPHIC SCALE

2000 0 1000 2000 4000

1 inch = 2000 ft.

N

PREPARED FOR:
MISSOURI UNIVERSITY OF SCIENCE & TECHNOLOGY

SITE LOCATION
MISSOURI S&T
ROLLA, MO

| No. | DATE | REVISION DESCRIPTION |
|---|---|---|

Weaver Consultants Group

WEAVER CONSULTANTS GROUP
6301 EAST HWY AB
COLUMBIA, MISSOURI 65201
(636)-431-3399
www.wcgrp.com



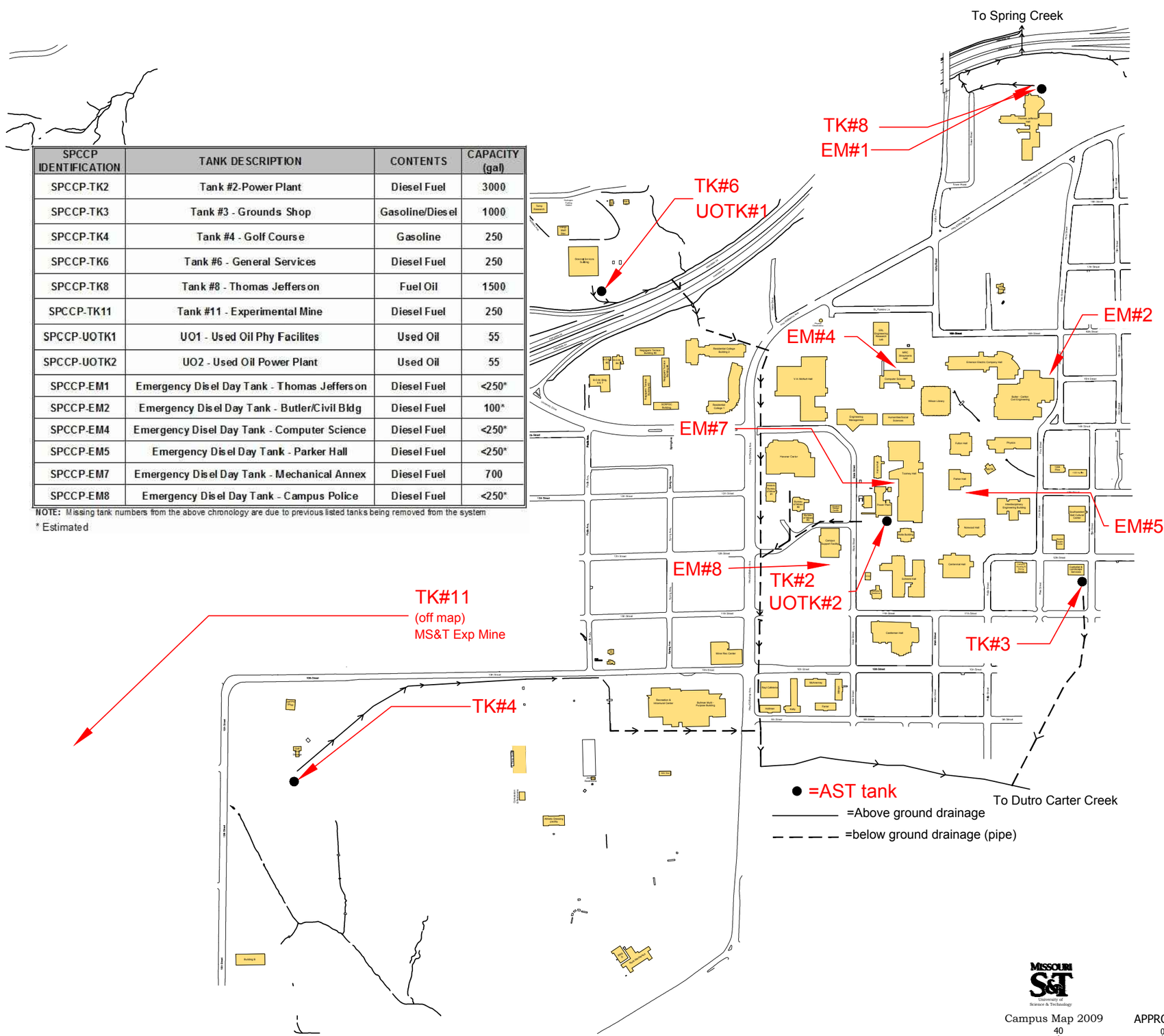
| | |
|---|---|
| DRAWN BY: | DT |
| REVIEWED BY: | DAR |
| DATE: | 3/21/2016 |
| FILE: | 4240-300-10 |
| CAD: | MS&T 2016 SPCC Figure 1.dwg |

SHEET 1 OF 2

| SPCCP IDENTIFICATION | TANK DESCRIPTION | CONTENTS | CAPACITY (gal) |
|---|---|---|---|
| SPCCP-TK2 | Tank #2-Power Plant | Diesel Fuel | 3000 |
| SPCCP-TK3 | Tank #3 - Grounds Shop | Gasoline/Diesel | 1000 |
| SPCCP-TK4 | Tank #4 - Golf Course | Gasoline | 250 |
| SPCCP-TK6 | Tank #6 - General Services | Diesel Fuel | 250 |
| SPCCP-TK8 | Tank #8 - Thomas Jefferson | Fuel Oil | 1500 |
| SPCCP-TK11 | Tank #11 - Experimental Mine | Diesel Fuel | 250 |
| SPCCP-UOTK1 | UO1 - Used Oil Phy Facilites | Used Oil | 55 |
| SPCCP-UOTK2 | UO2 - Used Oil Power Plant | Used Oil | 55 |
| SPCCP-EM1 | Emergency Disel Day Tank - Thomas Jefferson | Diesel Fuel | <250* |
| SPCCP-EM2 | Emergency Disel Day Tank - Butler/Civil Bldg | Diesel Fuel | 100* |
| SPCCP-EM4 | Emergency Disel Day Tank - Computer Science | Diesel Fuel | <250* |
| SPCCP-EM5 | Emergency Disel Day Tank - Parker Hall | Diesel Fuel | <250* |
| SPCCP-EM7 | Emergency Disel Day Tank - Mechanical Annex | Diesel Fuel | 700 |
| SPCCP-EM8 | Emergency Disel Day Tank - Campus Police | Diesel Fuel | <250* |

**NOTE:** Missing tank numbers from the above chronology are due to previous listed tanks being removed from the system

* Estimated




Campus Map 2009

APPROXIMATE GRAPHIC SCALE

40 0 20 40 80

1 inch = 40 ft.

N

PREPARED FOR:
MISSOURI UNIVERSITY OF SCIENCE & TECHNOLOGY

SITE LAYOUT
MISSOURI S&T
ROLLA, MO

| No. | DATE | REVISION DESCRIPTION |
|---|---|---|

Weaver Consultants Group


WEAVER CONSULTANTS GROUP
6301 EAST HWY AB
COLUMBIA, MISSOURI 65201
(636)-431-3399
www.wcgrp.com




| | |
|---|---|
| DRAWN BY: | DT |
| REVIEWED BY: | DAR |
| DATE: | 3/21/2016 |
| FILE: | 4840-300-10 |
| CAD: | MS&T 2016 SPCC Figure 2 Campus Layout.dwg |

SHEET 2 OF 2



I:\PROJECTS\MS&T\2016 SPCCP\MS&T 2016 SPCC Figure 2 Campus Layout.dwg,dthoenen;May 24, 2016

# APPENDIX D

# OIL TRANSFER PROCEDURES

[Code of Federal Regulations]
[Title 49, Volume 2, Parts 100 to 185]
[Revised as of October 1, 2000]
From the U.S. Government Printing Office via GPO Access
[CITE: 49CFR177.800]



TITLE 49--TRANSPORTATION

CHAPTER I--RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

PART 177--CARRIAGE BY PUBLIC HIGHWAY--Table of Contents

Subpart A--General Information and Regulations

Sec. 177.800 Purpose and scope of this part and responsibility for compliance and

(a) Purpose and scope. This part prescribes requirements, in addition to those contained in parts 171, 172, 173, 178 and 180 of this subchapter, that are applicable to the acceptance and transportation of hazardous materials by private, common, or contract carriers by motor vehicle.

(b) Responsibility for compliance. Unless this subchapter specifically provides that another person shall perform a particular duty, each carrier, including a connecting carrier, shall perform the duties specified and comply with all applicable requirements in this part and shall ensure its hazmat employees receive training in relation thereto.

(c) Responsibility for training. A carrier may not transport a hazardous material by motor vehicle unless each of its hazmat employees involved in that transportation is trained as required by this part and subpart H of part 172 of this subchapter.

(d) No unnecessary delay in movement of shipments. All shipments of hazardous materials must be transported without unnecessary delay, from and including the time of commencement of the loading of the hazardous material until its final unloading at destination.

[Amdt. 177-79, 57 FR 20954, May 15, 1992, as amended by Amdt.177-86, 61 FR 18933, Apr. 29, 1996]

TITLE 49--TRANSPORTATION

CHAPTER I--RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

PART 177--CARRIAGE BY PUBLIC HIGHWAY--Table of Contents

Subpart B--Loading and Unloading

Sec. 177.834 General requirements.

Note: For prohibited loading and storage of hazardous materials, see Sec. 177.848.

(a) Packages secured in a vehicle. Any tank, barrel, drum, cylinder, or other packaging, not permanently attached to a motor vehicle, which contains any Class 3 (flammable liquid), Class 2 (gases), Class 8 (corrosive), Division 6.1 (poisonous), or Class 7 (radioactive) material must be secured against movement within the vehicle on which it is being transported, under conditions normally incident to transportation.

(b) [Reserved]

(c) No smoking while loading or unloading. Smoking on or about any motor vehicle while loading or unloading any Class 1 (explosive), Class 3 (flammable liquid), Class 4 (flammable solid), Class 5 (oxidizing), or Division 2.1 (flammable gas) materials is forbidden.

(d) Keep fire away, loading and unloading. Extreme care shall be taken in the loading or unloading of any Class 1 (explosive), Class 3 (flammable liquid),



Class 4 (flammable solid), Class 5 (oxidizing), or Division 2.1 (flammable gas) materials into or from any motor vehicle to keep fire away and to prevent persons in the vicinity from smoking, lighting matches, or carrying any flame or lighted cigar, pipe, or cigarette.

(e) Handbrake set while loading and unloading. No hazardous material shall be loaded into or on, or unloaded from, any motor vehicle unless the handbrake be securely set and all other reasonable precautions be taken to prevent motion of the motor vehicle during such loading or unloading process.

(f) Use of tools, loading and unloading. No tools which are likely to damage the effectiveness of the closure of any package or other container, or likely adversely to affect such package or container, shall be used for the loading or unloading of any Class 1 (explosive) material or other dangerous article.

(g) Prevent relative motion between containers. Containers of Class 1 (explosive), Class 3 (flammable liquid), Class 4 (flammable solid), Class 5 (oxidizing), Class 8 (corrosive), Class 2 (gases) and Division 6.1 (poisonous) materials, must be so braced as to prevent motion thereof relative to the vehicle while in transit. Containers having valves or other fittings must be so loaded that there will be the minimum likelihood of damage thereto during transportation.

(h) Precautions concerning containers in transit; fueling road units. Reasonable care should be taken to prevent undue rise in

temperature of containers and their contents during transit. There must be no tampering with such container or the contents thereof nor any discharge of the contents of any container between point of origin and point of billed destination. Discharge of contents of any container, other than a cargo tank or IM portable tank, must not be made prior to removal from the motor vehicle. Nothing contained in this paragraph shall be so construed as to prohibit the fueling of machinery or vehicles used in road construction or maintenance.

(i) Attendance requirements. (1) Loading. A cargo tank must be attended by a qualified person at all times when it is being loaded. The person who is responsible for loading the cargo tank is also responsible for ensuring that it is so attended.

(2) Unloading. A motor carrier who transports hazardous materials by a cargo tank must ensure that the cargo tank is attended by a qualified person at all times during unloading. However, the carrier's obligation to ensure attendance during unloading ceases when:

(i) The carrier's obligation for transporting the materials is fulfilled;

(ii) The cargo tank has been placed upon the consignee's premises; and

(iii) The motive power has been removed from the cargo tank and removed from the premises.

(3) Except for unloading operations subject to Secs. 177.837(d), 177.840(p), and 177.840(q), a qualified person ``attends'' the loading or unloading of a cargo tank if, throughout the process, he is alert and is within 7.62 meters (25 feet) of the cargo tank. The qualified person attending the unloading of a cargo tank must have an unobstructed view of the cargo tank and delivery hose to the maximum extent practicable during the unloading operation.

(4) A person is ``qualified'' if he has been made aware of the nature of the hazardous material which is to be loaded or unloaded, he has been instructed on the procedures to be followed in emergencies, he is authorized to move the cargo tank, and he has the means to do so.

(j) Manholes and valves closed. A person may not drive a cargo tank and a motor carrier may not permit a person to drive a cargo tank motor vehicle containing a hazardous material regardless of quantity unless:

(1) All manhole closures are closed and secured; and

(2) All valves and other closures in liquid discharge systems are closed and free of leaks.

(k) [Reserved]

(l) Use of cargo heaters when transporting certain hazardous material. Transportation includes loading, carrying, and unloading.

(1) When transporting Class 1 (explosive) materials. A motor vehicle equipped with a cargo heater of any type may transport Class 1 (explosive) materials only if the cargo heater is

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rendered inoperable by: (i) Draining or removing the cargo heater fuel tank; and (ii) disconnecting the heater's power source.

(2) When transporting certain flammable material--(i) Use of combustion cargo heaters. A motor vehicle equipped with a combustion cargo heater may be used to transport Class 3 (flammable liquid) or Division 2.1 (flammable gas) materials only if each of the following requirements are met:

(A) It is a catalytic heater.

(B) The heater's surface temperature cannot exceed 54 deg.C (130 deg.F)--either on a thermostatically controlled heater or on a heater without thermostatic control when the outside or ambient temperature is 16 deg.C (61 deg.F) or less.

(C) The heater is not ignited in a loaded vehicle.

(D) There is no flame, either on the catalyst or anywhere in the heater.

(E) The manufacturer has certified that the heater meets the

requirements under paragraph (1)(2)(i) of this section by permanently marking the heater ``MEETS DOT REQUIREMENTS FOR CATALYTIC HEATERS USED WITH FLAMMABLE LIQUID AND GAS.''

(F) The heater is also marked ``DO NOT LOAD INTO OR USE IN CARGO COMPARTMENTS CONTAINING FLAMMABLE LIQUID OR GAS IF FLAME IS VISIBLE ON CATALYST OR IN HEATER.''

(G) Heater requirements under Sec. 393.77 of this title are complied with.

(ii) Effective date for combustion heater requirements. The requirements under paragraph (1)(2)(i) of this section govern as follows:

(A) Use of a heater manufactured after November 14, 1975, is governed by every requirement under (1)(2)(i) of this section;

(B) Use of a heater manufactured before November 15, 1975, is governed only by the requirements under (1)(2)(i) (A), (C), (D), (F) and (G) of this section until October 1, 1976; and

(C) Use of any heater after September 30, 1976, is governed by every requirement under paragraph (1)(2)(i) of this section.

(iii) Restrictions on automatic cargo-space-heating temperature control devices. Restrictions on these devices have two dimensions: Restrictions upon use and restrictions which apply when the device must not be used.

(A) Use restrictions. An automatic cargo-space-heating temperature control device may be used when transporting Class 3 (flammable liquid) or Division 2.1 (flammable gas) materials only if each of the following requirements is met:

(1) Electrical apparatus in the cargo compartment is nonsparking or explosion proof.

(2) There is no combustion apparatus in the cargo compartment.

(3) There is no connection for return of air from the cargo compartment to the combustion apparatus.

(4) The heating system will not heat any part of the cargo to more than 54 deg.C (129 deg.F).

(5) Heater requirements under Sec. 393.77 of this title are complied with.

(B) Protection against use. Class 3 (flammable liquid) or Division 2.1 (flammable gas) materials may be transported by a vehicle, which is equipped with an automatic cargo-space-heating temperature control device that does not meet each requirement of paragraph (1)(2)(iii)(A) of this section, only if the device is first rendered inoperable, as follows:

(1) Each cargo heater fuel tank, if other than LPG, must be emptied or removed.

(2) Each LPG fuel tank for automatic temperature control equipment must have its discharge valve closed and its fuel feed line disconnected.

(m) Tanks constructed and maintained in compliance with Spec. 106A or 110A (Secs. 179.300, 179.301 of this subchapter) that are authorized for the shipment of hazardous materials by highway in part 173 of this subchapter must be carried in accordance with the following requirements:

(1) Tanks must be securely chocked or clamped on vehicles to prevent any shifting.

(2) Equipment suitable for handling a tank must be provided at any point where a tank is to be loaded upon or removed from a vehicle.

(3) No more than two cargo carrying vehicles may be in the same combination of vehicles.

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(4) Compliance with Secs. 174.200 and 174.204 of this subchapter for combination rail freight, highway shipments and for trailer-on-flat-car service is required.

(n) Specification 56, 57, IM 101, and IM 102 portable tanks, when

loaded, may not be stacked on each other nor placed under other freight during transportation by motor vehicle.

(o) Unloading of IM portable tanks. An IM portable tank may be unloaded while remaining on a transport vehicle with the power unit attached if the tank meets the outlet requirements in Sec. 178.345-11 of this subchapter and the tank is attended by a qualified person during the unloading in accordance with the requirements in paragraph (i) of this section.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967]

Editorial Note: For Federal Register citations affecting Sec. 177.834, see the List of CFR Sections Affected appearing in the Finding Aids section of this volume.

[Code of Federal Regulations]
[Title 49, Volume 2, Parts 100 to 185]
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TITLE 49--TRANSPORTATION

CHAPTER I--RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

PART 177--CARRIAGE BY PUBLIC HIGHWAY--Table of Contents

Subpart B--Loading and Unloading

Sec. 177.837 Class 3 (flammable liquid) materials.

(See also Sec. 177.834 (a) to (j).)

(a) Engine stopped. Unless the engine of a cargo tank motor vehicle is to be used for the operation of a pump, no Class 3 material shall be loaded into, or on, or unloaded from any cargo tank motor vehicle while the engine is running.

(b) Bonding and grounding containers other than cargo tanks prior to and during transfer of lading. For containers which are not in metallic contact with each other, either metallic bonds or ground conductors shall be provided for the neutralization of possible static charges prior to and during transfers of Class 3 (flammable liquid) materials between such containers. Such bonding shall be made by first connecting an electric conductor to the container to be filled and subsequently connecting the conductor to the container from which the liquid is to come, and not in any other order. To provide against ignition of vapors by discharge of static electricity, the latter connection shall be made at a point well removed from the opening from which the Class 3 (flammable liquid) material is to be discharged.

(c) Bonding and grounding cargo tanks before and during transfer of lading. (1) When a cargo tank is loaded through an open filling hole, one end of a bond wire shall be connected to the stationary system piping or integrally connected steel framing, and the other end to the shell of the cargo tank to provide a continuous electrical connection. (If bonding is to the framing, it is essential that piping and framing be electrically interconnected.) This connection must be made before any filling hole is opened, and must remain in place until after the last filling hole has been closed. Additional bond wires are not needed around All-Metal flexible or swivel joints, but are required for nonmetallic flexible connections in the stationary system piping. When a cargo tank is unloaded by a suction-piping system through an open filling hole of the cargo tank, electrical continuity shall be maintained from cargo tank to receiving tank.

(2) When a cargo tank is loaded or unloaded through a vapor-tight (not open hole) top or bottom connection, so that there is no release of vapor at a point where a spark could occur, bonding or grounding is not required. Contact of the closed connection must be made before flow starts and must not be broken until after the flow is completed.

(3) Bonding or grounding is not required when a cargo tank is unloaded through a nonvapor-tight connection into a stationary tank provided the metallic filling connection is maintained in contact with the filling hole.

(d) Unloading combustible liquids. For a cargo tank unloading a material meeting the definition for combustible liquid in Sec. 173.150(f) of this subchapter, the qualified person attending the unloading operation must remain within 45.72 meters (150 feet) of the

cargo tank and 7.62 meters (25 feet) of the delivery hose and must observe both the cargo tank and the receiving container at least once every five minutes during unloading operations that take more than five minutes to complete.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967]

Editorial Note: For Federal Register citations affecting Sec. 177.837, see the List of CFR Sections Affected appearing in the Finding Aids section of this volume.

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TITLE 49--TRANSPORTATION

CHAPTER I--RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

PART 177--CARRIAGE BY PUBLIC HIGHWAY--Table of Contents

Subpart B--Loading and Unloading

Sec. 177.843 Contamination of vehicles.

(a) Each motor vehicle used for transporting Class 7 (radioactive) materials under exclusive use conditions in accordance with Sec. 173.427(b)(3) or (c) or Sec. 173.443(c) of this subchapter must be surveyed with radiation detection instruments after each use. A vehicle may not be returned to service until the radiation dose rate at every accessible surface is 0.005 mSv per hour (0.5 mrem per hour) or less and the removable (non-fixed) radioactive surface contamination is not greater than the level prescribed in Sec. 173.443(a) of this subchapter.

(b) This section does not apply to any vehicle used solely for transporting Class 7 (radioactive) material if a survey of the interior surface shows that the radiation dose rate does not exceed 0.1 mSv per hour (10 mrem per hour) at the interior surface or 0.02 mSv per hour (2 mrem per hour) at 1 meter (3.3 feet) from any interior surface. These vehicles must be stenciled with the words ``For Radioactive Materials Use Only'' in lettering at least 7.6 centimeters (3 inches) high in a conspicuous place, on both sides of the exterior of the vehicle. These vehicles must be kept closed at all times other than loading and unloading.

(c) In case of fire, accident, breakage, or unusual delay involving shipments of Class 7 (radioactive) material, see Secs. 171.15, 171.16 and 177.854 of this subchapter.

[Amdt. 177-3, 33 FR 14933, Oct. 4, 1968, as amended by Amdt. 177-35, 41 FR 16131, Apr. 15, 1976; Amdt. 177-57, 48 FR 10247, Mar. 10, 1983; Amdt. 177-78, 55 FR 52712, Dec. 21, 1990; Amdt. 177-85, 60 FR 50335, Sept. 28, 1995; 63 FR 52850, Oct. 1, 1998; 65 FR 58631, Sept. 29, 2000]

# Spill Prevention, Control, and Countermeasure Plan
# Missouri University of Science & Technology
# February 2016

## Oil Loading/Unloading Procedures for Outside Personnel

To prevent a discharge of oil substances to the environment, outside personnel entering this facility to perform a transfer of an oil substance are to comply with the following procedures:

1. Use caution when driving to avoid damage to containment walls, tanks, or piping.
2. Inspect tanks, fittings, and liquid levels prior to filling.
3. Place drip pans under all pump hose fittings prior to loading/unloading.
4. Set brakes and block truck wheels prior to loading/unloading.
5. Remain with the vehicle at all times during the loading/unloading process.
6. After loading/unloading, tighten all valves, drain all hoses, remove unloading hoses, and tighten manways.
7. Verify that all drain valves are closed before disconnecting loading/unloading line to storage tank.
8. Inspect vehicle prior to departure to ensure that all loading/unloading lines have been disconnected and vent valves are closed.
9. Check the oil discharge containment barrel and drip pans to see if they are in place. Properly dispose of any oil and/or water contained within the barrel or pan.
10. Immediately report any leakage or spillage to the SPCC Coordinator or other facility personnel.

*I have read the above procedures and agree to comply with them.*

Name:_____ Signature:_____

Date:_____ Time:_____

**SPCC Coordinator**:

**Facility Contact:**

# APPENDIX E

# OIL RELEASE RESPONSE PROCEDURES

# PETROLEUM RELEASE RESPONSE PROCEDURES

## 1. Discovery of a Release

The person discovering a release of material from a container, tank, or operating equipment should initiate certain actions immediately.

a. Extinguish any sources of ignition. Until the material is identified as nonflammable and non-combustible, all potential sources of ignition in the area should be removed. Vehicles should be removed. Vehicles should be turned off. If the ignition source is stationary, attempt to move spilled material away from the ignition source. Avoid sparks and movement creating static electricity.

b. Attempt to stop the release at its source. **Assure that no danger to human health exists first.** Simple procedures (turning valves, plugging leaks, etc.) may be attempted by the discoverer if there is no health or safety hazard and there is a reasonable certainty of the origin of the leak. All efforts to control leaks must be under the supervision of the SPCC Coordinator or Assistant SPCC Coordinator. (This policy applies to the handling of petroleum-based products as described in this Plan.) No facility personnel shall come into contact with unknown or hazardous substances illegally brought into the facility.

c. Initiate Spill Notification and Reporting Procedures

i) Determine if Immediate Threat to Human Life Exists. If there is an immediate threat to human life (e.g. a fire in progress or fumes overcoming workers), an immediate alarm should be sounded to evacuate the building, and the fire department should be called. Request the assistance of the fire department's hazardous materials response team if an uncontrollable spill has occurred and/or if the spill has migrated beyond the facility site boundaries.

ii) Report the incident immediately to the Supervisor and the SPCC Coordinator. The SPCC Coordinator will initiate notification procedures.

## 2. Containment of a Release

All of the materials at the facility can be safely contained within secondary containment structures if a release occurs. However, if material is released outside the containment areas, it is critical that the material is accurately identified and

appropriate control measures are taken in the safest possible manner. Consult the Material Safety Data Sheet (MSDS) file located at the facility office. MSDS' for petroleum products used at the facility are also referenced in Appendix G.

a. Attempt to stop the release at the source. If the source of the release has not been found, if special protective equipment is necessary to approach the release area, or if assistance is required to stop the release, the fire department should be called to halt the discharge at its source. Facility personnel should be available to guide the fire department's efforts.

b. Contain the material released into the environment. Following proper safety procedures, the spill should be contained by absorbent materials and dikes using shovels and brooms. Consult applicable material safety data sheets for material compatibility, safety, and environmental precautions.

c. Continue the notification procedure. The Coordinator shall perform immediate notification as appropriate. Obtain outside contractors to clean up the spill, if necessary.

d. Additionally, reference Initial Release Response Measures, 10 CSR 20-15.020 (7), located in Appendix H.

**3. Spill Clean-up**

Appropriate personal protective equipment and clean up procedures can be found on material safety data sheets. Care must be taken when cleaning up spills to minimize the generation of waste. The Environmental and Health Manager can provide assistance for the issues discussed below. The Environmental and Health Manager must be made aware of all spill clean-ups.

a. Recover or clean-up the material spilled. As much material as possible should be recovered and reused where appropriate. Material which cannot be reused must be declared waste. Liquids absorbed by solid materials shall be shoveled into open top, 55-gallon drums, or if the size of the spill warrants, into a roll-off container(s). When drums are filled after a clean-up, the drum lids shall be secured and the drums shall be appropriately labeled (or relabeled) identifying the substance(s), the date of the spill/clean-up, and the facility name and location. Combining non-compatible materials can cause potentially dangerous chemical and/or physical reactions or may severely limit disposal options. Compatibility information can be found on material safety data sheets.

b. Clean-up of the spill area. Surfaces that are contaminated by the release shall be cleaned by the use of an appropriate substance or water. Clean-up water must be minimized, contained, and properly disposed. Occasionally, porous materials (such as wood, soil, or oil-dry) may be contaminated; such materials will require special handling for disposal.

c. Decontaminate tools and equipment used in clean-up. Even if dedicated to clean-up efforts, tools and equipment that have been used must be decontaminated before replacing them in the spill control kit.

**4. Post Clean-up Procedures**

a. Reports to outside agencies. The SPCC Coordinator shall determine if a reportable spill has occurred (see Section VI A). A confirming written report shall be sent to all government agencies and emergency planning committees which received a verbal notification. Specific items which must be reported in writing to the Missouri Department of Natural Resources may be found in 10 CSR 20-15.020(8)(D), provided in Appendix H.

If the facility has a single discharge greater than 1,000 gallons or two discharges each greater than 42 gallons in a 12-month period the information requested in the "Report to EPA Region VII Administrator" found in Appendix B must be submitted to the Regional Administrator within 60 days of the discharge(s). A copy of the information reported to the EPA Administrator must also be provided to the Missouri Department of Natural Resources. [112.4]

b. Arrange for proper disposal of any waste materials. The waste material from the clean-up must be characterized and approved for disposal by the Environmental Manager. Representative sampling and analysis may be necessary to make this determination. In any case, the SPCC Coordinator shall assure that the waste is transported and disposed of in compliance with applicable laws and regulations. When manifests are needed, the SPCC Coordinator shall see that they are prepared and, when appropriate, returned in the allotted time by the disposal site.

c. Determine if free product removal activities are required. Implement activities as needed. Refer to Free Product Removal, 10 CSR 20-15.020 (8), located in Appendix H.

d. Review the contingency and spill plans. Management and operating personnel shall review spill response efforts, notification procedures, and clean-up equipment usage to evaluate their adequacy during the episode. Where deficiencies are found, the plan shall be revised and amended.

## 5. Internal Report

Spills that are regulated per this Plan should be documented using the Incident Report Form (see Appendix B). The SPCC Coordinator shall prepare the report.

## 6. Communications

In case of a fire, spill, or other emergency, paging systems and two-way radios can be used to contact personnel. Telephones are located at the shop office and in the administration building.

## 7. Fire, Spill, and Safety Equipment

Portable fire extinguishers are located throughout the facility, well marked, and easily accessible. Records are kept on all fire equipment in service and regular testing is performed in accordance with established good procedures. A list of fire extinguishers, spill, and safety equipment that are available is included in Appendix I and locations of the fueling areas are shown on Figure 2.

## 8. Liaison with Local Authorities

Copies of this plan should be submitted to the local fire department, police department, and hospital as requested or needed by them. In addition, familiarization sessions shall be held with personnel from these organizations if requested by the organization. It is important that personnel responding to an emergency be familiar with chemicals used, the possibilities for releases of hazardous materials, and the location of the fire equipment such as fire extinguishers, etc.

# PETROLEUM RELEASE RESPONSE PROCEDURES

## 1. Discovery of a Release

The person discovering a release of material from a container, tank, or operating equipment should initiate certain actions immediately.

a. Extinguish any sources of ignition. Until the material is identified as nonflammable and non-combustible, all potential sources of ignition in the area should be removed. Vehicles should be removed. Vehicles should be turned off. If the ignition source is stationary, attempt to move spilled material away from the ignition source. Avoid sparks and movement creating static electricity.

b. Attempt to stop the release at its source. **Assure that no danger to human health exists first.** Simple procedures (turning valves, plugging leaks, etc.) may be attempted by the discoverer if there is no health or safety hazard and there is a reasonable certainty of the origin of the leak. All efforts to control leaks must be under the supervision of the SPCC Coordinator or Assistant SPCC Coordinator. (This policy applies to the handling of petroleum-based products as described in this Plan.) No facility personnel shall come into contact with unknown or hazardous substances illegally brought into the facility.

c. Initiate Spill Notification and Reporting Procedures

i) Determine if Immediate Threat to Human Life Exists. If there is an immediate threat to human life (e.g. a fire in progress or fumes overcoming workers), an immediate alarm should be sounded to evacuate the building, and the fire department should be called. Request the assistance of the fire department's hazardous materials response team if an uncontrollable spill has occurred and/or if the spill has migrated beyond the facility site boundaries.

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appropriate control measures are taken in the safest possible manner. Consult the Material Safety Data Sheet (MSDS) file located at the facility office. MSDS' for petroleum products used at the facility are also referenced in Appendix G.

a. Attempt to stop the release at the source. If the source of the release has not been found, if special protective equipment is necessary to approach the release area, or if assistance is required to stop the release, the fire department should be called to halt the discharge at its source. Facility personnel should be available to guide the fire department's efforts.

b. Contain the material released into the environment. Following proper safety procedures, the spill should be contained by absorbent materials and dikes using shovels and brooms. Consult applicable material safety data sheets for material compatibility, safety, and environmental precautions.

c. Continue the notification procedure. The Coordinator shall perform immediate notification as appropriate. Obtain outside contractors to clean up the spill, if necessary.

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b. Clean-up of the spill area. Surfaces that are contaminated by the release shall be cleaned by the use of an appropriate substance or water. Clean-up water must be minimized, contained, and properly disposed. Occasionally, porous materials (such as wood, soil, or oil-dry) may be contaminated; such materials will require special handling for disposal.

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## APPENDIX F

## SPILL RESPONSE FLOWCHART

# MS&T SPILL RESPONSE FLOWCHART

DISCOVERY OF OIL/FUEL SPILL

**STEP 1**
EXTINGUISH ALL SOURCES OF IGNITION. SHUT OFF ALL VEHICLES IN AREA.

**STEP 2**
ATTEMPT TO STOP RELEASE AT ITS SOURCE.

**STEP 3A**
IS ASSISTANCE OF THE FIRE DEPT NECESSARY TO PROTECT THE PUBLIC

**NO**

**YES**

**STEP 3B**
CALL THE LOCAL FIRE DEPARTMENT

**STEP 3C**
NOTIFY SPCCP COORDINATOR OR SPCCP SPILL COORDINATOR(s) - INITIATE NOTIFICATION.

**STEP 4**
IS RELEASE OUTSIDE OF CONTAINMENT AREAS?

**NO**

**STEP 4a**
RECOVER SPILLED MATERIALS USING ABSORBENTS.

**STEP 4b**
SPCC COORDINATOR WILL ARRANGE FOR PROPER DISPOSAL OF WASTE MATERIALS.

**STEP 4c**
SPCC COORDINATOR WILL SUBMIT INCIDENT REPORT TO MDNR, IF NECESSARY.

**YES**

**STEP 5**
CONTAIN MATERIAL WITH SPILL ABOSORBENT AND/OR DIRT TO PREVENT FURTHER SPREADING INTO THE ENVIRONMENT. CONSULT MSDS'S FOR SAFETY AND ENVIRONMENTAL PRECAUTIONS.

**STEP 6**
SPCC COORDINATOR CONTINUES NOTIFICATION PROCEDURES

**STEP 7**
DOES THE POTENTIAL EXIST FOR SPILLED MATERIALS TO ENTER NEARBY SURFACE WATER DRAINAGE?

**NO**

**STEP 7a**
RECOVER SPILLED MATERIALS AND ABSORBENTS.

**STEP 7b**
SPCC COORDINATOR WILL ARRANGE FOR PROPER DISPOSAL OF WASTE MATERIALS.

**STEP 7c**
SPCC COORDINATOR WILL SUBMIT INCIDENT REPORT, IF NECESSARY.

**YES**

**STEP 8**
PLACE CONTAINMENT BOOMS, OR OTHER SUITABLE ABSORBENT MATERIALS DOWNSTREAM OF SPILL LOCATION.

**STEP 9**
IS THE FLOW OF SPILLED MATERIALS CONTAINED AND HALTED WITH SPILL CONTROL MATERIALS ON HAND?

**NO**

**STEP 10**
SPCC COORDINATOR WILL NOTIFY PROPER AUTHORITIES AND ARRANGE FOR HAZARDOUS MATERIALS RESPONSE CONTRACTORS TO INTERVENE, IF NECESSARY.

**STEP 11**
STAY ON HAND TO DIRECT RESPONSE CREWS TO LOCATION OF SPILL. IF POSSIBLE, TRACK SPREAD OF SPILLED MATERIALS OFF-SITE.

**STEP 12**
SPCC COORDINATOR WILL ARRANGE FOR PROPER DISPOSAL OF WASTE MATERIALS.

**STEP 13**
SPCC COORDINATOR WILL SUBMIT INCIDENT REPORT TO MDNR

**YES**

**STEP 9a**
RECOVER SPILLED MATERIALS AND ABSORBENTS.

**STEP 9b**
SPCC COORDINATOR WILL ARRANGE FOR PROPER DISPOSAL OF WASTE MATERIALS.

**STEP 9c**
SPCC COORDINATOR WILL SUBMIT INCIDENT REPORT IF NECESSARY

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## APPENDIX G

## MSDS

MSDS for relevant MS&T chemicals can be electronically referenced at the campus's MSDS website: http://ehs.mst.edu/msds/MSDS.html

**APPENDIX H**

**10 CSR 26-15.020**

# Title 10—DEPARTMENT OF NATURAL RESOURCES
## Division 2[*0*]6—[*Clean Water Commission*]Petroleum and Hazardous Substance Storage Tanks
## Chapter [*15*]5—Aboveground Storage Tanks—Release Response

### 10 CSR [*20-15*]26-5.020 Release Reporting and Initial Release Response Measures

*PURPOSE: The Missouri Clean Water Commission is responsible for adopting rules necessary to prevent, control and abate potential discharge of contaminants to the waters of the state. Releases of petroleum and other regulated substances from aboveground storage tanks and associated piping, primarily from ASTs located at service stations, marinas, bulk plants, and fleet fueling facilities, have been documented throughout the state. While the applicable Department of Agriculture regulations focus on prevention of such releases, there are currently no specific requirements for release response measures that must be taken to protect the environment and the waters of the state. The commission has determined release response measures to be necessary because, once a release has occurred, the nature of the contaminants is such that, without appropriate release response measures, there is a substantial threat that the discharged contaminants will pollute the waters of the state. The intent of the release response measures required by the rules in this chapter is to prevent any discharged contaminants from polluting the waters of the state. Specifically, this rule establishes procedures for reporting suspected releases, responding to releases and the subsequent steps necessary to ensure that a release is properly investigated and cleaned up. This rule also describes the first steps that shall be taken to abate or stop the spread of contaminants, mitigate and determine the extent of the release, and requires spilled free product to be collected and removed from the environment immediately. The rule further establishes requirements for verification of a release, and for conducting off-site investigations following reported or suspected releases if off-site migration is suspected.*

(1) Reporting Releases and Suspected Releases. Unless otherwise provided in this rule, owners and operators of aboveground storage tanks (ASTs) shall report any suspected or confirmed release of a regulated substance to the Department of Natural Resources' Emergency Spill Line at (573) 634-2436 at the earliest practical moment within twenty-four (24) hours of discovery of the suspected or confirmed release. Immediately upon the discovery or observation of regulated substances on the ground surface or in groundwater, surface water, or subsurface soils, the owner or operator shall complete the following:

(A) The initial release response measures described in section (7) of this rule;

(B) If necessary, the free product recovery measures described in section (8) of this rule.

(2) System Test. For any suspected release that has not been confirmed by discovery or observation of regulated substances on the ground surface or in groundwater, surface water, or subsurface soils, the owner or operator of the AST shall take measures as necessary to determine whether a leak exists in either any portion of the tank or piping that routinely contains product or in the attached delivery piping, or in both. Measures that satisfy this requirement include, but are not limited to, hydrostatic testing of the AST

system in accordance with API Standard 650, F-4 to F-7.6, air testing of the AST system, or a visual inspection of the tank bottom.

(A) Upon confirmation of a release, the owner or operator of the AST shall initiate the initial release response actions described in section (7) of this rule.

(B) If it is determined that no release has occurred, and there is no other indication of regulated substances on the ground surface or in groundwater, surface water, or subsurface soil, further investigation is not required.

(3) Exceptions. Following are exceptions to the requirement to report any suspected or confirmed release of a regulated substance to the environment.

(A) No further action is necessary for any release or spill of twenty-five (25) gallons or less, provided the release or spill is immediately contained and cleaned up.

(B) No further action is necessary for any release or spill that is completely contained within secondary containment structures, provided the secondary containment structure is functionally liquid-tight, and has the ability to contain any released product until the release or spill is cleaned up.

(4) Presumption of Release. A release is presumed upon discovery or observation by any person of the presence of regulated substances on the ground surface or in groundwater, surface water, or subsurface soil, or any indication that a release to the environment has occurred at the AST site or in the surrounding area. Examples include the presence of free product or vapors in soils, basements, sewer lines, utility lines and nearby surface or drinking water.

(5) Investigation Due To Off-Site Impacts. The department may require an owner or operator of an AST to measure for the presence of contamination as described in subsection (7)(E) of this rule when, in the judgment of the department, it is necessary to establish whether an AST is the source of off-site contamination. The department's judgment shall be based upon documented physical evidence of a release at the AST site, including, but not limited to, the discovery of free product or vapors in soils, basements, sewer lines, utility lines or nearby surface waters or drinking water supplies.

(6) Investigation Due to Closure.

(A) Upon closure of an AST in accordance with applicable rules of the Department of Agriculture, the department may require an owner or operator of an AST to measure for the presence of contamination as described in subsection (7)(E) of this rule when, in the judgment of the department, it is necessary to establish whether there has previously been a release at the former AST site or to establish whether potential contamination from any buried piping left in place poses a current or potential threat to cause pollution to waters of the state. The department's judgment shall be based upon documented physical evidence of a release at the AST site, including, but not limited to, the discovery of free product or vapors in soils, basements, sewer lines, utility lines or nearby surface waters or drinking water supplies.

(B) The department may require the owner or operator of an AST permanently closed prior to the effective date of this rule to measure for the presence of contamination at the former tank site if, in the judgment of the department, releases from the AST and/or its buried piping pose a current or potential threat to cause pollution to the waters of the state. The department's judgment shall be based upon documented physical evidence of a release at the former AST site, including, but not limited to, the discovery of free product or vapors in soils, basements, sewer lines, utility lines or nearby surface waters or drinking water supplies.

(7) Initial Release Response Measures. Owners or operators of ASTs shall:

(A) Remove as much of the regulated substances from the AST as is necessary to prevent further release to the environment;

(B) Visually inspect any released substances and prevent further migration of the release into surrounding soils and groundwater;

(C) Monitor and mitigate any environmental hazards posed by vapors or free product that have migrated from the AST site and entered subsurface structures such as sewers, basements or subsurface utility conduits or trenches;

(D) Remedy hazards posed by excavated or exposed contaminated soils that result from initial release response activities. Any treatment or disposal of contaminated soils shall be in compliance with applicable state and local requirements;

(E) Collect and analyze at least one (1) soil or groundwater sample as necessary to establish the presence of contamination. The sample(s) must be collected in a location where contamination is most likely to be present at the AST site. In selecting the location of the sample(s), the owner or operator shall consider the nature of the stored substance, the type of backfill around the release if outside the secondary containment, or the secondary containment if the secondary containment is not constructed of impermeable material, depth to groundwater, and all other factors appropriate for identifying the presence and source of the release; and

(F) Investigate the site to determine whether free product is present. If free product is present, then free product removal activities shall begin immediately.

(8) Free Product Removal. The owner or operator of the AST shall immediately remove as much free product as practicable. Any actions initiated or required under this section shall be continued until the department determines otherwise, except that changes to free product recovery effects may be instituted without prior approval provided that the department is notified in writing of the intended changes at least five (5) days in advance of the proposed implementation date. The department may modify or deny the request as necessary. Upon discovery of free product, the owner or operator shall, at a minimum:

(A) Remove free product to minimize the spread of contamination into previously uncontaminated zones. The recovery and disposal techniques shall be appropriate to the hydrogeologic conditions at the site. Recovered by-products shall be treated, discharged or disposed of in compliance with applicable local, state and federal regulations;

(B) Use abatement of free product migration as a minimum objective for free product removal;

(C) Handle all flammable products and/or wastes in a safe manner to prevent fires or explosions;

(D) Include information about free product recovery in the report submitted to the department, as required by section (9) of this rule. The report shall provide at least the following information:

1. The name of the person(s) responsible for implementing the free product removal measures;

2. The estimated quantity, type and thickness of free product observed or measured in wells, boreholes and excavations;

3. The type of free product recovery system used;

4. Whether any discharge will take place on-site or off-site during the recovery operation and the location of this discharge;

5. The type of treatment applied to, and the effluent quality expected from, any discharge;

6. The steps that have been or are being taken to obtain necessary permits for any discharge;

7. The quantity and disposition of the recovered free product; and

8. The location and the appearance of the free product; and

(E) Upon completion of the activities required by this section, the owner or operator of the AST shall continue with the initial release response measures described in section (7) of this rule.

(9) Written Report. The owner or operator of the AST shall submit a written report on all activities required by this rule to the department within thirty (30) days of the date of discovery of the release. The report shall demonstrate compliance with all applicable requirements of this rule. Upon request, the department may allow another reasonable period of time for submission of the report. Upon review of this report, the department will determine whether the owner or operator must conduct a site characterization, as described in 10 CSR [ *20-15*]**26-5**.030. If, in the judgment of the department, the information in the report is insufficient to adequately make this determination, the department may request additional information.

*AUTHORITY: sections 319.137 and 644.026, RSMo 2000.* Original rule filed Sept. 13, 2001, effective May 30, 2002.*

**Original authority: 319.137, RSMo 1989, amended 1993, 1995; and 644.026, RSMo 1972, amended 1973, 1987, 1993, 1995, 2000.*

# Title 10—DEPARTMENT OF NATURAL RESOURCES
## Division 2[*0*]6—[*Clean Water Commission*] Petroleum and Hazardous Substance Storage Tanks
## Chapter [*15*]5—Aboveground Storage Tanks—Release Response

### 10 CSR [*20-15*]26-5.030 Site Characterization and Corrective Action

*PURPOSE: The Missouri Clean Water Commission is responsible for adopting rules necessary to prevent, control and abate potential discharge of contaminants to the waters of the state. Releases of petroleum and other regulated substances from aboveground storage tanks and associated piping, primarily from ASTs located at service stations, marinas, bulk plants, and fleet fueling facilities, have been documented throughout the state. While the applicable Department of Agriculture regulations focus on prevention of such releases, there are currently no specific requirements for release response measures that must be taken to protect the environment and the waters of the state. The commission has determined release response measures to be necessary because, once a release has occurred, the nature of the contaminants is such that, without appropriate release response measures, there is a substantial threat that the discharged contaminants will pollute the waters of the state. The intent of the release response measures required by the rules in this chapter is to prevent any discharged contaminants from polluting the waters of the state. Further, this rule specifies the procedures for soil and groundwater investigations or characterization of the release at the site, and lists the requirements for corrective action plans for cleanup of releases from aboveground storage tank sites. In addition, this rule specifies the type of information required to be submitted by the owner or operator to the department, upon completion of these phases of activities.*

(1) Site Characterization.

(A) At the request of the department in response to a release, the owner or operator of an AST shall conduct a site characterization to include a full investigation of the release, the release site and the surrounding area to determine the full extent and location of soils contaminated by the release and the presence and concentrations of contamination in the groundwater if the Initial Release Response Report submitted in compliance with 10 CSR [*20-15*]**26-5**.020 documents any of the following:

1. Contaminated groundwater or surface water above action levels;
2. Contaminated soils above action levels;
3. Presence of free product; or
4. Some other characteristic determined by the department to require further investigation because of its potential to result in pollution of the waters of the state or a potential threat to human health and the environment.

(B) An owner or operator of an AST shall follow a written procedure for conducting the site characterization of the release site. The department's Site Characterization Guidance Document may be used as a written procedure. Other written procedures may be used with prior written approval from the department.

(2) Site Characterization Reporting. A site characterization shall include, at a minimum, information about the site and the nature of the release. The site characterization report containing this information shall be submitted to the department within forty-five (45) days of date of the department's request to conduct site characterization in subsection

(1)(A) of this rule. The department may approve an alternative reporting schedule. This information shall include, but is not limited to, the following:

(A) Data regarding the type of product released and an estimate of the quantity;

(B) Data from available sources or site investigations concerning the following factors:

1. Surrounding land use;

2. The hydrogeologic characteristics of the site and the surrounding area;

3. Use and approximate locations of wells affected or potentially affected by the release;

4. Surface and subsurface soil conditions at the site and the immediate surrounding area;

5. Locations of subsurface utilities;

6. The proximity, quality, and current and potential future uses of nearby surface and ground water; and

7. The potential effects of residual contamination on nearby surface and ground water; and

8. Any additional relevant information assembled while carrying out the steps required in 10 CSR [*20-15*]**26-5**.020 and this rule.

(3) Corrective Action. Based upon the results of the site characterization, the owner or operator of the AST may be required to submit to the department a plan for corrective action that provides for adequate protection of human health and the environment, as determined by the department. The owner or operator of the AST shall modify the plan as necessary to meet this standard.

(A) If a plan is required, the owner or operator shall submit the plan within forty-five (45) days or according to a schedule and format established by the department.

(B) Even if not requested by the department, an owner or operator of an AST may elect to submit a corrective action plan.

(C) Once a plan has been submitted, the department will review the corrective action plan to ensure that implementation of the plan will adequately protect human health and the environment. In making this determination, the department will consider the factors listed in subsection (2)(B) of this rule.

(D) Upon written approval of the plan, or as directed by the department, the owner or operator of the AST shall implement the plan, including any modifications to the plan made by the department. The owner or operator shall evaluate and report the results of implementing the plan in accordance with a schedule and in a form established by the department.

(E) An owner or operator of an AST may begin remediation of soil and groundwater prior to approval of the corrective action plan provided they:

1. Notify the department in writing of their intention to begin cleanup;

2. Comply with any conditions imposed by the department, including cessation of remedial activities or mitigation of adverse consequences from cleanup activities; and

3. Incorporate all self-initiated remedial measures into the corrective action plan submitted to the department for approval.

(F) An owner or operator of an AST shall follow a written procedure for establishing a correctiv e action plan. The department's Corrective Action Guidance Document may be used as a written procedur e. Other written procedures m ay be used with prior written approval from the department.

*AUTHORITY: sections 319.137 and 644.026, RSMo 2000.* Original rule filed Sept. 13, 2001, effective May 30, 2002.*

**Original authority: 319.137, RSMo 1989, amended 1993, 1995; and 644.026, RSMo 1972, amended 1973, 1987, 1993, 1995, 2000.*

# APPENDIX I

## FIRE SPILL AND SAFETY EQUIPMENT

**MS&T SPCCP**
**FIRE, SPILL, AND SAFETY EQUIPMENT**

The following safety equipment is available in order to protect employees and provide containment of contaminants in the event of a spill:

A) SPILL KITS

Spill Kits are located in tanker trucks and within the warehouse.

B) FIRE EXTINGUISHERS

Fire Extinguishers are located throughout the site buildings, and on all trucks.

D) GRANULAR ABSORBENT

Granular absorbent is located inside the warehouse along the south wall.

E) EYE WASHING STATIONS

An eye washing stations are located throughout the site buildings.

F) EQUIPMENT CLEANING STAIONS

A station is located along the north wall of the maintenance shop for washing tools and equipment that may contain petroleum residues.