

ADEM Guidance for Revisions to Alabama UST Regulations, Effective December 8, 2017

October 13, 2015, EPA finalized the first significant changes to the federal UST regulations since 1988. All states will have to update their UST regulations to be “no less protective” than EPA’s regulations. Alabama’s revised UST regulations were final December 8, 2017. These regulations are equivalent to the EPA requirements.

EPA requires states to implement two of these changes immediately when a state’s regulations become final: 1) The requirement to demonstrate UST components are compatible with ethanol blends greater than 10% and diesel blends with greater than 20% biodiesel; and 2) The prohibition of ball float valves from being used in new installations or replacements. Implementation of the other changes will take effect in Alabama beginning the dates indicated in each section below.

Alabama has already made many of the required changes to its regulations as required earlier by the Energy Policy Act of 2005. These include secondary containment for newly installed UST systems, spill basin testing, delivery prohibition, and operator training. There will be only very minor changes relative to these existing rules.

The most significant revisions to the Alabama regulations are outlined below.

If you have any questions about these proposed regulations, or any other questions about the revised regulations please contact us at 334 270-5655.

Walkthrough Inspections

By October 13, 2018, owners and operators must conduct walkthrough inspections at their UST facility. The walkthrough inspection must meet the following:

Monthly Walkthrough Inspections

Every 30 days, check your spill prevention equipment and release detection equipment. When conducting the monthly walkthrough inspection, check the following:

- **Spill prevention equipment**
 - Check for damage.
 - Remove any liquid or debris.
 - Check for and remove any obstructions in the fill pipe.
 - Check the fill cap to make sure it is securely on the fill pipe.
 - If you have double walled spill prevention equipment with interstitial monitoring check for a leak in the interstitial space. (*Note – if you have double walled spill prevention equipment and maintain records of checking for leaks in*

the spill prevention equipment interstitial areas every month, you are not required to test them every three years.)

- **Release detection equipment**

- Ensure it is operating with no alarms or other unusual operating conditions present.
- Ensure records of release detection testing are reviewed, passing and current.

Annual Walkthrough Inspections

Annually, check your containment sumps and any hand held release detection equipment. When conducting the annual walkthrough inspection, check the following:

- **Containment sumps** (submersible pump, intermediate, under dispenser)
 - Visually check for damage, leaks into the containment area, or releases to the environment.
 - Remove any liquid or debris.
 - For double walled containment sumps with interstitial monitoring, check for a leak in the interstitial area.
- **Hand held release detection equipment** (for example tank gauge sticks or groundwater bailers)
 - Check for operability and serviceability.

Owners and operators must maintain the most recent walkthrough inspection records for one year after the date of the inspection. Records need to include a list of each area checked, whether each area checked was acceptable or needed action taken, and a description of any actions taken to correct issues.

Overfill Prevention Equipment Inspections

Beginning on December 8, 2020 owners and operators must have their overfill prevention equipment inspected for proper operation at least once every three years. However, overfill prevention equipment installed on or after December 8, 2017 are required to meet this requirement upon installation. When inspecting, owners and operators must, at a minimum, ensure the overfill prevention equipment is set to activate at the correct level in the tank (the level depends on the type of overfill device) and will activate when regulated substances reach that level.

If an overfill device fails the inspection it must be repaired or replaced. Vent restriction overfill devices such as ball float valves may not be installed for new installations or replacements as of December 8, 2017.

Owners and operators must maintain records of overfill prevention equipment inspections for at least three years.

Containment Sump Testing

By December 8, 2020, owners and operators must meet one of the following options for containment sumps used for piping interstitial monitoring. However, sumps installed on or after December 8, 2017 are required to meet one of the following options upon installation:

Option 1: Containment sumps used for interstitial monitoring of piping are tested at least once every three years. The test must determine the equipment is liquid tight by using either vacuum, pressure, or liquid testing. (Note - ADEM has developed a low liquid level test method that may be used if the sump sensor is permanently mounted at the lowest level in the sump, and when activated, will shut off the submersible pump. The test method is described in the ADEM guidance Document titled "Low Level Hydrostatic Integrity Test for UST Containment Sumps.")

Option 2: Containment sump equipment is double walled and the integrity of both walls is monitored annually in accordance with the walkthrough inspection requirements discussed above. If owners and operators discontinue this periodic monitoring, they have 30 days to conduct the test described in Option 1 above.

ADEM form must be used to record results.

Owners and operators must maintain records of containment sump testing for at least three years. Containment sumps not tested every three years which are used for interstitial monitoring of piping must be double walled. Owners and operators must maintain documentation showing the equipment is double walled and the integrity of both walls is monitored annually in accordance with the walkthrough inspection recordkeeping requirements discussed above. (Option 2).

Release Detection Equipment Testing

By October 13, 2018, owners and operators must test electronic and mechanical components of their release detection equipment for proper operation at least annually. When testing, check the following:

- **Automatic tank gauge and other controllers**
 - Test the alarm.
 - Verify the system configuration.
 - Test the battery backup.
- **Probes and sensors**
 - Inspect for residual buildup.

- Ensure any floats move freely.
- Ensure any shafts are not damaged.
- Ensure the cables are free of kinks and breaks.
- Test the alarm operability and communication with the controller.
- Ensure probes and sensors are positioned properly.
- **Automatic line leak detector**
 - Test operation to ensure the device activates (alarms, restricts flow, or shuts off flow) within an hour when simulating a release equivalent to 3 gallons per hour at 10 pounds per square inch. This includes mechanical and electronic line leak detectors, and sensors designed to shut off the submerged pump.
- **Vacuum pumps and pressure gauges** –
 - Ensure there is proper communication with sensors and the controller.
- **Hand-held electronic sampling equipment associated with groundwater and vapor monitoring**
 - Ensure the device is calibrated and operates properly.

ADEM form must be used to record results.

Owners and operators must maintain records of release detection equipment testing for at least three years. The record must include each component tested, whether each component passed the test or needed to have action taken, and any action taken to correct an issue.

Compatibility Demonstration

Beginning December 8, 2017, owners and operators storing gasoline containing greater than 10 percent ethanol or diesel containing greater than 20 percent biodiesel must demonstrate compatibility of each component of the UST system (this includes the tank, piping, containment sumps, pumping equipment, release detection equipment, spill equipment, and overfill equipment) by using one of the following options:

- Certification or listing of UST system equipment or components by Underwriters Laboratories (UL) or other nationally recognized, independent testing laboratory for use with the regulated substance stored, or
- Equipment or component manufacturer approval – this approval must be in writing, indicate an affirmative statement of compatibility, specify the range of biofuel blends (gasoline containing greater than 10 percent ethanol or diesel containing greater than 20 percent biodiesel) the equipment or component is compatible with, and be from the equipment or component manufacturer.

In addition, owners and operators must notify ADEM at least 30 days prior to switching to regulated substances containing greater than 10 percent ethanol or greater than 20 percent biodiesel, and must maintain the records that document compliance with the compatibility requirement if they store either of these substances. These records must be maintained for as long as the UST system is used to store one of these regulated substances.

Additional information about the compatibility requirement for UST systems storing gasoline containing greater than 10 percent ethanol or diesel containing greater than 20 percent biodiesel may be found at the following EPA website links:

<https://www.epa.gov/ust/guidance-compatibility-ust-systems-ethanol-blends-greater-10-percent-and-biodiesel-blends>

<https://www.epa.gov/ust/biofuels-compatibility-resources>

Emergency Power Generator Tanks

Existing underground storage tank systems (UST systems) that store fuel solely for use by emergency power generators were exempt from release detection requirements when Alabama's regulations were first established in 1989. In accordance with EPA requirements, a change was made to Alabama's regulations on August 6, 2007 requiring all emergency power generator USTs installed on or after that date to use interstitial monitoring for release detection, while the existing emergency generator USTs installed prior to that date were still exempt from the release detection requirements. **By December 8, 2020, those existing emergency power generator UST systems must now have a form of leak detection.**

In addition, every inspection and testing requirement that applies to every other petroleum UST tank system, as of December 8, 2020, will apply to emergency power generator tanks.

What release detection methods can be used for emergency power generator tanks installed before August 6, 2007?

Owners and operators of emergency power generator USTs installed before August 6, 2007, must begin using at least one of these leak detection methods no later than December 8, 2020:

- Interstitial method – secondary containment with interstitial monitoring
- Internal methods – automatic tank gauging (ATG) systems; statistical inventory reconciliation (SIR); continuous in-tank leak detection; manual tank gauging
- External methods – monitoring for vapors in the soil; monitoring for liquids on the groundwater.

What release detection methods can be used to detect leaks from piping associated with emergency power generator USTs installed before August 6, 2007?

Pressurized piping installed before August 6, 2007 must meet the following requirements no later than December 8, 2020:

- The piping must have devices that will alert the operator to the presence of a leak by automatically shutting off or restricting the flow, or by triggering an audio or visual alarm.
- In addition, owners and operators must either conduct an annual line tightness test or use at least one of the following monthly methods:
 - Interstitial monitoring
 - Electronic line leak detectors
 - Groundwater monitoring
 - Vapor monitoring
 - Statistical inventory reconciliation.

If your emergency power generator UST has suction piping that operates at less than atmospheric pressure and is sloped so that the piping's contents will drain back into the storage tank if the suction is released and there is only one check valve in each suction line that is located directly below the suction pump, piping release detection is not required.

Suction piping that does not exactly match the characteristics above must use one of the monthly methods for pressurized piping, or tightness testing every three years.

Again, emergency power generator USTs installed on or after August 6, 2007 must use interstitial monitoring. Only emergency power generator UST systems installed before August 6, 2007 may use the other release detection methods listed above. Note that statistical inventory reconciliation may not be appropriate with some emergency power generator USTs because such systems may not have a way to accurately measure fuel use.

Finally, ADEM realizes the requirement to restrict or shut off flow of product in response to a piping leak may be problematic for emergency power generator tanks. Therefore, the above option allowing emergency power generator UST systems to use leak detection equipment that will alert the operator to the presence of a leak by triggering an audible or visual alarm without shutting off or restricting flow is included in the Alabama emergency power generator regulation.

If there are any questions regarding release detection for emergency power generator USTs please call us at 334 270-5655.

A list of forms and guidance regarding the implementation of these requirements can be found at the following location on the ADEM website:

<http://www.adem.state.al.us/programs/water/groundwater.cnt>

Draft (10/22/2018)