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**IM-15**

TO: All Interested Parties

FROM: Kevin Wieber, Manager, Storage Tank Division

DATE: December 15, 2016

SUBJECT: Storage of Flammable and Combustible Liquids in Aboveground Storage Tank Systems

This informational memorandum (IM) has been prepared to identify and clarify some of the requirements for the aboveground storage tank (AST) systems under the Storage and Handling of Flammable and Combustible Liquids (FL/CL) Rules, promulgated under the authority of the Michigan Fire Prevention Code, 1941 PA 207, as amended, being R 29.5601 et seq., of the Michigan Administrative Code. Rules R 29.5602 through R 29.5605, of Part 1 of the FL/CL Rules, adopts by reference four specific editions of the National Fire Protection Association (NFPA) standards. The adopted standards are NFPA 30 and 30A, 2012 Edition; NFPA 31, 2011 Edition; and NFPA 37, 2010 Edition. These standards were adopted with Michigan-specific additions and amendments and made applicable to the storage and handling of flammable and combustible liquids having a flash point below 200 degrees Fahrenheit.

**Plan Review and Certification**

Regulated AST systems storing flammable and combustible liquids greater than 1,100 gallons in individual size require submittal of an Application for Installation of Aboveground Storage Tanks, form BFS3859. The installation application fee of \$203.00 per tank includes the first annual fee. Thereafter, the annual fee is \$61.50 and is due in accordance with the regular billing cycle. The AST systems are field inspected prior to certification and at least once every three years thereafter.

The owner or installer must submit a BFS3859 and a plot map, in compliance with Part 2, Section 1.8, of the FL/CL Rules, at least 30 days prior to the intended utilization of the AST system. A plan review report will be issued within 30 days of receipt of the plans.

Upon receipt of a copy of the plan review report, the installer will notify the designated Storage Tank Division, Hazardous Materials Storage Inspector (HMSI), of the starting date of the installation and will coordinate the required installation inspection. Upon completion of the installation, the installer will arrange for a final inspection. If the installation is approved, the HMSI will certify the AST system in compliance with the FL/CL Rules and authorize the owner to place the system in use.

### **Storage**

Flammable and combustible liquids are required to be stored only in tanks, containers, or in portable tanks in compliance with Part 2, of the FL/CL Rules. The FL/CL Rules also require that each tank be installed in compliance with its design and listing or approval and provides specific requirements for the separation of storage tanks from buildings and property lines. Secondary containment, intended to prevent any release from the storage tanks into groundwater, surface water, and subsurface soils, is required for most storage tank systems. Secondary containment can be provided by diking around the tanks, remote impoundment or secondary containment, or by methods other than diking and remote impoundment. These methods include vaults, special enclosures, secondary containment tanks, and integral secondary containment.

The FL/CL Rules regulate all AST systems that store and handle flammable and combustible liquids with a flash point below 200 degrees Fahrenheit.

Section 29.5c(1)(c), of Act 207, requires a person to obtain a plan review and certification for any individual tank with storage capacity of more than 1,100 gallons.

There are many types of AST systems in this category. Each system is regulated under specific part(s) of the FL/CL Rules as follows:

1. **Heating Oil AST Systems:** Heating oil AST systems are regulated under Part 4, of the FL/CL Rules. Tanks that exceed 1,100 gallons in capacity and are connected to furnaces, kilns, or boilers are required to submit a plan review, obtain approval, and to be inspected and certified by the Storage Tank Division.
2. **Public and Private Motor Vehicle-Fueling AST Systems:** These AST systems are regulated under Parts 2 and 3, of the FL/CL Rules. An AST that exceeds 1,100-gallons capacity is allowed at both public and private motor fueling locations now. These ASTs are limited in capacity. Other secondarily contained AST systems are limited to 12,000-gallons individual capacity. More than one other secondarily contained AST system can be located at a motor fueling facility, but the total aggregate at the site shall not exceed 48,000 gallons of all regulated substances.

Protected AST systems used at public or private motor fueling facilities are limited to an individual capacity of 12,000 gallons or less and an aggregate capacity of not more than 48,000 gallons. Class II fuels used at a private motor vehicle fueling

facility and being stored in a protected AST are allowed to increase their individual tank size to 20,000 gallons and 80,000 gallons aggregate.

Tanks in a vault are limited to an individual capacity of 15,000 gallons and 48,000 gallons aggregate. A vault is defined as an enclosure, above or below grade, where the floor and walls are constructed of reinforced concrete that is not less than six inches thick. The walls are required to be higher than the top of the tank.

A vault may have a non-combustible top, but such a top is not required if the tank walls are at least four feet above grade.

**Please note:** Farm AST systems that exceed 1,100 gallons in capacity are regulated under the same requirements as public and private motor vehicle fueling locations, Parts 2 and 3, of the FL/CL Rules.

- 3. Bulk Storage Tank Systems:** These AST systems are regulated under Part 2, of the FL/CL Rules are usually found at industrial and chemical facilities, rail locomotive, aircraft fueling systems, and terminals. There are no capacity restrictions on these AST systems other than those required under the design and operational requirements of the storage system. This type of AST system does not involve any motor vehicle fueling. Transfer of product is accomplished through a loading/unloading riser which must be a specified distance from the tank, or by a pipeline from another tank at the same facility, or from outside the facility.

**Please note:** AST systems that store flammable and combustible liquids for use with stationary internal combustion engines, such as emergency power generators and gas turbines, are regulated under Parts 2 and 5, of the FL/CL Rules, which adopt by reference NFPA 30 of 2012 and NFPA 37 of 2010.

### **Storage Tank Capacity of 1,100 Gallons or Less**

These AST systems require compliance with the FL/CL Rules, but do not require submittal of a plan review, and are not normally inspected or certified by the Storage Tank Division.

- 1. Motor Vehicle Fueling at Farms, Isolated Construction Projects (Sites) and Rural Areas:** These AST systems are regulated under Chapter 13, Part 3, of the FL/CL Rules. The separation distances from the AST system, including the vehicle being fueled, to any building must be not less than 40 feet. Fill openings and nozzles shall be locked to prevent tampering with the system. Combustible materials shall be kept at least 10 feet from the tanks and the tanks shall be conspicuously marked on all sides as to the contents of the tank.

- 2. Heating Oil Tanks:** Heating oil AST systems of less than 1,100-gallons capacity are regulated under Part 4, of the FL/CL Rules. However, these AST systems do not require submittal of a plan review. These tanks are not inspected or certified by the Storage Tank Division and have no annual fee requirement.

### **Small Containers and Portable Tanks**

The storage and handling of flammable and combustible liquids in drums and other containers that do not exceed 60-gallons individual capacity and portable tanks that do not exceed 660-gallons individual capacity are regulated under Part 2, of the FL/CL Rules. Approval by the local authority is required. However, a BFS3859, field inspection, or certification by the Storage Tank Division is not required.

### **In Conclusion**

Careful identification of the applicable rules is very important to the safe and proper installation of all ASTs and storage containers storing flammable and combustible liquids. The owner of the facility is responsible for any release of these products into the groundwater, surface water, or subsurface soils.

Should you require further information, please contact the Storage Tank Division, at 517-241-8847.