AST

(Aboveground Storage Tanks)

Motor Fueling

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Definition of Aboveground Storage Tank System

Tank or combination of tanks, **including the pipes that are connected** to the tank or tanks or ancillary equipment containment systems, if any, which is, was, or may have been, used to contain an accumulation of liquids and **which has less than 10% of its volume, including the volume of the underground pipes** that are connected to the tank or tanks, **beneath the surface of the ground.**

ACT 207

- **29.5c(1)(c)** *Certification* of Aboveground Storage Tanks over 1,100 gallons that store flammable/combustible liquids (Flash of 200 degree and under).
- **29.5c(2)** *Plan & review* for aboveground storage tanks over 1,100 gallons that store flammable/combustible liquids.(200 degree flash and under).

- *These tanks when plan and reviewed are then registered by inspector (at final inspection).*

N.F.P.A. 30, *Part II*

with Michigan amendments

- Design construction, **distances** to other tanks, property lines, overhead lines, schools, etc. **2-3.1**
- Piping installation. **Chapter 3**
- **Secondary containment is required** for aboveground tanks for Class I, II & III liquids. **2-3.3.1**
  - *(NOT for 660 gallons or less storing combustible liquids, unless required by authority having jurisdiction.*)
  - Contain 100 % of Largest tank & allowing for displacement of other tanks in dike **2-3.3.4**
    - Can use remote impounding under **2-3.3.2**
    - Can use dike under **2-3.3.3**
    - Can be in a vault under **2-13.1**

N.F.P.A. 30 A, *Part III*

with Michigan Amendments

Motor Refueling

- Special enclosures, a tank **shall be in a vault or equivalent** protection (2-hour fire rated) shall be provided. **2-4.2**
- Tanks inside buildings. **Chapter 6**
- Fuel dispensing. **Chapter 4**
  - All parts of auto being served must be on premises
- Remain outside of vehicle and in view of nozzle **9-4.8**

Vaulted tanks shall have a separation distance of **25 feet** from point of transfer to any building or property line for **Class-I** liquids;

15 feet separation for **Class-II and III** liquids.

(Rule 238, Sec. 5-4.4.1, Part II)

compartmentalized:

one tank; falls under the more hazardous Class being stored

This separation distance must be provided by fixed piping.

No rain shielded tanks; they do not contain 100 % tank capacity

2-3.3.4(c) Part II.

(d) requires containment to withstand 2 hr. fire rating.

All dispensing systems shall have:

- Spill containment around fills **9-6.3 Part III.**
  - **Slab alone is not adequate spill containment.**
- Overfill **2-4.4.1 Part III.**
- Emergency venting **2-3.5.1 Part II.**
- Normal venting **2-3.4.1 Part II.**
- Anti-siphon device **3-11.1 Part II.**
- Shut off valve at tank **3-10.3 Part II.**
- Drop tubes in fill pipes. **2-3.7.4 Part II** (Not crude oils, asphalt's, etc.).
- Emergency Stop **9-5.3 Part III (20 - 100 ft. away).**
- Label tank to what it contains **2-9.3 Part II.**

- Supports and pilings (legs) to have a 2 hr. fire rating **2-6.3 Part II.**
- Corrosion protection of tank.(mastic coating on bottom) **2-3.9.1(b) Part II,** and piping (can be painted above ground). Corrosion protection on underground piping, or be non-metallic material **2-4.3 (b)Part II.**
- Crash protection for tank **2-3.9.5 of Part II** and, piping **3-5 Part II.**
- Breakaway on nozzles **4-2.7 Part III.**
- Splash Guards **9-1.6 Part III.**
- No smoking signs **9-9(b) Part III.**
- Fire extinguisher 1-40 BC or 2-20 BC rating **9-8 Part III.**

Public Motor Fueling

- **Dispensing** shall be performed **by an attendant** on duty.
- The tank installation is approved by the appropriate local unit of government.
- Each tank shall have a **maximum individual capacity of not more than 1,100 gallons** and **not more than 2 tanks** shall be permitted.
  - No skid tanks, no double wall tanks

Private Motor Fueling

(commercial, industrial; fleet)

- **Class-I**
  - **≤6**,000 gallon per tank **2-4.2.1**
- **Class-II, III**
  - **≤15**,000 gallon per tank -
  - **<30**,000 gallon **aggregate**

MARINE FUELING

- **2-1.6(B) Part III** refers Marina tanks back to **Part II.**
- No breakaways required **4-2.7 Part III.**
- Dispenser hose 50 ft. or less **4-2.6 Part III**
- No latch open device on nozzles **9-1.4 Part III.**
- Shut off valve and flexible connector where piping leaves land to dock **3-4 Part III.**
- Piping on floating pier: oil resistant flex, protected from damage.

N.F.P.A. 395, PART V

WITH MICHIGAN AMENDMENTS

Farms, isolated construction sites, and **rural** areas

(not in city limits)

- Less than 60 gallon capacity is referred to as a container
  - DOT Regulations
  - Nonpressurized
  - CAN NOT be interconnected
  - Must be closed when not in use.
- **Outside** storage must be 10 ft or more from a building
- **Inside** storage must be in a designated fuel storage building; more than 10 ft from other buildings.

N.F.P.A. 395, PART V

WITH MICHIGAN AMENDMENTS (continued)

- **60 to 1,100** gallons *with 200 degree flash and under.* **Outside.**
- 40 ft. from **building** (combustible material), 25 ft. **property** line **1-4.1.3** .
- **Fill** shall lock; **Vent** separated from fill
- **Vehicle** being fueled shall be 40 ft or more from ANY building.
- **No more than 3** tanks per site. (sites separated 100 ft.) **1-4.1.5**
- Tanks shall be labeled **1-5.**
- **Each area** where dispensing is **shall be protected from spills** entering groundwater, surface water, subsurface soils **1-6.**

N.F.P.A. 395, PART V

WITH MICHIGAN AMENDMENTS

(continued)

- **Top** opening (mounted and equipped):
  - Permanently attached pump
  - hose and pump shall be padlock
  - antisiphon device, unless self-closing nozzle.

- **Gravity** discharge:
  w/connection in bottom shall have valve :
  - Closes automatically in fire w/manual operation possible, or
  - Second valve for manual shut-off
  - Discharge hose w/self-closing valve
  - Padlock for tampering.