



Southeast Michigan
Environmental
Conference - Storage
Tank Requirements



Presented by

- R. Jeff Tanner, Eng.
- 517-335-2137 (phone #)
- 517-335-2245 (fax #)
- tannerj@michigan.gov (e-mail)
- Mike DeWyse, HMSI
- 989-894-6294 (phone #)
- dewysem@michigan.gov



Hydrogen Rules

- Went into effect on May, 1, 2008.
Adopt by reference NFPA 50A and 50B, with lots of state specific additions and amendments.
- Governs all liquid systems and gaseous hydrogen systems



Compressed Natural Gas Rules

- Went into effect on January 13, 1996
- Adopt by reference NFPA 52, 1992 edition
- Govern all CNG dispensing systems



Storage and Handling of Liquefied Petroleum Gases

- Current rules took effect on July 7, 2008
- The rules adopt by reference NFPA 58, 2004 edition, with state specific additions and amendments
- Govern all LPG systems



FL/CL Rules

- Latest version went into effect on August 13, 2003.
- Adopt by reference with state specific additions and amendments NFPA 30 and 30A 2000 Editions, NFPA 31 2001 Edition, and NFPA 37 1998 Edition.
- Govern all tanks with a FP less than 200 degrees Fahrenheit



MUSTR Rules

- Recent amendments to the 1998/1999 MUSTR took effect on July 12, 2008.
- Governs all UST's greater than 110 gallons in size that store a petroleum product or a listed hazardous substance.



Reviews

- Hydrogen – Any liquid storage and any gaseous over 400 scf, form EQP-5240, site sketch, fee.
- CNG – Any dispensing system for vehicles, form EQP-3860, site sketch, fee.
- LPG – Any dispensing systems, tanks larger than 2,000 gallon individual or 4,000 aggregate, form EQP-3861, site sketch, fee.



Reviews - Continued

- FL/CL – Any tank larger than 1,100 gallons in capacity, form EQP-3859, site sketch, fee.
- UST – Any regulated tank system, form EQP-3820, site sketch, fee.



Fees

- PA 207 of 1941 as Amended Tanks (Hydrogen, CNG, LPG, & FL/CL)
Review fee of \$141.50 per tank plus a yearly fee of \$61.50 per tank per year.
- All UST's, no review fee, yearly fee of \$100 per tank per year.



Tank Closures

- PA 207 of 1941 Tanks (Hydrogen, CNG, LPG, FL/CL) fill out and send in form EQP 3858.
- UST's fill out and send in form EQP 3821, amended registration, and either a confirmed release or a site assessment showing clean closure.



Highlight – Changes - LPG

- Cylinder Rack storage, 10' from doorway or opening at places frequented by the public that have 2 means of egress or at a place not frequented by the public that only has 1 means of egress, and at least 20 feet to all FL/CL MVF dispensers



Highlight – Changes - LPG

- DOT Cylinders in stationary service & filled on site must be inspected or requalified within 12 years of manufacturer & every 5 years thereafter. Cylinders past this date have 3 years (7/1/2011) to come into compliance with this rule



Highlight – Changes - LPG

- Tanks over 4k or used for container fill must be equipped with pressure relief valve and within 10 years of installation or by 7/1/2011 and every 10 years thereafter perform visual relief valve inspections that is documented, including removal of stack, removal of foreign matter, and repair/replacement of damaged or deteriorated valves



Highlight – Changes - LPG

- Any new container over 4k or used for dispensing to MV must meet Section 5.7.7.2 (A to G) for new installations (deals with internal valves, thermal actuation, and remote shutoffs)
- Any container above and already installed must meet the requirements listed in 5.7.7.2 as applicable by 7/1/2011



Highlight – Changes - LPG

- Within 1 year of hire, all employees handling LPG must have CETP
- Only CETP employees can install or service LPG systems
- Transfer out of a tank must be authorized by the owner of the system, conducted by qualified personnel, have 2 day prior notice



Highlight – Changes - LPG

Required labeling on tank (2 of them)

1. No Smoking within 25 feet
2. Flammable gas

Fire Protection is required for sites over 4k, based on the Fire Safety Analysis



Highlight – Changes - LPG

- Required Warning signs at all filling locations 1. No Smoking-No Open Flame (3”) 2. Warning: Filling the following types of cylinders is prohibited and violators are subject to civil and criminal penalties: (i) cyl not approved for LP (ii) cyl more than 12 years old that have not been recertified



Highlight – Changes - LPG

- Required Warning signs (cont.) (iii) cyl which are damaged, burned, or which after a visual inspection, appear unsafe (iv) cyl that are not equipped with a collar or cap to protect the valves while in transit (1/4")



Highlight – Changes - LPG

- Applications are now allowed to be processed in 30 days versus 21.
- All Underground LPG tanks over 2k individual or 4k aggregate must be registered with STU on a form provided.
- All underground LPG tanks used for container fill now have to submit applications for installation and pay fees.



Highlight – Changes - LPG

- All other underground LPG tanks must be documented for location and kept on file
- Bulk plants must maintain and have on file written operation and maintenance procedures



Highlight - Changes - FL/CL

- If the existing AST has not been upgraded to one of the approved alternatives or is not already in compliance with the 2003 FL/CL Rules, it will be red tagged and required to either upgrade or be taken out of service. Upgrades include, spill and overflow protection, corrosion protection and/or liquid tight secondary containment.



Highlights - MUSTR Rules

- Recent amendments to the 1998/1999 MUSTR took effect on June 27, 2008.
- All new tank and piping installations are required to be secondarily contained and monitored, including tanks for e-gens.
- Repair of existing pipe, as long as its less than 50% of total pipe run, can use an approved like replacement (single wall fiberglass with single wall fiberglass)



MUSTR Rules – Whats Next

The Federal Energy Act of 2005 requires that by August 8, 2012, every facility having one or more UST system that is subject to MUSTR must have a Class A O/O and Designated B Operator.



MUSTR Rules – Whats Next

Class A Owner/Operator – Has primary responsibility for the facility per MUSTR, must possess a current passing ICC certificate indicating they have passed the Michigan Class A UST System Operator Exam by 8/8/2012. This is required to be renewed every 12 months.



MUSTR Rules – Whats Next

Class A Operator – Designates a certified Class B Operator for each site and notifies DEQ of such on a form provided, maintains list of all trained “facility employees”, and maintain all records for minimum of 3 years. New owner is required to have Class A within 30 days of purchasing a station.



MUSTR Rules – Whats Next

Class B Operator – Must maintain current certificate from ICC for Michigan Designated Class B Operator exam, and renew it every 24 months. This person conducts site visits and verifies operational compliance of all UST systems at the site. These visits required at least once every 30 days.



MUSTR Rules – Whats Next

Class B Operator – Prepare written records of site visit on form provided by DEQ, sign, and supply to Class A O/O. Required to alert Class A O/O of any conditions that require attention discovered during the inspection to keep facility in compliance with MUSTR.



MUSTR Rules – Whats Next

Class B Operator – Will train “Facility Employee” and keep list of all trained employees and when trained.

At least one trained “facility employee” shall be present during all operational hours, unless site is an approved unattended operation.



MUSTR Rules – Whats Next

New MUSTR Ad Hoc started in Winter of 2009 and draft rules have been completed, going thru legal process currently. These classification requirements and operator training will be part of those new rules.



MUSTR Rules – Whats Next

We expect to do a presentation across the state at several locations sometime shortly after the new MUSTR comes out (maybe fall of 2010?), similar as to what was done in 2003 for the FL/CL Rules



The HMSI Perspective

- **UST's:**
- **KEEP REGISTRATION INFORMATION CURRENT**
 - a) **contact information**
 - b) **tank/piping information**
 - c) **release detection method(s)**
- **SIGNIFICANT OPERATIONAL COMPLIANCE:**
 - a) **overflow and overspill**
 - b) **tank and piping release detection records**
 - c) **corrosion protection records**



The HMSI Perspective

- **OTHER COMPLIANCE ISSUES**
 - a) **maintain all tank/dispenser containment sumps liquid tight**
 - b) **properly remove/dispose of accumulated liquids (Part 111/121)**
 - c) **maintain all hoses, nozzles, splashguards, breakaway devices, fire extinguishers, signage**



The HMSI Perspective

- **FL/CL AST's:**
- **GREATER THAN 1100 GALLONS:**
 - a) **vertical tanks on grade-upgrade requirement/overflow/overspill deadline was August 13, 2008, if API/STI inspection performed, need copy of inspection report(s)**
 - b) **maintain corrosion protection on tanks/piping**
 - c) **labeling of tanks/fill risers**
 - d) **dispenser items-same as for ust's**



The HMSI Perspective

- **FL/CL AST's:**
- **LESS THAN 1100 GALLONS:**
 - a) **maintain required separation distances from buildings/property lines-40' (some restrictions)**
 - b) **only U.L. listed tanks allowed**
 - c) **electrical must meet code-no ext. cords**
 - d) **vent and fill must be separate**



The HMSI Perspective

- **FL/CL AST's (cont'd):**
 - e) up to 3 tanks at one location-no manifolding of tanks**
 - f) area where liquid dispensed must be protected by impervious surface**
 - g) roofs/canopies allowed with conditions**



The HMSI Perspective

- **LPG AST's:**

- a) **separation distances from buildings/property lines/point of transfer**
- b) **painting/labeling of tank/piping**
- c) **training for container fill operations**
- d) **keep any combustible material 10' from containers**
- e) **maintain emergency shutoff controls, fire extinguisher, hoses**
- f) **signage at container fill operations**



Question & Answer!?!?

- **WHEN IN DOUBT...CALL YOUR INSPECTOR!!!**