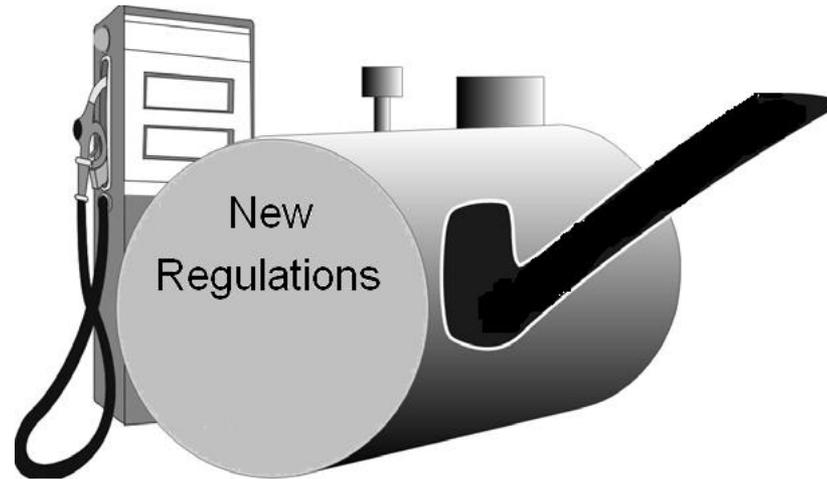




# UST RULES CHANGES



*Heather Peters,  
Environmental Specialist*

# Upcoming Rulemaking

- State specific changes  
**Open for discussion!**
- Secondary containment (double walled)
- Other Federal Regulation changes  
**Federal Regs- language / 'tweaks' only**
- Operator Training

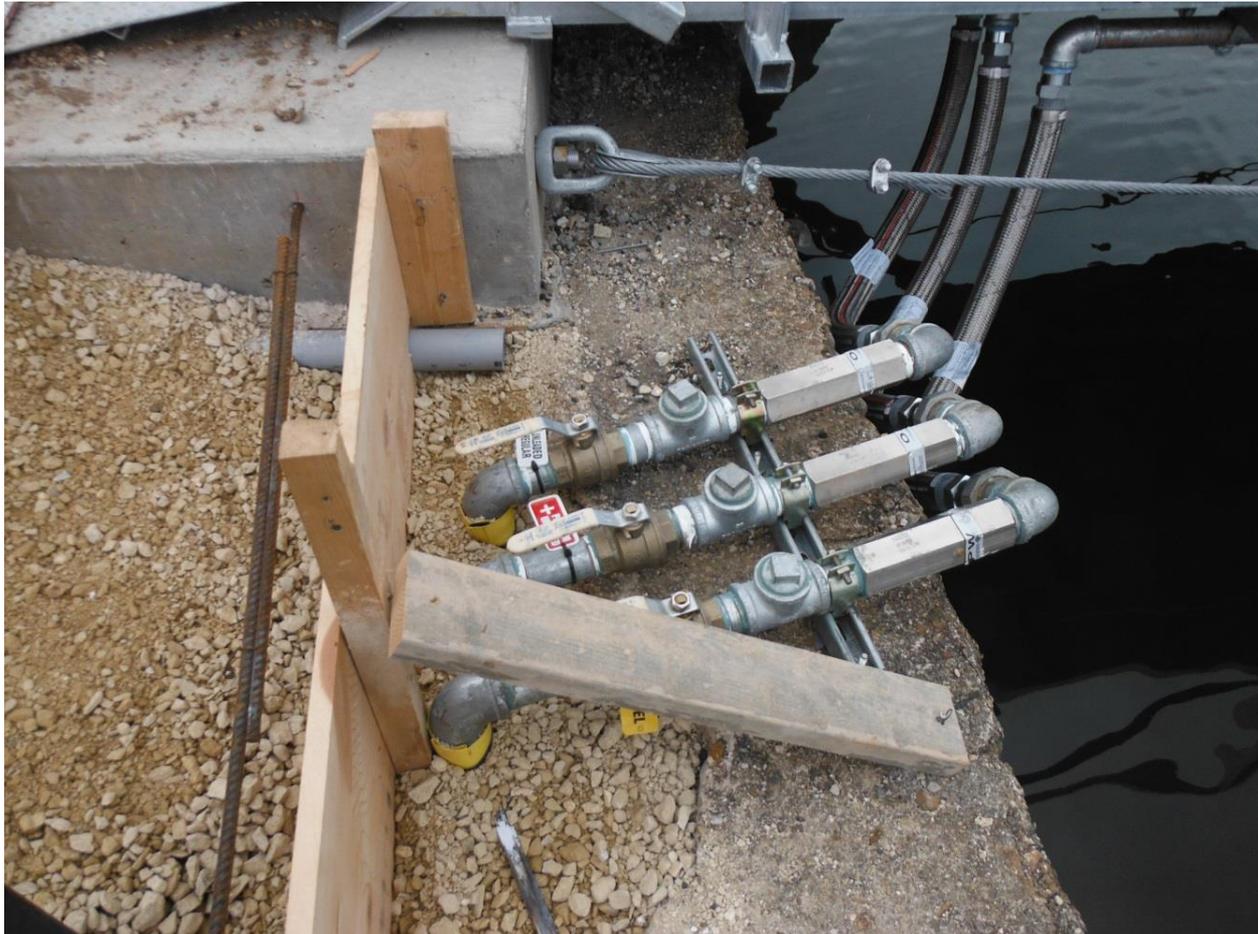
# Definitions

- Federal definitions now “incorporated by reference”
- Now will have all definitions in state rule
- No changes
- Some remain in statute
  - 319.100 RSMo

# New Installations

- Reduces notification from 30 to 14 days
- Requires tie-down of all tanks
- Clarifies post-installation testing options
  - Tank and Line Tightness Test
  - 0.1gph certified ATG test with tank 95% full
- Requirements for new marinas
- Testing overflow, spill and sumps at install

# Marinas



Petroleum  
Equipment  
Institute (PEI)

Recommended  
Practice RP1000

Installation of  
Marina Fueling  
Systems

# Interior linings

- Interior lining inspections must include photo/video documentation
- Interior lining repair/install technician must be NACE or ICC certified
- No interior lining inspection required IF conducting interstitial monitoring
- Include UL 1856



**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

**40**  
years

*Celebrating 40 years of taking care of Missouri's natural resources.*

# Interior Linings



# UL1856- The New Lining Standard

1. Lining: single-walled, traditional testing
2. Upgrade: double-walled
  - May use traditional 5 year test or
  - Interstitial monitoring
  - Requires original “host” tank integrity
3. Self-structural: double-walled
  - May use traditional 5 year test or
  - Interstitial monitoring
  - Does NOT require original “host” tank integrity

# Repairs/ Upgrades

- CP protected metal piping must be replaced if not protected for more than 90 days
- Cannot use a field applied repair to fix a spill basin
  - ✓ Liners, inserts and inner bucket replacements
  - ✗ Epoxy, caulk, adhesives, paint (when used alone)





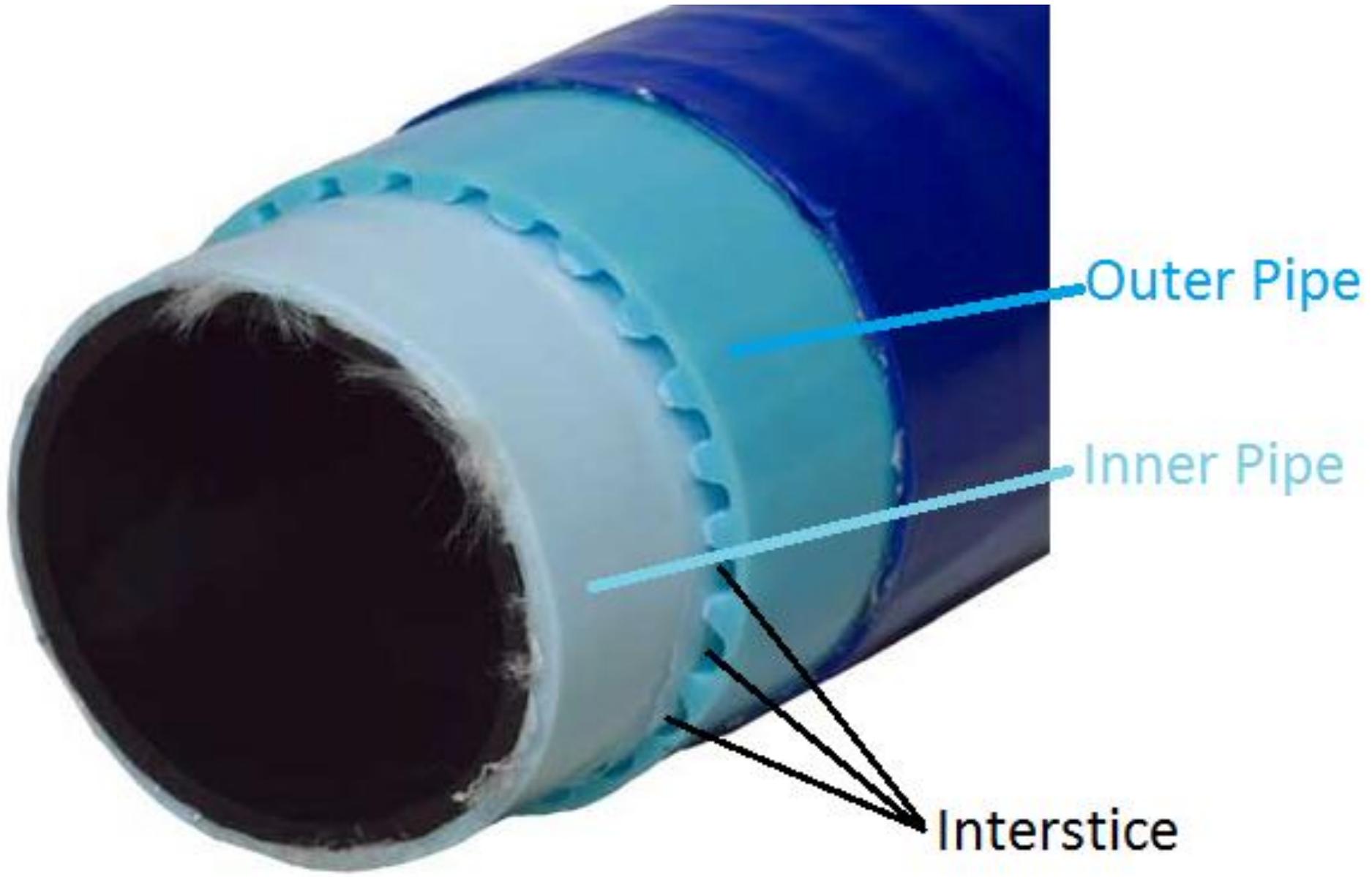
# Secondary containment

- New (including replacement) tanks only
- Piping replacement (50% or more of a piping system within 1 year)
- Does not apply to existing systems (until replaced)

**Effective July 1, 2017**

# Secondary containment

- Double wall tanks
- Double wall piping
- Containment sumps
- Interstitial monitoring the system
  
- We will not include spill basins, siphon piping, remote fills or vent piping.



Outer Pipe

Inner Pipe

Interstice

\*Courtesy of Franklin Fueling

**OUTER PIPE**

**INNER PIPE**



# Interstitial monitoring

- Liquid detection (sensor in interstice or in containment sumps)
- Brine measurements
- Vacuum/pressure testing or monitoring

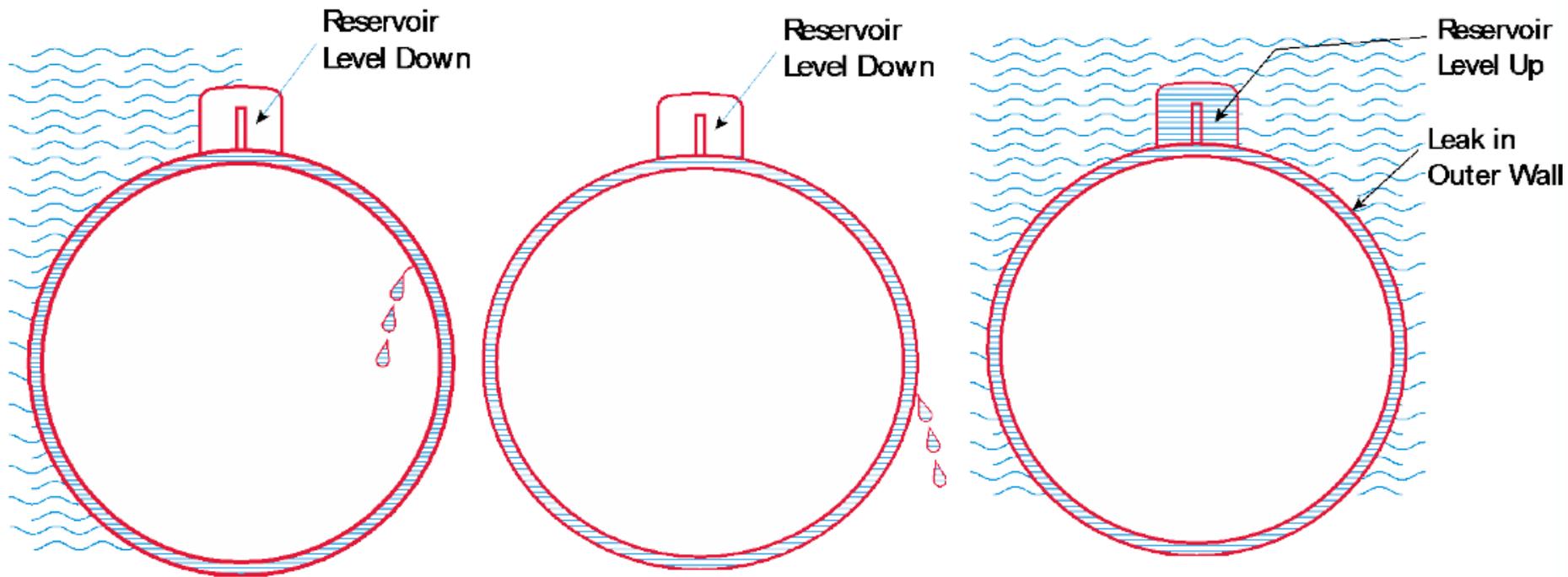
**Sensors or  
Fluid Between  
Walls to  
Detect Leaks**

**Groundwater**



**Detect Leaks  
of Product From  
Inner Wall or  
Ground Water  
from Outer Wall**

# Brine Interstitial Monitoring



**Primary-Tank Leak  
in Wet Hole or Dry Hole**

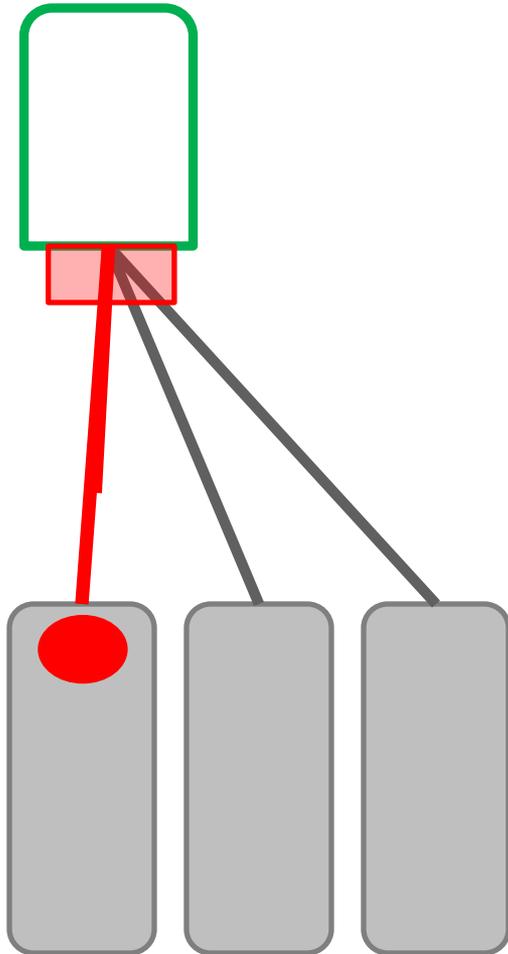
**Secondary-Tank Leak  
in Dry Hole**

**Secondary-Tank Leak  
in Wet Hole**

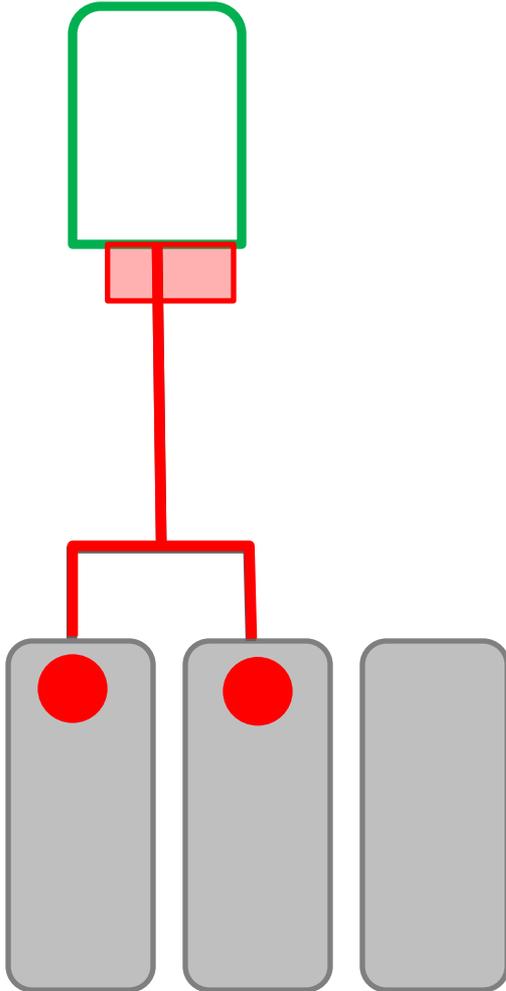
# 50% piping system replacement

- Within 12 month period
- For a piping system
  - Single tank's piping (single product)
  - Not of the total site piping
  - Do not combine same products unless piping is manifolded

The *entire* piping system must be double walled with containment sumps and monitoring.



- Based on individual tank systems
- Does not matter how many different systems/products are beneath the dispenser
- May have to install containment sumps under dispensers with other piping runs entering



- Manifold piping (all connected) counts as a system
- Even if only affects one “half” of the manifold, all of the connected piping must comply
- Includes sumps at each end and transition

# New Containment Sumps

- Must be leak-tight bottom and sides
- Must be maintained and repaired
- Must respond to alarms
  
- Must be tested every 3 years OR
- Must be interstitially monitored monthly

**Sump testing starting at install July 1, 2017**

# Dispenser Replacement

- Sumps required when:
  - Dispenser replaced
  - Piping beneath dispensers replaced
  - Must have containment sump
  - Must be tested every 3 years



**Starting July 1, 2017**

# Walkthrough Inspections

Annually:

- Dispensers
- All tank top manholes/containment sumps
- Hand-held release detection equipment

Monthly

- Spill basins
- Electronic release detection equipment

**Due at Install or by July 1, 2018**



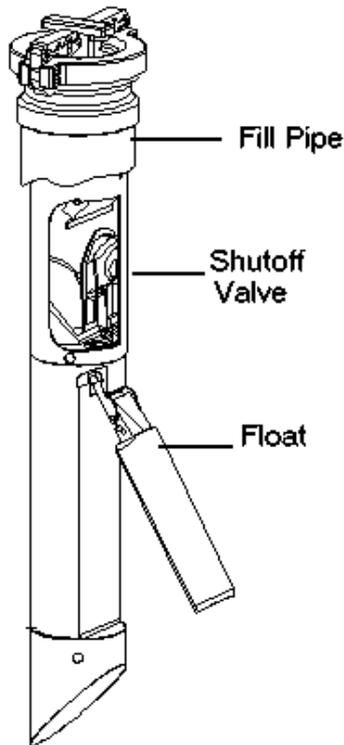


# Overflow Prevention Equipment

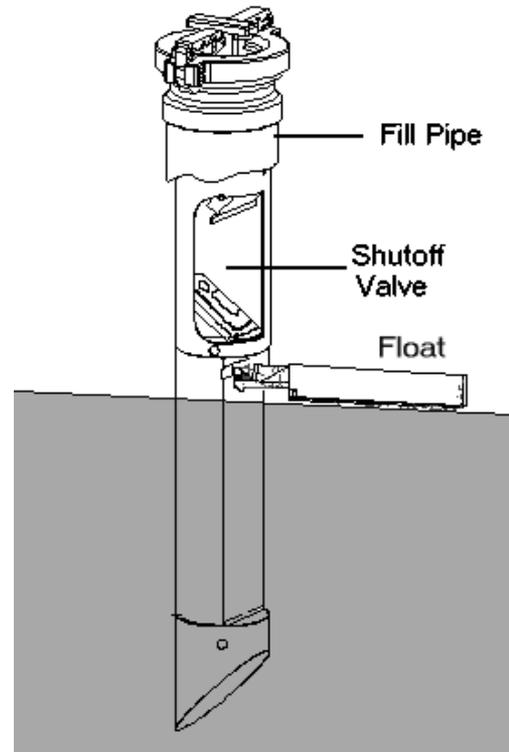


# Overflow Prevention Equipment

Open



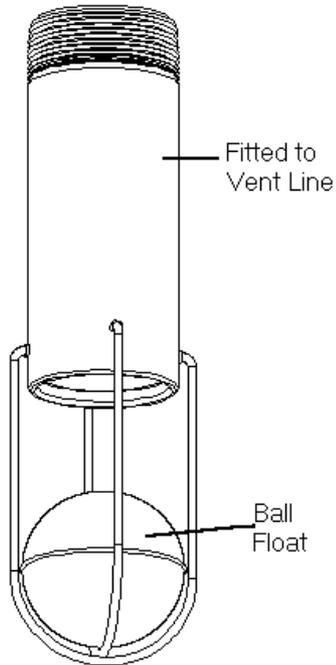
Closed



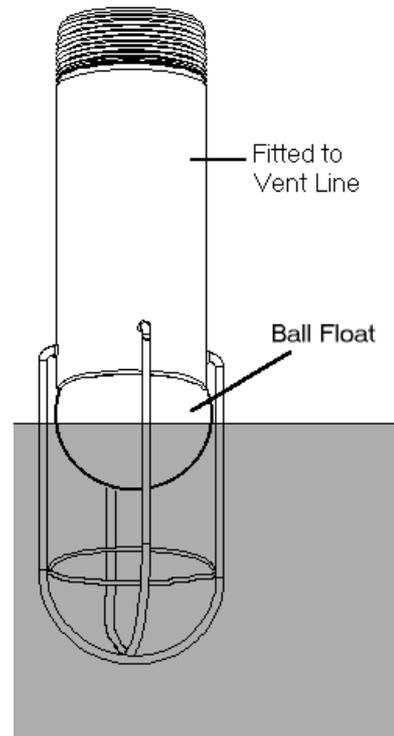
**Flapper Valve/ Automatic Shutoff**

# Overfill Prevention Equipment

Open



Closed



**Cannot be  
installed after  
January 1, 2017**

**Ball Float Valve/ Automatic Flow Restrictor**

# Spill and Overfill Testing

## Overfill prevention equipment

- Every 3 years
- Post-Repair Testing

## Spill prevention equipment

- Interstitial monthly monitoring OR
- Every 3 years
- Post-Repair Testing

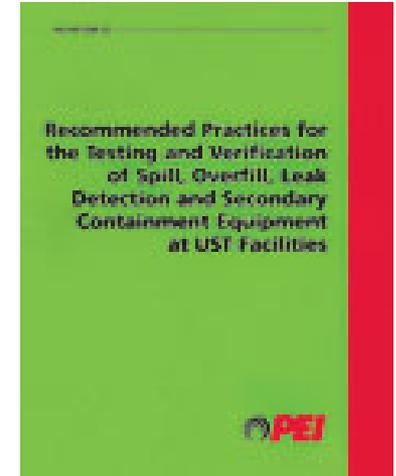
**Due at install or by July 1, 2018**

# Testing procedures

- NWGLDE listed test
- Manufacturer test procedure
- Monthly Interstitial monitoring

- Petroleum Equipment Institute (PEI) RP 1200
- The following slides provide a *general overview* of the procedures

## PEI RP 1200



**DO NOT USE AS A PROTOCOL!**

# Sump testing

- Check liquid level in backfill
- Clean sump and close test boots
- *Temporarily* remove interstitial sensors
- Must be able to read measuring device/stick to nearest 1/16"
- Fill with water 4" above highest entry/seam
- Wait 15 minutes (allow for sump settling)

# Sump testing

- Insert measuring device (lowest point)
- Take reading (ideally leave stick in place)
- Wait one hour and take reading again
- If within 1/8" of original reading- pass
- If greater than 1/8" difference- fail
- Dispose of water properly

# Things to consider for new sumps

- Number of sump penetrations
- Location of sump penetrations
- Types of containment sumps
- Entry boots- type and installation
- Seal all electrical conduits well
- Keep the sumps clean and free of product

# Spill bucket testing

- Hydrostatic (water) test
- Vacuum test
- Interstitial vacuum test



# Spill bucket testing - Hydrostatic

- Clean spill basin
- Check for cracks, loose seals
- Check drain valve and fill for tight seal
- Fill with water 1.5" from top
- Wait 5 minutes to allow settling

# Sump bucket testing- Hydrostatic

- Take first reading
- Wait 1 hour and take second reading
- If within 1/8" of original reading- pass
- If greater than 1/8" difference- fail
- Dispose of water properly

# Alternative spill bucket testing

- Vacuum test of the primary spill basin
- Vacuum test of interstice on double walled spill basin
- Permanent liquid sensor in spill basin interstice for monthly monitoring

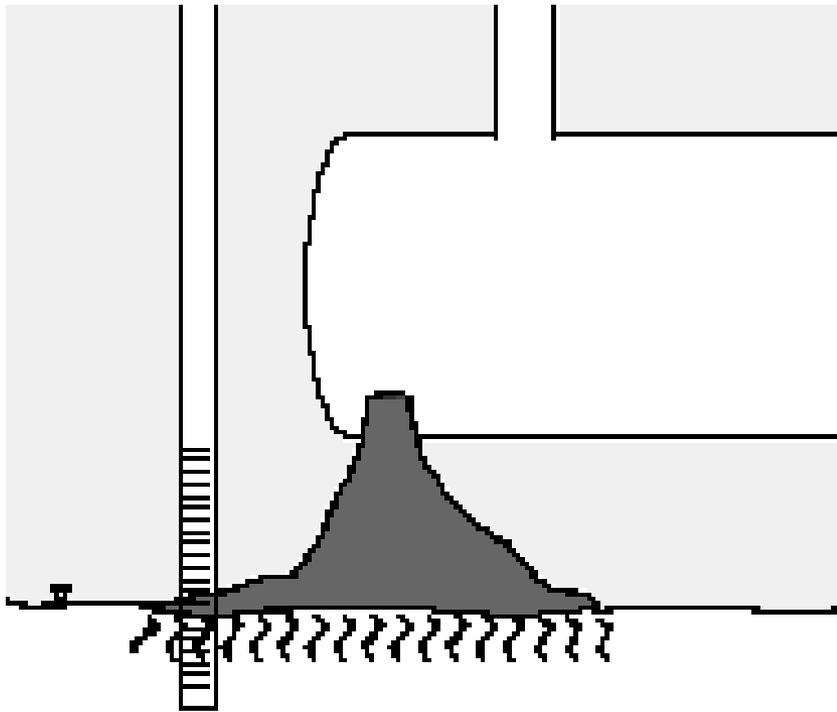
# Release Detection Equipment

- Must be tested annually
- Will have to “pick” primary RD method
- New tanks and piping (after 7/1/17) must use interstitial

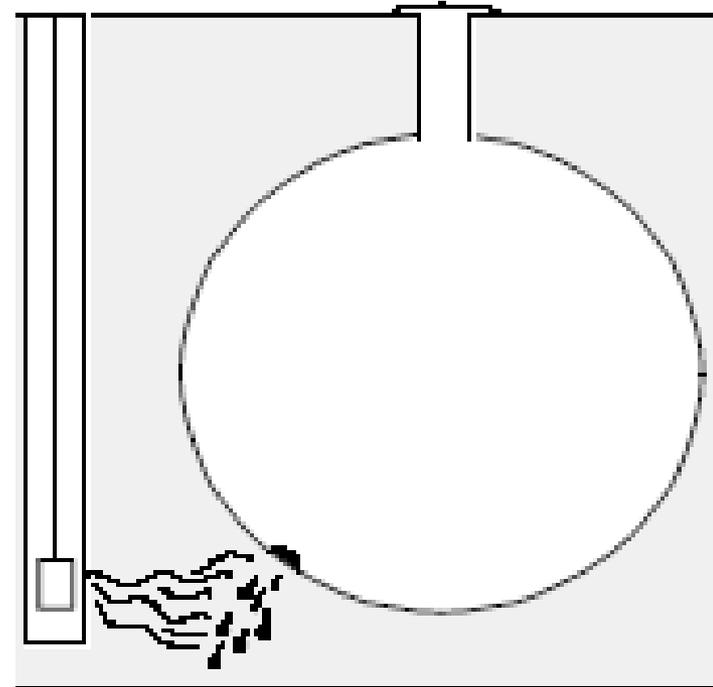
**Due by July 1, 2018**

# Release Detection Equipment

- Automatic Tank Gauge probes/ floats
- Electronic (Interstitial) sensors
- Requires removal of the actual sensor, probe or float
- Already testing line leak detectors
- Can combine with annual walkthrough



Groundwater Monitoring

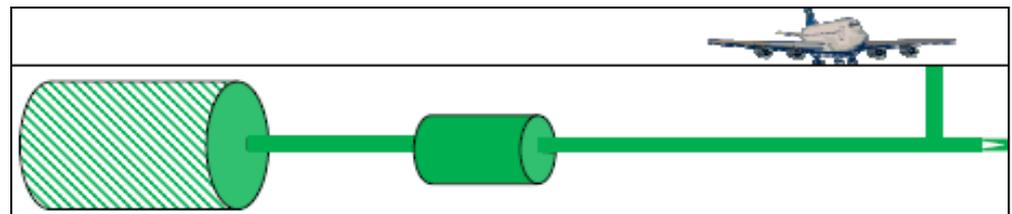
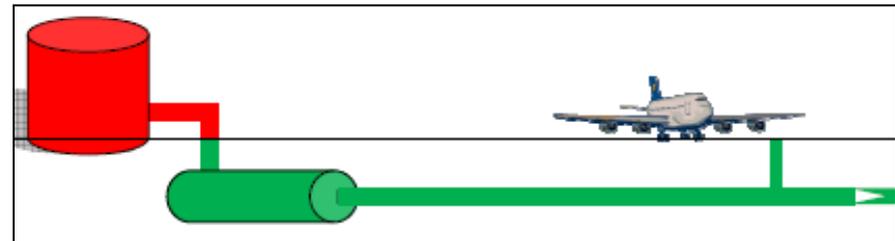
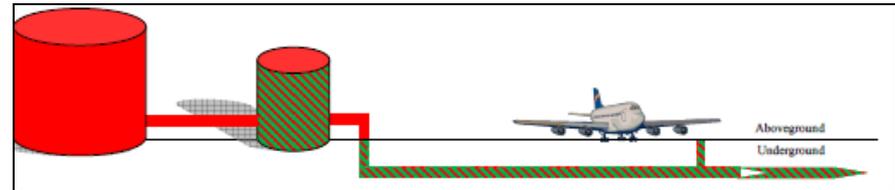
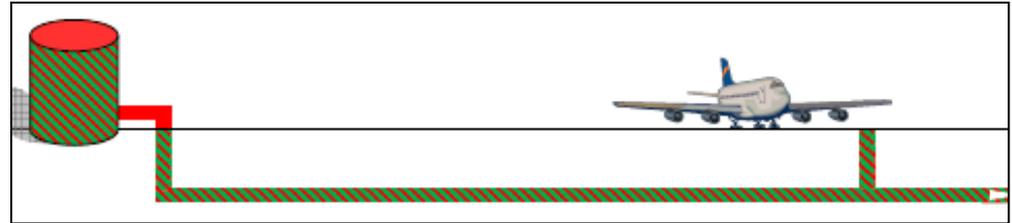


Vapor Monitoring

**Proposing to eliminate methods  
by July 1, 2019**

# New "USTs"

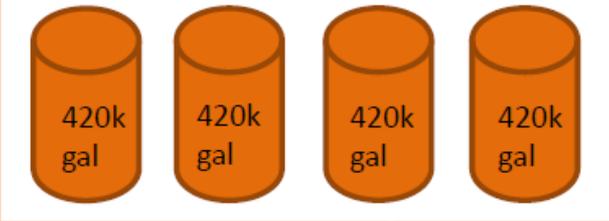
- Airport Fuel Hydrant Systems
- Field Constructed Tanks
- *Did NOT change exempt Oil/ Water Separators*



UST- Water bottoms and pressure relief. Product does not pass through this tank to the hangars.

4k\*

### 1,680,000 gallon aboveground storage



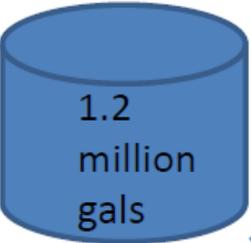
Piping between ASTs and pumphouse  
26,604 gallons

\*2 pumphouses and USTs

Underground piping to ASTs from pumphouse

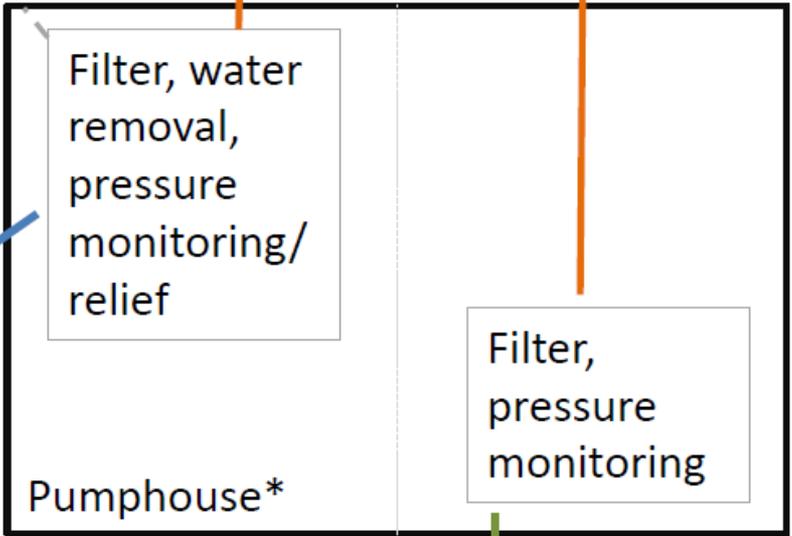
Underground piping from ASTs to other side of pumphouse

2.4m gal aboveground storage



Underground piping to pumphouse

36,312 gallons underground piping



Total Aboveground Storage= 4,080,000 gallons  
Total Underground Storage= 234,134 gallons  
Less than 10% below ground

Underground piping hydrant loop including hangars/docks  
163,218 gallons

Underground piping from pumphouse to hangars



# Operator Training

- Training/testing online **NOW**
- By July 1, 2016 qualified Class A/B
  - Must pass Missouri's online training/testing
  - Be certified in an adjacent/bordering state
- By July 1, 2016 trained or test Class C

[http://www.pstif.org/ust\\_operator\\_training.html](http://www.pstif.org/ust_operator_training.html)

# State Program Approval

- EPA enacts UST rules
- NOT in effect immediately in Missouri
- MDNR will promulgate rules
- MDNR will 'renew' program approval

**EPA Compliance Dates ≠ Missouri  
Compliance Dates**



**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

**40**  
**years**

*Celebrating 40 years of taking care of Missouri's natural resources.*

 **40**  
**years**

**Missouri Department of Natural Resources**

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***Celebrating 40 years of taking  
care of Missouri's natural resources.***