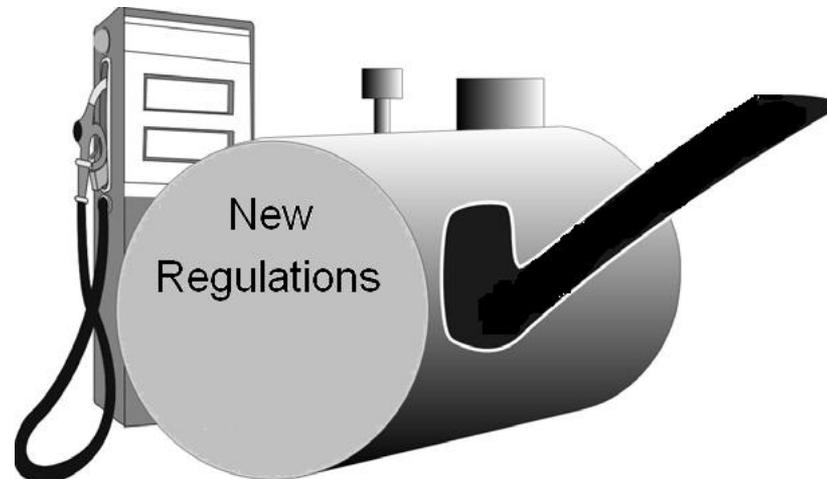




MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

PROPOSED UNDERGROUND STORAGE TANK RULE CHANGES



Heather Peters
UST Compliance and Technology Unit

Regulation Changes

- Federal Rule Based Changes
 - Federal Regulations finalized in July 2015
 - Federal Rules effective October 2015
 - NOT effective in Missouri
- State Rule
 - Finalized and effective May 30, 2017
 - Many state specific deadlines are later than federal rule

State Program Approval (SPA)

- Environmental Protection Agency (EPA) enacts underground storage tank (UST) rules
- NOT in effect immediately in Missouri
- MoDNR has now promulgated rules
- MoDNR will ‘renew’ program approval

**EPA Compliance Dates ≠ Missouri
Compliance Dates**

EPA Has Reviewed Our Rules

- ‘Approved’ most
 - Alternative lining/lined tanks
 - Alternative dispenser sump language
 - Out of use language
 - Did not approve a few items
 - SIR reporting date
 - Operator training – Class C must be trained *before* being responsible before compliance

Definitions

- Many are in the statute
 - 319.100 RSMo
- Federal definitions have been “incorporated by reference”
- Put definitions into state rule

New Installations

- Reduce notification from 30 to 14 days
- Post-installation testing options
 - Tank and Line Tightness Test
 - 0.1gph certified Automatic Tank Gauge (ATG) test with tank 95 percent full
- Testing overflow, spill and sumps at install
 - For new installs after July 1, 2017

After Install - Before Opening

- Test the entire system - ensure it is tight

After July 1, 2017:

- Test the containment sumps
- Test the spill buckets and overflow devices

After Jan. 1, 2020:

- Test the release detection equipment

Propose Tie-Down of All Tanks



Marinas



Petroleum
Equipment
Institute (PEI)

Recommended
Practice RP1000
Installation of
Marina Fueling
Systems

Marinas (cont.)

- Breakaways
- Anti-siphon valves
- Sump locations
- Marina piping



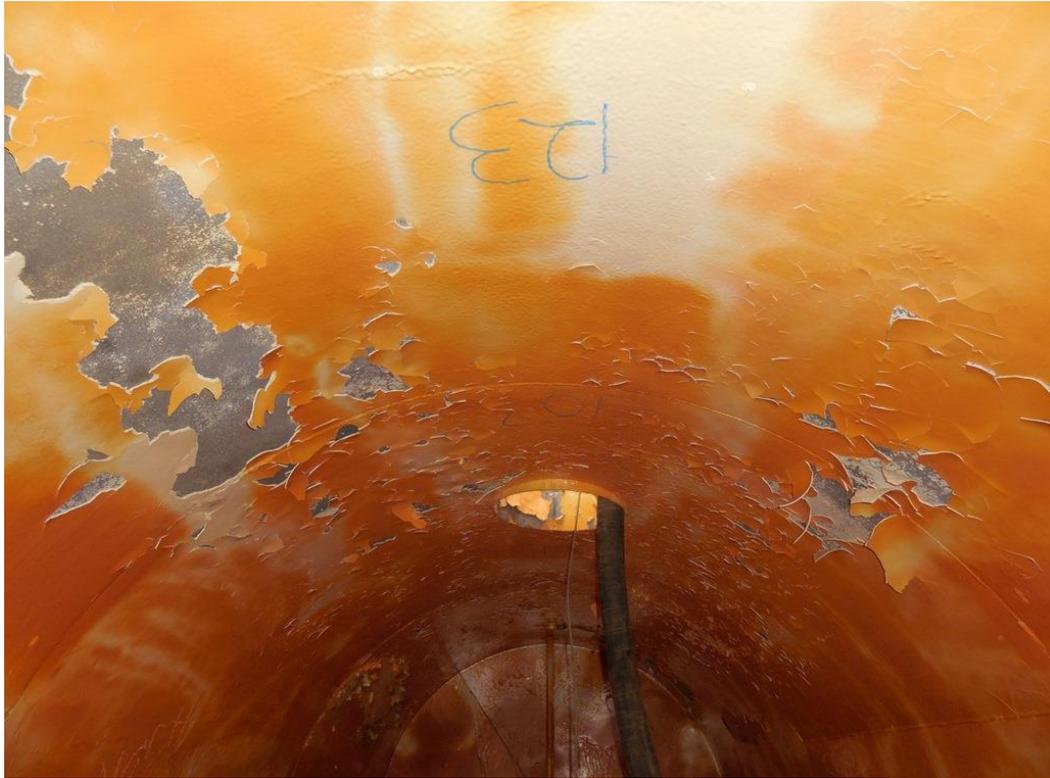
Interior Linings

- Inspections must include photo and/or video documentation
- Repair and install technicians must be NACE or ICC certified
- Include UL 1856



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NATURAL RESOURCES

Interior Linings (cont.)



UL1856 - The New Lining Standard

1. Lining: single-walled, traditional testing
2. Upgrade: double-walled
 - Requires original “host” tank integrity
3. Self-structural: double-walled
 - Does **NOT** require original “host” tank integrity

UL1856 - The New Lining Standard (cont.)

1. Lining: single-walled, traditional testing
 - √ Re-open, repair
2. Upgrade: double-walled
 - × Do not know how to repair (steel tank integrity)
 - × Do not know how to re-open once out of use
3. Self-structural: double-walled
 - √ Repair
 - ? Re-open

Lining Inspection Options

- Standard Five Year Inspection
- OR Interstitial Monitoring
 - If double walled lining
 - May use interstitial monitoring
 - Must have 12 months interstitial monitoring records

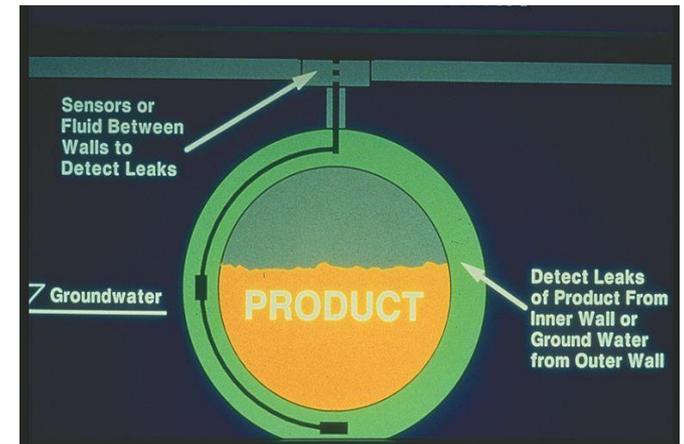
Secondary Containment

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

Effective July 1, 2017

Secondary Containment (cont.)

- Double wall tanks
- Double wall piping
- Containment sumps
- Interstitial monitoring the system



*Does **not** include spill basins or vent piping*

OUTER PIPE

INNER PIPE



Remote Fill Lines – Double-Walled

Not a problem



Problem Install?



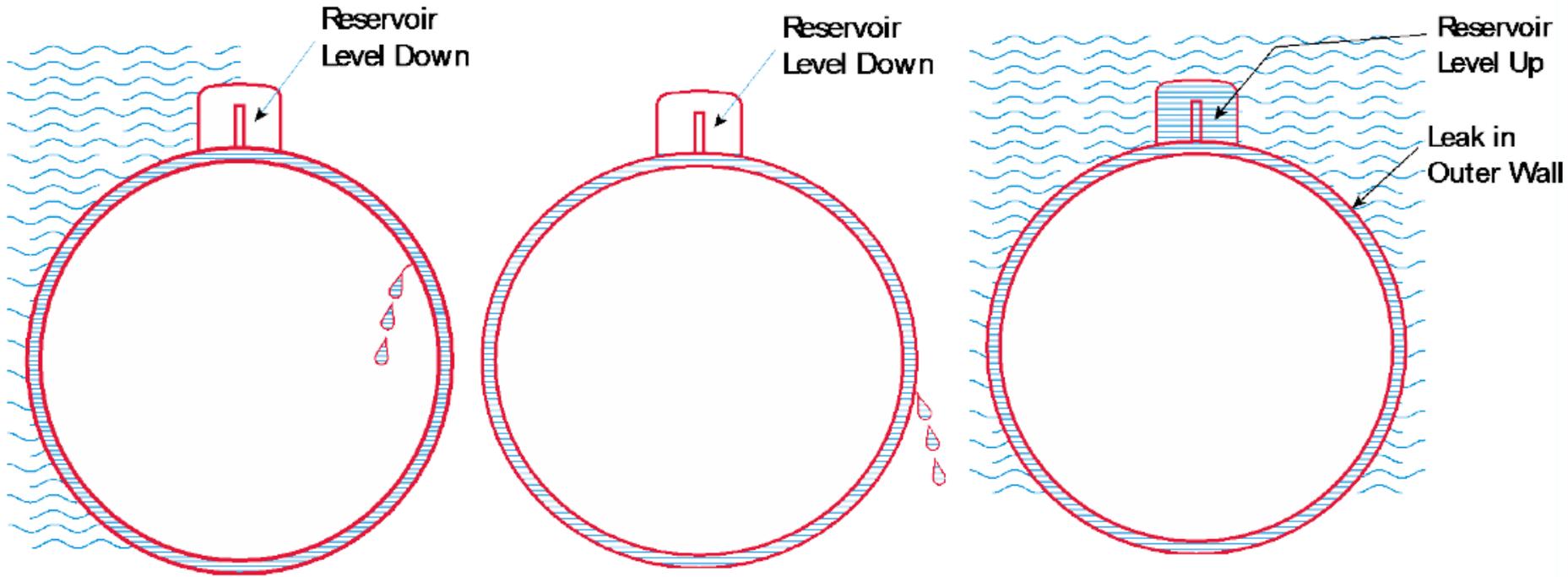


WARNING: DO NOT REMOVE THE CAP UNTIL THE FILLING IS COMPLETE. FAILURE TO CAP BEFORE FILLING MAY CAUSE HAZARDOUS OVERFILL.
DO NOT CHECK FLUID LEVEL. THE MAN HOLES ARE NOT TO BE USED FOR FILLING.
DO NOT REMOVE THE CAP UNTIL THE FILLING IS COMPLETE. FAILURE TO CAP BEFORE FILLING MAY CAUSE HAZARDOUS OVERFILL.

Interstitial Monitoring

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

Brine Interstitial Monitoring



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

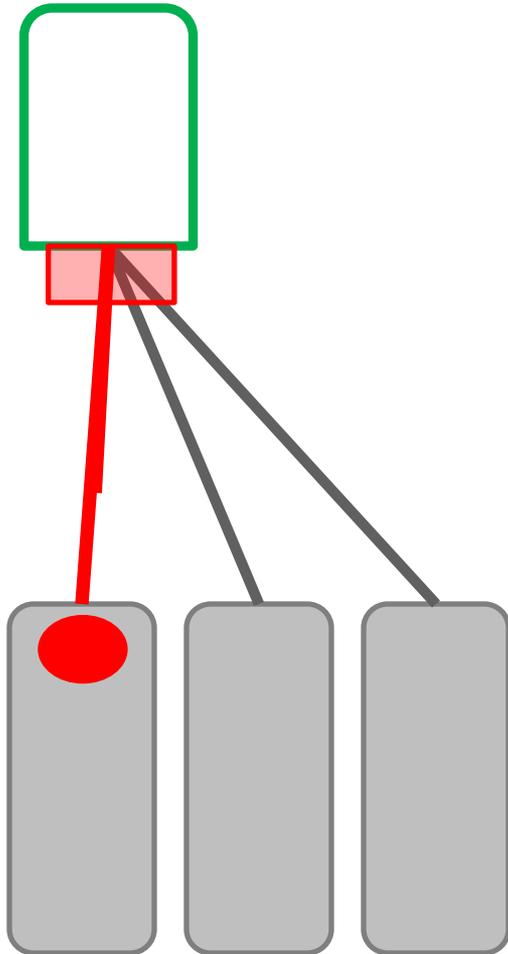
**Secondary-Tank Leak
in Dry Hole**

**Secondary-Tank Leak
in Wet Hole**

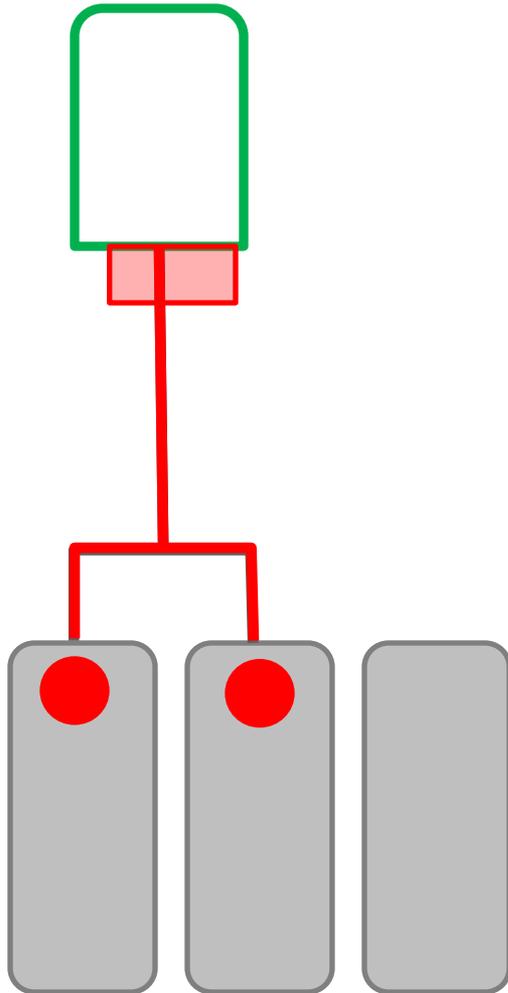
50 Percent Piping System Replacement

- 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

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 three years **OR**
- Must be interstitially monitored annually

Sump testing starting at install July 1, 2017

Dispenser Replacement

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

Starting July 1, 2017

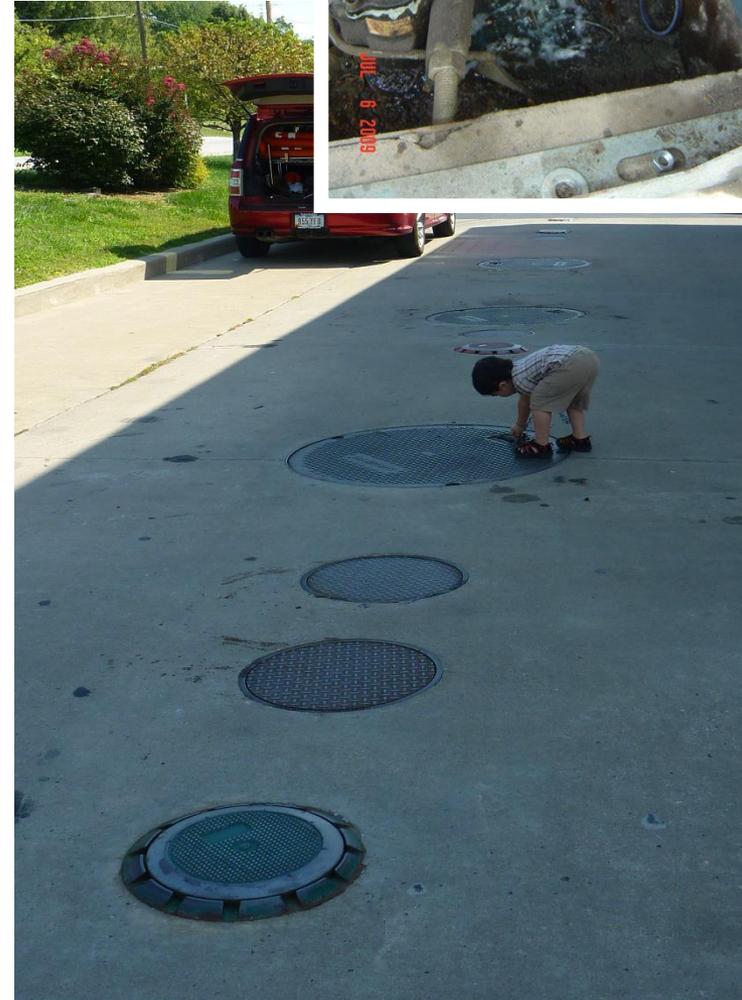


Walkthrough Inspections

Annually:

- *Required* sumps
 - Dispensers
 - Tank top
 - Transition sumps
- Hand-held release detection equipment

Starts at installation





Walkthrough Inspections

Monthly:

- Electronic release detection equipment
- Spill basins

Start Jan. 1, 2020,
or upon installation for new
systems



Spill Bucket Testing

- Every three years **OR**
- Monthly Interstitial
- Post-Repair Testing



If your containment sump is your spill basin, these requirements apply to the sump.

Due at install or by Jan. 1, 2020

Monthly Spill Bucket Monitoring

Date	Staff	Gauge	Action If Any
January	HP	0	
Feb	AD	0	
March	CA	0	
April	BE	0	
May	DK	0	
June	ET	0	
July	HP	0	
August	AD	0	
Sept	CA	0	
Oct	BE	0	
Nov	DK	0	
Dec	ET	0	



ALL Spill Basins Must Be Tested



SYSTEM

STA
22-31

STI 86



Spill Bucket Repairs



- ✓ Allow Repair Kits
- ✓ Allow Repair Inserts
- ✓ Allow Double-Wall Bucket Kits

- × Eliminate Epoxies/Caulks
- × Eliminate Spray-On Adhesives
- × Eliminate Field-Applied Paint



Overflow Prevention Equipment Test

- Every **three** years
- Post-Repair Testing
 - ✓ Confirm all parts functioning and free to move
 - ✓ Confirm will shutoff as installed
 - 95% flapper valve
 - 90% ball float valve
 - 90% alarm

Due at install or by Jan. 1, 2020

“Self-testing” Overfill Devices

Approved**



Approved**



**Testable
7150**
Overfill Prevention Valve

Are you Prepared
for New EPA
Overfill Valve Test
Requirements?

*Spend 60 Seconds vs
60 Minutes per Tank!*

NEW!

Now you can be with the
New OPW Testable 7150
Overfill Prevention Valve

*The easiest, most affordable way
to ensure overfill compliance*

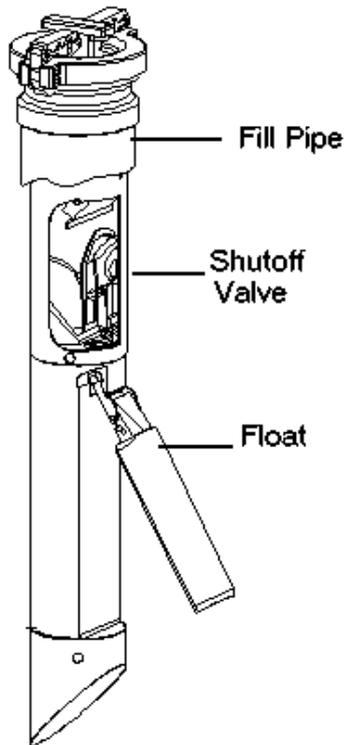
- UST systems (drop tube, overfill prevention valve, spill containers) must be tested for vapor tightness
- Overfill prevention valves shut off devices must be manually inspected

Overflow Prevention Equipment

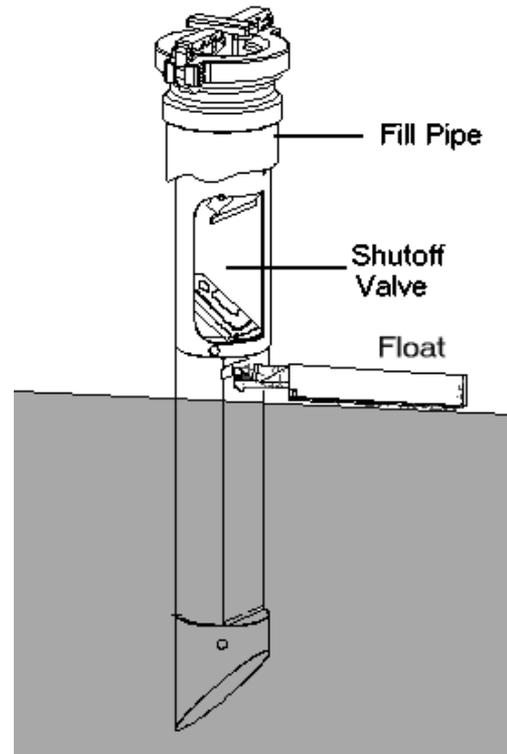


Overflow Prevention Equipment (cont.)

Open

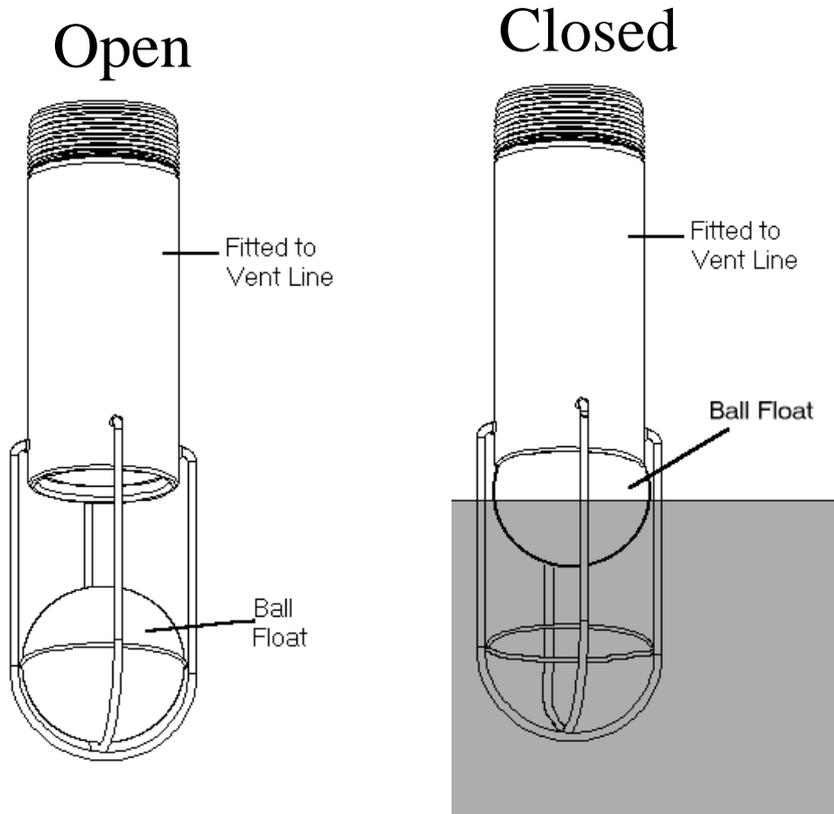


Closed



Flapper Valve/Automatic Shutoff

Overfill Prevention Equipment (cont.)



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

Ball Float Valve/Automatic Flow Restrictor

Overfill Alarm

- Test every three years
- Check at ATG and outside
- Can combine with ATG operability test

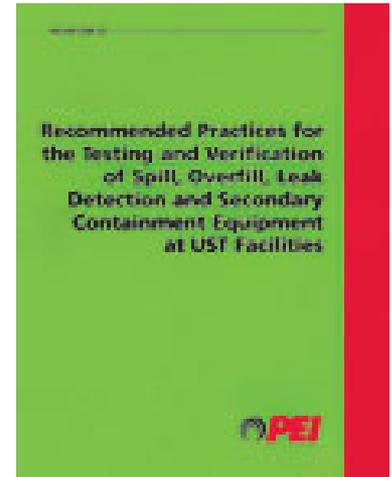


Containment Sump Testing

- Annual Interstitial Monitoring

OR

- NWGLDE listed test
- Petroleum Equipment Institute (PEI) RP 1200
- Other pre-approved test

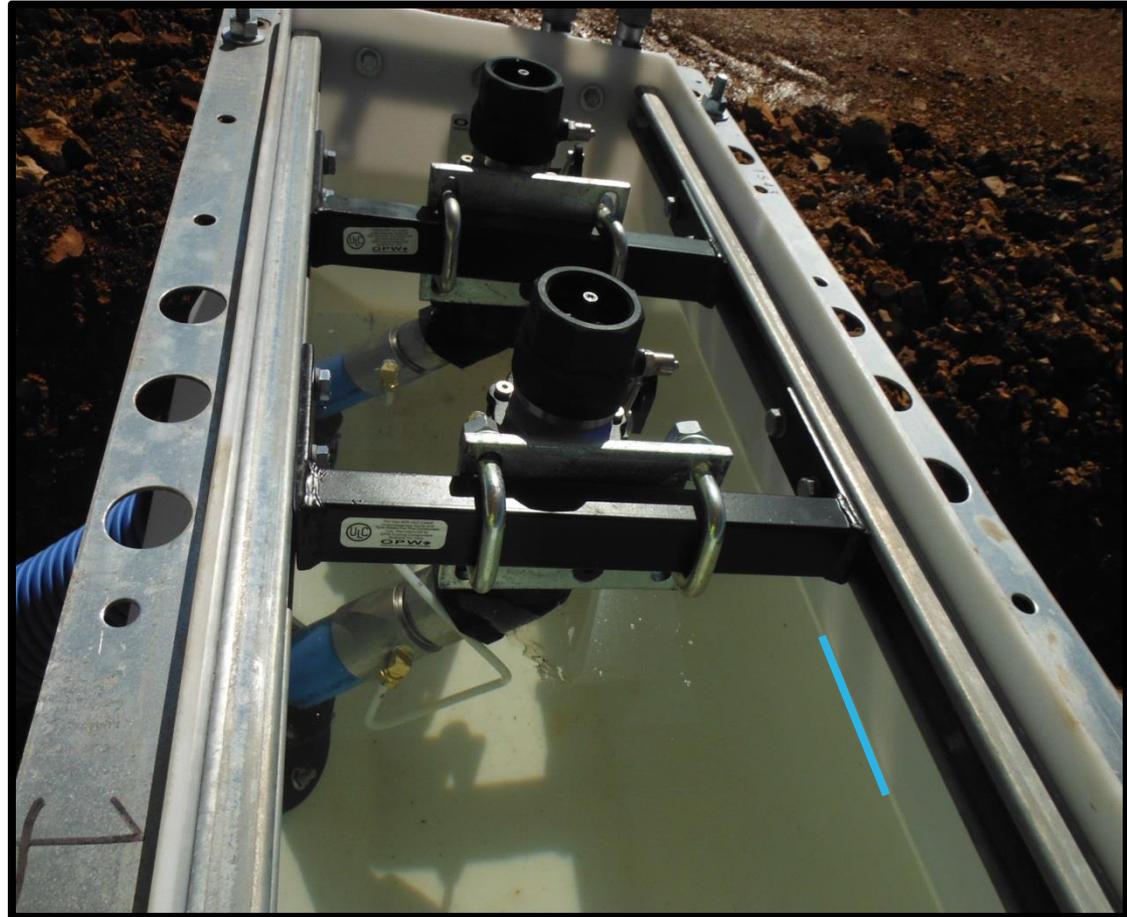


PEI RP 1200

Due at install - then every three years

Containment Sump Testing (cont.)

- Fill sump with water
- Measure for water loss (1/8th")
- Dispose of water



Consider Double-Walled Sumps and Interstitial Testing

Containment Sump Testing (cont.)

- If vented, be able to cap and/or seal
- Clean product out of sumps
- Dispose of cleaning materials
- *May* be able to re-use “testing” water
- Haul water from site to site

Consider double-walled sumps

Containment Sump Repairs

- Have not drafted repair regulations
- Required sumps will be monitored monthly
- Must respond to alarms
 - Ingress of water
 - Repairs will need to be water-tight

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

Release Detection Equipment

- Must be tested annually
- Will have to “pick” primary method
- New tanks and piping (after July 1, 2017) must use interstitial as primary



Due by Jan. 1, 2020

Release Detection Equipment (cont.)

- ATG probes and floats
- Electronic (Interstitial) sensors
- Requires removal of the actual sensor, probe or float
- Must meet manufacturer certification and/or training requirements
- Already testing line leak detectors
- Can combine with annual walkthrough

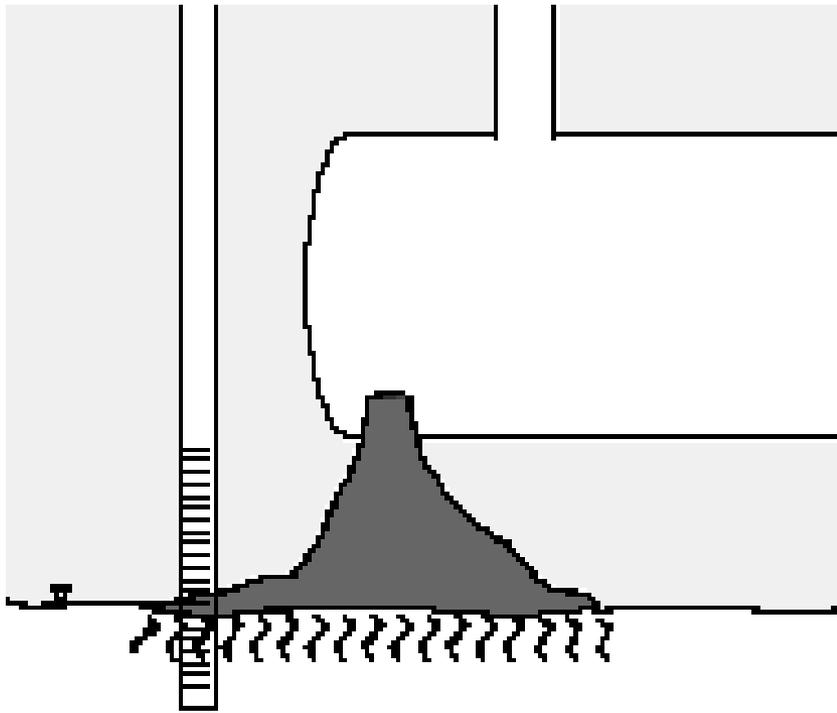
Statistical Inventory Reconciliation

- EPA is requiring report by *end of month* (30th/31st)
- Denying our 15th of month currently in rule
- MoDNR is debating this answer (SPA)
- EPA Region vs HQ (SPA)
- “Policy” Option on the table
- Role of NWGLDE (National Work Group on Leak Detection Evaluation nwglde.org)

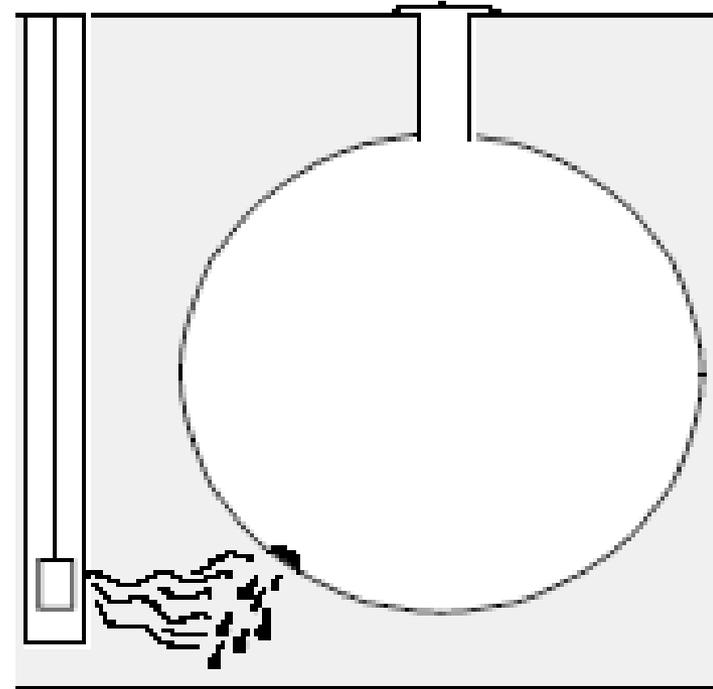
Statistical Inventory Reconciliation (cont.)

- Keep supporting documentation*
- Daily inventory and deliveries*
- Read product level to the nearest 1/8”*
- Report due by 15th of following month*
- **May 30, 2017- report will be due by the 10th**
- Should not be used at high-throughput*

**2011 rules*



Groundwater Monitoring



Vapor Monitoring

Methods sunset by July 1, 2020

Biofuels

- Must notify at least 30 days prior to switching tank to biofuel
- Prove compatible
- Can ask compatibility for any UST system
- Pre-1981 fiberglass tanks likely not compatible with regular gasoline (10 percent ethanol)

Monthly Testing

Existing Site (Start Jan. 1, 2020)

- Walkthrough Inspection
 - Check Spill buckets
 - Interstitial skip three year test
 - Check release detection
 - Every other month check rectifier for cathodic protection, if present

New Sites (Start July 1, 2017)

- Walkthrough Inspection
 - Check Spill buckets
 - Interstitial skip three year test
 - Check release detection

Annual Testing

Existing Site (Start Jan. 1, 2020)

- Line Tightness Test
- Line Leak Detector Test
- ATG Check (release detection)
- Walkthrough Inspection

New Sites (Start July 1, 2017)

- Line Leak Detector Test
- Containment Sump Sensors Checked
- Tank Interstitial Sensors Checked
- Walkthrough Inspection
- Containment Sump *Interstitial* Sensors Checked (skip three year test)

Triennial Testing (Three Years)

Existing Site (Start Jan. 1, 2020)

- Spill Bucket Test
 - (unless monthly interstice)
- Overfill Prevention Test
- Cathodic Protection System Test (if present)

New Sites (Start July 1, 2017)

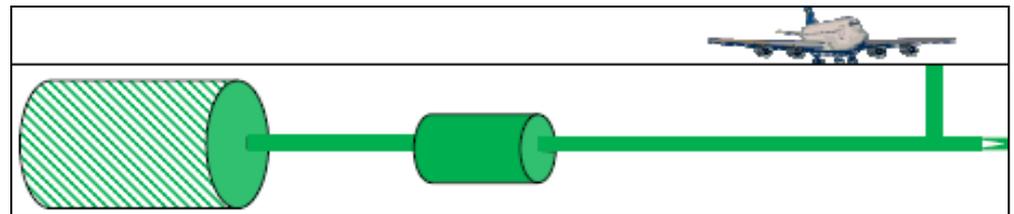
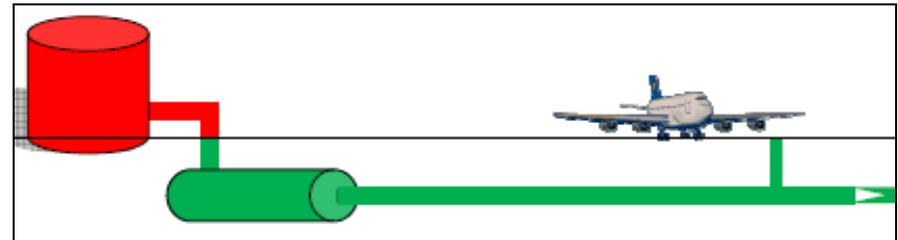
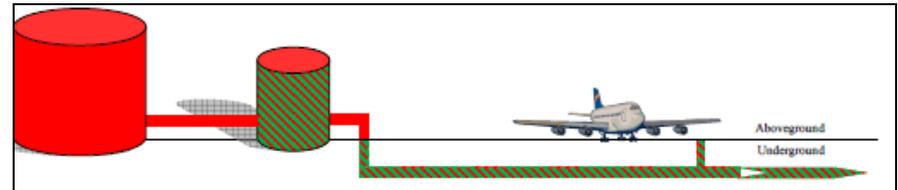
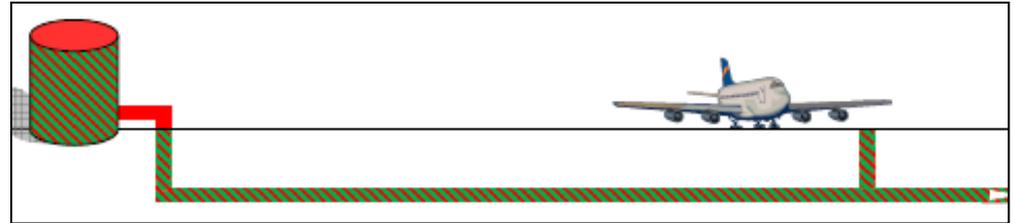
- Containment Sump Test
 - (unless annual interstice)
- Spill Bucket Test
 - (unless monthly interstice)
- Overfill Prevention Test

Key Dates to Remember

- New Systems: **July 1, 2017**
- Existing Sites: **Jan. 1, 2020**

New “USTs”

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

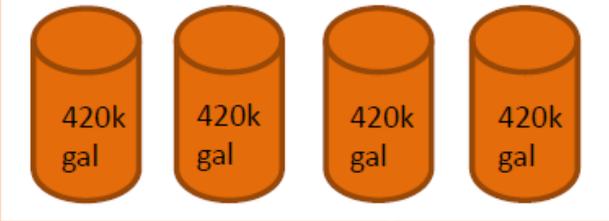


UST- Water bottoms and pressure relief. Product does not pass through this tank to the hangars.



*2 pumphouses and USTs

1,680,000 gallon aboveground storage

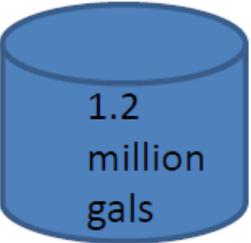
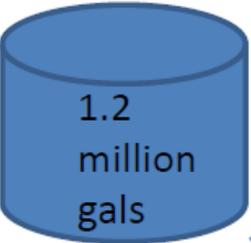


Piping between ASTs and pumphouse
26,604 gallons

Underground piping to ASTs from pumphouse

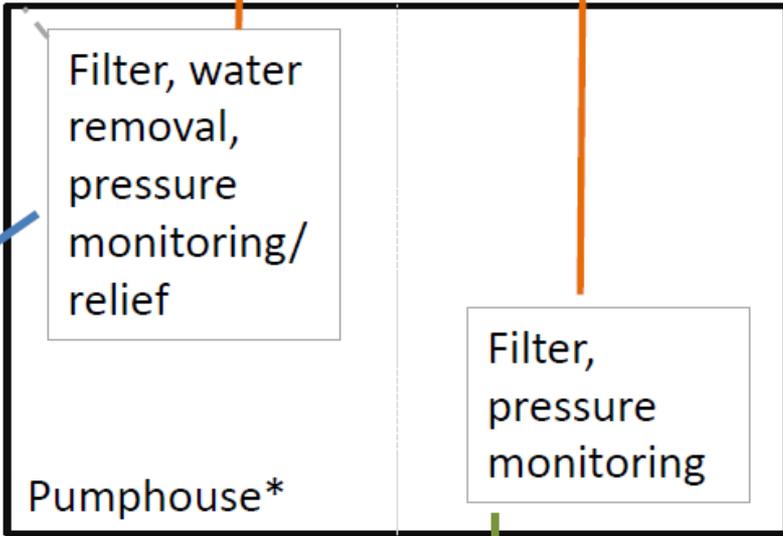
Underground piping from ASTs to other side of pumphouse

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



Airport Fuel Hydrant Systems

July 1, 2019

- Register/FR
- Operator Training
- Release Prevention

July 1, 2020

- Release Detection

Operator Training

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

pstif.org/ust_operator_training.html

Operator Documentation

- Class A/B
 - On-line Test/Training
 - Certificate from neighboring state
- Class C
 - Class A/B operator or Mo Class C on-line
 - Only one needs to be designated/documentated
 - Class A/B Operator signs all are trained

Class A/B & Class C Operator Designation Form

Class C Operator Training Certification

FILE

ST

For this designation to be accepted, each section must be completed.
Training is required for Missouri Class A/B and Class C persons pursuant to 10 CSR 100-6.010.

Designation of Class A/B and Class C Operator

I am the designated Class A/B and Class C Operator for the facilities listed in this section.

If you did not use the on-line testing or training program at www.pstif.org, please provide your state-issued certificate from Arkansas, Oklahoma, Kansas, Iowa, Illinois, Kentucky, or Tennessee.

This designation applies to:

- Only the facility(ies) listed: _____
- All facilities owned by the following owner identification number(s): _____
- All facilities on the attached list (must provide a list of facilities).

I hereby certify that all Class C operators are properly trained pursuant to 10 CSR 100-6.010.

- Class C Operators have successfully completed the on-line training provided by the Missouri Petroleum Storage Tank Insurance Fund at www.pstif.org
- Class C Operators have passed the on-line test-only option offered by the Missouri Petroleum Storage Tank Insurance Fund at www.pstif.org
- Class C Operators have been properly trained on identifying and responding to alarms, spills, releases and other indications of an emergency, including:
 - Initial response to spills and overfills.
 - What to do in the event of a spill, overflow or release.
 - Who to contact in the event of these emergencies.

I am an: owner (or owner's agent) operator (or operator's agent) independent contractor

CLASS A/B and C OPERATOR NAME

E-MAIL ADDRESS (preferably associated with on-line certification):

CLASS A/B and C OPERATOR SIGNATURE

Stay Tuned

- Webpage:
dnr.mo.gov/env/hwp/ustchanges.htm
- Sign up for our e-mail service:
public.govdelivery.com/accounts/MODNR/subscriber/new?topic_id=MODNR_128



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- Questions, Comments or Concerns?

heather.peters@dnr.mo.gov

573-751-7877