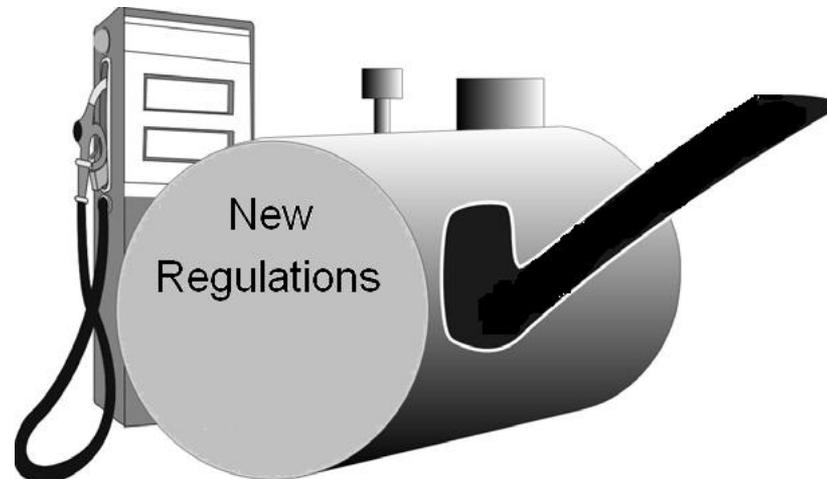




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# *PROPOSED* UNDERGROUND STORAGE TANK RULE CHANGES



*Heather Peters*  
*UST Compliance and Technology Unit*

# Regulation Changes

- Federal Rule Based Changes
  - Federal Regulations finalized in July
  - Federal Rules effective October
  - NOT effective in Missouri
- State proposed changes
  - Open for discussion
  - Very few of the changes

# State Program Approval (SPA)

- Environmental Protection Agency (EPA) enacts UST rules
- NOT in effect immediately in Missouri
- MoDNR will promulgate 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/ FR
- 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”
- Propose to pull definitions into state rule (will be longer)

# New Installations

- Reduce notification from 30 to 14 days
- Install notice for piping (as well as tanks)
- Post-installation testing options
  - Tank and Line Tightness Test
  - 0.1gph certified Automatic Tank Gauge (ATG) test with tank 95% full
- Testing overflow, spill and sumps at install
  - For new installs after 7/1/2017

# 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

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

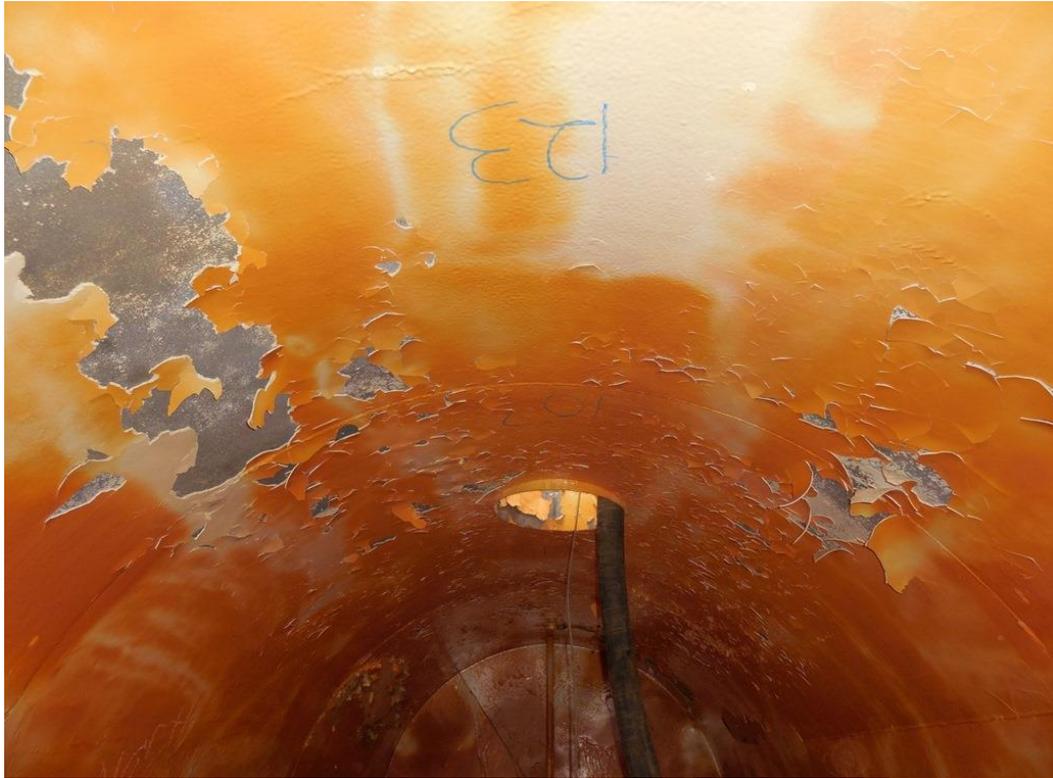


# Interior Linings

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



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# Interior Linings



# 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 5 year Inspection
- OR Interstitial Monitoring
  - If double walled lining
  - May use interstitial monitoring
  - Must have 12 months interstitial monitoring records

**NEW!**

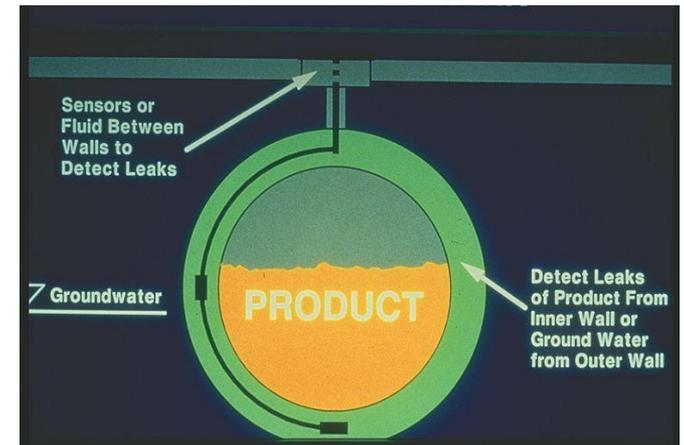
# Secondary Containment

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

**Effective July 1, 2017**

# Secondary Containment

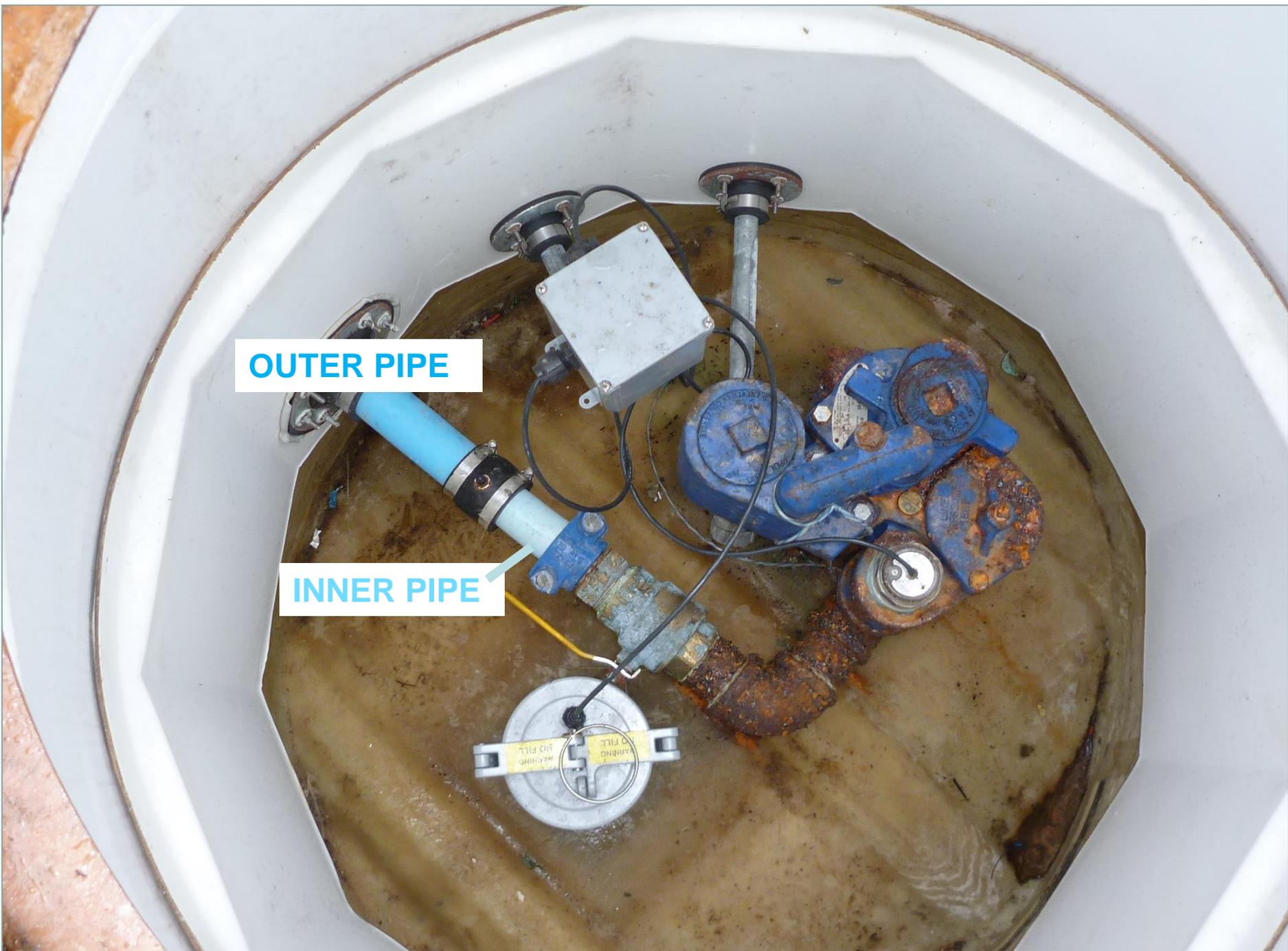
- Double wall tanks
- Double wall piping
- Containment sumps
- Interstitial monitoring the system



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

**OUTER PIPE**

**INNER PIPE**





# Remote fill lines – Double walled

**Not a problem**



**Problem Install?**



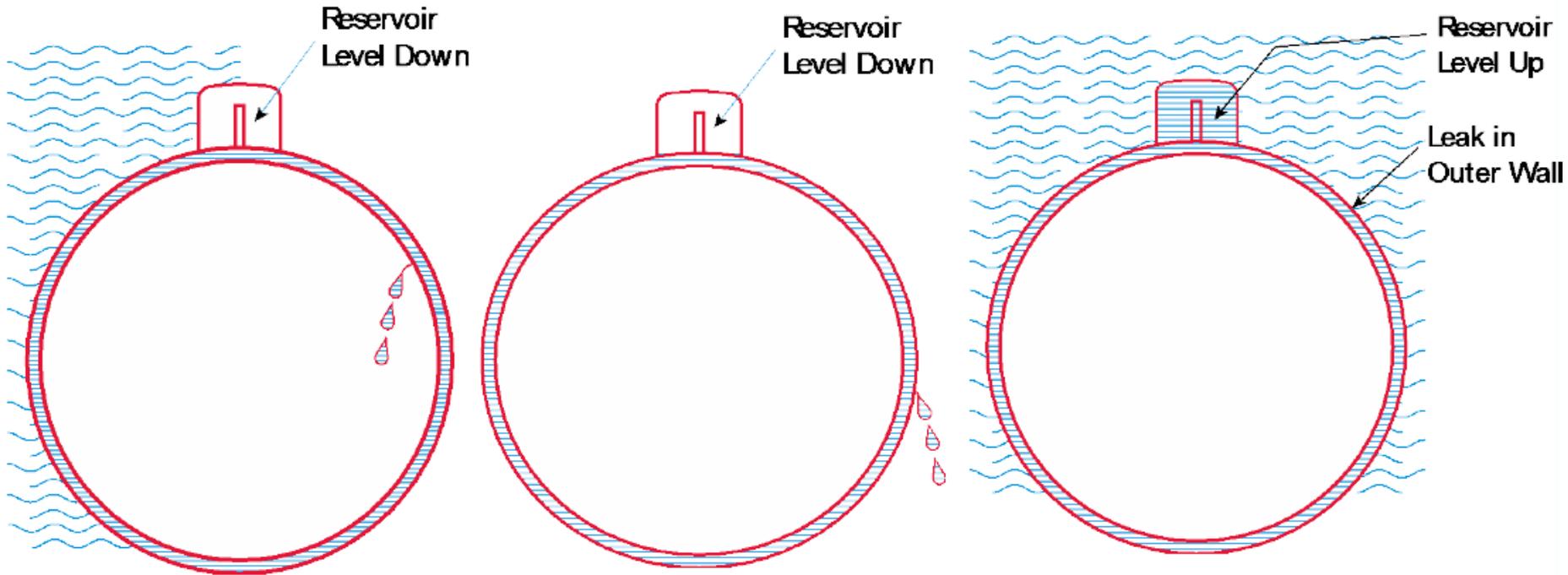


WARNING: DO NOT REMOVE THE CAP UNTIL THE FILLING IS COMPLETE. FAILURE TO CAP BEFORE FILLING MAY CAUSE HAZARDOUS OVERFILL.  
DO NOT CHECK FLUID LEVEL. THE MAN HOUSING IS NOT TO BE OPENED.  
DO NOT REMOVE THE CAP UNTIL THE FILLING IS COMPLETE.  
DO NOT REMOVE THE CAP UNTIL THE FILLING IS COMPLETE.

# Interstitial Monitoring

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

# Brine Interstitial Monitoring



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

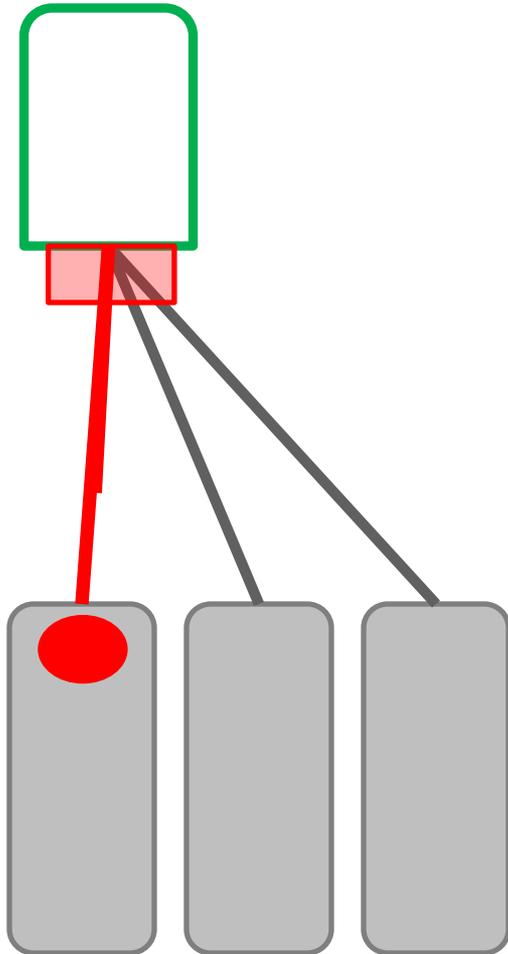
**Secondary-Tank Leak  
in Dry Hole**

**Secondary-Tank Leak  
in Wet Hole**

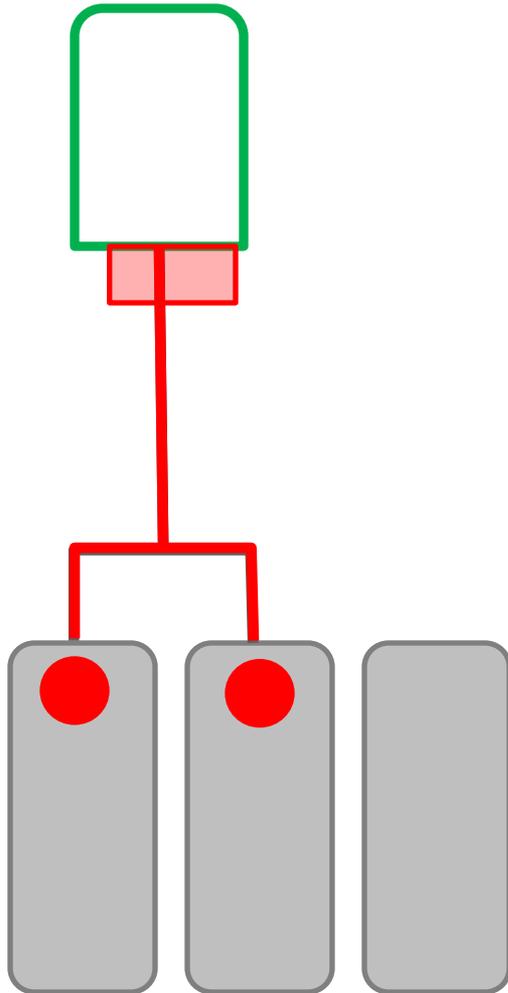
# 50% Piping System Replacement

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

**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**

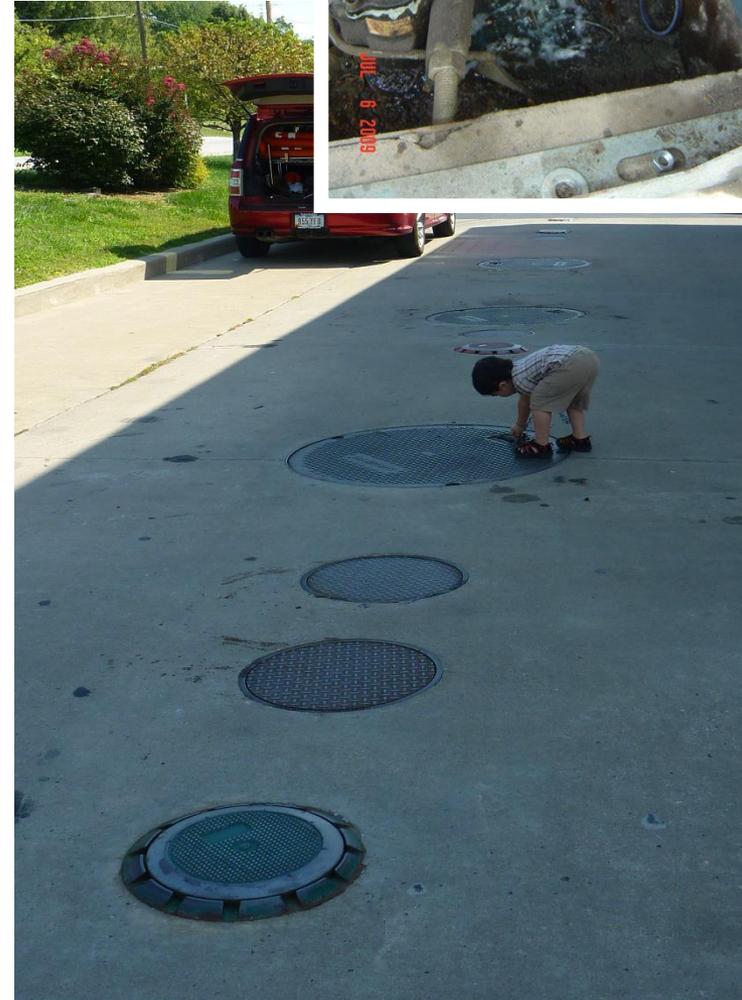


# Walkthrough Inspections

Annually:

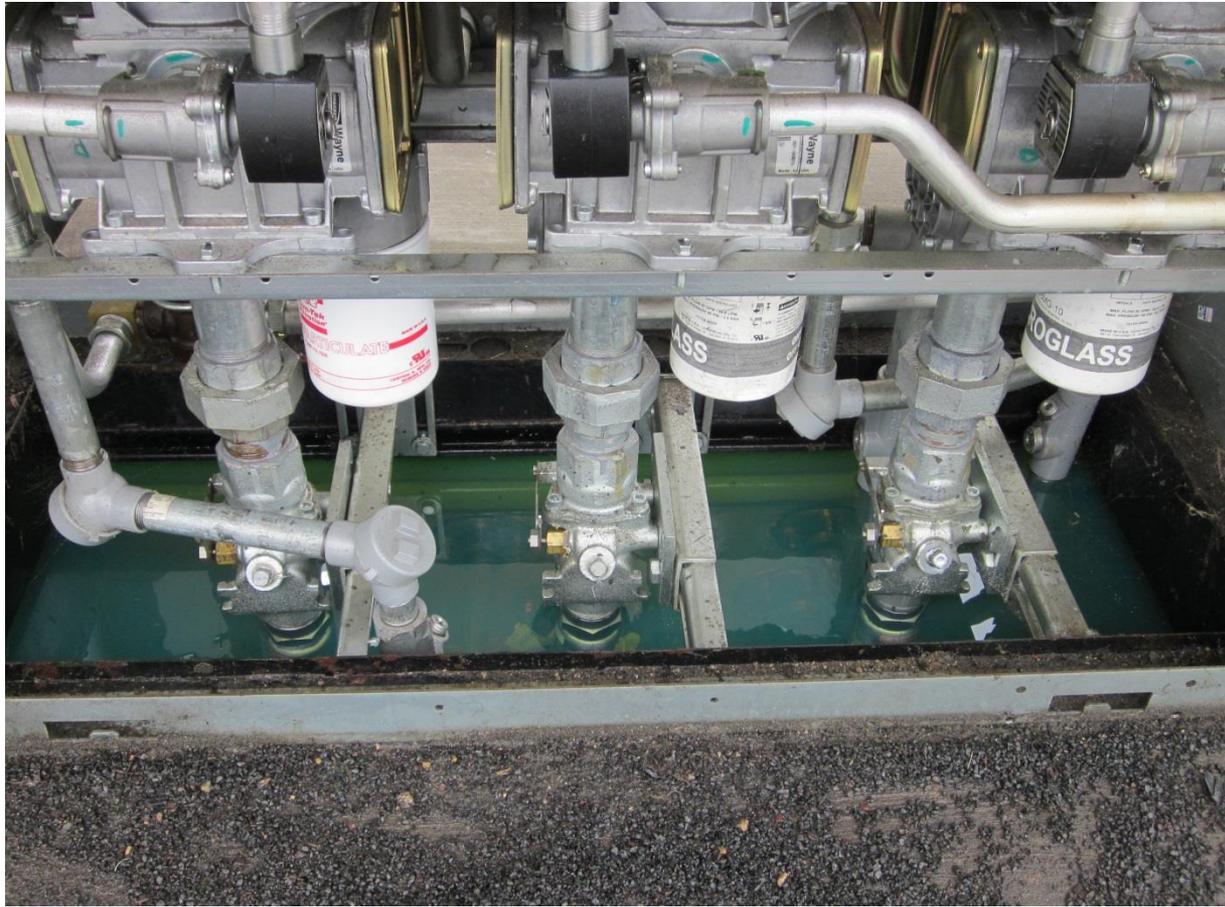
- Dispensers
- All tank top manholes/containment sumps
- Hand-held release detection equipment

**Start Jan. 1, 2020**





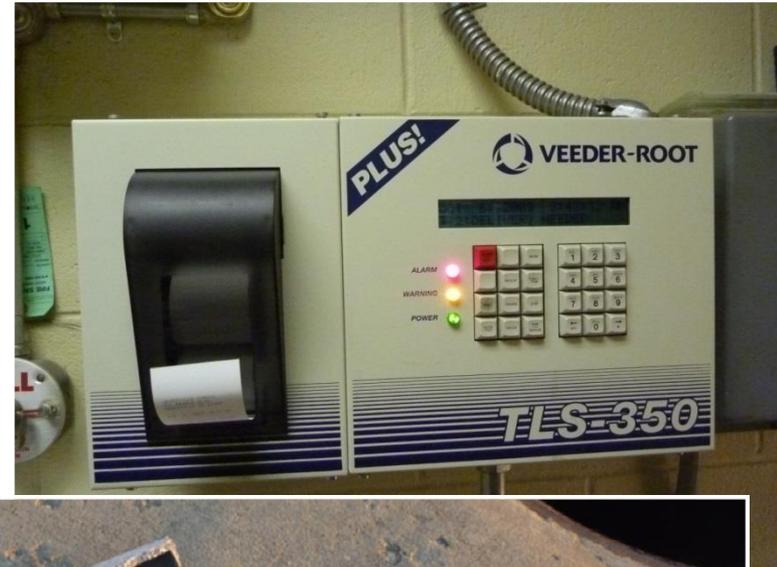
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# Walkthrough Inspections

Monthly:

- Electronic release detection equipment
- Spill basins



**Start Jan. 1, 2020**

# 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  
22-91

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/ 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

Maybe so



Probably Not



**Testable  
7150**  
Overfill Prevention Valve

Are you Prepared  
for New EPA  
Overfill Valve Test  
Requirements?

Spent 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*

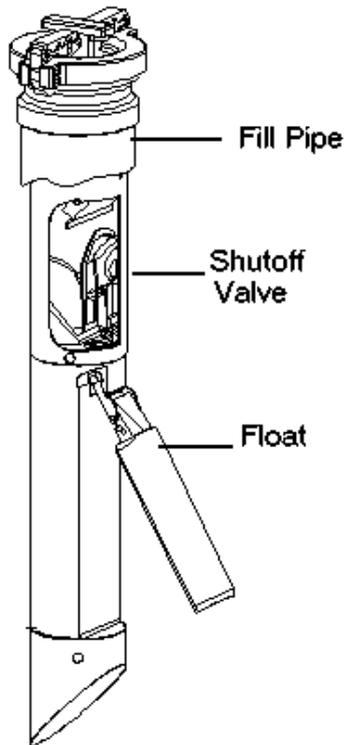
- UST systems (drop tube, overfill prevention valve, spill containers) must be tested for vapor tightness
- Overfill prevention valves shut off devices must be manually inspected

# Overflow Prevention Equipment

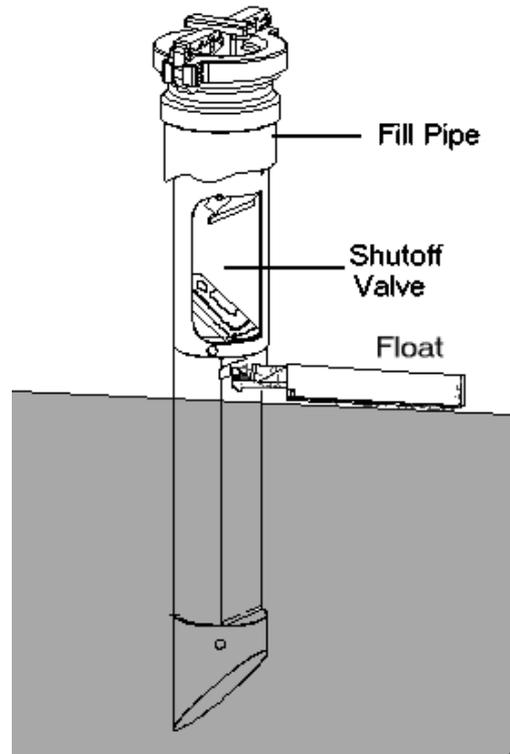


# Overflow Prevention Equipment (cont.)

Open

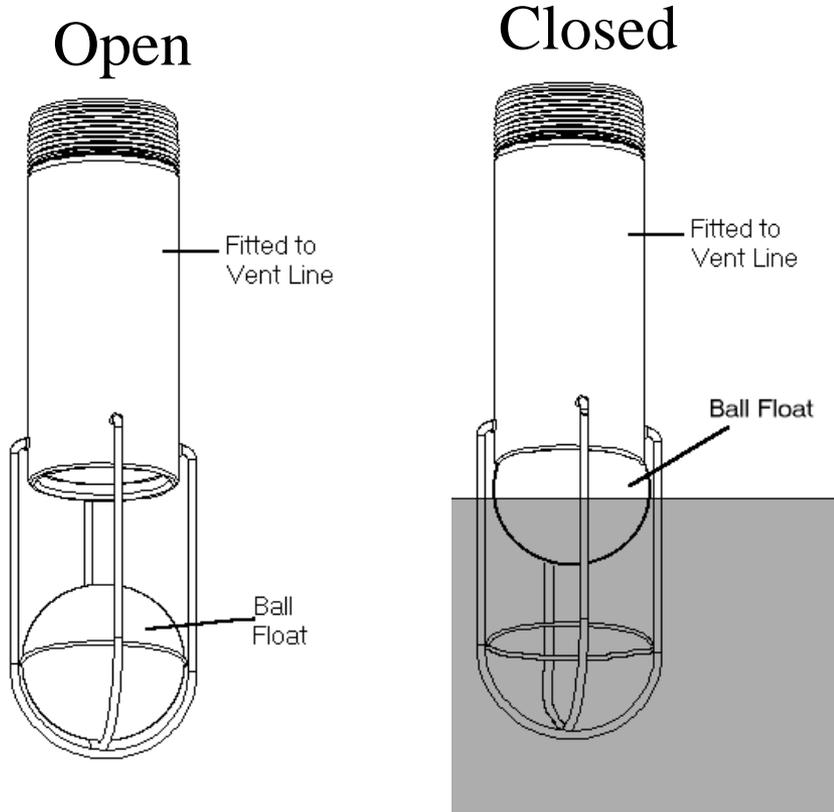


Closed



**Flapper Valve/ Automatic Shutoff**

# Overflow 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

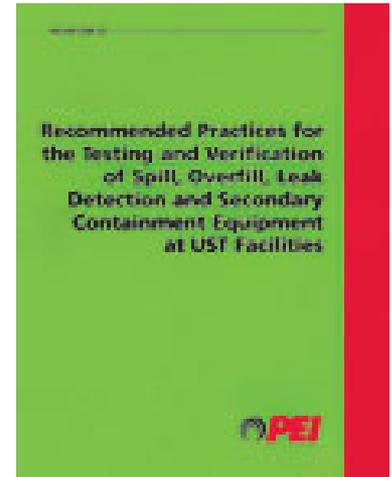


# Containment Sump Testing

- Annual Interstitial monitoring

OR

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

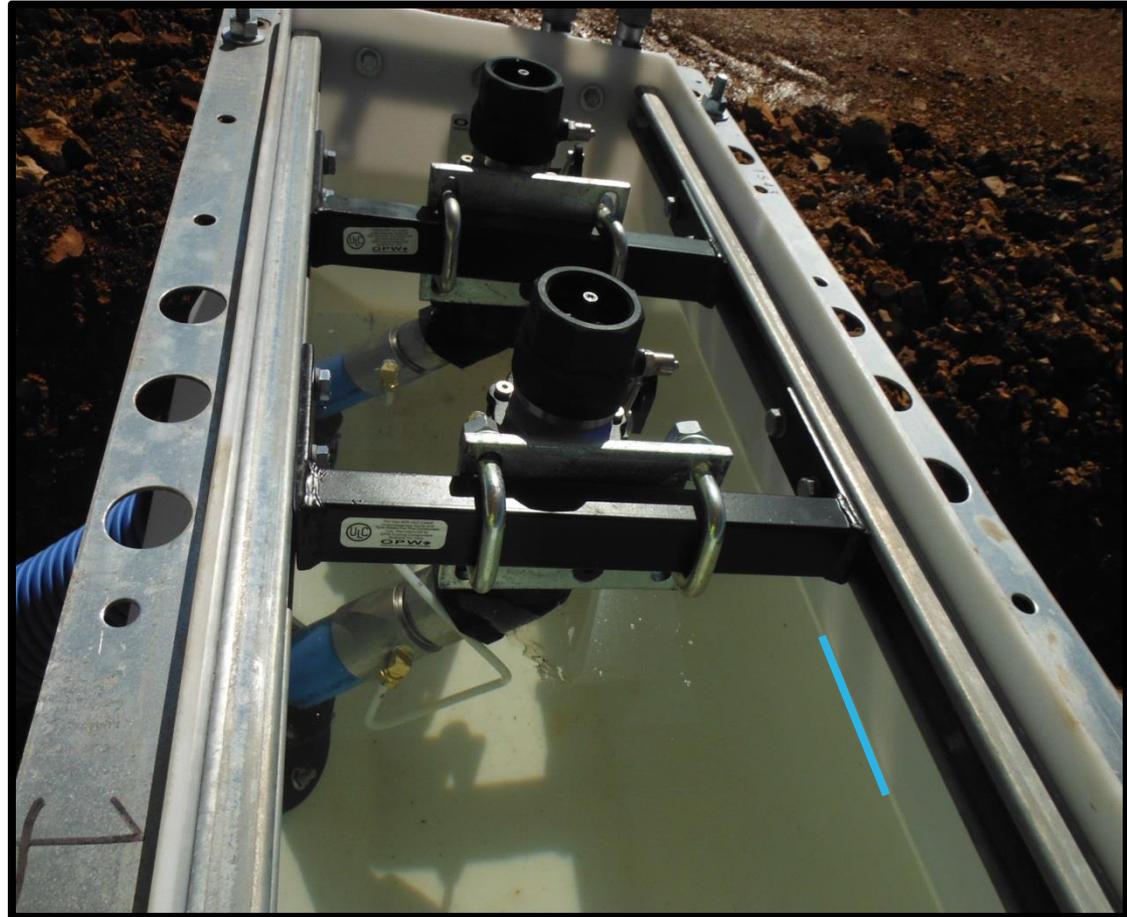


**PEI RP 1200**

**Due at install- then every three years**

# Containment Sump Testing (cont.)

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



***Consider Double-Walled Sumps and Interstitial Testing!***

# Containment Sump Testing (cont.)

- If vented, be able to cap/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 7/1/17) must use interstitial as primary



**Due by Jan. 1, 2020**

# Release Detection Equipment (cont.)

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

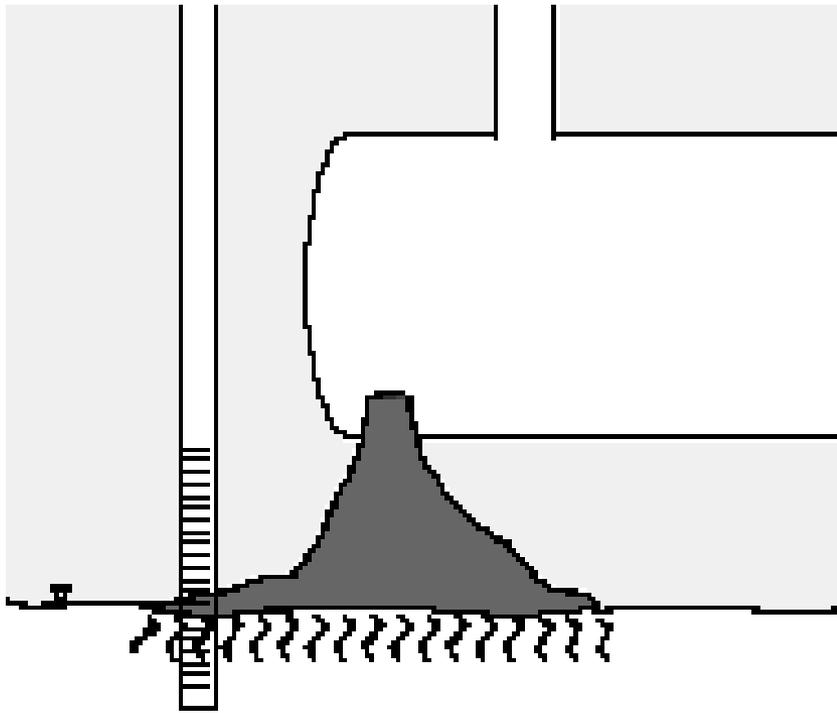
# Statistical Inventory Reconciliation

- EPA is requiring report by *end of month* (30<sup>th</sup>/31<sup>st</sup>)
- Denying our 15<sup>th</sup> 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 [www.nwglde.org](http://www.nwglde.org))

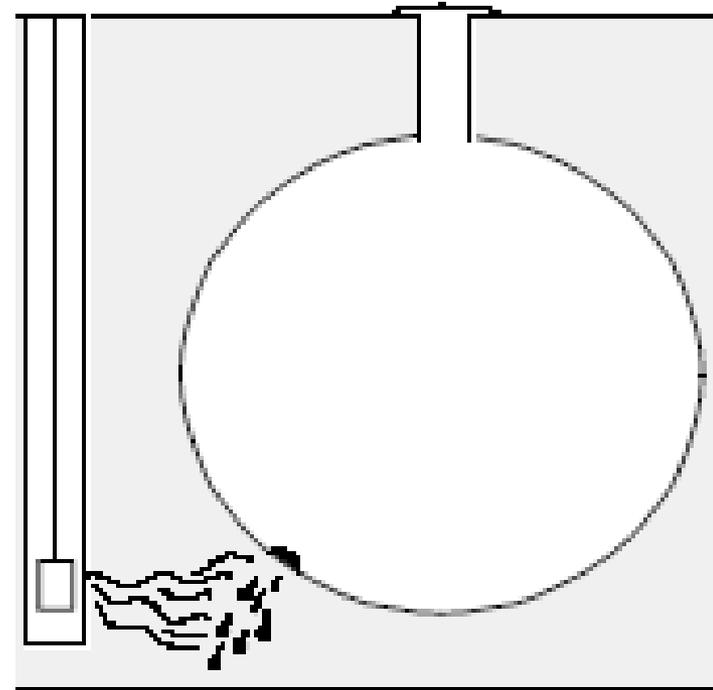
# Statistical Inventory Reconciliation (cont.)

- Keep supporting documentation
- Daily inventory and deliveries
- Read product level to the nearest 1/8"
- **Report due by 15<sup>th</sup> of following month**
- Should not be used at high-throughput

*2011 Rule package*



Groundwater Monitoring



Vapor Monitoring

**Proposing to eliminate methods  
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 FRP tanks likely not compatible with regular gasoline (10% ethanol)

# Monthly Testing

## **Existing Site (Start 1/1/20)**

- 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 7/1/17)**

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

# Annual Testing

## Existing Site (Start 1/1/20)

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

## New Sites (Start 7/1/17)

- 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 1/1/20)

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

## New Sites (Start 7/1/17)

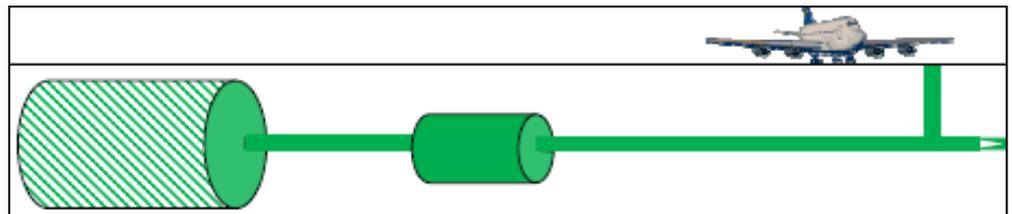
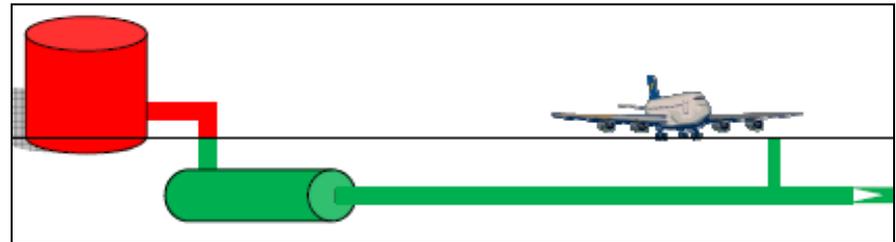
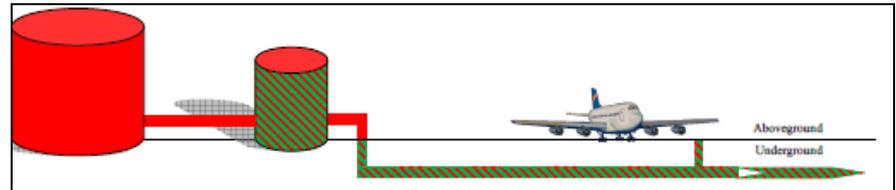
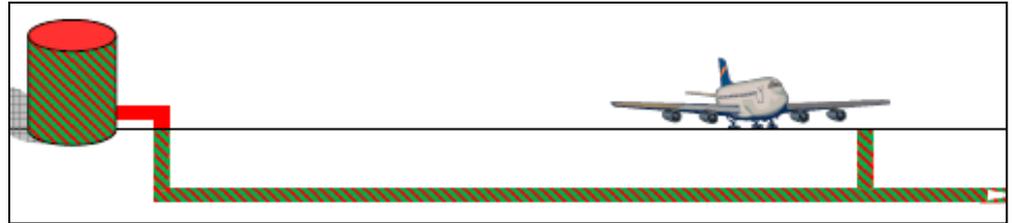
- Containment Sump Test
  - (unless annual interstice)
- Spill Bucket Test
  - (unless monthly interstice)
- Overfill Prevention Test

# 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*

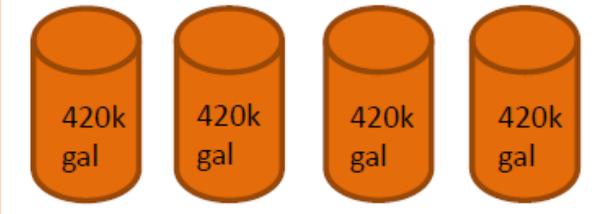


UST- Water bottoms and pressure relief. Product does not pass through this tank to the hangars.



\*2 pumphouses and USTs

### 1,680,000 gallon aboveground storage

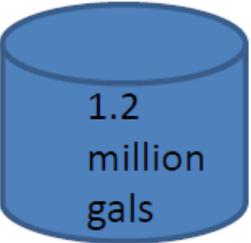
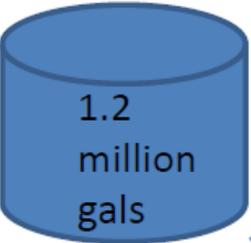


Piping between ASTs and pumphouse  
26,604 gallons

Underground piping to ASTs from pumphouse

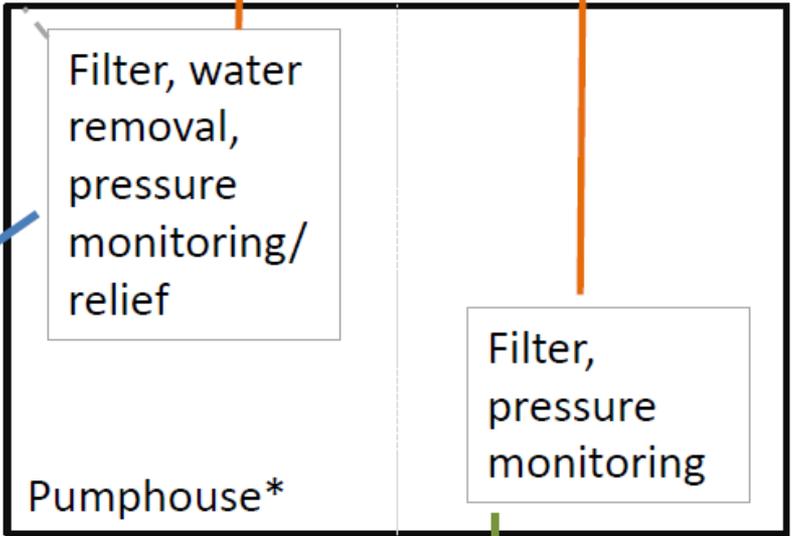
Underground piping from ASTs to other side of pumphouse

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/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)

# *Draft* 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](http://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](http://www.pstif.org)
- Class C Operators have passed the on-line testing option offered by the Missouri Petroleum Storage Tank Insurance Fund at [www.pstif.org](http://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, overfill 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:

<http://dnr.mo.gov/env/hwp/ustchanges.htm>

- Sign up for our e-mail service:

[https://public.govdelivery.com/accounts/MODNR/subscriber/new?topic\\_id=MODNR\\_128](https://public.govdelivery.com/accounts/MODNR/subscriber/new?topic_id=MODNR_128)



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- Questions, Comments or Concerns?

[heather.peters@dnr.mo.gov](mailto:heather.peters@dnr.mo.gov)

573-751-7877