How Do I Operate in Compliance?

Tank Compliance and Weights and Measures

Division of Oil and Public Safety 2019 Outreach

Today’s Speakers

Zach Hope – AST and UST Compliance

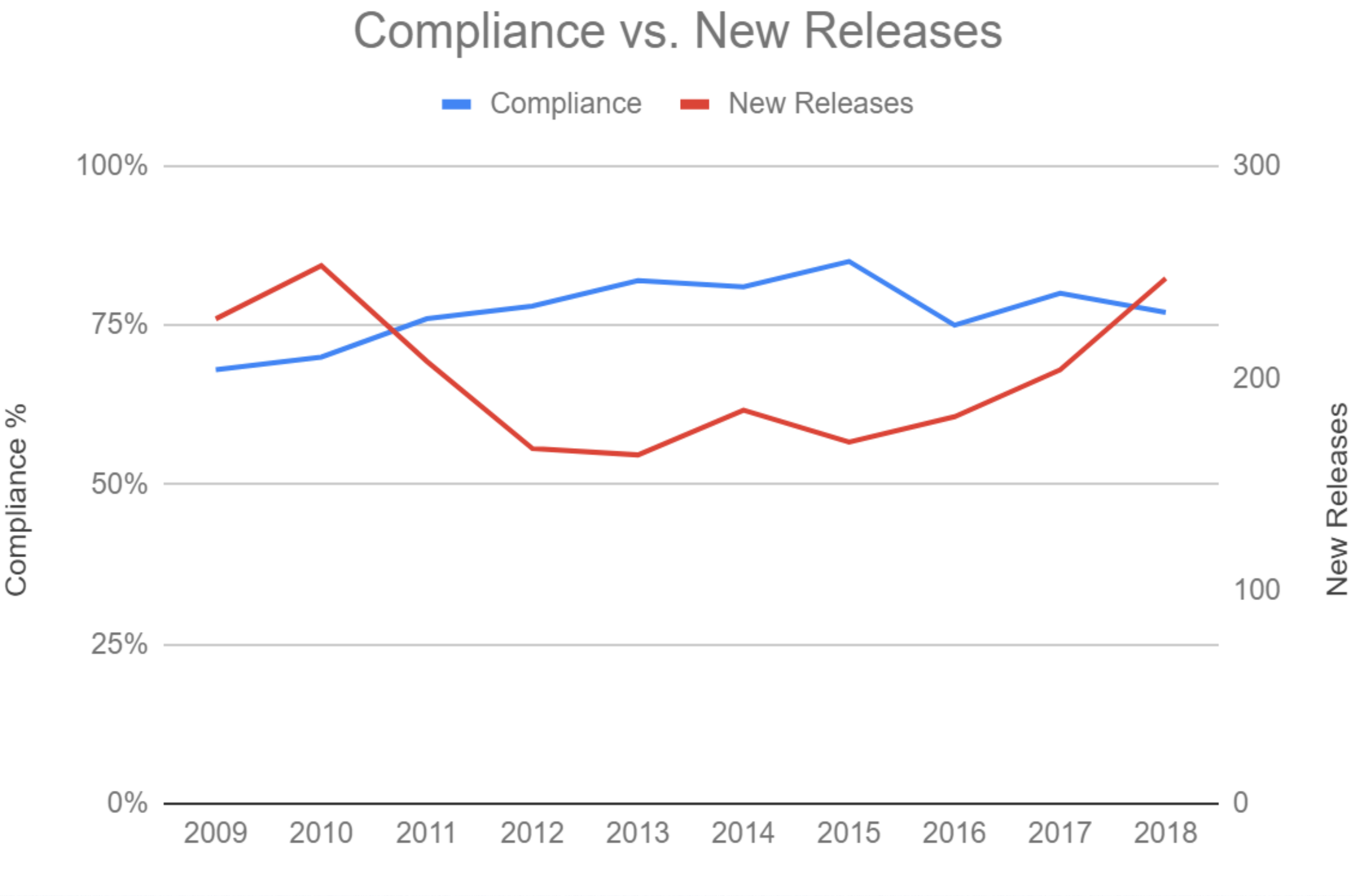
Scott Simmons - Weights & Measures Program

Vinny Secondo - Enforcement

Brett Redd – Monthly Inspection Requirements

Hans Schmoldt – Cathodic Protection

Bill Hickman – What's Coming in 2020


Compliance vs. New Releases
Compliance
New Releases
100%
75%
50%
25%
0%
Compliance %
300
200
100
0
New Releases
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018

Healthy Industry

Collaborative

Understands benefits of release prevention

Provides needed service

Profitable

Proactive

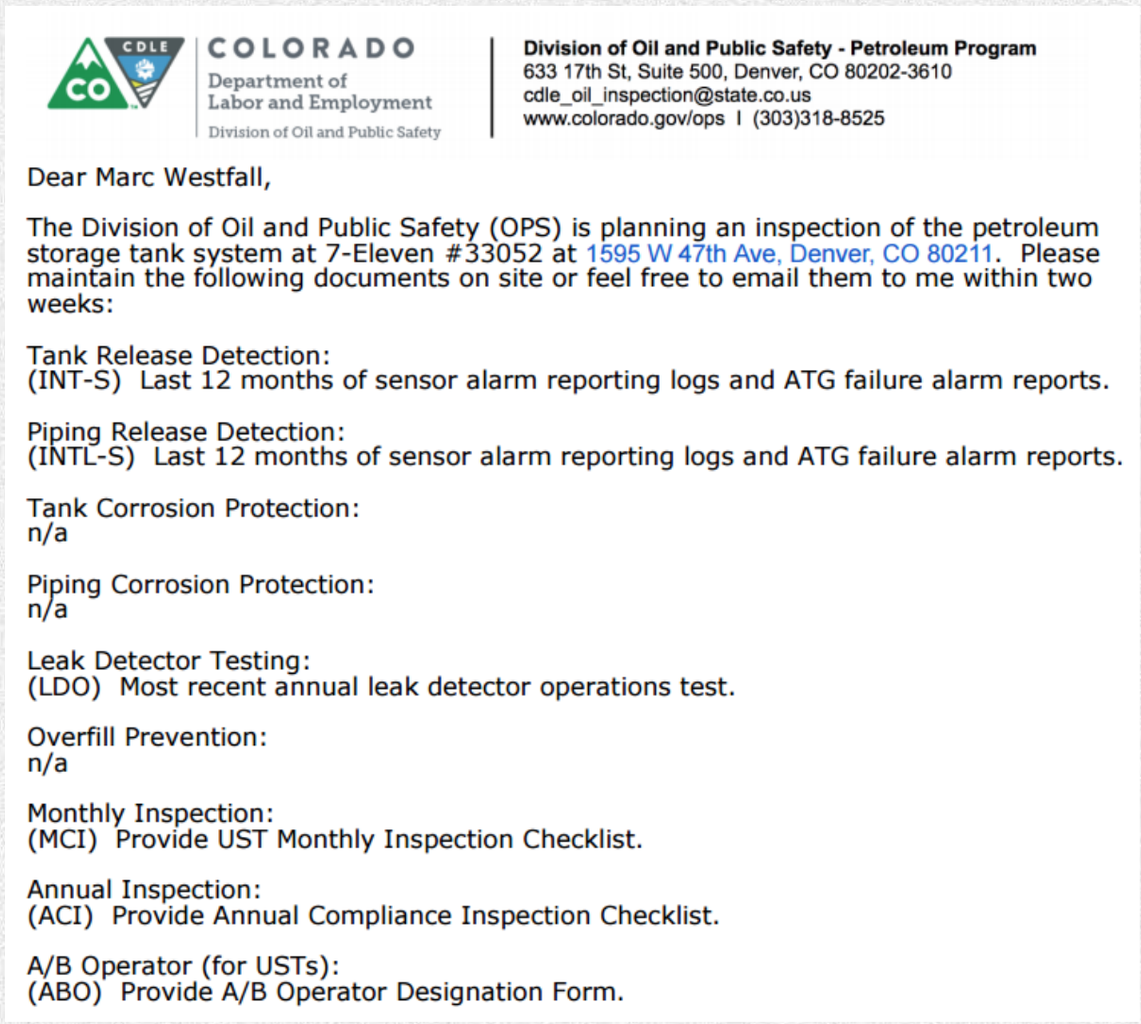
OPS Inspections

- Increased announced inspections
- Educating tank owners
- Discussing high-risk components and situations

OPS Inspections Include Record Requests

Annual Compliance Package (ACP) has been eliminated

OPS inspections now include record requests



COLORADO
Department of Labor and Employment
Division of Oil and Public Safety

Division of Oil and Public Safety - Petroleum Program
633 17th St, Suite 500, Denver, CO 80202-3610
cdle_oil_inspection@state.co.us
www.colorado.gov/ops I (303)318-8525

Dear Marc Westfall,

The Division of Oil and Public Safety (OPS) is planning an inspection of the petroleum storage tank system at 7-Eleven #33052 at 1595 W 47th Ave, Denver, CO 80211. Please maintain the following documents on site or feel free to email them to me within two weeks:

Tank Release Detection:
(INTL-S) Last 12 months of sensor alarm reporting logs and ATG failure alarm reports.

Piping Release Detection:
(INTL-S) Last 12 months of sensor alarm reporting logs and ATG failure alarm reports.

Tank Corrosion Protection:
n/a

Piping Corrosion Protection:
n/a

Leak Detector Testing:
(LDO) Most recent annual leak detector operations test.

Overfill Prevention:
n/a

Monthly Inspection:
(MCI) Provide UST Monthly Inspection Checklist.

Annual Inspection:
(ACI) Provide Annual Compliance Inspection Checklist.

A/B Operator (for USTs):
(ABO) Provide A/B Operator Designation Form.

Compliance Records

Monthly tank release detection

Monthly or annual piping release detection

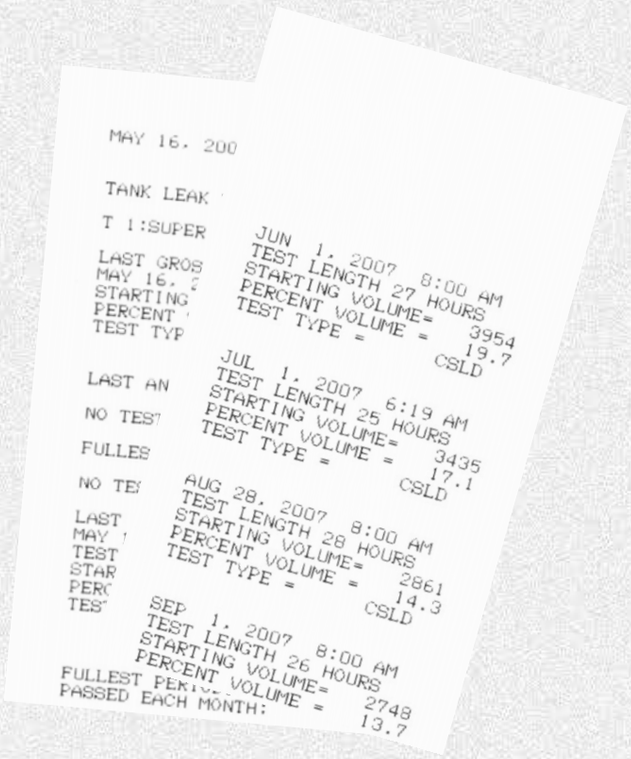
Leak detector testing

Corrosion protection

Overfill prevention (ullage)

Monthly and annual inspections

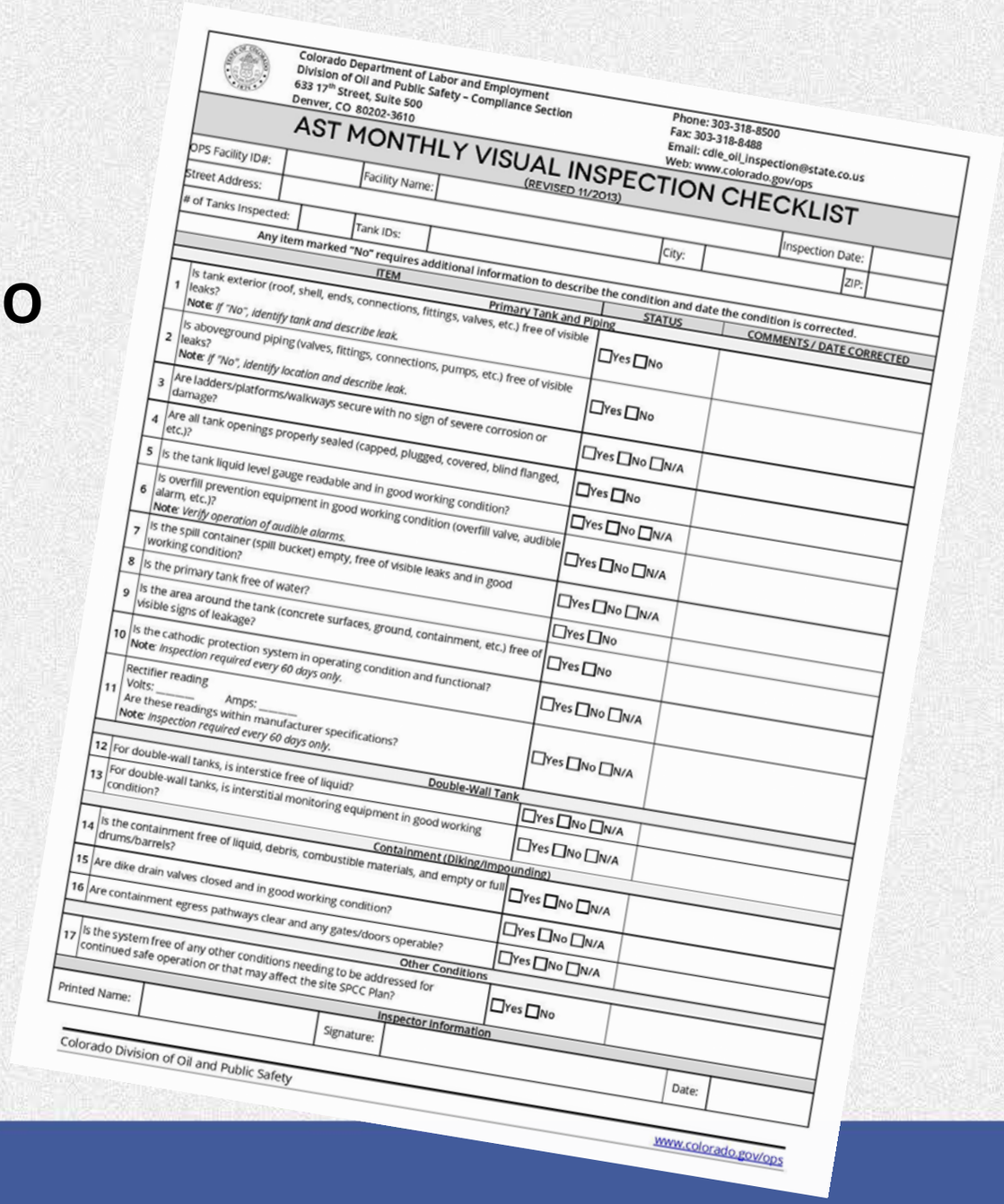
A/B Operator



Owner Compliance Inspections

Best educational opportunity

Areas with visible piping need to be inspected monthly or have sensors



Colorado Department of Labor and Employment
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Denver, CO 80202-3610

Phone: 303-318-8500
Fax: 303-318-8488
Email: cdle_oil_inspection@state.co.us
Web: www.colorado.gov/ops

AST MONTHLY VISUAL INSPECTION CHECKLIST

(REVISED 11/2013)

OPS Facility ID#: | Facility Name: | Inspection Date:
Street Address: | City: | ZIP:
# of Tanks Inspected: | Tank IDs:

Any item marked "No" requires additional information to describe the condition and date the condition is corrected.

	ITEM	STATUS	COMMENTS / DATE CORRECTED
	Primary Tank and Piping		
1	Is tank exterior (roof, shell, ends, connections, fittings, valves, etc.) free of visible leaks? **Note**: *If "No", identify tank and describe leak.*	☐Yes ☐No	
2	Is aboveground piping (valves, fittings, connections, pumps, etc.) free of visible leaks? **Note**: *If "No", identify location and describe leak.*	☐Yes ☐No	
3	Are ladders/platforms/walkways secure with no sign of severe corrosion or damage?	☐Yes ☐No ☐N/A	
4	Are all tank openings properly sealed (capped, plugged, covered, blind flanged, etc.)?	☐Yes ☐No	
5	Is the tank liquid level gauge readable and in good working condition?	☐Yes ☐No ☐N/A	
6	Is overfill prevention equipment in good working condition (overfill valve, audible alarm, etc.)? **Note**: *Verify operation of audible alarms.*	☐Yes ☐No ☐N/A	
7	Is the spill container (spill bucket) empty, free of visible leaks and in good working condition?	☐Yes ☐No ☐N/A	
8	Is the primary tank free of water?	☐Yes ☐No	
9	Is the area around the tank (concrete surfaces, ground, containment, etc.) free of visible signs of leakage?	☐Yes ☐No	
10	Is the cathodic protection system in operating condition and functional? **Note**: *Inspection required every 60 days only.*	☐Yes ☐No ☐N/A	
11	Rectifier reading Volts: _____ Amps: _____ Are these readings within manufacturer specifications? **Note**: *Inspection required every 60 days only.*	☐Yes ☐No ☐N/A	
	Double-Wall Tank		
12	For double-wall tanks, is interstice free of liquid?	☐Yes ☐No ☐N/A	
13	For double-wall tanks, is interstitial monitoring equipment in good working condition?	☐Yes ☐No ☐N/A	
	Containment (Diking/Impounding)		
14	Is the containment free of liquid, debris, combustible materials, and empty or full drums/barrels?	☐Yes ☐No ☐N/A	
15	Are dike drain valves closed and in good working condition?	☐Yes ☐No ☐N/A	
16	Are containment egress pathways clear and any gates/doors operable?	☐Yes ☐No ☐N/A	
	Other Conditions		
17	Is the system free of any other conditions needing to be addressed for continued safe operation or that may affect the site SPCC Plan?	☐Yes ☐No	
	Inspector Information		

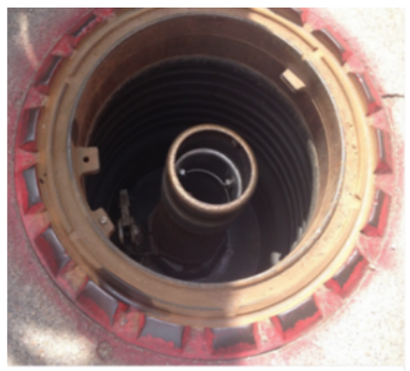
Printed Name: | Signature: | Date:

Colorado Division of Oil and Public Safety

www.colorado.gov/ops

New Documentation Requirements by 2020

Every Year		
	 	
Release detection equipment must be inspected and tested		

Every 3 Years		
	 	
UST spill buckets and basins need integrity testing	**Overfill prevention devices need to be inspected**	**Sumps used for interstitial monitoring of piping need integrity testing**

The OPS Website is a Resource for You

Weights & Measures and Product Quality

"Ensuring equity in the marketplace"

Weights & Measures and Product Quality

- Colorado statutes and regulations require that any meter or mechanical device used for the measurement of oil, gasoline, liquid fuels, liquefied petroleum gas (LPG), or compressed or liquefied natural gas (CNG/LNG) be proved in a manner acceptable to the director of the division of oil and public safety prior to use

- These devices must also be inspected, tested and maintained in accordance with the provisions the National Institute of Standards and Technology (NIST) Handbooks 44 and 130

Weights & Measures and Product Quality

In order to ensure “equity in the marketplace,” our petroleum inspectors routinely inspect and test approximately:

- 50,000 Retail motor fuel devices (gas pumps)
- 800 Vehicle tank meters (bulk fuel delivery trucks)
- 150 Aircraft refueling vehicle tank meters (bulk fuel trucks)
- 500 LP-Gas meters (bobtail delivery trucks and dispenser meters)
- 20 Compressed natural gas retail motor fuel devices

Weights & Measures and Product Quality

- OPS Fuel Quality Laboratory analyzes periodic fuel samples
  - Consumer complaints
  - OPS routine sampling program
  - CDPHE sampling programs
- Tests performed:
  - Water content
  - Flash point
  - Sulfur content
  - Octane
  - Distillation
  - Ethanol content
  - Etc.

Weights & Measures and Product Quality

Product Quality

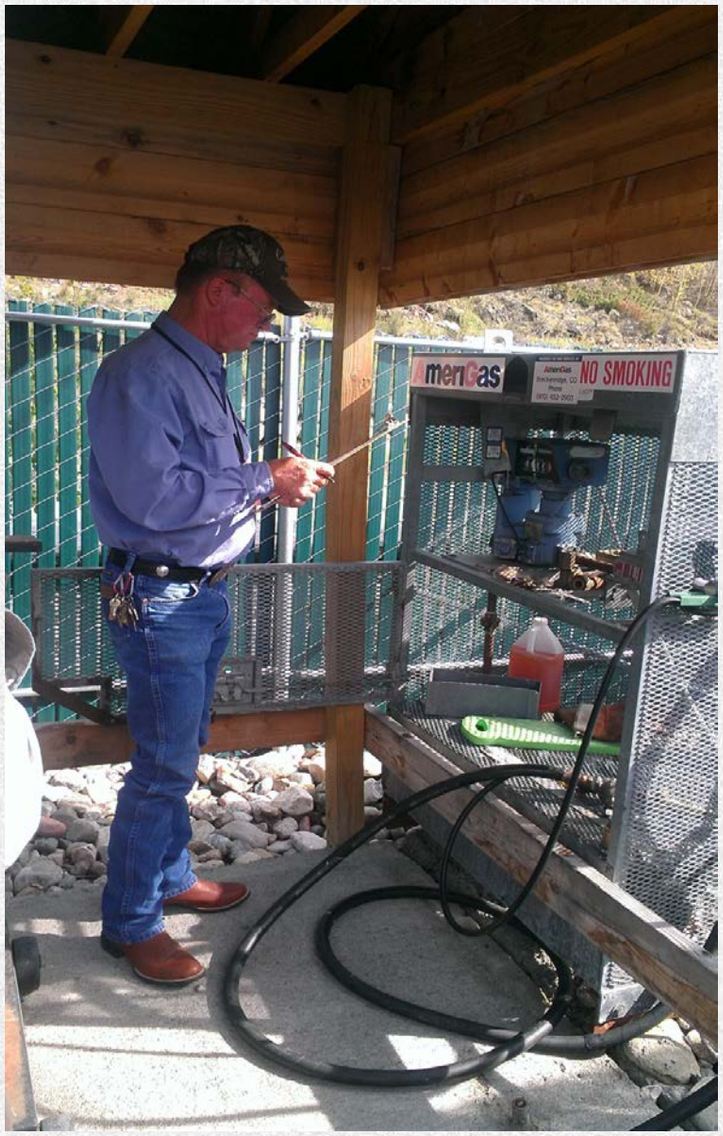
Weights & Measures and Product Quality

2018 Test Results		
Total Samples Analyzed:	**(506 CDPHE)**	**1357**
Total Non-pass Results:		**238**
Sample Failure Rate:		**17.5%**

- Storage tank regulations require owners/operators to measure water in the bottom of tanks, to the nearest one-eighth of an inch, at least every 30 calendar days – Water shall not exceed ¼ inch
- Properly identify tank contents

LPG, CNG/LNG and Hydrogen

Alternative Fuels and Gases - Installation & Operation



LPG, CNG/LNG and Hydrogen

- Everyone here is aware of OPS's role in regulating underground and aboveground storage tanks
- Some lesser known aspects of our operation relate to the regulation of the storage and retail sale of alternative fuels and fuel gasses
- These fuels include:
  - LP-Gas (propane, butane, etc.)
  - Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG)
  - Hydrogen (the newest product added to our program)

Liquefied Petroleum Gas (LPG)

- The Division has regulated LPG since the early 1940's
- The primary LPG product used in Colorado is propane, though butane has experienced a renewed use in recent years due to the cannabis THC and CBD oil extraction process
- Propane is primarily used as a fuel gas for domestic use (heating, cooking, heating water) in rural areas where natural gas is unavailable
- It is also used in barbeque grills and as an alternative fuel for motor vehicles

LPG Regulations

- The Division regulates virtually all aspects of the storage and use of LP-Gases
- The Colorado LP-Gas Regulations (7 CCR 1101-15) are composed of 5 articles including:
  - General Provisions
  - Installation
  - Delivery and Dispensing Training Requirements
  - Accident Reports and Investigations

LPG Regulations

Liquefied Petroleum Gas (LP-Gas)

- The **General Provisions** primarily focus on the National Fire Protection (NFPA) and National Institute of Standards and Technology (NIST) codes that we have adopted by reference including:

- NFPA 58, Liquefied Petroleum Gas Code, 2017 edition

- NFPA 54, National Fuel Gas Code, 2015 edition

- NFPA 30A, Code for Motor Fuel Dispensing Facilities and Repair Garages, 2015 edition

- NIST Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices, 2016 edition

- NIST Handbook 130, Uniform Laws and Regulations in the areas of Legal Metrology and Engine Fuel Quality, 2016 edition

Retail Natural Gas (CNG/LNG) & Hydrogen Regulations

- The most recent additions to the regulatory authority of the Division are the Colorado Retail Natural Gas Regulations (7 CCR 1101-16), and the Colorado Retail Hydrogen Fueling Regulations (7 CCR 1101-17)

- Both of these regulation are strictly related to the storage and dispensing of compressed natural gas (CNG), liquefied natural gas (LNG), and hydrogen as a retail motor fuel.

- There are a number of companies and governmental agencies in Colorado that own alternative fuel dispensing stations where the CNG, LNG, or hydrogen is used only in their own vehicles and equipment

- These regulations are not applicable to non retail fueling stations where the products are not offered for retail sale

Retail Natural Gas (CNG/LNG) & Hydrogen Regulations

- The Retail Natural Gas and hydrogen regulations are organized in much the same way as the LPG regulations are with articles related to:
  - General provisions
  - Installation
  - Dispensing and Fuel Quality
  - Delivery into Systems
  - Accident Reports and Investigations

Retail Natural Gas (CNG/LNG) & Hydrogen Regulations

- The **General Provisions** primarily focus on the National Fire Protection (NFPA) and National Institute of Standards and Technology (NIST) codes that we have adopted by reference including:

  - NFPA 52, Vehicular Gaseous Fuel Systems Code, 2016 edition

  - NFPA 2, Hydrogen Technologies Code, 2016 edition

  - NFPA 55, Compressed Gases and Cryogenic Fluids Code, 2016 edition.

  - NFPA 30A, Code for Motor Fuel Dispensing Facilities and Repair Garages, 2018 edition

  - NIST Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices, 2018 edition

  - NIST Handbook 130, Uniform Laws and Regulations in the areas of Legal Metrology and Engine Fuel Quality, 2018 edition

LPG, CNG/LNG and Hydrogen

Regulations

Copies of the LP-Gas, Retail Natural Gas, and Retail Hydrogen Fueling Regulations, and information regarding any of these programs are posted on our website.

Petroleum Compliance Enforcement

Reviewing the Steps of the Enforcement Process

Vinny Secondo
Petroleum Enforcement Coordinator

Enforcement Process

NOTICE OF VIOLATION

- Certificate of Inspection
- Violations with timeframes to correct
- Invoices not paid

30 days

ENFORCEMENT ORDER

- NOV requirements not met
- Increased fines
- Delivery prohibition

30 days

ATTORNEY GENERAL

- Enforcement order requirements not met
- Increased fines/judicial enforcement

You received a Notice of Violation…

1) Request for operational records not submitted, or late

2) Requested actions per the OPS inspector not addressed

3) Request for reports/information regarding release identification or response not provided

Communicate with us!

Submit the required information:

- Signed and corrected Certificate of Inspection and/or fee payment
- Request an Informal Conference within 10 working days of the NOV
- Reach Settlement Agreement without an Enforcement Order.

Certificate of Inspection

- Includes description of violation(s), required actions to resolve, days to correct
- Requires owner/operator signature, date, and date violation(s) corrected

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cdle_oil_inspection@state.co.us
www.colorado.gov/cdps | (303)318-8525

Certificate of Inspection

6/7/2019

On **6/7/2019**, The Division of Oil and Public Safety (OPS) conducted an inspection of the regulated petroleum storage tank system at **Self Service Oil (test - FID230)** (Facility ID 1) located at **2160 S Havana St, Aurora, CO 80014**. A copy of this certificate was emailed to Station Owner at zach.hope@state.co.us.

Notice of Violations

Code	Description	Comment	Count	Required Action	Days to Correct	Date Corrected
(SB)	Spill Bucket	Regular unleaded tank	1	Remove the water, fuel, and/or debris from the spill bucket(s).	5	

The Owner or Operator must correct the violation(s) within the period specified, indicate the date each violation was corrected, and sign and return this completed notice to OPS within 30 days to cdle_oil_inspection@state.co.us. Failure to correct the violation(s) may lead to an Enforcement Order, delivery prohibition, and fines of up to $5,000 per day per violation, and may jeopardize your eligibility for reimbursement from the Petroleum Storage Tank Fund. If desired, within 10 working days of this notice, you may file a written request for an informal conference with the OPS Director to further discuss these violations.

Please contact your inspector, CDLE Compliance, at CDLE_ComplianceInspectionForms@state.co.us or 303-303-3333 if you have questions.

Owner/Operator Signature: _____ Date: _____

Owner/Operator Printed Name: _____

You received an Enforcement Order…

1) Complete the required actions specified in the Enforcement Order and pay associated fine within 30 days

2) Request an Informal Conference with OPS within 10 days of receiving the Enforcement Order and reach Settlement Agreement

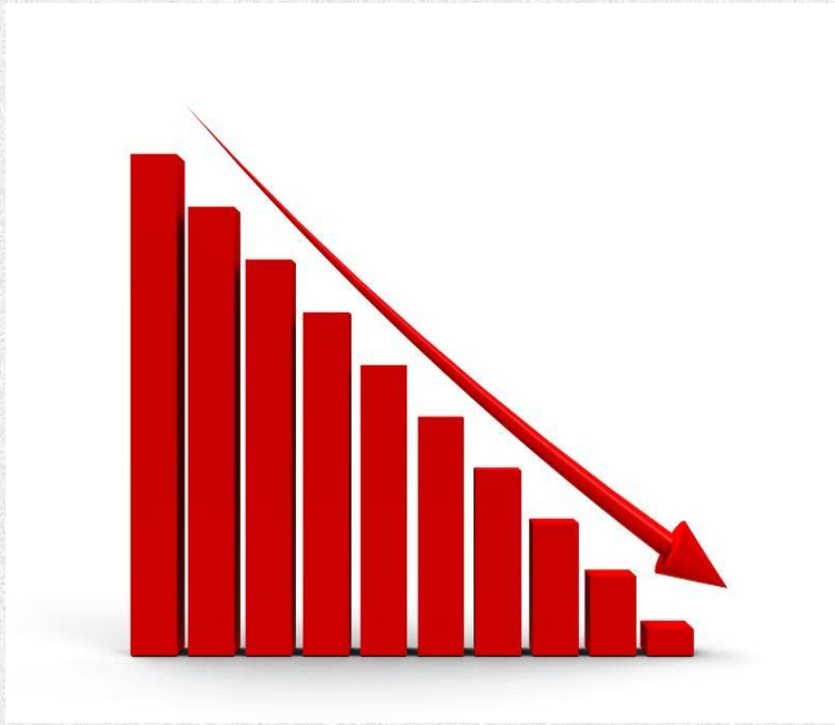
3) Delivery Prohibition may be invoked until all compliance issues have been resolved and fines paid

4) Unresolved Enforcement Orders can result in the case being forwarded to the Office of the Attorney General for judicial enforcement with substantial fine amounts

Communicate with us!

Enforcement Orders Issued for Colorado Petroleum Storage Tank Owners/Operators

Year	# of Enforcement Orders Issued
2015	**71**
2016	**41**
2017	**40**
2018	**24**
2019	**12**



Settlement Agreement

- Result of an Informal Conference – NOV or Enforcement Order issues upheld, modified, or stricken
- Includes a schedule and due dates of the required activities necessary to resolve the violations
- If terms of Settlement Agreement met, enforcement case will be closed
- If terms of Settlement Agreement not met, the following action can be pursued:
  - Reinstatement of a previously-issued Enforcement Order
  - Drafting a new Enforcement Order
  - Forwarding the case to the Attorney General's Office

New Requirements for Monthly Inspections

Brett Redd
Storage Tank Technology
STTI

New Regulations

- Became Effective March 17, 2019
- Two items require monthly attention
  - Water in Tanks
  - Monthly Inspections

Water in Tanks – Updates to Regulations

- Section 2-3-4-2 (Effective March 17, 2019)
- Measurement of water in the bottom of the tank, to the nearest one-eighth inch…
- Measurable water within any tank shall not exceed one-fourth of an inch.
- Download new monthly inspection form – 1/4”

New Form – Water removal requirements

			Inspection Dates:											
Area	**Description**	**Area of Concern**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Spill Containment Bucket	Fill Lid	1. Are all fill lids present and in good condition?												
		2. Are fills correctly identified by color and located on the correct tank?												
	Spill Containment Bucket	3. Is the spill bucket free of dirt, trash, water and product?												
		4. Is the spill bucket in good condition and free of damage (no cracks, bulges or holes)?												
		5. Does the drain assembly work (if applicable)?												
	Fill Riser	6. Is the fill adaptor tight on the riser pipe?												
		7. Is the fill cap in place with a gasket and sealed tightly on the fill pipe?												
	Overfill Valve	8. Is the overfill device free of obstructions?												
Tank Interior	Water Level	9. Does the tank contain less than ¼ inch of water? ***Note**: If the water level is greater than ¼ inch, remove all water to extent possible.*												

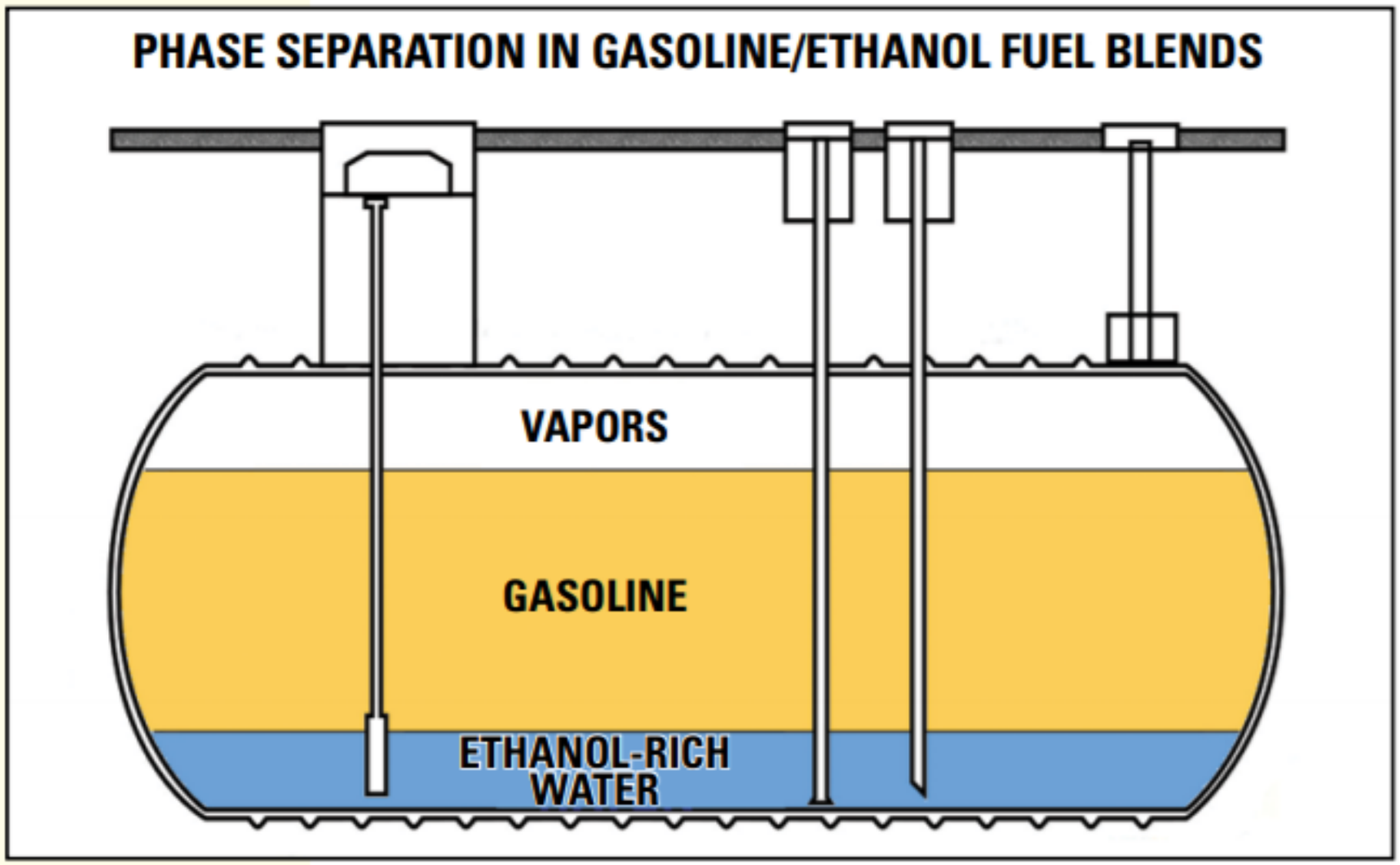
Why is water bad???

- Fuel Quality
- Operational Issues
- Corrosion leading to system failure

Fuel Quality – Unleaded Gasoline

- Ethanol Absorbs Water
- Can lead to Phase Separation
- Conventional Gasoline can absorb 150 ppm water
- E10 can absorb 7000 ppm water

Phase Separation



A few tens of gallons of water in a tank is enough to cause phase separation in many thousands of gallons of gasoline, resulting in hundreds of gallons of an alcohol/water mixture in the bottom of a tank. Frequent monitoring for water is necessary to protect the quality of ethanol-blended fuels.

Fuel Quality – Ultra Low Sulfur Diesel

- Corrosion
- Microbes and Sludge
- Ethanol (from cross loading) and Bio-diesel can accelerate fuel quality issues
- Ultra Low Sulfur = more microbial activity

Corrosion in Vapor Space – plugged filters?

Photo courtesy of OPS

Corrosion Leading to Product Loss

Interior Photo

Findings and Resolution:
Release from perforation in tank caused by internal corrosion. Tank was removed. Total cleanup costs estimated at over $900,000.

ASTSWMO report – Compatibility Considerations for UST Systems

New Monthly Inspection Requirements

- STP Areas
- UDC Areas

Section 2-3-6-1(a)(4)

- All areas that house exposed underground product piping…must be visually inspected monthly for regulated substance leakage unless they are secondarily contained and electronically monitored…
- Including but not limited to under dispenser areas, tank top areas, and piping transition areas

Download the new form…

Dispenser-Hanging Hard		leaks?												
	Swivels	15. Are the swivels in good condition and free of leaks?												
	Hoses	16. Are the hoses in good condition and free of leaks?												
	Breakaway Connectors	17. Are the breakaway connectors in good condition and free of leaks?												
	Breakaway Hoses	18. Are the breakaway hoses in good condition and free of leaks?												
Leak Detection*														
Area	**Description**	**Area of Concern**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Leak Detection	ATG Console	19. Does the ATG have power?												
		20. Does the ATG printer have paper and is it in working condition (If applicable)?												
		21. Do the liquid measurements and the ATG readings appear to be accurate?												
		22. Are the warning or alarm lights off?												
	Areas with Visible Piping	23. Are under dispenser areas, submersible turbine pump areas and piping transition areas free of leaks? ***Note**: This requires a visual inspection or electronic sensors in containment sumps.*												
	Mechanical Line-Leak Detection	24. Are dispensers operating at normal flow rates (not in slow-flow)?												
	Daily Inventory	25. Are inventories reconciled daily and are the variances within the guideline set by the facility owner?												

Things can change quickly

Don’t overlook things that have “always been that way”

Electrical Conduit Problems

Multiple Issues...

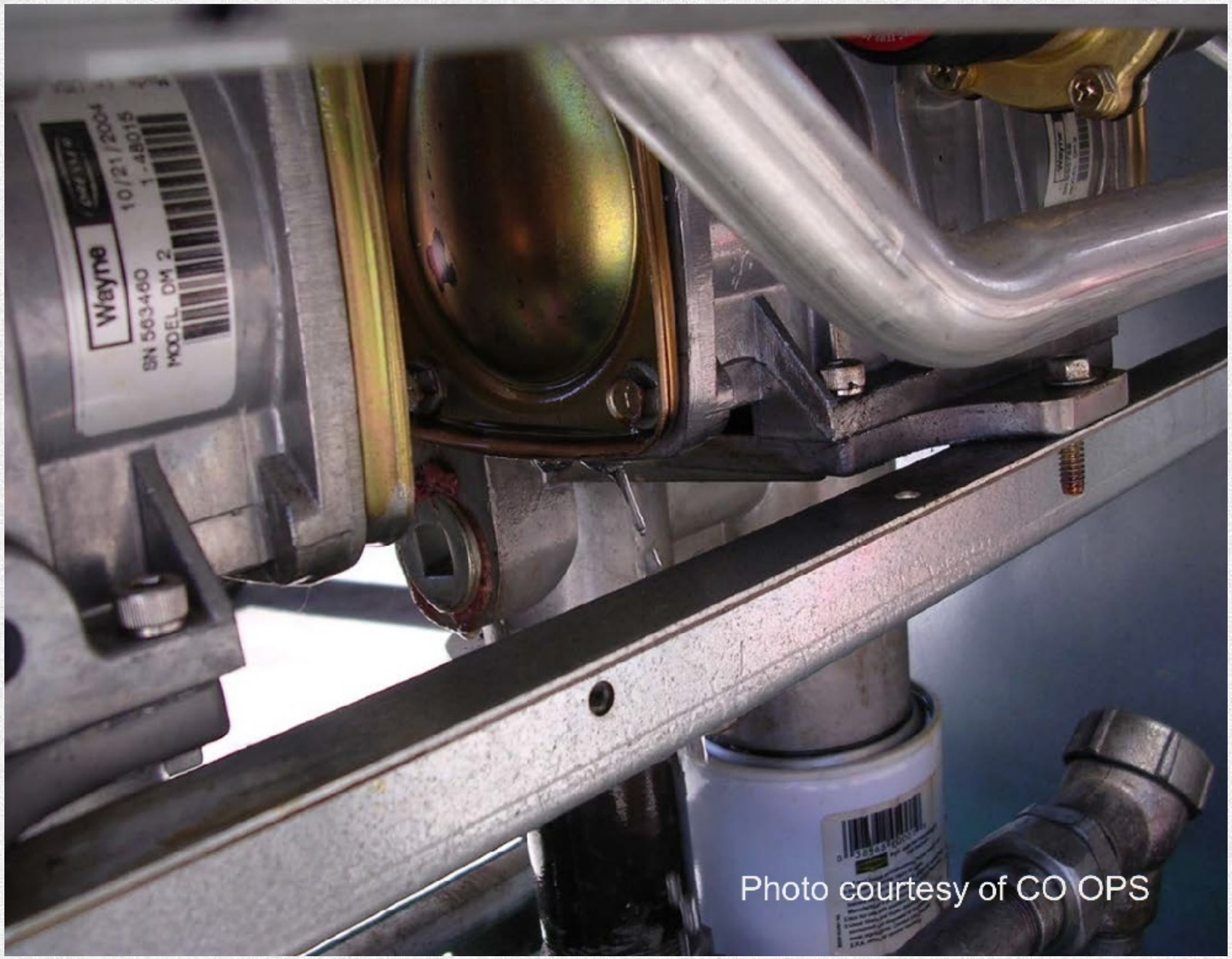
Leaks at STP – No Sump

Leaks at STP – With Sump

Water in Sump - Corrosion

Why is the top of the STP wet?

Leaking Meter Gasket



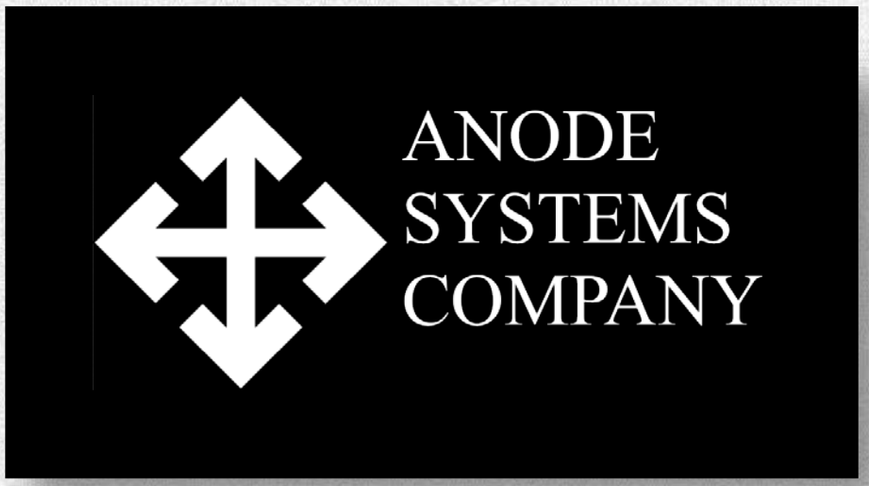
There’s a hole in my bucket – Why is it always dry?

Will this bucket pass a leak test?

Why is there always water in my sump?

Thinking Outside the Box Saves Money

Hans Schmoldt
Anode Systems Company




PRE-ENGINEERED
sti-P3

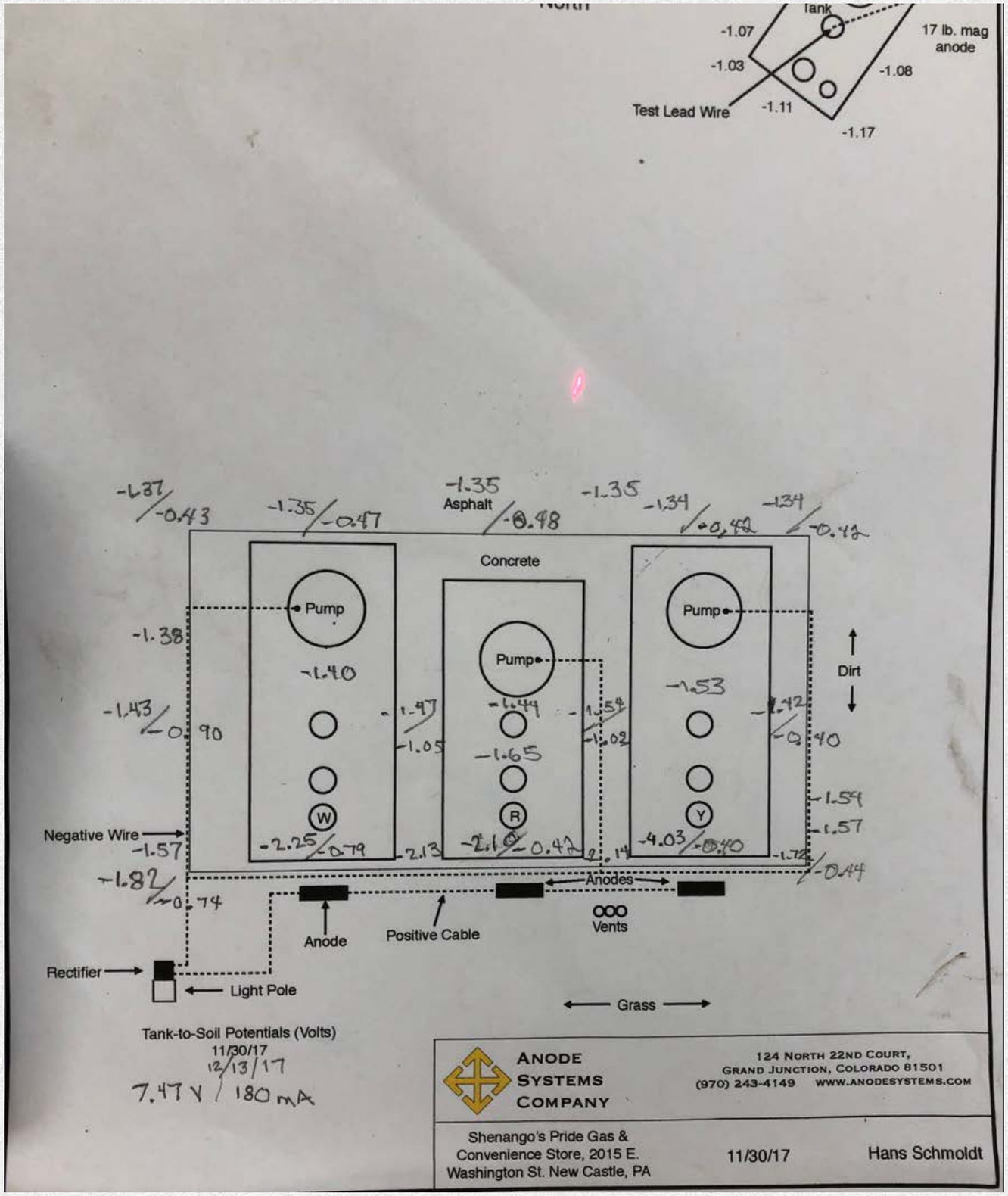

PRE-ENGINE
sti-
steel tank institute
PROVEN PROT


PRE-ENGINE
sti-
steel tank institute
PROVEN PROT


PEPSI
Coca-Cola


190325
PROVEN PROTECTION
Steel


NO
PARKING


Tank
-1.07
-1.03
-1.08
-1.11
-1.17
17 lb. mag anode
Test Lead Wire
-1.35
Asphalt
-1.35
-1.34
-1.34
Concrete
Pump
Pump
Pump
-1.38
-1.40
-1.53
-1.44
-1.65
Dirt
-1.59
-1.57
-1.82
Negative Wire
-1.57
Anodes
Anode
Positive Cable
Vents
Rectifier
Light Pole
Grass
Tank-to-Soil Potentials (Volts)
11/30/17
12/13/17
7.47 V / 180 mA
ANODE SYSTEMS COMPANY
124 North 22nd Court,
Grand Junction, Colorado 81501
(970) 243-4149 www.anodesystems.com
Shenango's Pride Gas & Convenience Store, 2015 E. Washington St. New Castle, PA
11/30/17
Hans Schmoldt


NEW
LENOX
3"
76mm
1772023
50% LONGER LIFE
SPEED SLOT
MADE USA
$14 38 Everyday Low Price
$15 98 Everyday Low Price
$16 98
$9 98 Everyday Low Price
$8 68 Everyday Low Price
3 1/4"
83mm
1 3/4"
44mm
1771967
2"
51mm
1771970


3in 4in
Do it
Best
AVY DUTY.

Questions?

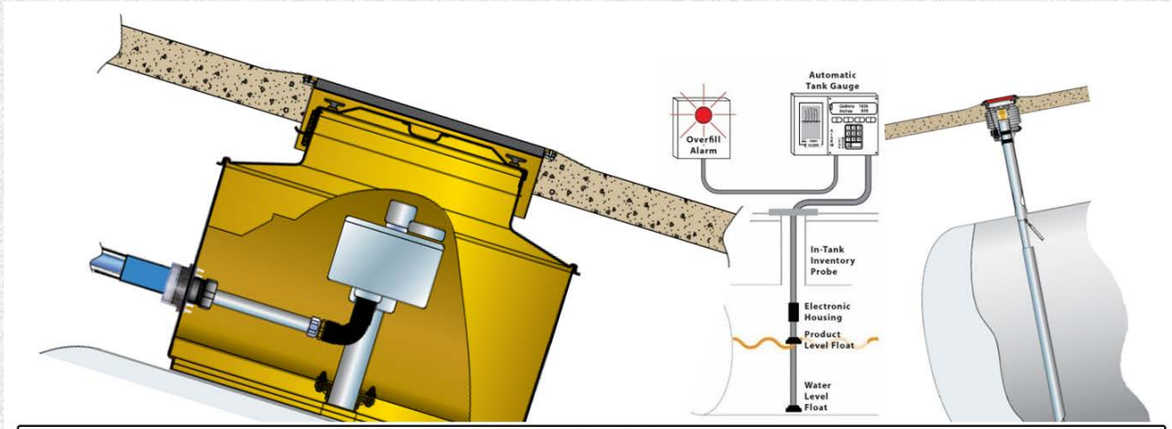
Break

Time to visit the Exhibitor Area

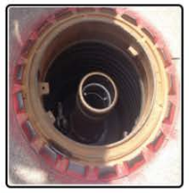
See you at 10:45

What's Coming in 2020?

Storage Tank Compliance
Petroleum Program
Division of Oil and Public Safety
2019 Outreach



EVERY 3 YEARS



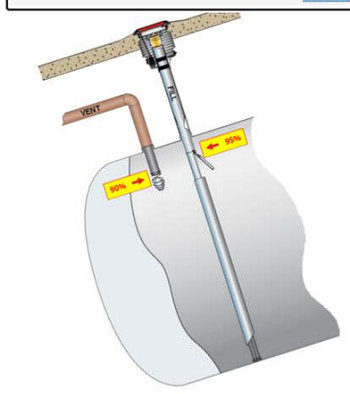
[UST spill buckets and basins need integrity testing]

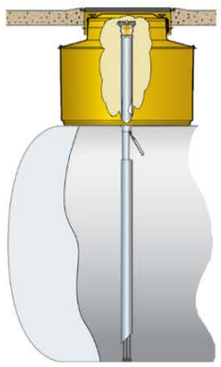
[Overfill prevention devices need to be inspected]

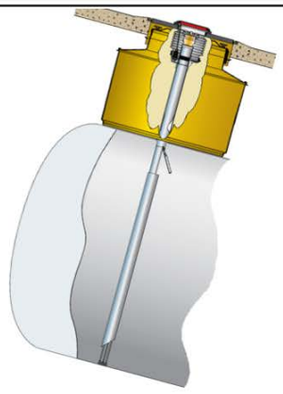
[Sumps used for interstitial monitoring of piping need integrity testing]

EVERY YEAR

[Release detection equipment must be inspected and tested]







What's Coming in 2020?

Storage Tank Compliance
Petroleum Program
Division of Oil and Public Safety
2019 Outreach

- Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices
- Spill Bucket & Containment Sump Repair
- Updates to the Certified UST Installer Requirements
- New Qualified Service Technician (QST) Requirements
- Release Detection for Emergency Generator USTs

DAYS LEFT TO TEST SPILL BUCKETS AND CONTAINMENT SUMPS AND INSPECT OVERFILL PREVENTION DEVICES

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

- **Since January 1, 2017, the Colorado Petroleum Storage Tank Regulations require that spill buckets and piping containment sumps used for interstitial monitoring be tested for tightness every 3 years**
  - Regulations have required new underground tanks and piping to use interstitial monitoring since August 1, 2008.

- **Also since January 1, 2017, the regulations require that overfill prevention devices be inspected to ensure their proper operation every 3 years**

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

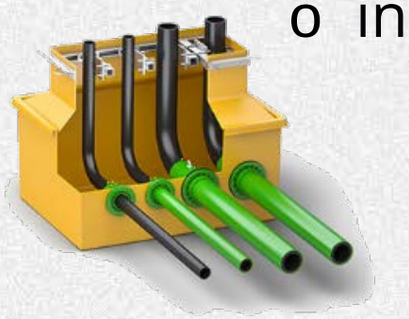
Spill Bucket and Containment Sump Test Methods

Methods for testing spill buckets and containment sumps can include:

- **Manufacturer requirements (where they exist)**
  - Hydrostatic (hydrotesting) or vacuum testing in most cases

- **Code of practice developed by a nationally recognized association**
  - PEI RP1200-17 (Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities)

- **Other methods approved by OPS**
  - including those that are third-party certified and approved by NWGLDE



Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Spill Bucket and Containment Sump Test Methods









Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Spill Bucket Testing

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

New Spill Buckets

New spill buckets installed since January 1, 2017 must be leak tested:

- **At installation**
  - o most manufacturers (if not all) require their spill buckets to be leak tested before being buried, and again after concrete is poured

- **Within 30 days of 1 year after installation**

- **Every three years thereafter**
  - o as an alternative, the interstice of double wall spill buckets can be monitored for liquid on a monthly basis using visual gauges or electronic sensors, and the results documented

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Existing Spill Buckets

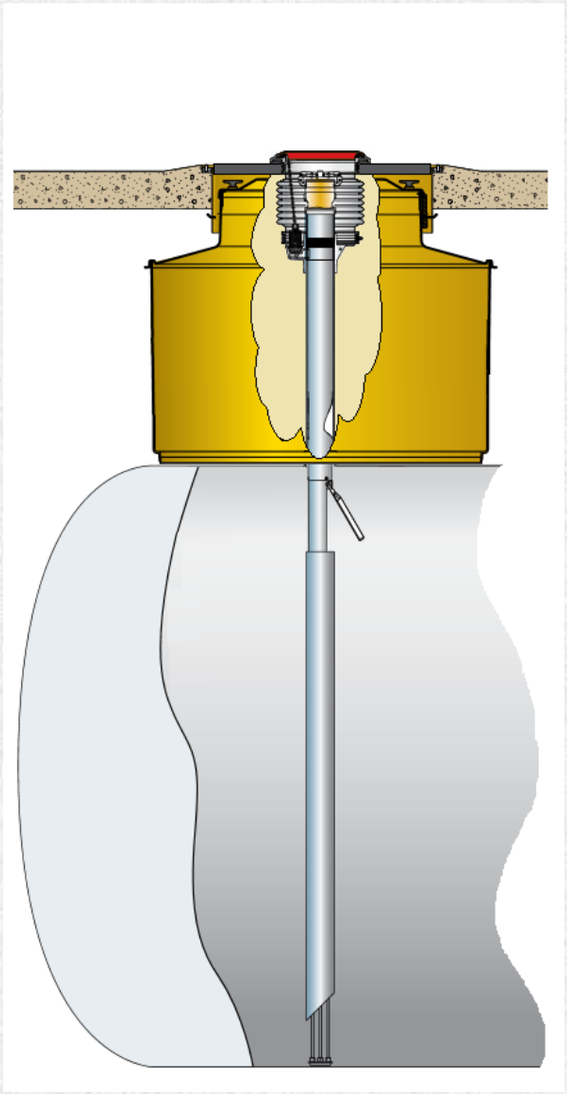
All existing spill buckets must be leak tested:

- **By January 1, 2020**

- **Every three years thereafter**
  - as an alternative, the interstice of double wall spill buckets can be monitored for liquid on a monthly basis using visual gauges or electronic sensors, and the results documented

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Non-traditional Spill Buckets



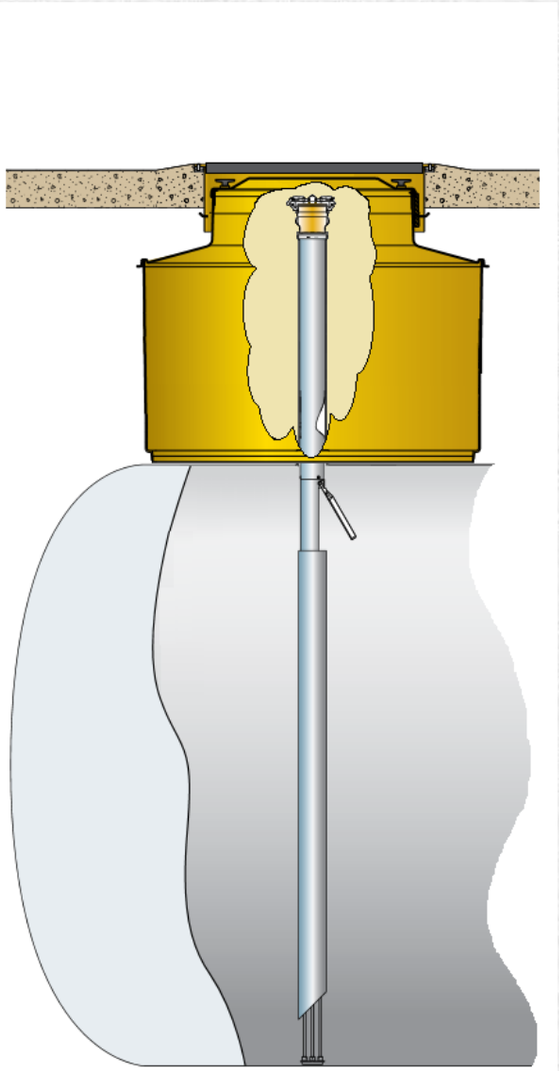
Where existing, spill buckets must be leak tested:

- **By January 1, 2020**

- **Every 3 years thereafter**
  - as an alternative, the containment sump can be leak tested by January 1, 2020, and then be monitored for liquid on a monthly basis visually or by using electronic sensors, and the results documented

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Non-traditional Spill Buckets

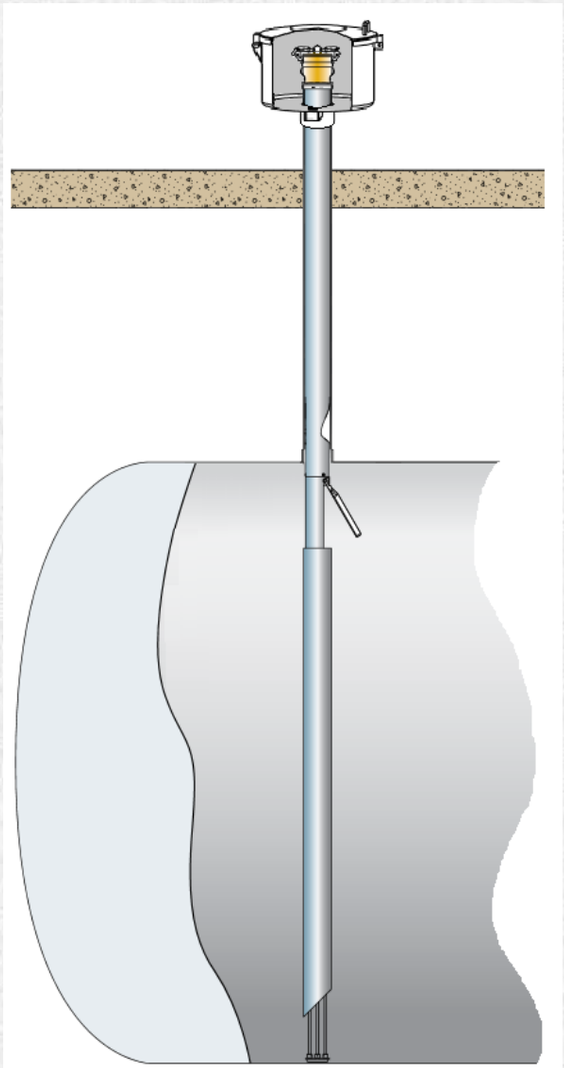


Where existing, containment sumps must be leak tested:

- By January 1, 2020
- Every 3 years thereafter

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Non-traditional Spill Buckets



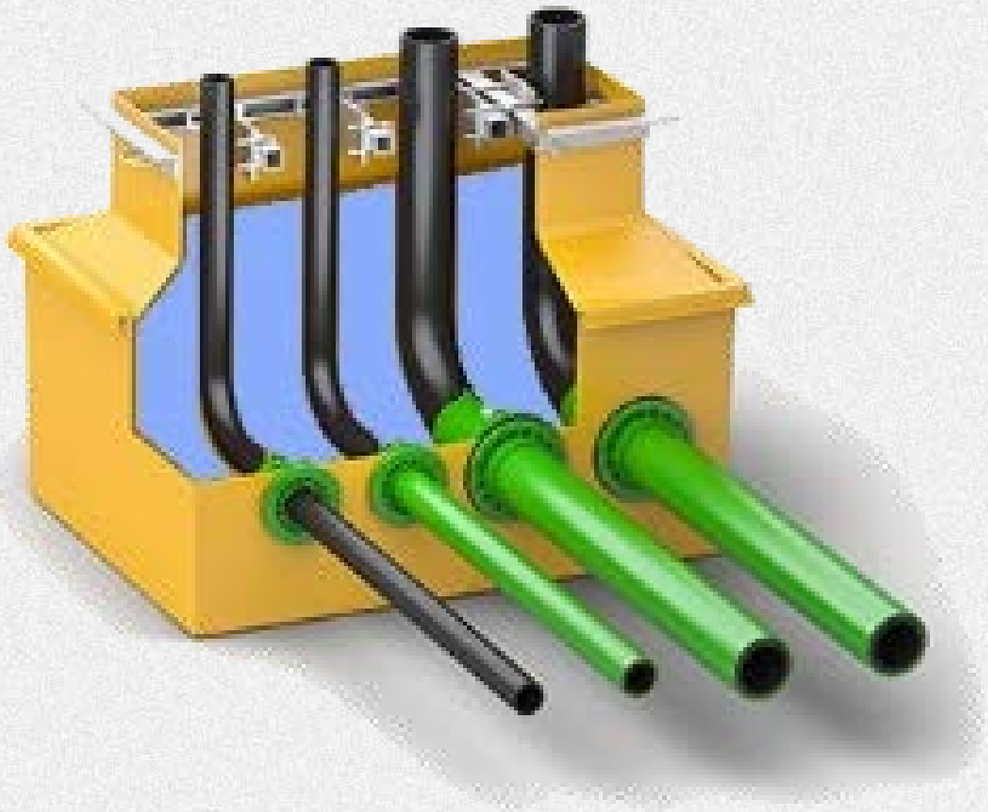
Where existing, aboveground spill buckets must be leak tested:

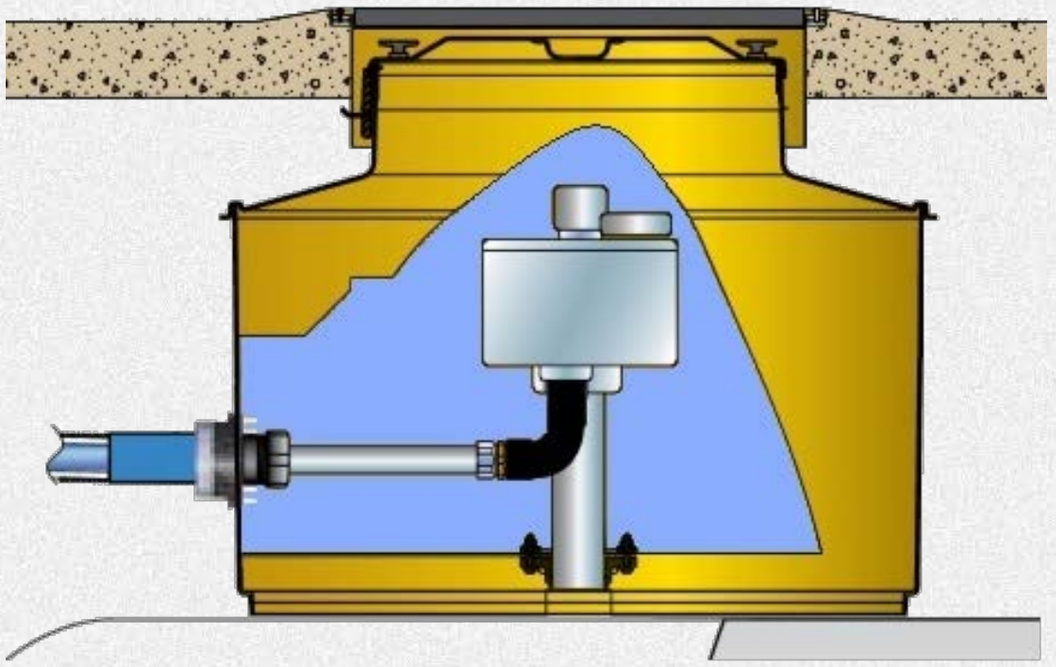
- By January 1, 2020
- Spill buckets must be visually inspected at least monthly thereafter, and the results documented

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Piping Containment Sump Testing

Applies to all piping containment sumps (including STP, UDC, and transition) installed since August 1, 2008, and any others that are used for interstitial monitoring for piping release detection.





Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

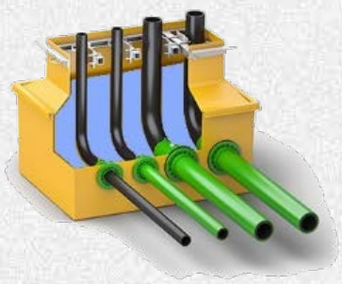
New Piping Containment Sumps

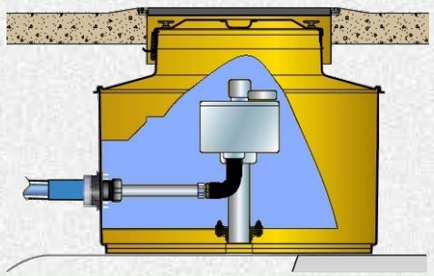
New sumps installed since January 1, 2017 must be leak tested:

- **At installation**
  - o most manufacturers (if not all) require their sumps to be leak tested before being buried, and again after concrete is poured

- **Within 30 days of 1 year after installation**

- **Every three years thereafter**
  - o as an alternative, the interstice of double wall sumps can be monitored for liquid on a monthly basis using visual gauges or electronic sensors, and the results documented



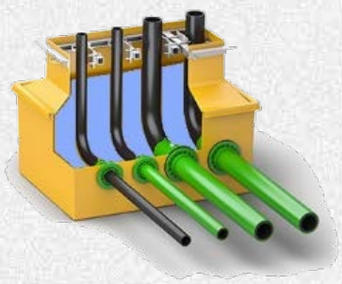


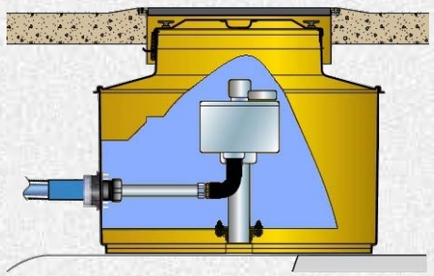
Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Existing Piping Containment Sumps

All existing sumps installed from August 1, 2008 through December 31, 2016, and any others that are used for interstitial monitoring for piping release detection must be leak tested:

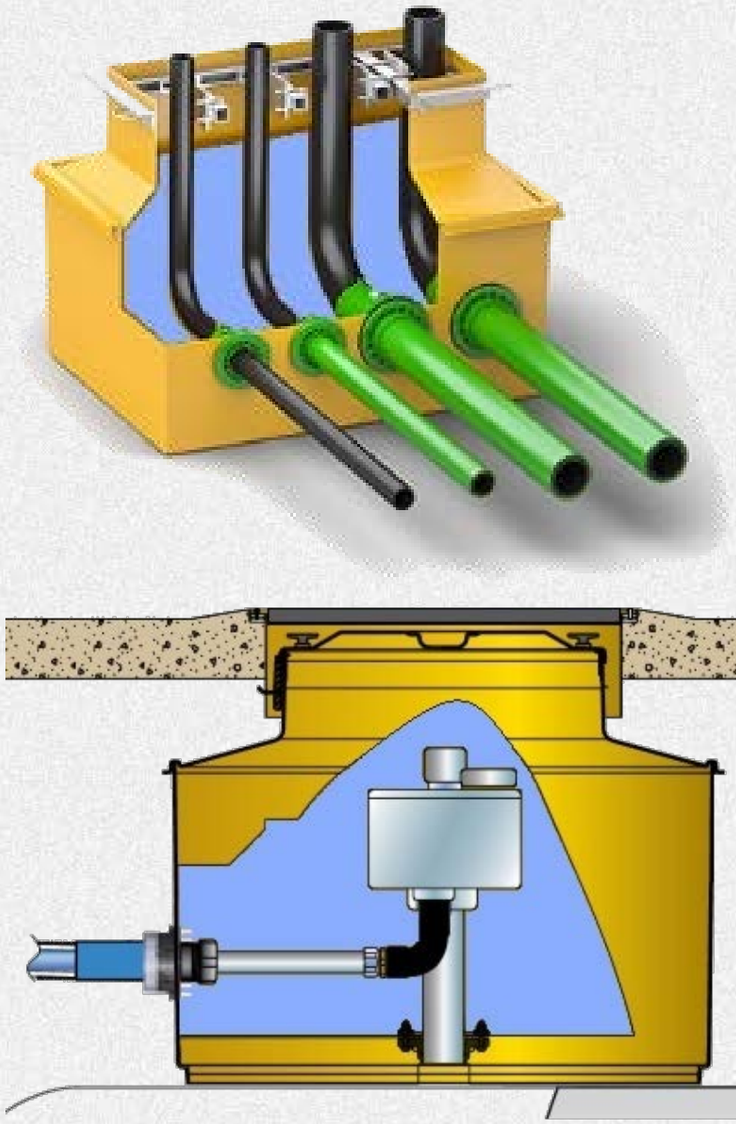
- **By January 1, 2020**
- **Every three years thereafter**
  - as an alternative, the interstice of double wall sumps can be monitored for liquid on a monthly basis using visual gauges or electronic sensors, and the results documented





Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Low Level Piping Containment Sump Testing



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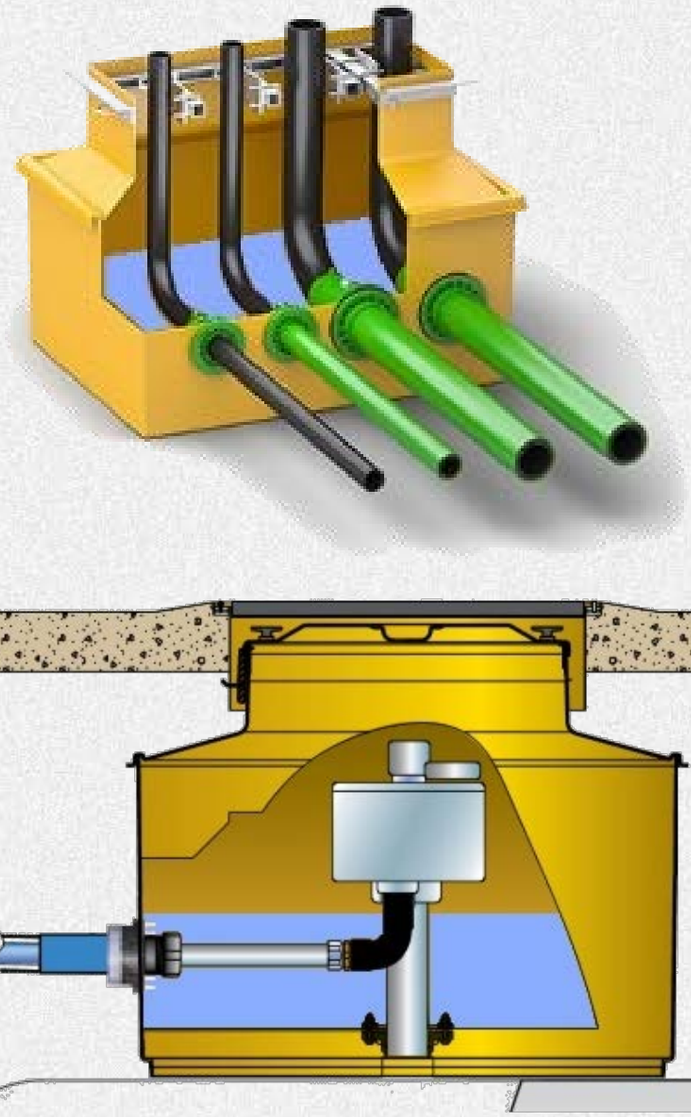
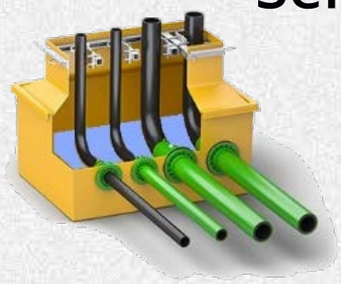


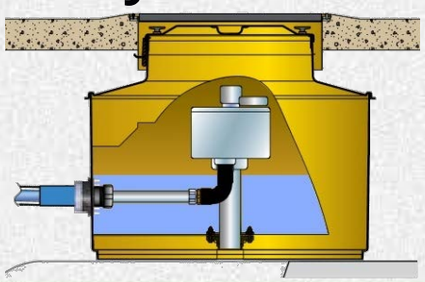
Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Low Level Piping Containment Sump Testing

As an alternative to hydrotesting sumps at higher levels (100% capacity, 4 inches above highest penetration/seam, etc.), low level testing may be used for the required 3 year tightness test under certain conditions:

- Approved electronic sensors having a liquid activation height of less than 2 inches must be installed in the lowest point of all piping containment sumps
- Sensor activation must cause a positive shutdown of all pumping systems
- Sensors and console/monitoring equipment must be tested annually

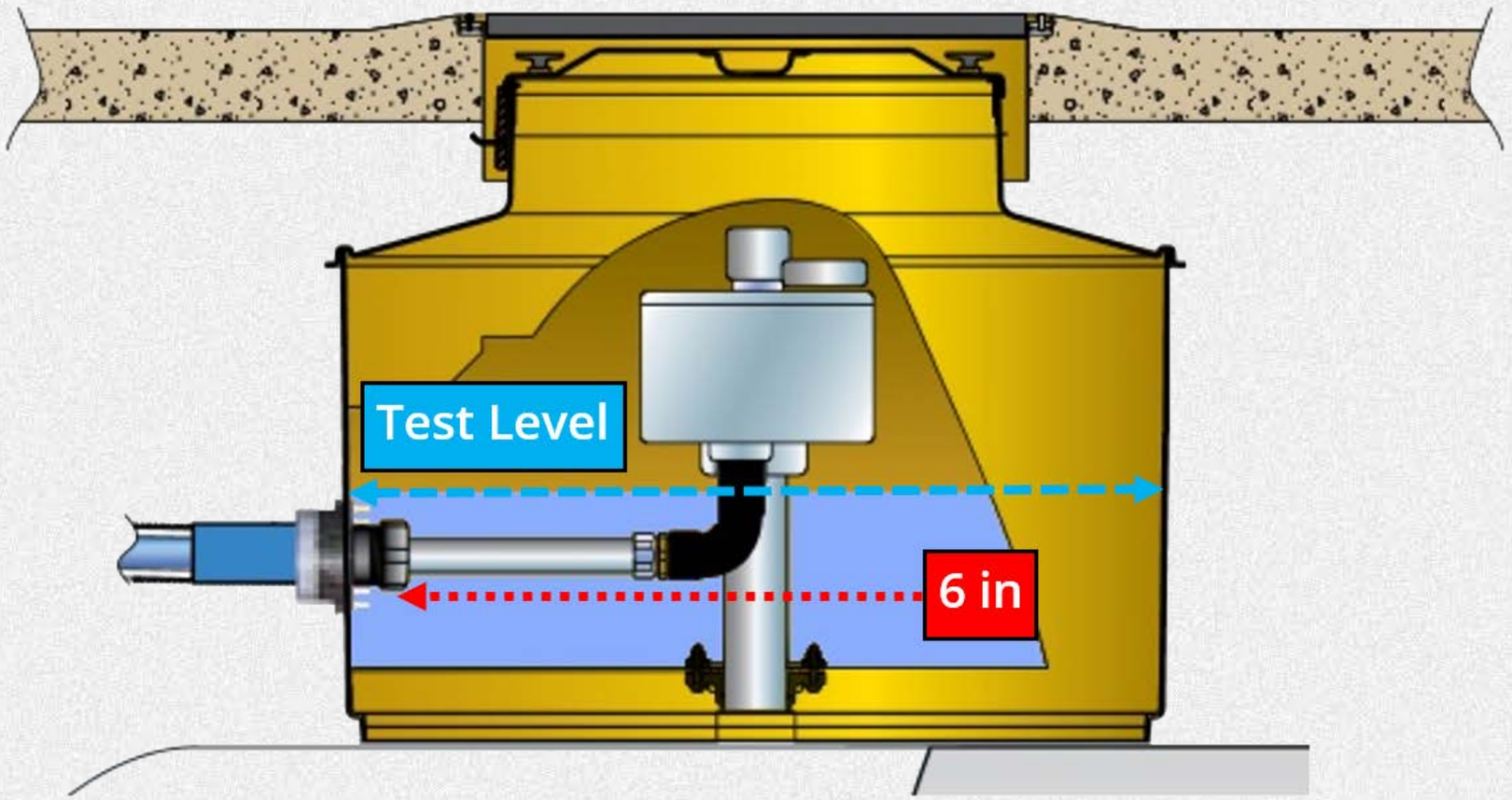


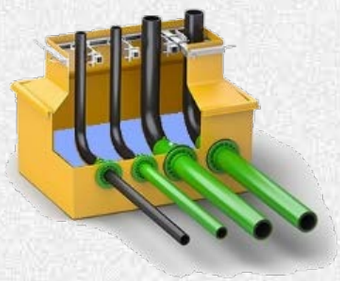


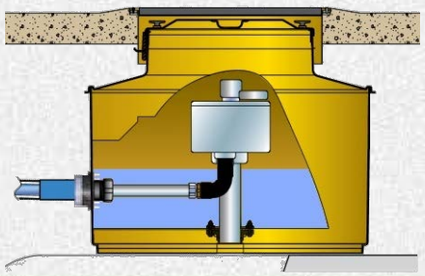
Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Low Level Piping Containment Sump Testing

The required minimum test level is 6 inches, unless liquid at that level is in contact with a penetration point. Otherwise, the entire penetration must be covered.



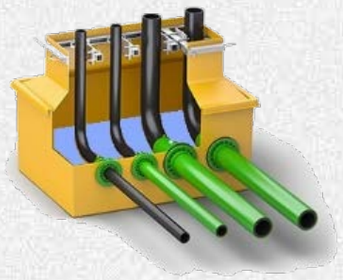


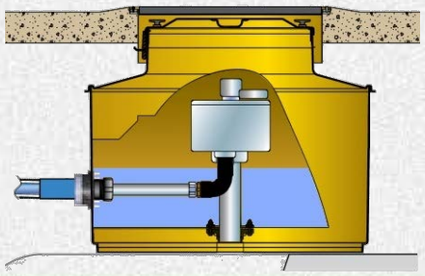


Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Low Level Piping Containment Sump Testing

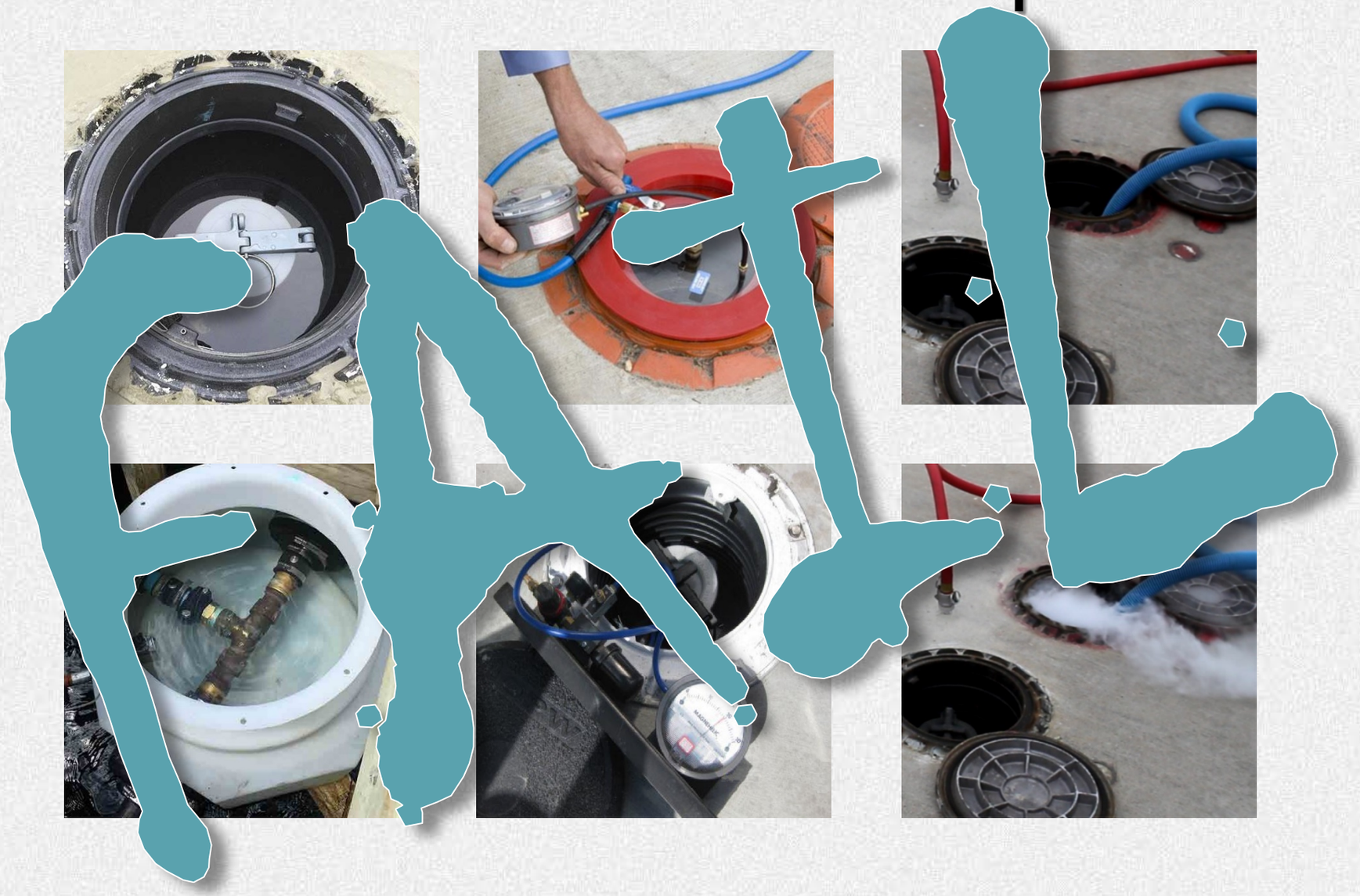
The Low Level Piping Containment Sump Testing guidance document is available for download on the OPS website.





Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Spill Bucket and Containment Sump Test Results



Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Spill Bucket & Containment Sump Repair

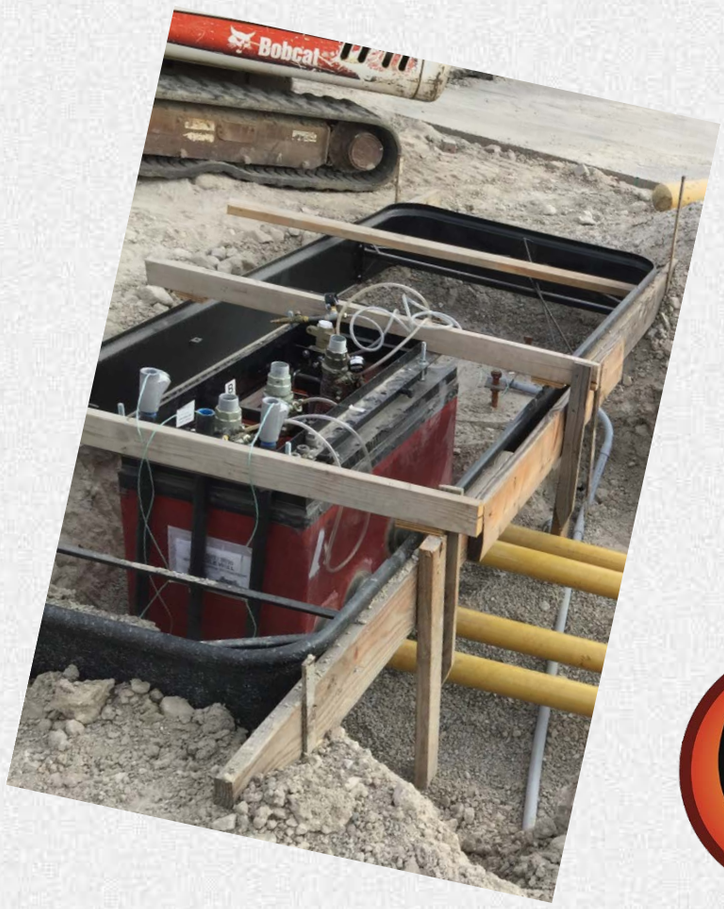
When testing indicates non-passing results, the equipment must be repaired or replaced in a manner that meets OPS requirements.

THESE DON'T

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Spill Bucket & Containment Sump Repair

When testing indicates non-passing results, the equipment must be repaired or replaced in a manner that meets OPS requirements.



Replacement

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Spill Bucket & Containment Sump Repair

When testing indicates non-passing results, the equipment must be repaired or replaced in a manner that meets OPS requirements.

Non-mechanical field-applied sealants, linings and pastes

Field-installed mechanical repair kits or inserts

Repairs

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Spill Bucket & Containment Sump Repair

Repair Method	Frequency of Tightness Testing Following Repair*	Requirements
Non-mechanical field-applied sealants, linings and pastes	Annually	• Must be compatible with the product being stored • Must be intended for use in the environmental conditions to which they will be exposed
Field-installed mechanical repair kits or inserts	Every 3 Years	

***Tightness testing must be performed after completing repairs and at the frequency listed above thereafter according to manufacturer requirements, PEI RP1200-17, or another approved method.**

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

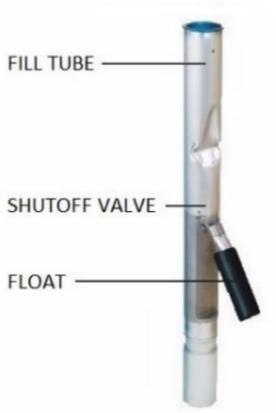
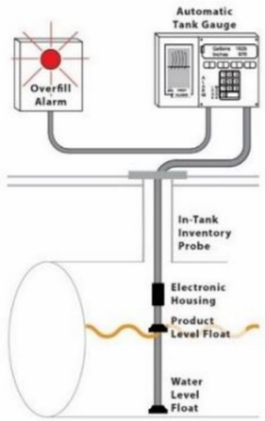
Spill Bucket & Containment Sump Repair

The Spill Prevention/Containment Sump Repair guidance document is available for download on the OPS website.

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Overfill Prevention Device Inspections

OPS regulations require that USTs be equipped with overfill prevention equipment that will…

Fill Valve	Overfill Alarm	Ball Float Valve
automatically shut off flow into the tank when the tank is no more than 95 percent full	alert the transfer operator when the tank is no more than 90 percent full by triggering a high-level alarm	alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank
		 *

* Since January 1, 2017, ball float valves cannot be used to meet this device requirement on newly installed USTs, or as a device replacement on USTs already existing before that date.

Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Overfill Prevention Device Inspections

This equipment must be inspected for proper operation every 3 years, including verifying that the equipment is set to activate at the correct tank level and functions as intended using:

- Manufacturer requirements (where they exist)
- **Code of practice developed by a nationally recognized association**
  - PEI RP1200-17 (Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities)
- **Other methods approved by OPS**

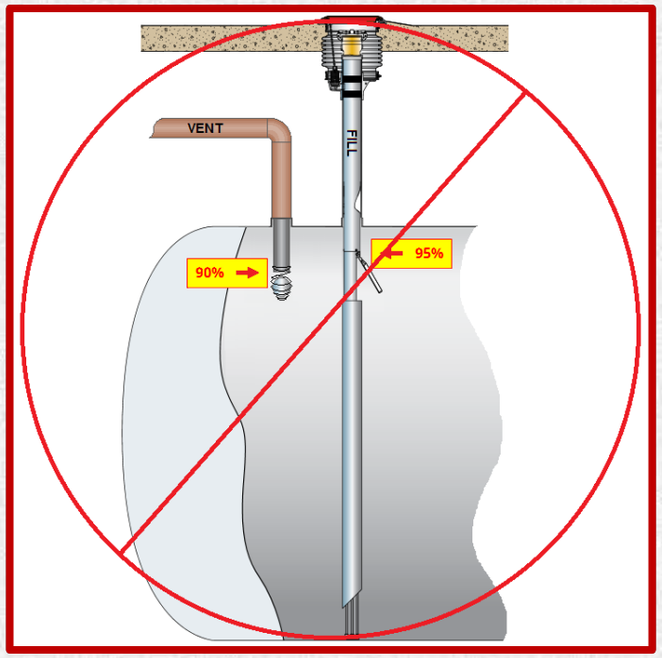
For UST systems in use on or before January 1, 2017, the first inspection must be conducted by January 1, 2020.

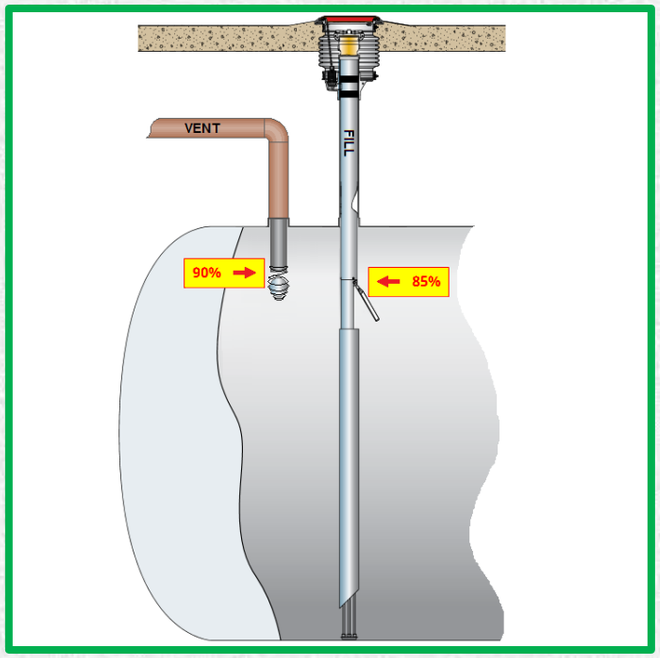
Inspection & Testing Requirements for Spill Buckets, Piping Containment Sumps and Overfill Prevention Devices

Tanks With Fill Valves and Ball Floats

* Since January 1, 2017, ball float valves cannot be used to meet this device requirement on newly installed USTs, or as a device replacement on USTs already existing before that date.

If a fill valve is used for overfill prevention and a ball float valve is used in conjunction with it for any other reason, the fill valve must be installed so that its shutoff point is reached before the ball float valve restricts flow.





Updates to the Certified UST Installer Requirements

Updates to the Certified UST Installer Requirements

Beginning January 1, 2020, to become an OPS-certified UST Installer, applicants will need to provide:

- **A completed UST Installer Certification Application**

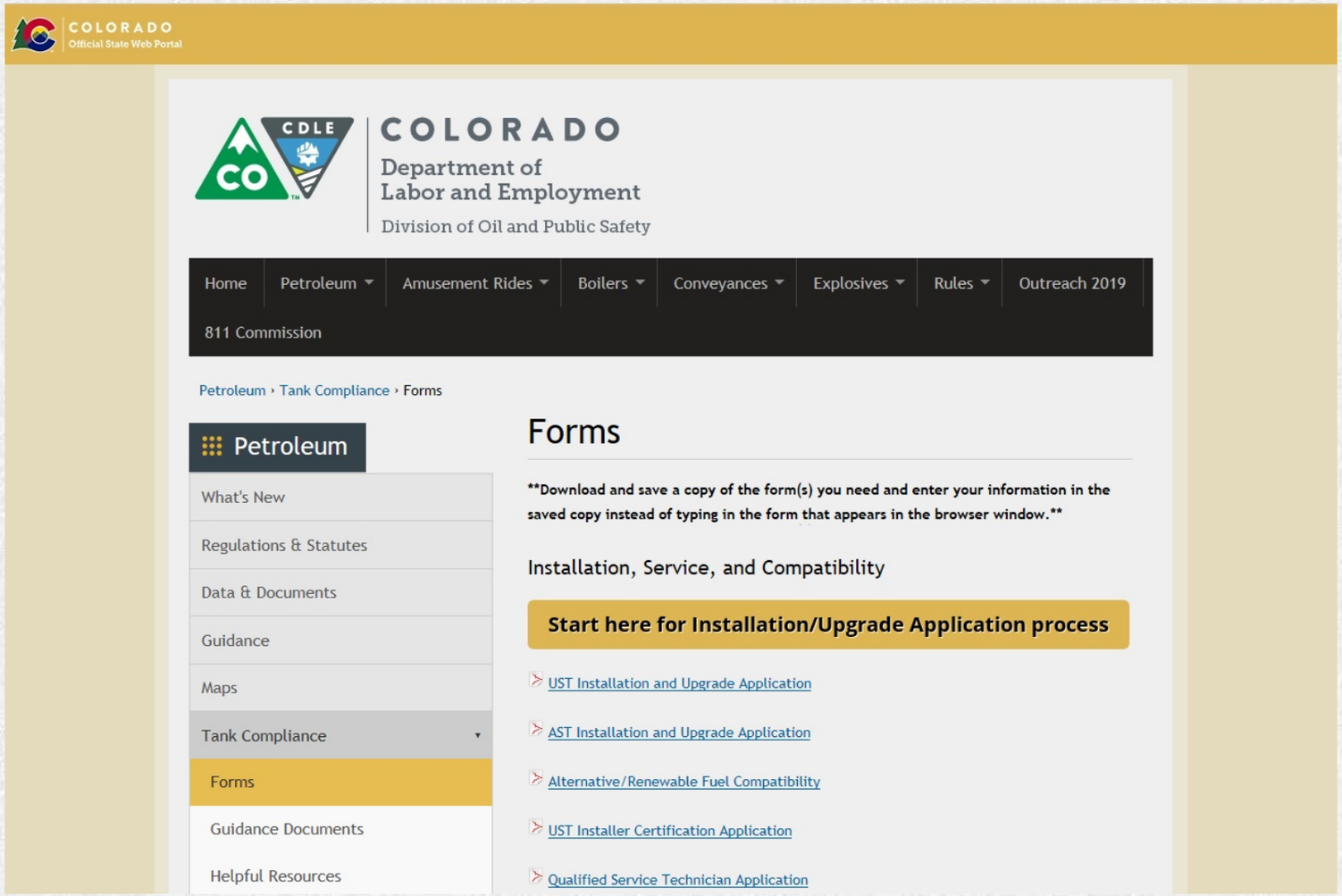
- **A current (unexpired) ICC UST Installation/Retrofitting - U1 certificate**
  - ICC UST certificates are valid for a period of two (2) years and must be renewed

- **A Certificate of Completion from PEI for the RP100 Recommended Practices for Installation of Underground Liquid Storage Systems exam**

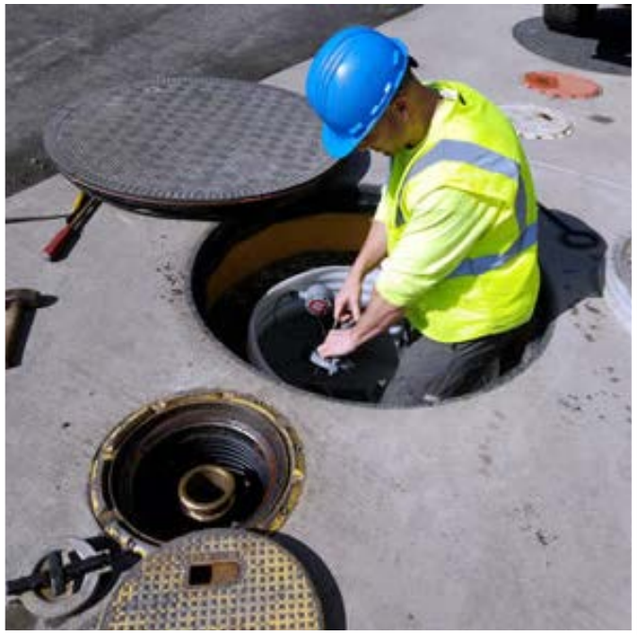
Installers who are already OPS-certified and wish to continue will need to provide a current ICC certificate (if theirs has expired), and a copy of their PEI RP100 exam Certificate of Completion before January 1, 2020

Updates to the Certified UST Installer Requirements

The UST Installer Certification Application is available for download on the OPS website.



New Qualified Service Technician (QST) Requirements



New Qualified Service Technician (QST) Requirements

Beginning January 1, 2020, much of the work performed on UST systems in Colorado must be performed by an OPS-certified QST. Examples include (but are not limited to):

- **The installation, repair, replacement, maintenance, and calibration of all UST leak detection monitoring equipment**

- **Repair or maintenance of UST equipment, including replacing spill buckets, overfill prevention devices, and piping components such as flex connectors and penetration fittings located within piping containment sumps**

- **Annual functionality testing and certification of ATGs and other UST system monitoring equipment**

- **Secondary containment testing (including at installation, routine periodic, and any others that are required)**

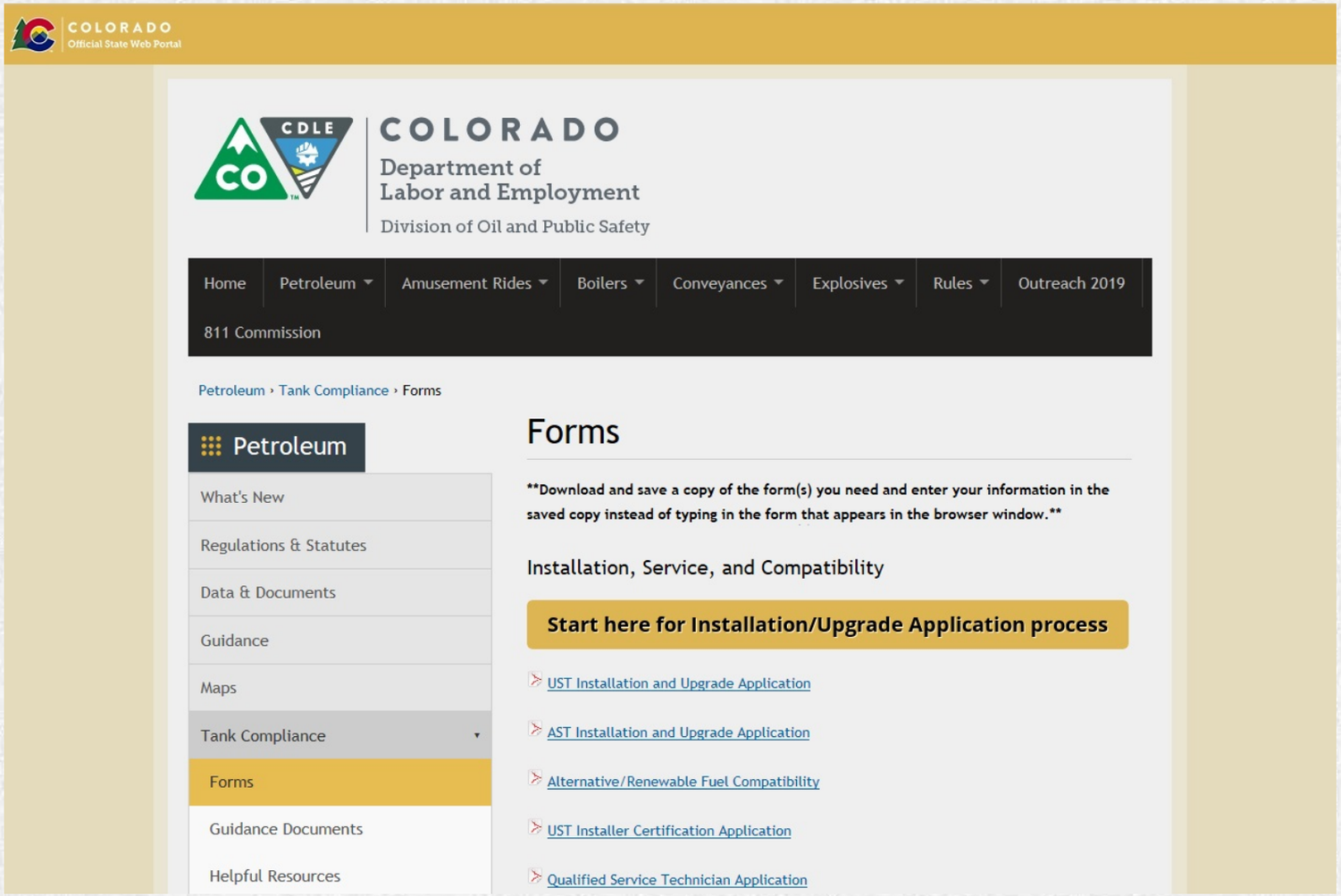
New Qualified Service Technician (QST) Requirements

To become an OPS-certified QST, applicants will need to provide:

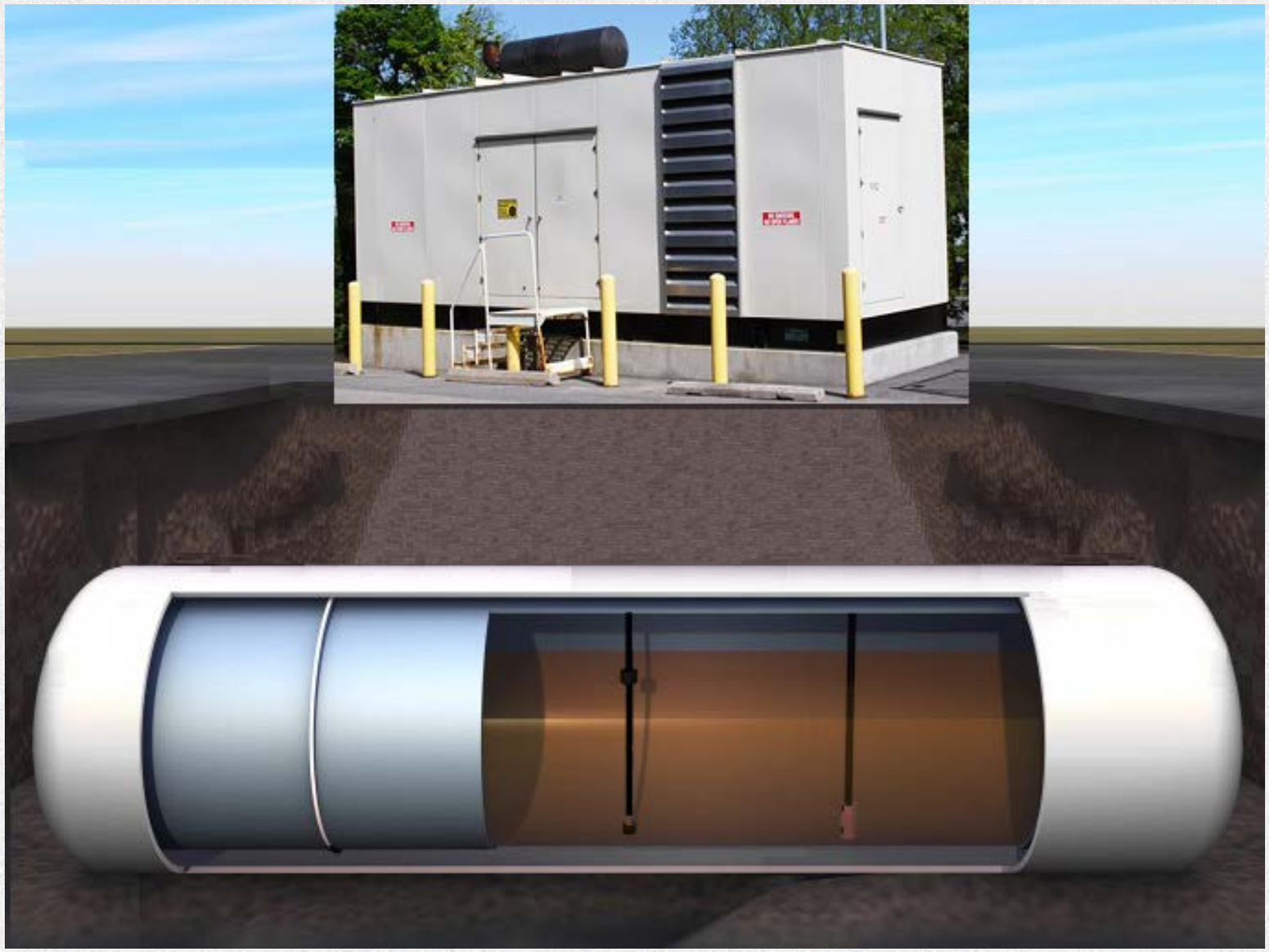
- A completed Qualified Service Technician Application
- A Certificate of Completion from PEI for the Service Technician Training Course exam
- A Certificate of Completion from PEI for the RP900-17 UST Inspection and Maintenance exam

New Qualified Service Technician (QST) Requirements

The Qualified Service Technician Application is available for download on the OPS website.



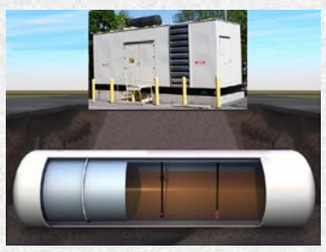
Release Detection for Emergency Generator USTs

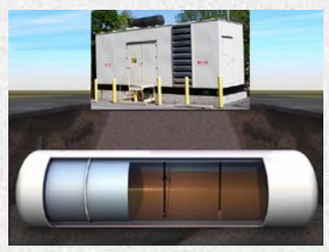


Release Detection for Emergency Generator USTs

UST Systems storing fuel solely for use by emergency power generators (or those connected to both e-gens and boilers such as at some hospitals) were previously deferred from needing to meet release detection requirements. These systems are now required to perform, document, and maintain release detection for underground tanks and underground piping as follows:

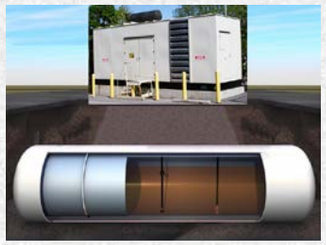
- For new systems installed since January 1, 2017 – must begin upon being placed in service
- For systems existing before January 1, 2017 – must begin by January 1, 2020
  - These systems were already required to meet spill protection, overfill prevention, corrosion protection and secondary containment requirements.

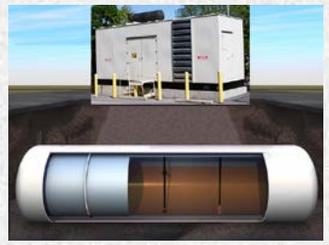




Release Detection for Emergency Generator USTs

The Automatic Line Leak Detector (ALLD) guidance document for e-gens is available for download on the OPS website.





Questions?
Go to menti.com

KEYS TO COMPLIANCE

COLORADO DIVISION OF OIL & PUBLIC SAFETY