

Underground Storage Tanks

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Road Map

* Only NYSDEC and USEPA requirements

1. NY Requirements
2. “New” Federal UST Requirements
3. Older USTs
4. UST Replacements / Upgrades
5. Questions



General Requirements



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Paperwork

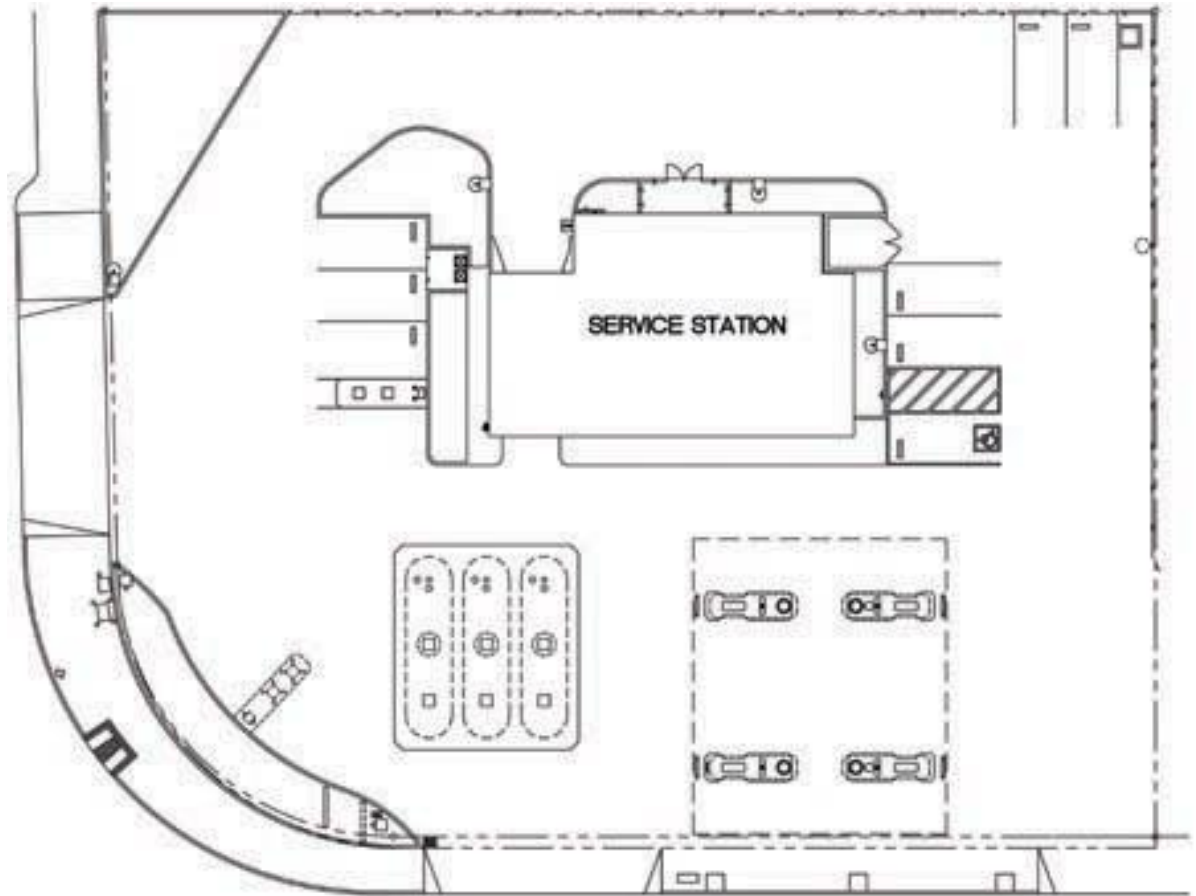


Registration Certificate

- Information must be current & accurate
- Certificate must be posted in conspicuous location at facility

As-Built Diagrams (USTs only)

- Location of:
 - USTs and associated piping
 - Fill ports
 - Dispensing equipment
 - Check valves
 - Transition sumps (if any)
 - Monitoring wells (if any)
- Visible point of reference
- Frame of reference (north arrow)
- Scale of drawing

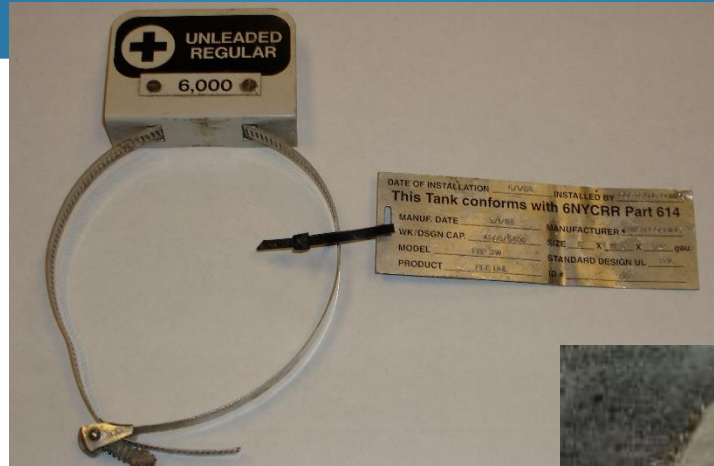


DEC Requirements



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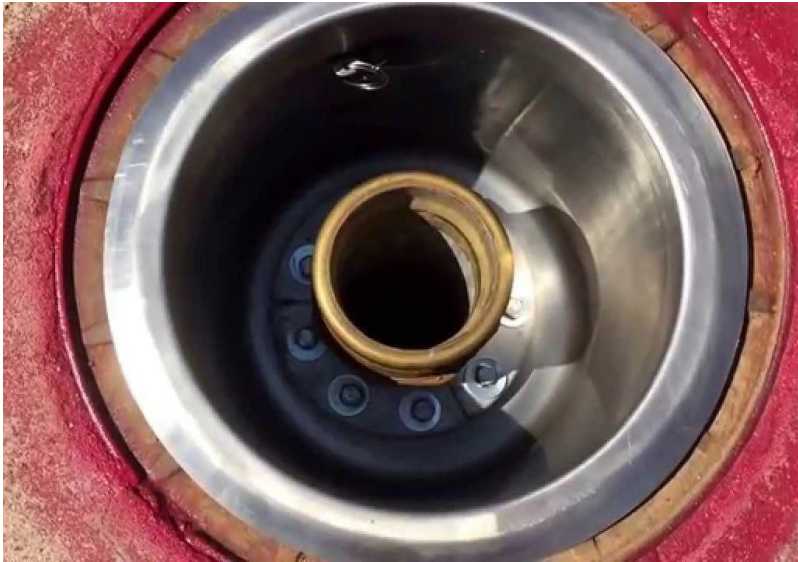
UST Fill Ports / Tank Tags



Monitoring / Observation Wells



Spill Buckets



YES



NO



Overfill Prevention



**Ball Float
Valve**

**High-Level
Alarm**



**Auto
Shut-
Off**

Tank Top Sumps

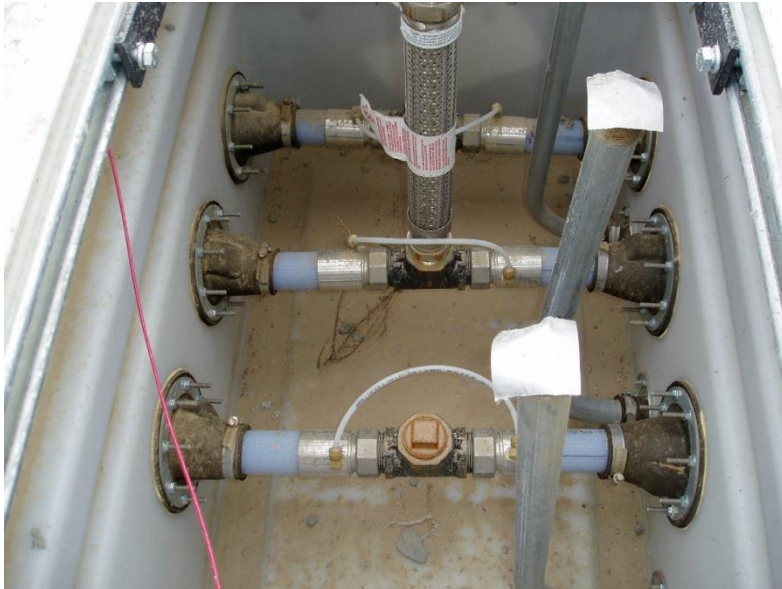


YES



NO

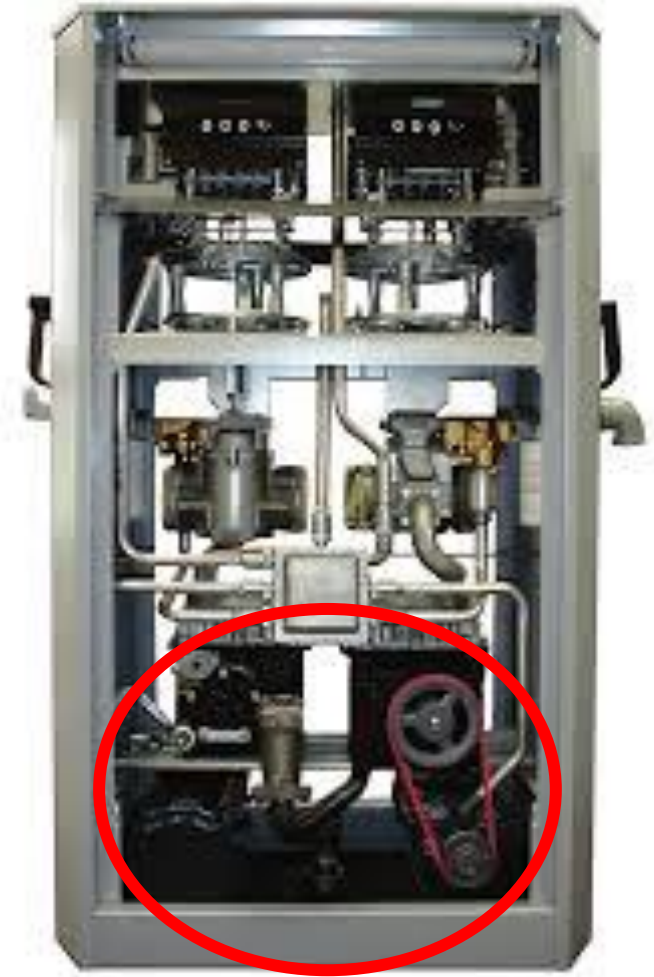
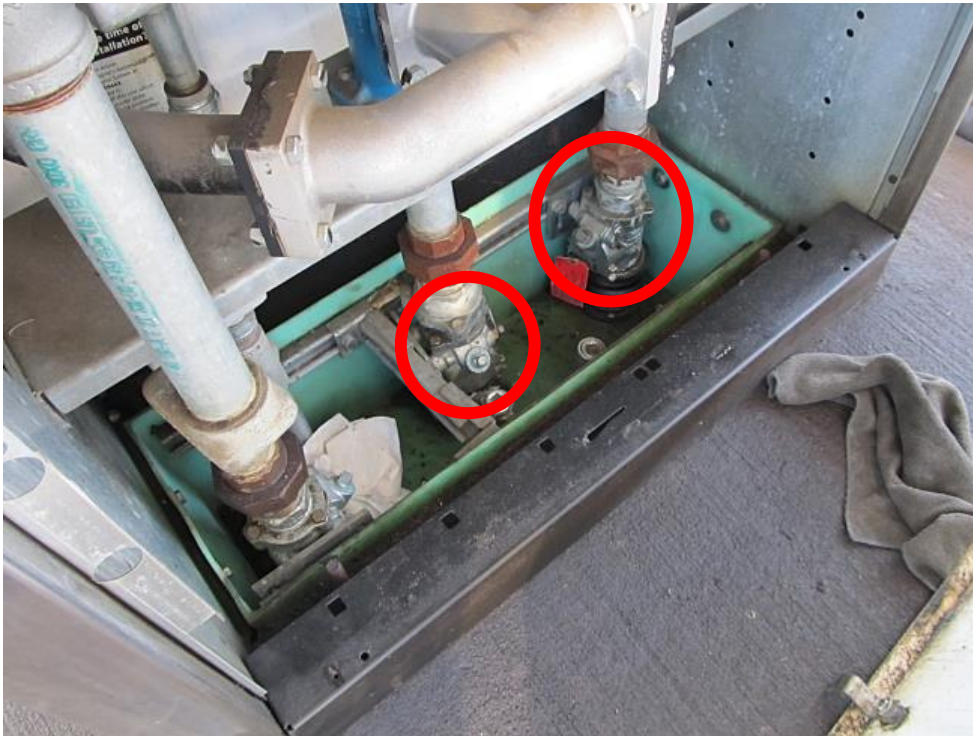
Dispenser Sumps / UDC (Under-Dispenser Containment)



Clean & Dry



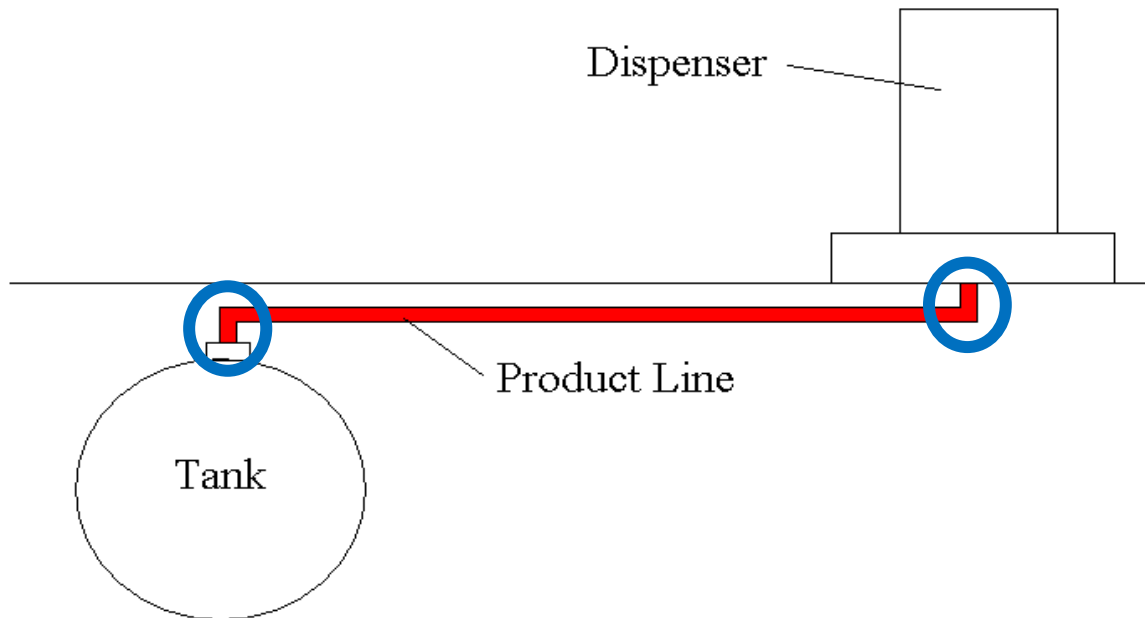
Suction Piping Dispensers



Suction Piping

Only one check valve allowed in piping system:

* Not to scale



- If check valve at dispenser, system is EXEMPT from leak detection
- If check valve at tank:
 - 3-year line testing or other acceptable leak detection method

Pressurized Piping Dispensers

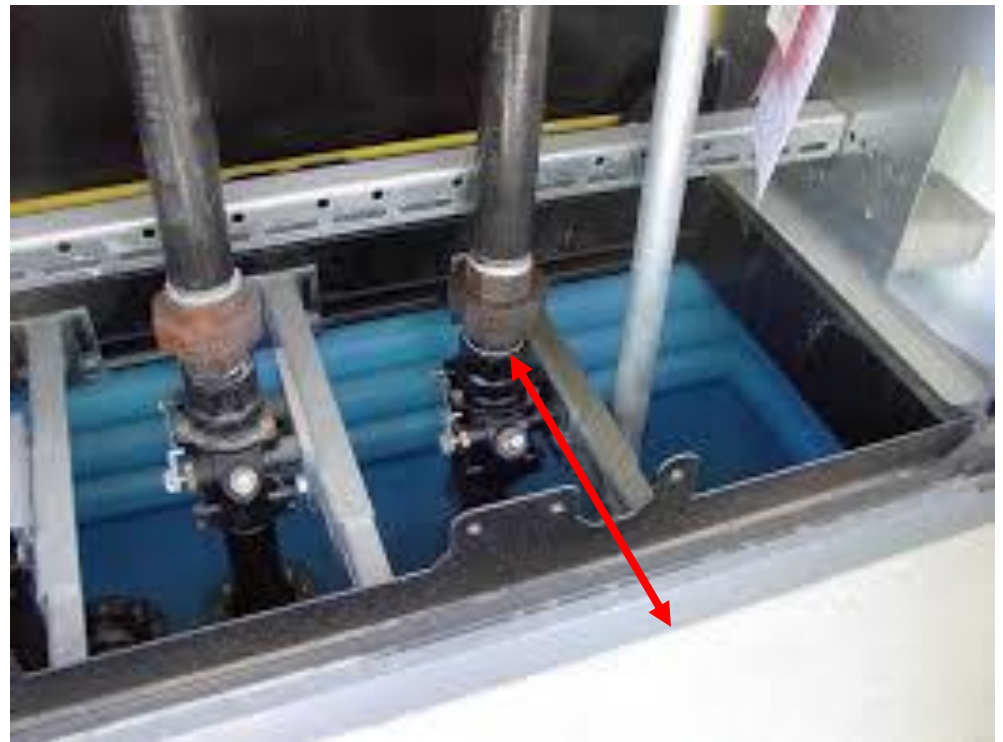


Pressurized Piping



Shear valves must be:

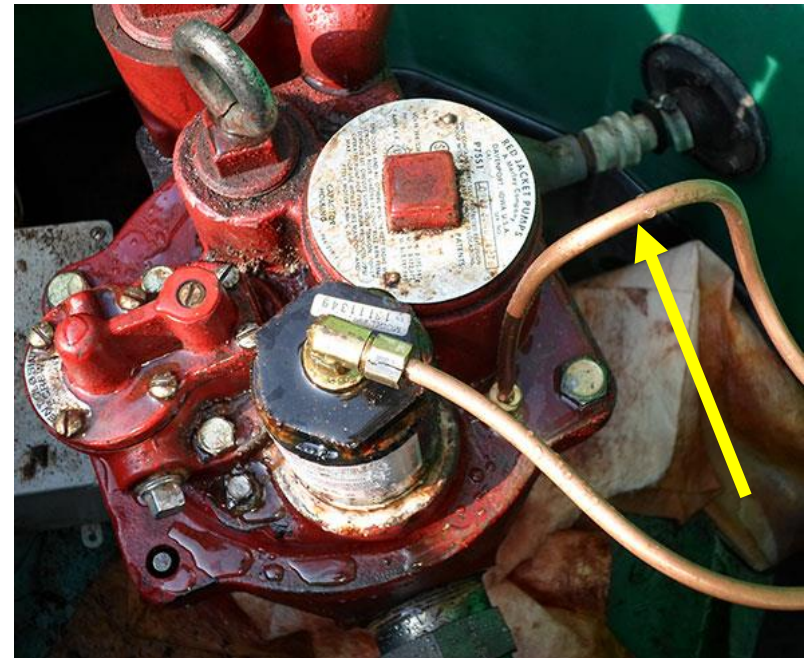
- Properly installed
- Operable



Automatic Line Leak Detectors (ALLDs)



Electronic



Mechanical

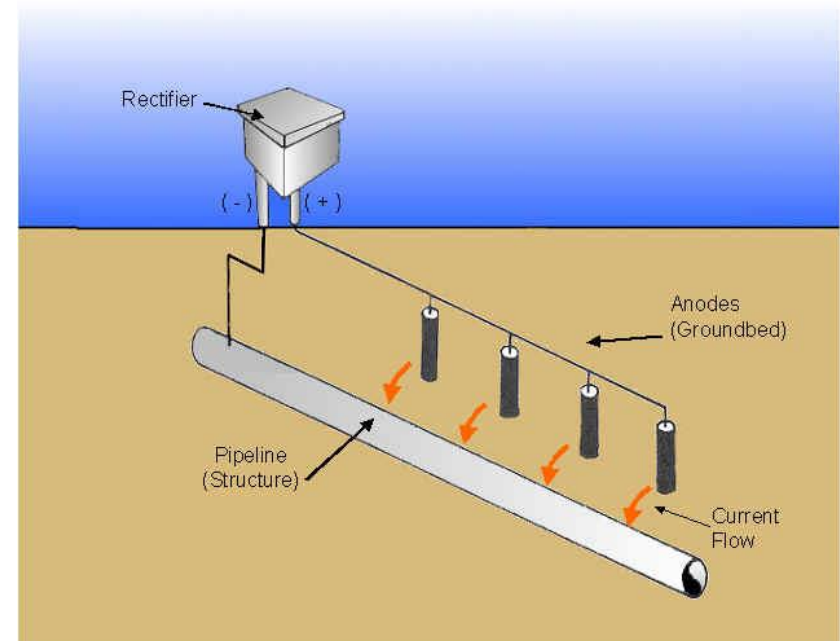
Cathodic Protection



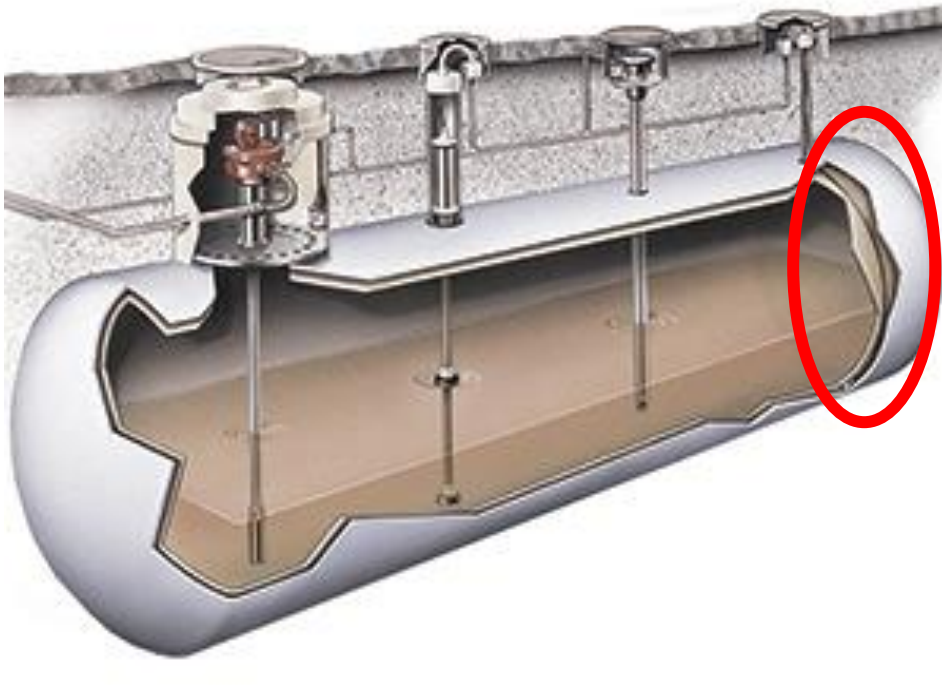
Sacrificial Anode / Galvanic

- All CP systems: annual test (at least -0.85V / -850mV)
- Impressed current: 60-day rectifier inspections

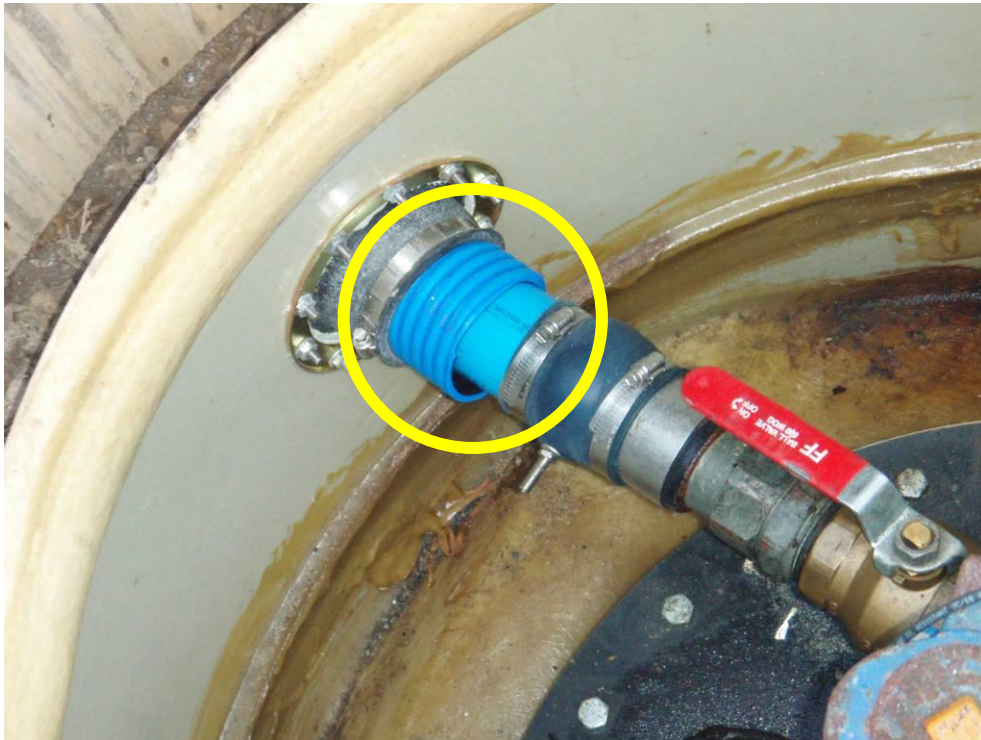
Impressed Current



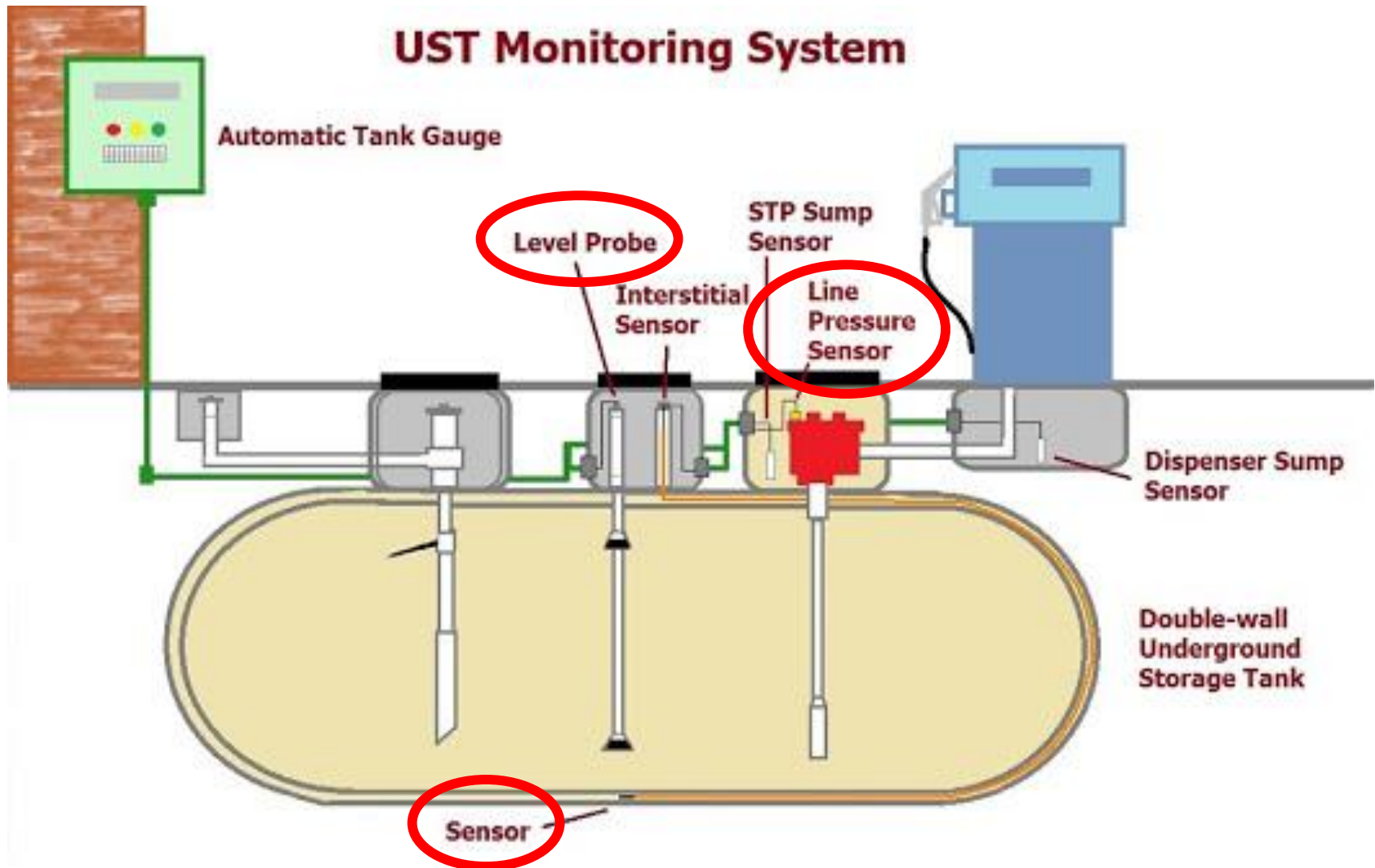
Double-Walled USTs



Double-Walled Piping



UST Monitoring



Leak Detection

Tanks

- Automatic Tank Gauging (ATG)
- Manual Tank Gauging (MTG)
- Tank Testing
- Inventory Monitoring
- Groundwater/Vapor Monitoring
- Interstitial Monitoring
- Statistical Inventory Reconciliation

Piping

- Automatic Line Leak Detection (ALLD)
- Line Testing
- Groundwater/Vapor Monitoring
- Interstitial Monitoring
- Statistical Inventory Reconciliation

“New” Federal UST Requirements



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Applicability



- Underground tanks (USTs) >110 gal
- Motor fuel (gasoline / diesel) or
- Used oil



Effective Dates of Regulations

- NYSDEC – PBS regulations originally effective 12/27/1986
- USEPA – UST regulations originally effective 12/22/1988
- DEC revised regulations effective 10/11/2015
- EPA revised regulations effective 10/13/2015
- DEC currently incorporating “new” EPA requirements into Part 613

“New” EPA Requirements

- NO NEW BALL FLOAT VALVES!!!
- Testing required within 30 days after repair to spill / overfill equip. or secondary containment
- Demonstrate product compatibility



“New” EPA Requirements (cont’d)

- New / replaced tanks & piping:
 - Secondary containment
 - Interstitial monitoring
- Under-dispenser containment for new dispenser systems
- Operator training
- Site assessment records for groundwater / vapor monitoring

“New” EPA Requirements (cont’d)

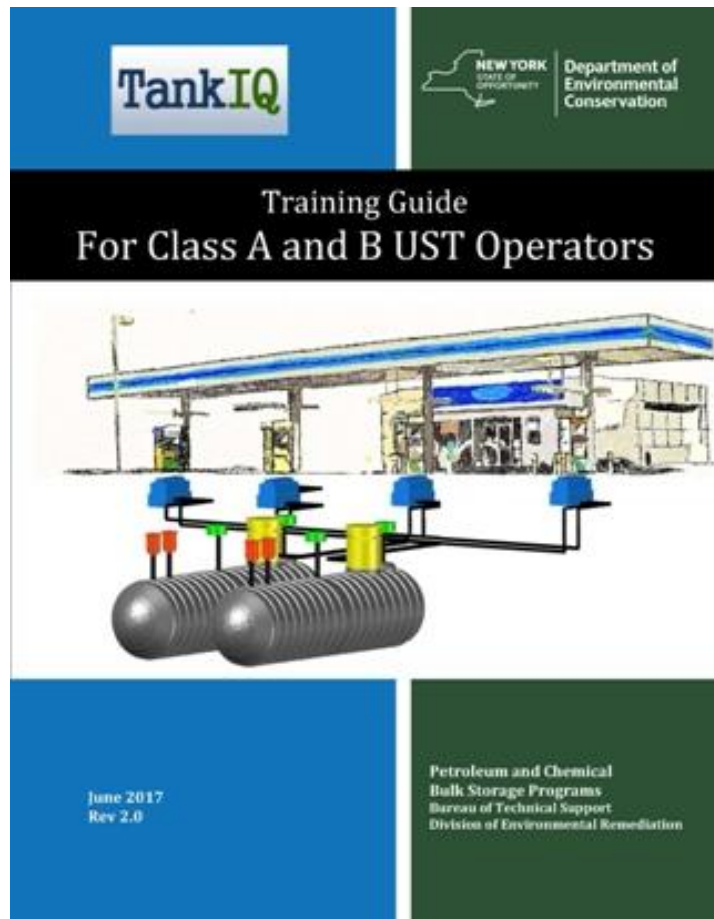
- Spill prevention equipment testing
- Overfill prevention equipment inspections
- Testing of containment sumps used for piping interstitial monitoring:
 - Tank top sumps
 - Dispenser sumps
- Release detection equipment testing
- Walkthrough inspections (30-day & annual)



How am I supposed to comply
with all these requirements?

Easy answer – get rid of your USTs

Operator Training



 [Services](#) [News](#) [Government](#) [Local](#)

Department of Environmental Conservation [Recreation](#) [Nature](#) [Prevent & Control Pollution](#) [Regulatory](#) [News & Learning](#)

[New York State UST Operator Exam](#)

Sign In

Email Address

Password

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[I forgot my password.](#)

New? [Sign up now.](#)

[Create a New Account.](#)

This is the login page for the New York State Underground Storage Tank (UST) Class A and B Operator Exam.

Groundwater / Vapor Monitoring

Groundwater / vapor monitoring site assessment records

- Hire a consultant to conduct a groundwater / vapor well site assessment

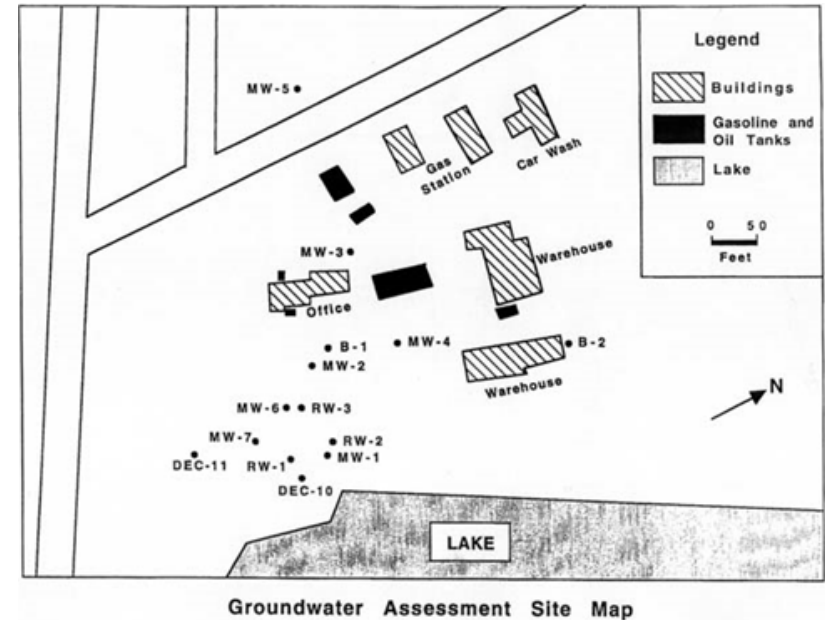


Table 1. Elevations and pollutant concentrations

Well Name	Elevation	Depth to water table	Water table elevation	Hydrocarbon concentration, ppb
VW-1	84.3	14.45		Not detected
VW-2	98.69	29.11		8,618
VW-3	100.71	31.34		7.8
VW-4	99.07	29.51		153.5
VW-5	102.07	32.86		Not detected
VW-6	88.36	18.63		14,265
VW-7	82.90	13.06		4,897
DEC-10	84.43	14.53		36
DEC-11	83.10	13.25		Not detected
3-1	98.87	29.3		2,236
3-2	100.03	30.44		53.5
LAKE	70	0		Not detected

Spill Buckets

Spill bucket testing (every 3 years)*

*unless double-walled with
interstitial monitoring

- Hire a contractor to conduct vacuum, pressure, or hydrostatic testing



Overfill Prevention

Overfill prevention equipment inspection (every 3 years)

- Hire a contractor to verify that overfill prevention equipment is functioning properly



Containment Sumps

Containment sump testing (every 3 years)*

*unless double-walled with
interstitial monitoring

- Hire a contractor to conduct vacuum, pressure, or hydrostatic testing



Release Detection

Release detection equipment testing (annual)

- Hire a contractor to verify that RD equipment (such as probes, sensors, and line leak detectors) is functioning properly



Walkthrough Inspections

Walkthrough inspections (30-day & annual)

- District personnel can check release detection equipment (maintain records)



PEI RP 900

PEI/16-00-01

Recommended Practices for the Inspection and Maintenance of UST Systems



APPENDIX A-2: SAMPLE FORM FOR MONTHLY UNDERGROUND STORAGE SYSTEM INSPECTION CHECKLIST – Page 1

Go to www.pei.org/RP900 for an electronic version of this form.

MONTHLY UST SYSTEM INSPECTION CHECKLIST									
Facility ID#	Facility Name/Address		Level II Qualified Person Signature				Date		
If any problem is found, contact:			Contact information:						
Category	Description	PEI/RP900	N/A	Tank 1	Tank 2	Tank 3	Tank 4		
Operator Training	Review site training documents	7.4							
Daily Inspections	Complete daily checklist and compare to previously completed daily checklists	7.5.1							
Leak Detection Recordkeeping	Circle method of tank leak detection: ATG, CIM, SIR, IC, GWM, SVM, MIMT Circle method of piping leak detection: CIM, MPLT, SIR, GWM, SVM, MIMP	7.6							
Automatic Tank Gauge (ATG)	Passing tank test report printed and properly filed	7.6.1.1							
Continuous Interstitial Monitoring (CIM)	Sensor status report printed and properly filed	7.6.2.1							
Monthly Piping Leak Test (MPLT)	Passing piping leak test report printed/documented and properly filed	7.6.3.1							
Statistical Inventory Reconciliation (SIR)	Last month's SIR results passed and available for inspection	7.6.4.1							
Inventory Control (IC)	Inventory reconciled and within the company or regulatory standard	7.6.5.1							
Manual Groundwater Monitoring (GWM)	Groundwater bailer in good condition	7.6.6.1							
Manual Groundwater (GWM) or Soil Vapor Monitoring (SVM)	Wells sampled and results pass	7.6.6.2							
Manual Interstitial Monitoring for Tanks (MIMT)	Steel tank: interstitial space checked and found dry	7.6.7.1							
	Fiberglass tank: interstitial space checked and found dry	7.6.7.2							
	Fiberglass tank: level of monitoring fluid within normal range	7.6.7.3							
	For steel and fiberglass tanks, vacuum level is within tolerances	7.6.7.4							
Manual Interstitial Monitoring for Piping (MIMP)	Tnk 1 vac: Tnk 2 vac: Tnk 3 vac: Tnk 4 vac: Containment sump (STP and/or remote fill sump) inspected and no liquid found	7.6.8.1							
All Tanks		7.7							
Spill Kit	All components of the spill kit are present and in good condition	7.7.1							
Grade-Level Covers	All covers present, in good condition, seated firmly on the correct tank	7.7.2.1							
Spill Containment Manhole	Drain valve in spill containment manhole in good condition	7.7.3.1							
	Interstitial space of double-walled containment manhole is dry	7.7.3.2							

Checklists

- [Appendix A-1: Daily UST System Inspection](#)
- [Appendix A-2: Monthly Underground Storage Inspection](#)
- [Appendix A-3: Annual Underground Storage Inspection](#)
- [Appendix A-4: Sample Site Diagram](#)

Older USTs



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Things to Consider

- USTs (esp. older ones) can leak → impacts to:
 - Natural resources
 - Public health
- Expensive cleanups
- Potential insurance claims:
 - Bodily injury
 - Property damage

Operational Challenges

- Older USTs likely to be steel
- Cathodic protection:
 - Less effective with age
 - More likely to need retrofit / replacement
- Fuel additives (esp. high levels ethanol) → UST system component breakdown
- Greater chance of spills / releases

Reportable Spills per DEC

1. Petroleum in spill bucket
2. Petroleum in tank top sump
3. Petroleum in dispenser sump
4. Petroleum in tank secondary containment
5. Petroleum in the environment
6. Suspected spill not investigated
7. Suspected spill not reported
8. Spill not reported (surface)
9. Release not reported (sub-surface)
10. Failed spill bucket test not reported
11. Failed sump test not reported

Insurance Challenges

- EPA requires financial responsibility → insurance is popular FR mechanism
- Common belief – USTs have 30-year useful life (30-year mfr. warranties)
- USTs very difficult to insure after 20 years → difficult to comply with FR requirements
- Older USTs → higher insurance rates

UST Replacement



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When Considering Replacement

- Talk to School Business Official → budget / allocate funds
- Talk to insurance carrier
- Decide whether to replace with UST / AST

Before Closure (old) / Installation (new)

- Review tank closure requirements (DEC / Delegated County)
- Check on potential regulatory revisions / upcoming rulemaking
- Ensure that contractors know regulatory requirements (esp. closure)
- Submit *Pre-Work Notification* form to DEC / County
https://www.dec.ny.gov/docs/remediation_hudson_pdf/tank_modnotice.pdf

During Installation

*District or authorized representative

- Inspect / photograph tanks
- Ballast tanks with water, not fuel
- Create a “UST Birth Certificate”

Obtained from Source Fueling Equipment Solutions:

<https://www.sourcena.com/ust-birth-certificate/>

UST “Birth Certificate”



UNDERGROUND STORAGE TANK & PIPING BIRTH CERTIFICATE



Record the following information about UST and piping installations before the excavation site is backfilled and save it with your site's equipment records.

TANK DESCRIPTION:

Serial/part number:

Manufacturer/brand:

Tank diameter:

Tank capacity:

Tank length:

Tank weight:

Materials of construction:

Number of compartments:

Number of sumps/risers:

Secondary containment type:

- ☐ Doublewall/jacketed tank
☐ Liner/bladder
☐ Leakproof excavation liner

Description of interstitial monitoring system:

Additional notes about the UST (e.g. primary fuel in tank):

Continued on Page 2

1



UNDERGROUND STORAGE TANK & PIPING BIRTH CERTIFICATE



Record the following information about UST and piping installations before the excavation site is backfilled and save it with your site's equipment records.

INSTALLATION INFORMATION:

Contractor/installation company name:

City:

State:

Installation date:

How many tanks were installed in the tank field:

Distance between tanks:

If more than one tank is installed in the tank field, describe this tank's placement in relation to the other tanks in the field (i.e. "tank is the second closest tank to the front of the C-store"):

Burial depth:

Was a geotextile fabric installed?

☐ Yes ☐ No

Description of backfill type and size:

Description of anchoring:

- ☐ Deadman anchors
☐ Concrete anchor pad
☐ None

Continued on Page 3

2

UST “Birth Certificate” (cont’d)



UNDERGROUND STORAGE TANK & PIPING BIRTH CERTIFICATE



Record the following information about UST and piping installations before the excavation site is backfilled and save it with your site's equipment records.

Description of method used to connect hold-down straps to anchors:

- ☐ Drop-forged turnbuckle ☐ Looped wire rope ☐ Combination of turnbuckle and wire rope
☐ Other (please describe)

The number of anchor straps installed:

If installing a steel tank, were isolation pads used to separate the anchor strap from the tank?

☐ Yes ☐ No

If installing a fiberglass tank, what was the final vertical deflection measurement?

RECOMMENDATIONS FOR THIS UST BIRTH CERTIFICATE



Include photo(s)
of tank prior to
installation of
backfill



Include a copy of
the registration form
submitted to
EPA/supervising
regulatory body



Include a copy of
the manufacturer's
warranty



Include a copy of
the UST insurance
policy

Continued on Page 4



UNDERGROUND STORAGE TANK & PIPING BIRTH CERTIFICATE



Record the following information about UST and piping installations before the excavation site is backfilled and save it with your site's equipment records.

PIPING:

Manufacturer & brand:

Part number:

Description (i.e. double wall primary pipe)

Materials of construction:

Diameter:

Color:

Type of fuel piping will transfer:

Thread sealant used on connections:

After Installation (before operation)

- Update PBS registration with DEC / County
- Complete EPA's *Notification for Underground Storage Tanks* form; submit to DEC / County

<https://www.epa.gov/ust/notification-forms-underground-storage-tanks>

Resources

DEC

Tank IQ

https://www.dec.ny.gov/docs/remediation_hudson_pdf/tankiq.pdf

PBS Inspection Form v.6 (2/12/2019)

http://www.dec.ny.gov/docs/remediation_hudson_pdf/pbsinspfrm.pdf

EPA

Musts for USTs

<https://www.epa.gov/ust/musts-usts>

PEI

*RP 900**

<https://www.pei.org/rp900>

QUESTIONS



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Thank You!

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