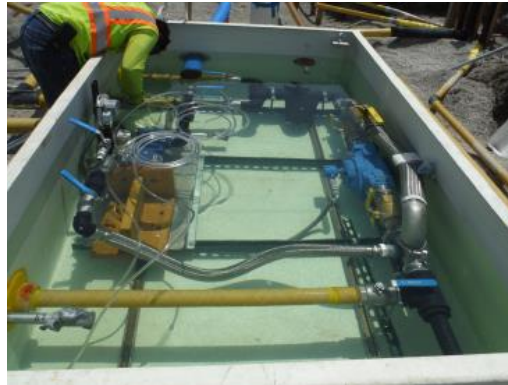


UST INSTALL ISSUES



National Tanks Conference 2018

Darryl Slade

UST Compliance and Technology Unit

Electrostatic Discharge Incidents

- Biodiesel blending systems
- Similar circumstances for incidents at two sites



Electrostatic Discharge Incidents

- Confirmed visually
- Fiberglass piping
- 5 horsepower pump, through filter in tank top containment sump
- 150 gpm flow rate- original rate
- Reduced to 90 gpm flow rate

Electrostatic Discharge Incidents

Site #1

- System installed March 2013
- 1st piping failure May 2016
- 2nd piping failure July 2016
- 3rd piping failure August 2016

Electrostatic Discharge Incidents



May 2016 (2nd) Failure



July 2016 (3rd) Failure

Electrostatic Discharge Incidents

Site #2

- System installed July 2016
- Same time period as the piping failures at Site #1
- Piping failure April 2018

Electrostatic Discharge Incidents



Electrostatic Discharge Incidents



Electrostatic Discharge Incidents

- Double-walled piping used
- No release to environment
- Owner responded to alarms
- Had to lower PSI
- Had to lower pressure at pump

Electrostatic Discharge Incidents



ST2164 ESD video.mp4



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Shoring



Shoring



Shoring





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Floating Tanks



Damage to Floating Tanks



Damage to Floating Tanks





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Tank Damaged at Install



Tank Damaged at Install





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Tank Repair



Tank Repair

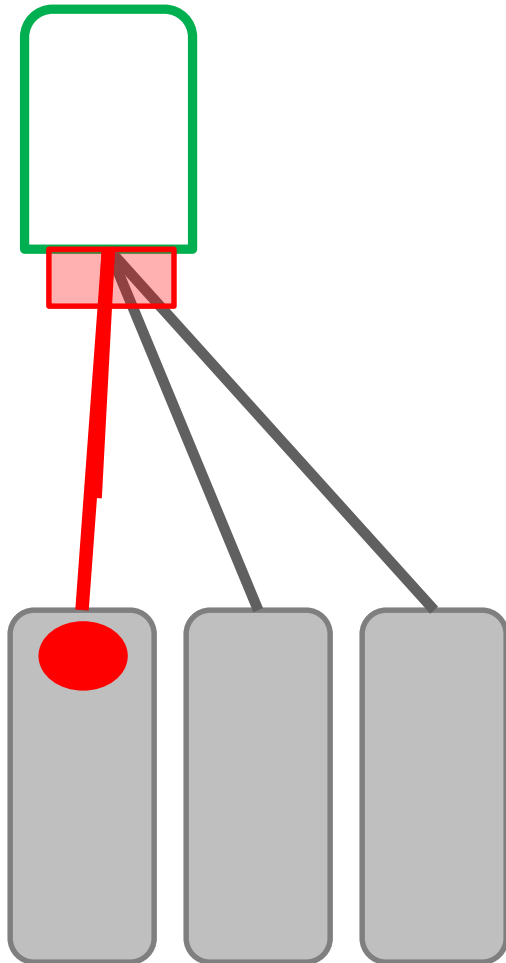
- Contractor certified to make repairs?
- Proper documentation provided to state?



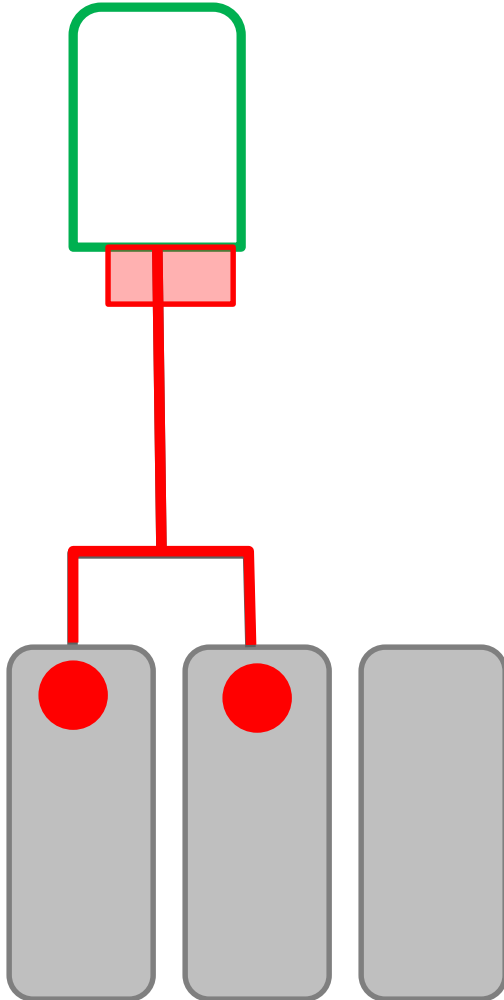
50 Percent Piping System Replacement

- 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

Double Walled Piping

- Install Notice indicated double walled piping was to be installed (as required by regulation)
- Inspection documented single walled piping was being installed



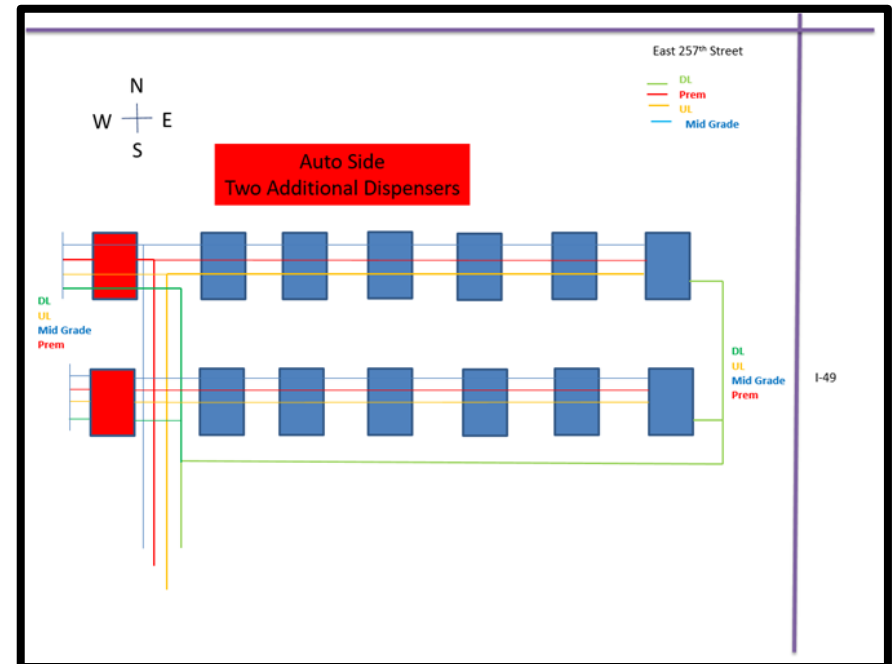
Gravel Lot

- Depth of pipe to surface on gravel lot
- Settling?



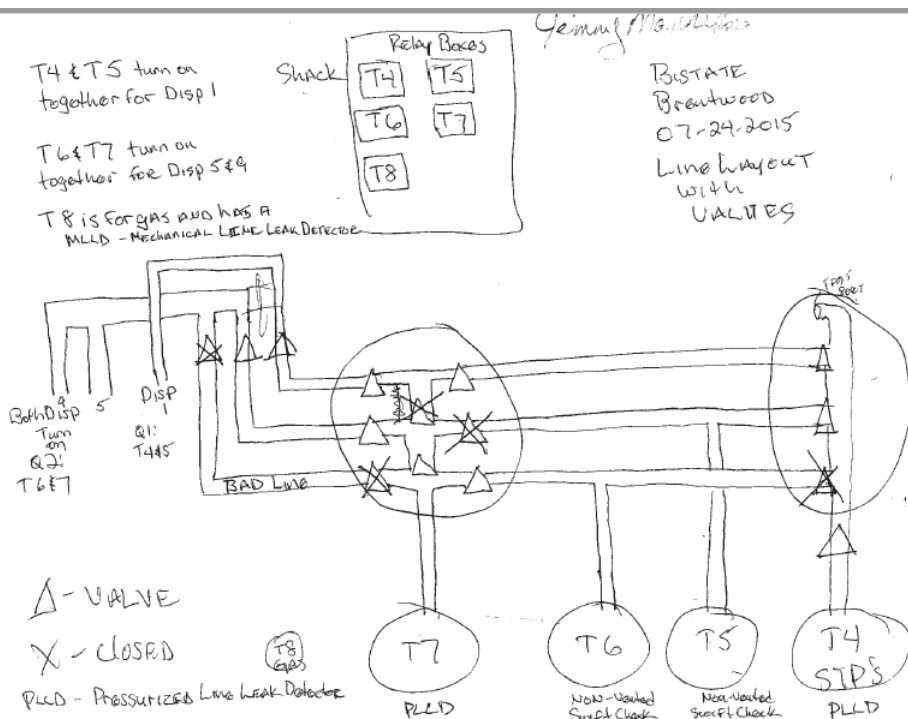
Piping

- Diagram of piping is important part of inspection
- Some piping layouts can be confusing



Unique Piping Systems

- Need to confirm setup is correct



Unique Piping Systems

- Overhead piping
- Follow fuel lines from tank to dispenser



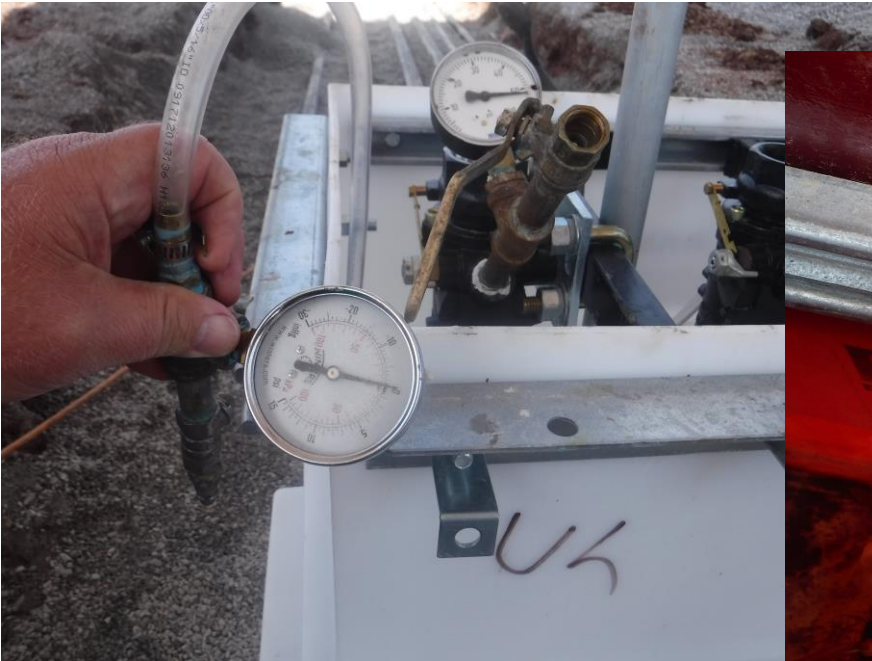
Leak Detection Monitors

- Over 800' from fuel tanks to dispenser
- LLD monitors rated for that setup?



Pressure Gauges

- Stuck or bad pressure gauges giving false readings



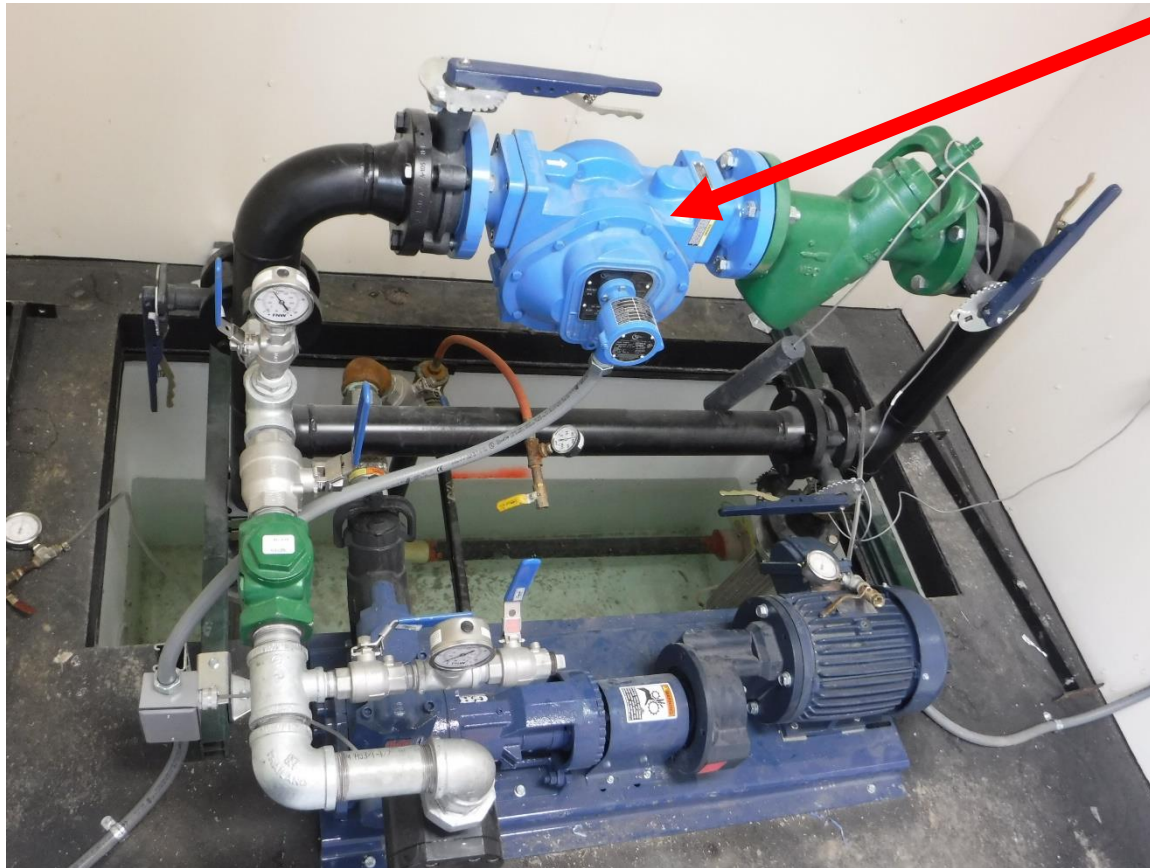
Pressure Gauges

- Stuck or bad pressure gauges giving false readings



Flow Meter

- B-100 flow meter installed backwards



Pressurized Delivery

- Horizontal fill pipe
- Ball float valve
- Blew out STP



Unique Spill Basin Testing

- How are states handling unique sites



Unique Spill Basin Testing

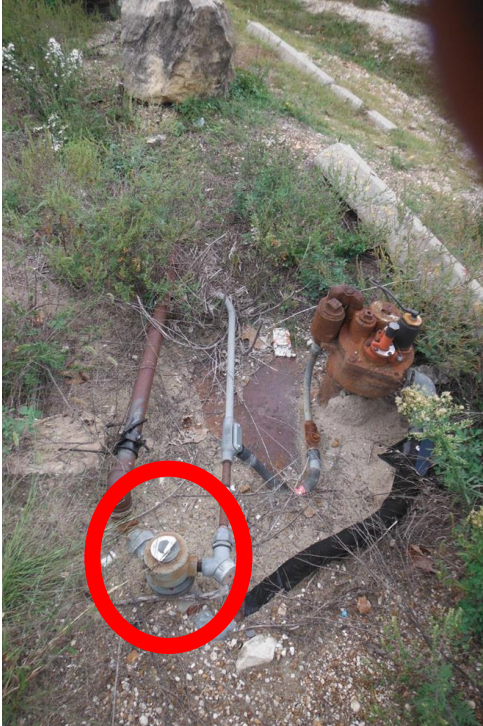
- ASTSWMO document

Satellite Remote Fill Cap

- Easy to overlook
- Piped correctly?
- Padlocked?



Solenoid Valves



- Line leak detector only monitoring the flexible connector



- Line leak detector can monitor the line

Pay attention to the “extras”

- If a spill or overflow occurs here, where does it go?





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Thank You

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