2011 AST Regulation Changes Revisited

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OPS AST Regulation History

- First AST regulations effective Oct. 1, 1994
- Many of the requirements were taken from the 1993 editions of NFPA 30 & 30A fire code
- The AST regulations and UST regulations were contained in two separate documents.
  - Aboveground Storage Tank Regulations
  - Underground Storage Tank Regulations

OPS AST Regulation History

- The first revision of the AST regulations became effective Sep. 30, 1995
- The separate AST and UST regulations were combined into a single document that became effective Jan. 1, 1997
  - Storage Tank Regulations
- The combined rules were revised in 1999, 2002, 2004, 2005, 2006, 2008, and 2009

OPS AST Regulation History

- NFPA 30 & 30A fire code underwent a number of revisions during the same period
  - Revisions occur on a 3 yr (sometimes 4 yr) cycle
- Several changes made to fire code created inconsistencies with requirements contained in regulations (no substantive changes ever made to AST regulations)
  - Including maximum allowable tank capacities, tank construction types, separation distances, etc.

OPS AST Regulation History

- Stakeholder group first formed in 2008 to amend and revise the AST regulations
  - Efforts derailed largely due to the implementation of recent UST requirements (UST operator training, licensed UST installer program, etc.)
- Stakeholder group reformed in 2010 to continue with AST regulation amendments and revisions

OPS AST Regulation History

- Stakeholder group identified changes that should be made, and the portions of regulations pertaining to ASTs were rewritten or modified
  - Copies of the changes were provided to industry for review and comment before being finalized for public review and comment
- The final document became effective Apr. 14, 2011

COLORADO DEPARTMENT OF LABOR AND EMPLOYMENT

DIVISION OF OIL AND PUBLIC SAFETY

STORAGE TANK REGULATIONS

7 C.C.R. 1101-14

Effective: April 14, 2011

AST Regulation Change Highlights

- Added new, and changed several definitions
  - Changed “petroleum products” to “fuel products”; Replaced “petroleum” with “regulated substance”; etc.
- Editorial changes made so as to include information contained in the CO Revised Statutes and make the document more user-friendly
  - ASTs excluded by statute now listed in regulations

AST Regulation Change Highlights

- "Fire Tested" vs "Fire Resistant" (UL2080) Tanks
  - Due to unintentional but inadequately written 1993 NFPA requirements, tanks that were tested to SwRI 97-04 standards (e.g. FlameShield) no longer met the NFPA definition of "Fire Resistant" beginning in 2003
  - SwRi stopped listing the tanks tested to the 97-04 standard as "Fire Resistant"
  - Tanks tested to the 97-04 standard were no longer represented/marketed as "Fire Resistant"

AST Regulation Change Highlights

- "Fire Tested" vs "Fire Resistant" (CONTINUED)
  - Since April 14, 2011, when new or used "Fire Tested" ASTs are installed - or existing ones are reinstalled - no reductions to separation requirements are provided as part of their construction or testing standard
    - Tank-to-property line/important building/dispenser separation distances are the same as other UL142 ASTs
  - These changes do not affect "Fire Tested" ASTs that remain in continuous service and are not moved


FLAMESHIELD
NO SMOKING
COMBUSTIBLE

AST Regulation Change Highlights

- Provided clarification for AST installations and upgrades
  - Application for permit to install new, used, or reinstall existing ASTs is required before construction
  - Application for permit to upgrade existing AST systems is required before construction (includes alterations to tanks, piping, certain equipment, containment, and security)

AST Regulation Change Highlights

- Provided clarification for the installation of used (and reinstallation of existing) ASTs
  - In most circumstances, the results of a recent formal external inspection (e.g. STI SP001) by a certified inspector must be included with the installation application
  - For single wall, vertical ASTs, the results of a recent formal internal inspection (e.g. STI SP001) by a certified inspector must be included with the installation application

AST Regulation Change Highlights

- NOTE: Where a tank will be moved from and returned to its original location in order to allow an alteration to its containment (e.g., changing from bare earthen diking to lined earth or concrete diking), or where a tank will be moved to a new location outside of its current footprint, a permanent closure must be performed in accordance with regulations, and an application must be submitted for its reinstallation. For tanks installed before October 1, 1994 that will be moved from and returned to their original location, requests for variance from separation requirements that cannot be met must be made in writing at the time of application.

AST Regulation Change Highlights

- Changes made to maximum individual and aggregate storage capacities where they were more restrictive than NFPA fire codes
  - Maximum individual capacity for secondary containment (double-wall) ASTs w/out diking or impounding increased from 12,000 gals to 20,000 gals for Class II & IIIA liquids
  - Maximum aggregate capacity for ASTs at motor fuel dispensing facilities increased from 39,999 gals to 48,000 gals

AST Regulation Change Highlights

- Clarified that UL 2085 Protected ASTs do not require additional collision protection since impact protection is inherent to their design and construction
  - Local authorities having jurisdiction may still require additional collision protection for UL 2085 tanks
  - Tanks that are not constructed to the UL 2085 standard and are used for motor fuel dispensing must have collision protection (e.g. bollards, concrete barriers, etc)

AST Regulation Change Highlights

- Clarified the applicability and requirements for fencing of ASTs
  - 6 ft high chain link fence, 10 ft away from the tank
  - Required for tanks at motor fuel dispensing facilities
  - Required for tanks having an individual or aggregate capacity of 12,000 gals or more at all other facilities
  - Tanks not required to be enclosed with a fence if the property is enclosed with a perimeter security fence

AST Regulation Change Highlights

- Security requirements for other tanks (regardless of use) was clarified
  - Tanks that are unsupervised for any period of time, or are located in isolated/remote areas, shall be secured and shall be marked to identify the fire hazards of the tank and the tank's contents to the general public. Where necessary to protect the tank from tampering or trespassing, the area where the tank is located shall be secured.

AST Regulation Change Highlights

- Updated tank separation distances for motor fuel dispensing facilities and fleet vehicle motor fuel dispensing facilities to be consistent with NFPA fire code
  - A section pertaining to EXISTING restricted-capacity fleet vehicle motor fuel dispensing facilities remained in the regulations, but was not expanded to apply to new installations. It was later determined that there remained a need for this type of installation, and it was later updated and readded

AST Regulation Change Highlights

- A section was added to include bulk plants with motor fuel dispensing from bulk storage ASTs (not allowed by NFPA fire code) – 3 categories
  - For facilities existing before April 14, 2011 where the 50 ft distance requirement from tank to dispenser IS met
  - For facilities existing before April 14, 2011 where the 50 ft distance requirement from tank to dispenser IS NOT met
  - For new facilities installed on or after April 14, 2011

AST Regulation Change Highlights

- Added that where electronic or mechanical tank gauges are used for determining tank volume (e.g. tape gauges, clock face gauges, etc.), the gauges are to be calibrated annually
  - Calibrations must be documented and records maintained
- Added that where spill & automatic overfill prevention equipment exists, ullage must still be performed but no requirement to document

AST Regulation Change Highlights

- Added that by Oct 14, 2012, where ASTs cause a gravity head pressure on a motor fuel dispensing device, a normally closed solenoid valve (or equivalent device) must be installed at the tank to prevent liquid flow in the event of a failure
  - Must be located adjacent to, and downstream of the tank's main valve

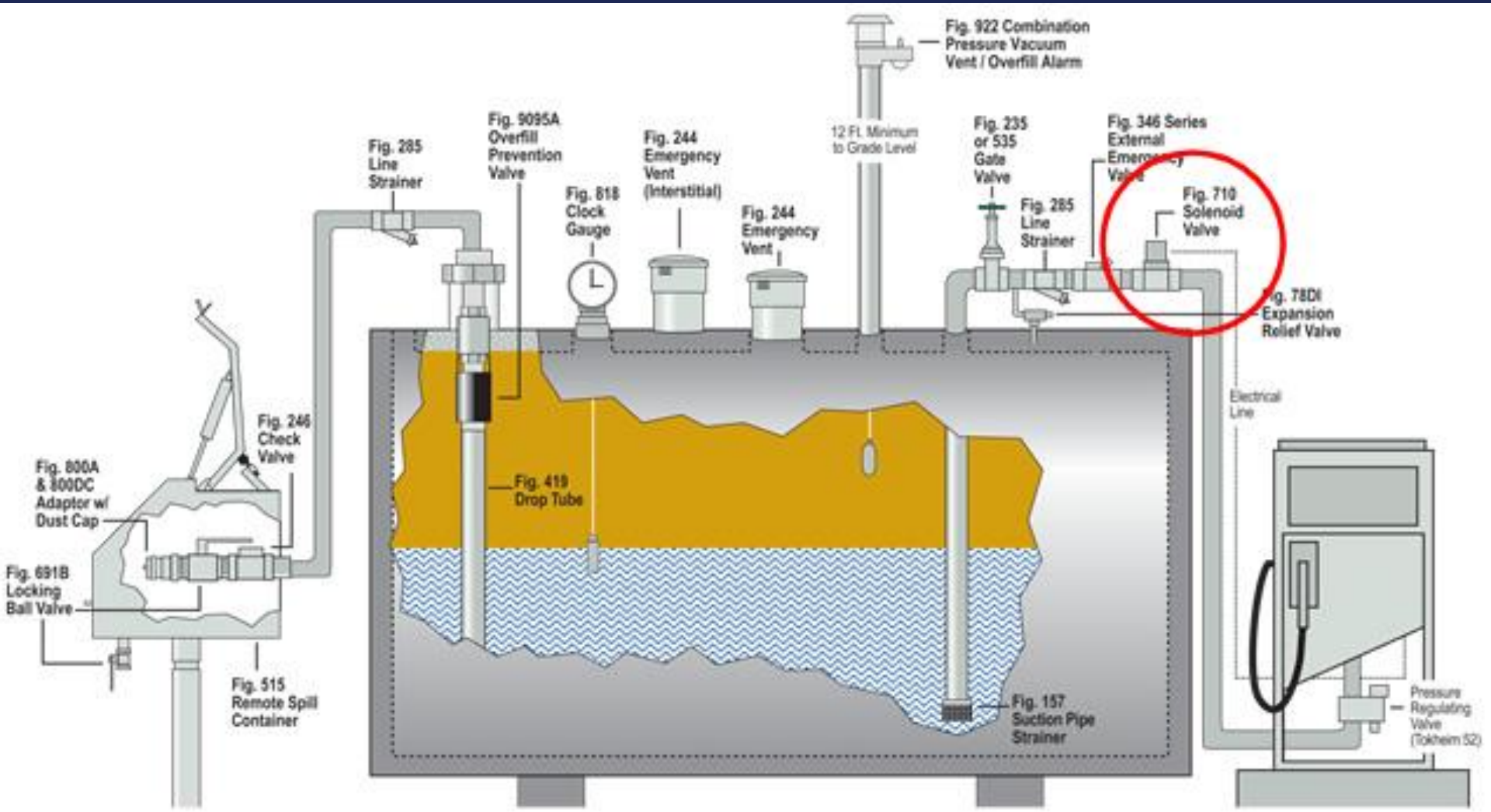
Fig. 922 Combination Pressure Vacuum Vent / Overfill Alarm
12 Ft. Minimum to Grade Level
Fig. 9095A Overfill Prevention Valve
Fig. 285 Line Strainer
Fig. 818 Clock Gauge
Fig. 244 Emergency Vent (Interstitial)
Fig. 244 Emergency Vent
Fig. 235 or 535 Gate Valve
Fig. 285 Line Strainer
Fig. 346 Series External Emergency Valve
Fig. 710 Solenoid Valve
Fig. 78DI Expansion Relief Valve
Electrical Line
Fig. 246 Check Valve
Fig. 800A & 800DC Adaptor w/ Dust Cap
Fig. 691B Locking Ball Valve
Fig. 515 Remote Spill Container
Fig. 419 Drop Tube
Fig. 157 Suction Pipe Strainer
Pressure Regulating Valve (Tokheim 52)

AST Regulation Change Highlights

- Clarified that where a suction-type dispensing device includes a booster pump, or where an AST causes a gravity head pressure on it, a listed, vacuum-actuated shutoff valve with a shear section (e.g. PRV-52 valve) must be installed directly beneath the dispensing device
  - Suction-type dispensing devices installed before Apr 14, 2011 that include a solenoid valve at the tank, and a properly installed emergency shutoff valve (fire valve) meet this requirement

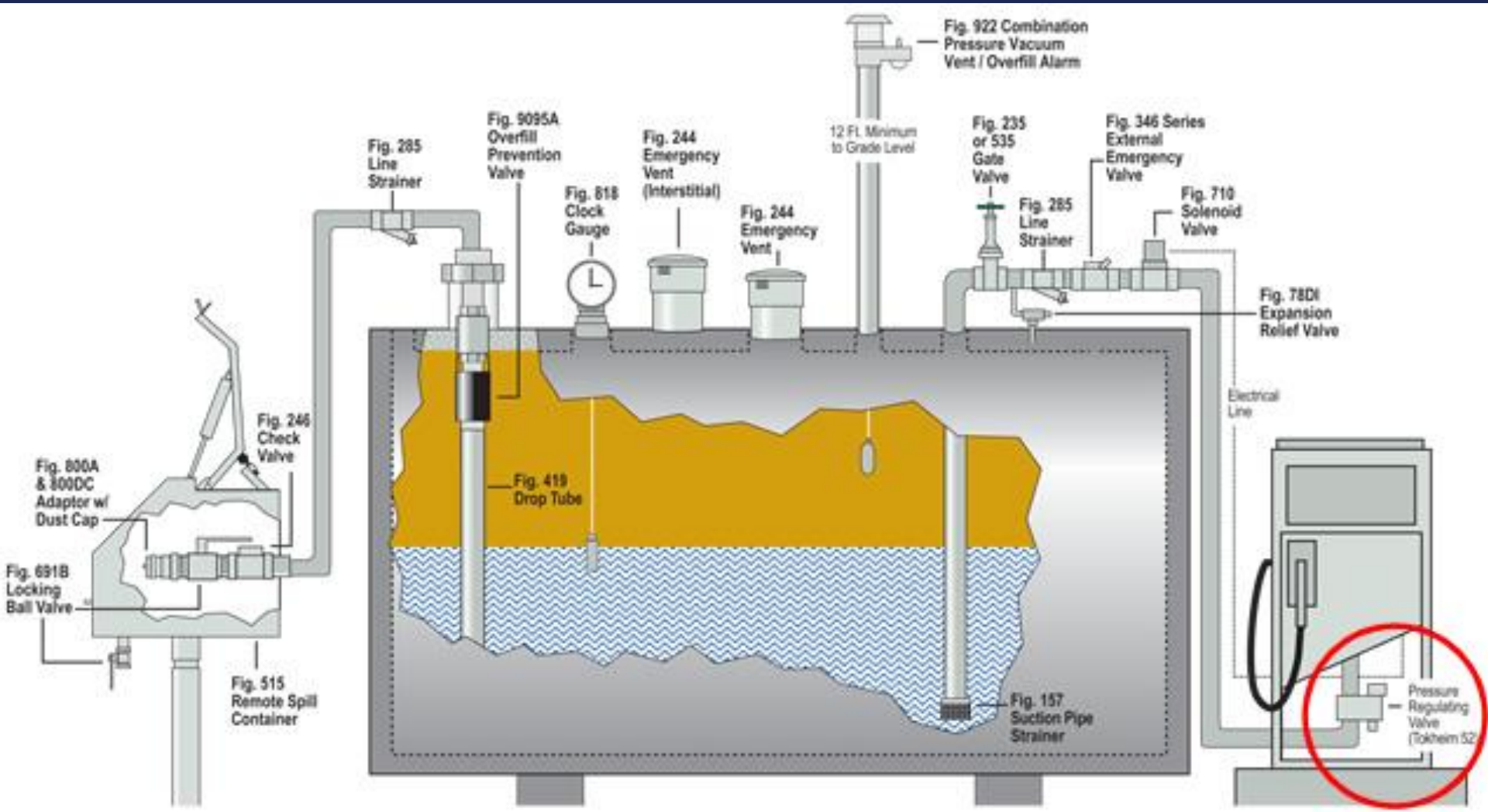
Fig. 922 Combination Pressure Vacuum Vent / Overfill Alarm
12 Ft. Minimum to Grade Level
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Fig. 515 Remote Spill Container
Fig. 157 Suction Pipe Strainer
Pressure Regulating Valve (Tokheim 52

AST Regulation Change Highlights

- Added testing and inspection requirements for consistency with NFPA fire code
  - Initial Testing
    - Required for all ASTs before being installed
    - ASTs built to an approved construction standard (e.g. UL142) are tested at the factory where they were built
  - Tightness Testing
    - Required for all ASTs **after** installation and **before** being filled
    - Initial testing at the factory **does not** satisfy this requirement

AST Regulation Change Highlights

- Testing and Inspection (CONTINUED)
  - Periodic Testing and Inspections
    - Monthly Inspections required for all ASTs
      - Can be done by knowledgeable personnel
      - Documented on OPS inspection form and maintained
    - Annual Inspections required for all ASTs
      - Can be done by knowledgeable personnel
      - Documented on OPS inspection form and maintained

AST Regulation Change Highlights

- Testing and Inspection (CONTINUED)
  - Periodic Testing and Inspections
    - Formal External and Internal Inspections, and Leak Testing
      - External and internal inspections are performed and documented by certified inspectors according to the requirements of the inspection standard used (STI-SP001 or API 653)
      - Leak testing can be performed by certified inspectors or qualified personnel
      - Frequency and type of inspections needed are established by the standard being followed
      - Many older tanks with no prior inspections were due by 10/14/12
      - A guidance document is available on the OPS website


Sneak Peek: NEW OPS We
Tank Compliance | Colora
Apps
OPS
Colorado
The Official Web Portal
CDLE
CO
not quite
OPEN
FOR BUSINESS
What's New
Tank Compliance
Forms
Guidance Documents
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FAQs
Liquefied and Compressed Gas
refiners of petroleum products;
products dispensed.
releases from all regulated petroleum storage tanks; and
provide the utmost protection to public health and the environment from any
contamination caused by leaking petroleum storage tanks.
Relevant forms and guidance documents can be accessed by clicking on the links on the left
side of the page.

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AST and UST Compliance
Forms
Guidance Documents
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Frequently Asked Questions
Liquefied and Compressed Gasses
Weights and Measures
Remediation
Petroleum Storage Tank Fund
Petroleum Program Bulletin
Enforcement
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Guidance Documents

Installation and Compatibility

- AST Tightness Testing
- Bulk Plants with Dispensers
- Unattended Fueling Requirements
- Blending and Dispensing Flex Fuels
- Ethanol Pilot Program Guidelines
- Multi-Compartment Tanks Definition

Secondary Containment Testing

- Secondary Containment Testing Guidance

Tank Closure or Change in Service

- Permament Closure Requirements
- AST Closure Requirements
- UST Closure Requirements

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