

ROUGH Draft AST Emergency Rule

Public Meeting
Charleston Civic Center
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west virginia department of environmental protection
Promoting a Healthy Environment

THANK YOU for Coming!!!

- Public Involvement
- Collaborative
- Protection of Public Health and the Environment



Session Topics

- Corrosion Protection
- Overfill and Spill Prevention
- Leak Detection
- Secondary Containment
- Tank Status including Closure

Tank Fundamentals



Corrosion Protection (section 9)

- Cathodic Protection Systems
- External Coatings
- Internal Coatings/Liners



Cathodic Protection Systems

➤ Galvanic or Impressed Current

- ✓ Designed by NACE corrosion expert (9.2.a)
- ✓ Metallic AST systems in direct contact with soil or other electrolytes (9.2.b)
- ✓ Access points for testing (9.2.d)



Cathodic Protection (CP) Systems

- Must be inspected and tested for proper operation by a NACE certified tester (9.3.b-9.3.b.1, 9.3.h)
 - ✓ 6 months after installation
 - ✓ 3 years thereafter
 - ✓ Tank bottoms in contact with soil/electrolyte must be tested annually



Cathodic Protection (CP) Systems

- Operated and maintained to continuously provide corrosion protection (9.3.d)
 - ✓ Repair as needed (9.3.f)

- Recordkeeping
 - ✓ Last 2 CP tests (9.3.b.2)
 - ✓ Rectifier checks every 60 days (9.3.b.3)
 - ✓ Repair information



Cathodic Protection (CP) Systems (9.2.g)

- For Level 1 ASTs, CP systems must be repaired and/or upgraded by December 31, 2015
- For Level 2 ASTs, CP systems must be repaired and/or upgraded by June 30, 2016
- Prior to return to service



Exterior Coatings

- Coating must be able to permanently bond (9.4.b)
- Exterior tank & piping surfaces must be properly prepared prior to the application of a coating (9.4.c)
- Exterior coating system shall be maintained in good condition (9.4.d)
- Recordkeeping



Exterior Coatings (9.4.f)

- For Level 1 ASTs, coatings must be repaired and/or upgraded by December 31, 2015.
- For Level 2 ASTs, coatings must be repaired and/or upgraded by June 30, 2016.
- Prior to return to service



Interior Coating /Liners

- Coatings and linings shall be chemically compatible with the substance to be stored(9.5.a.1)
- Surfaces shall be properly prepared (9.5.a.3)
- Defects in coating or lining systems shall be repaired (9.5.a.6)
- Recordkeeping



Interior Coating /Liners

- Interior coatings/liners shall be inspected:
 - ✓ At installation
 - ✓ When AST undergoes major modification
 - ✓ As required by warranty or design engineer
 - ✓ At a minimum, every 10 years



Interior Coating /Liners (9.5.c)

- For Level 1 ASTs, internal coating/liner must be repaired and/or upgraded by December 31, 2015.
- For Level 2 ASTs, internal coating/liner internal coating/liner must be repaired and/or upgraded by June 30, 2016.
- Prior to return to service



Spill and Overfill Prevention

- Owners/operators (O/O) must ensure that releases due to spilling & overfilling do not occur (10.1)
- O/O must ensure storage capacity is greater than the volume transferred (10.1.a)
- O/O must ensure that the AST is monitored in a manner as to prevent spills and overfills (10.1.a.1)



Spill and Overfill Prevention

- O/O must take immediate action to stop the flow of fluids, prior to exceeding tank capacity (10.1.a.2)
- O/O must investigate and clean up spills and overfills (10.1.b)
- Recordkeeping



Spill and Overfill Prevention

- ASTs that receive deliveries shall be equipped with a gauge or other measuring device that is readily visible and accurately indicates volume; AND (10.1.d.1)
- A high-level alarm with an automatic high-level cut-off device; OR (10.1.d.2)
- A high-level alarm with a manned operator shutdown procedure (10.1.d.2)



Spill and Overfill Prevention

- If the transfer operations are not being continuously monitored by a transfer operator (10.1.g)
 - ✓ AST must be equipped with overfill prevention equipment that will automatically shut off the flow when the AST is no more than 95% full.
 - ✓ All automatic shutoff equipment shall be equipped with a fail-safe mechanism that will function in the event of a power failure or malfunction



Spill and Overfill Prevention

- If the transfer operations are being continuously monitored by a transfer operator (10.1.h)
 - ✓ AST must be equipped with a high level alarm
 - ✓ The transfer operator must perform shutdown in case of an alarm
 - ✓ O/O shall ensure that the person(s) performing substance transfers is trained and knowledgeable



Overfill and Spill Prevention (10.1.e)

- For Level 1 existing ASTs, overfill and/or spill requirements must be upgraded by December 31, 2015
- For Level 2 existing ASTs, overfill and/or spill requirement must be met by June 30, 2016.
- Prior to return to service



Secondary Containment

- Must prevent spills from entering the environment (10.2a)
- Structures shall be compatible with substance(s) stored (10.2.b)
- Double walled ASTs serve as secondary containment for the tank, provided that the interstitial space is monitored (10.2.h)



Secondary Containment

- Designed to prevent discharge of the entire capacity of the largest single tank and sufficient freeboard to contain precipitation (10.2.i.1)
 - ✓ 110% - general rule of thumb; or
 - ✓ Twenty-five (25) year, twenty-four (24) hour storm event precipitation design criteria
- Excessive water ($\geq 10\%$) should be drained and properly disposed (10.2.L)



Secondary Containment

- For existing AST systems- sufficiently impervious- must be able to hold a release for minimum of 72 hours (10.2.c)
- For New AST systems – impervious- containment systems must meet permeability less than 1×10^{-7} cm/sec (10.2.f)



Secondary Containment

- Level 1 ASTs visually inspected at least every seventy-two (72) hours (10.2.d)
- Level 2 ASTs visually inspected at least once a month (10.2.d)
- Recordkeeping



Secondary Containment

- Notify the Secretary within 24 hours after determining that secondary containment does not meet the requirements of the Rule (10.2.g)
- Must take immediate action to correct deficiencies in secondary containment (10.2.g.1)
- If repairs cannot be completed within 72 hours, submit a plan with a schedule for approval detailing repair actions to be taken (10.2.g.2)



Secondary Containment

- For ASTs containing flammable and/or combustible materials, the secondary containment walls shall be of earth, steel, concrete, or solid masonry (10.2.e.1)
- Secondary containment shall be kept free of vegetation & debris (10.2.i.6)



Secondary Containment

- Drains shall be kept in good operating condition, closed, and secured (10.2.i.7)
- Drains and drain valves constructed of low melting point materials are prohibited (10.2.i.8)



Secondary Containment (10.2.m)

- For Level 1 and Level 2 ASTs, secondary containment requirements must be upgraded within three (3) months of the effective date of this Rule



Leak Detection

- Leak detection (LD) performed at least every 30 days for AST system (10.3)
- LD equipment shall be installed, calibrated, operated and maintained (10.3.a)
 - ✓ 0.2 gallon per hour leak rate with a 95% probability of detection
- Visual observation may be acceptable form of LD



Leak Detection

- Visual observation is an acceptable for LD for existing AST systems provided that: (10.3.c)
 - ✓ The entire area of concern (e.g. the entire AST and/or aboveground piping, flanges, valves, etc.) is readily accessible for view; AND
 - ✓ The area of concern is properly illuminated (minimum of 100 lumens)



Leak Detection

- Visual observation is acceptable for a double bottomed tank or a release prevention barrier that is designed and constructed to channel fluids to an area for observation provided:
(10.3.c.1-3.)
 - ✓ Liquids discovered in the structures are immediately removed



Leak Detection

- For existing AST systems (Levels 1&2), and for new or upgraded Level 2 AST systems, include any one or a combination of the following: (10.3.d- 10.3.g)
 - ✓ Visual inspection;
 - ✓ Automatic tank gauging (tank only);
 - ✓ Statistical inventory reconciliation;
 - ✓ Interstitial monitoring;
 - ✓ Tank tightness testing (3rd party 0.1 gal/hr);
 - ✓ Other forms approved by the Secretary



Leak Detection

- Acceptable forms of LD for new or upgraded Level 1 AST systems include the following: (10.3.e)
 - ✓ Automatic tank gauging (tank only);
 - ✓ Statistical inventory reconciliation;
 - ✓ Interstitial monitoring;
 - ✓ Other forms approved by the Secretary

For new Level 1 ASTs, Visual may only be used in combination with one of the above



Leak Detection

- When using a combination of leak detection methods, a failure of any one method is considered a failure of the LD (10.3.k)
- Two consecutive months of inconclusive results or three non-consecutive months of inconclusive results in a twelve (12) month period is considered a failure of the LD (10.3.l)



Leak Detection

- Underground piping shall be annually leak tested to detect a 0.1 gallon per hour leak rate (10.3.m)
- Pressurized underground piping shall be equipped with line leak detectors capable of shutting off or restricting flow (10.3.n)



Leak Detection

➤ Recordkeeping

- ✓ LD records
- ✓ LD tests
- ✓ Suspected and/or confirmed releases
- ✓ Repairs



Leak Detection (10.3.p)

- For Level 1 ASTs, LD must be brought into compliance by December 31, 2015, except that LD by visual means must be begun no later than the effective date of the this Rule.
- For Level 2 ASTs, LD must be brought into compliance by June 30, 2016, except that leak detection by visual means must be begun no later than the effective date of the this Rule.
- Prior to return to service



Nonoperational ASTs

- Empty- no fluids after June 6, 2104 (11.1)
- Must maintain FR until POS
- Not subject to O&M, Corrosion Protection, Release Prevention, Leak Detection, and Secondary Containment
- Keep records



Temporarily Out of Service ASTs

- Not actively receiving or dispensing fluids
(11.2.a)
- Must maintain FR
- Continued operation and maintenance of the corrosion protection system (11.2.b.2)



Temporarily Out of Service ASTs

- Continue leak detection, if tank is not empty (11.2.b.4)
- Perform annual owner or operator required inspections (11.2.b.5)
- Maintain records



Temporarily Out of Service ASTs

- Prior to returning tank to active service (11.2.c)
 - ✓ Conduct a tightness test
 - ✓ Conduct a LLD test, if applicable
 - ✓ Ensure annual inspection was performed
 - ✓ Submit modification to SPRP



AST Change in Service

- Requires modification to registration (11.3)
 - ✓ Change in nature of contents
 - ✓ Relocation
 - ✓ Change in status from either currently in use (CIU) or temporarily out of service (TOS)
 - ✓ Change from regulated substance to a non-regulated substance or vice-versa
 - ✓ Submit modification to SPRP



Closures of AST Systems

- Empty and clean the AST and piping (11.4.a)
- Provide 30 day notice (11.4.b)
- Closure plan for WVDEP review (11.4.e)
- Dismantle and remove or render unusable to hold liquids (11.4.e.6)



Closures of AST Systems

- Closure Sampling (11.4.e.7)
- Closure report (11.4.f)
- Corrective action, if necessary (11.4.g)



Upcoming Dates

- October 9, 2014 – Public Meeting on Interpretive Rule (WVDEP office)
- October 24, 2014 – Written comments being accepted on Emergency Rule
- December 3, 2014 – Spill Plans submitted to DEP
- January 1, 2015- Inspection Certifications submitted to DEP



Submit Written Comments

- WVDEPtankrules@wv.gov
- West Virginia Department of Environmental Protection – Public Information Office
AST Emergency Rule Comments
601 57th Street SE
Charleston, WV 25304



THANK YOU

QUESTIONS



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