

Alternative Standards for AST Rule Compliance

August 16, 2016

Aboveground Storage Tank Rule

- Level 1 Tanks = 6,364
- Level 2 Tanks = 3,653
(As of 12/15/2015 – WVDEP Website)

- Alternative Standards
 - Proposing Options
 - How to Approach WV DEP
- Operational Problems Created by Standards
 - Secondary Containment Logistics
 - Corrosion Protection
 - Venting

Alternative Standards

Amended Permits or Plans (22-30-5 (c)) The AST Act

Specifically, the permits or plans the secretary may amend include:

- (1) Permits issued pursuant to the **Surface Coal Mining and Reclamation Act**, article three of this chapter;
- (2) Permits issued by the **Office of Oil and Gas** pursuant to article six or six-a of this chapter or spill pollution and control measures plans required under 35 C. S. R. 1;
- (3) Individual permits issued pursuant to the **National Pollution Discharge Elimination System**, article eleven of this chapter;
- (4) Permits issued pursuant to the **Solid Waste Management Act**, article fifteen of this chapter; and
- (5) **Groundwater protection plans** issued pursuant to article twelve of this chapter.

Alternative Standards

4.2 Amendment of Site Specific Permits or Plans to Incorporate AST Requirements (Rule)

4.2.a. For those entities subject to site-specific permits and plans, the **Secretary may amend those permits or plans** to include conditions pertaining to the management and control of regulated tanks. Until such time that these permits or plans are amended and finalized, all requirements of the AST Act and its Rules are applicable. A site-specific permit or plan may be amended provided that:

Alternative Standards

Provided that:

4.2.a.1. The permittee is the tank owner or operator;

4.2.a.2. The permittee provides a **written request to the Secretary for modification** of its plan or permit, which includes, at a minimum, the following:

4.2.a.2.A. Detailed information concerning spill prevention and response, as well as the AST's and secondary containment structure's operation, inspection, integrity, and maintenance;

4.2.a.2.B. A statement indicating which industry standards (including but not limited to API 653 Standards for Tank Inspection, Repair, Alteration and Reconstruction) will be followed. AST owners and operators are required to comply with all industry standards identified as applicable.

4.2.a.2.C. Identification of the first point of isolation for each regulated AST, including identification of the associated ancillary equipment for each AST that is located prior to the first point of isolation;

4.2.b. Tank owners or operators who choose to include conditions pertaining to the management and control of regulated tanks in site specific permits or plans shall complete inspections as set forth in subsection 5.2 of this rule.

4.2.c. If for any reason a site-specific permit that contains AST modifications is suspended, revoked or not re-issued by the Secretary, the owner or operator of the AST shall be subject to the AST Act and all associated rules in their entirety.

Alternative Standards

- Where Rule Standards Create Problems
 - Modification of Plans – What about SPCC Plans?
 - Inspection Frequency Logistics – may run counter of other plan requirements (14-day vs 30-day)
 - Venting Requirements
 - Corrosion and Deterioration Prevention

Alternative Standards

- Proposing Options

- Modification of Plans –SPCC, GPP, etc.
 - WV DEP will review, but will not approve SPCC Plans will only acknowledge that the SPCC Plan was received in lieu of the SPRP
- Must submit a written amendment application to the Secretary, explaining how the alternative plan complies with the Rule.
- Detailed information listed in 47-63-4.2.
- Must comply with the Rule in the interim time period.
- Only permits and plans listed in the Rule?
 - Discussions with WV DEP ongoing, but insisting on existing permits.

Alternative Standards

- Venting – Normal and Emergency
 - (47-63-8.3.a) – All existing regulated ASTs storing flammable or combustible liquids shall be upgraded with normal and emergency venting.
 - Thief Hatches qualify as emergency vent, but must operate properly.
 - Double-walled Tanks must have interstitial spaces vented.

Where Rule Standards Create Problems

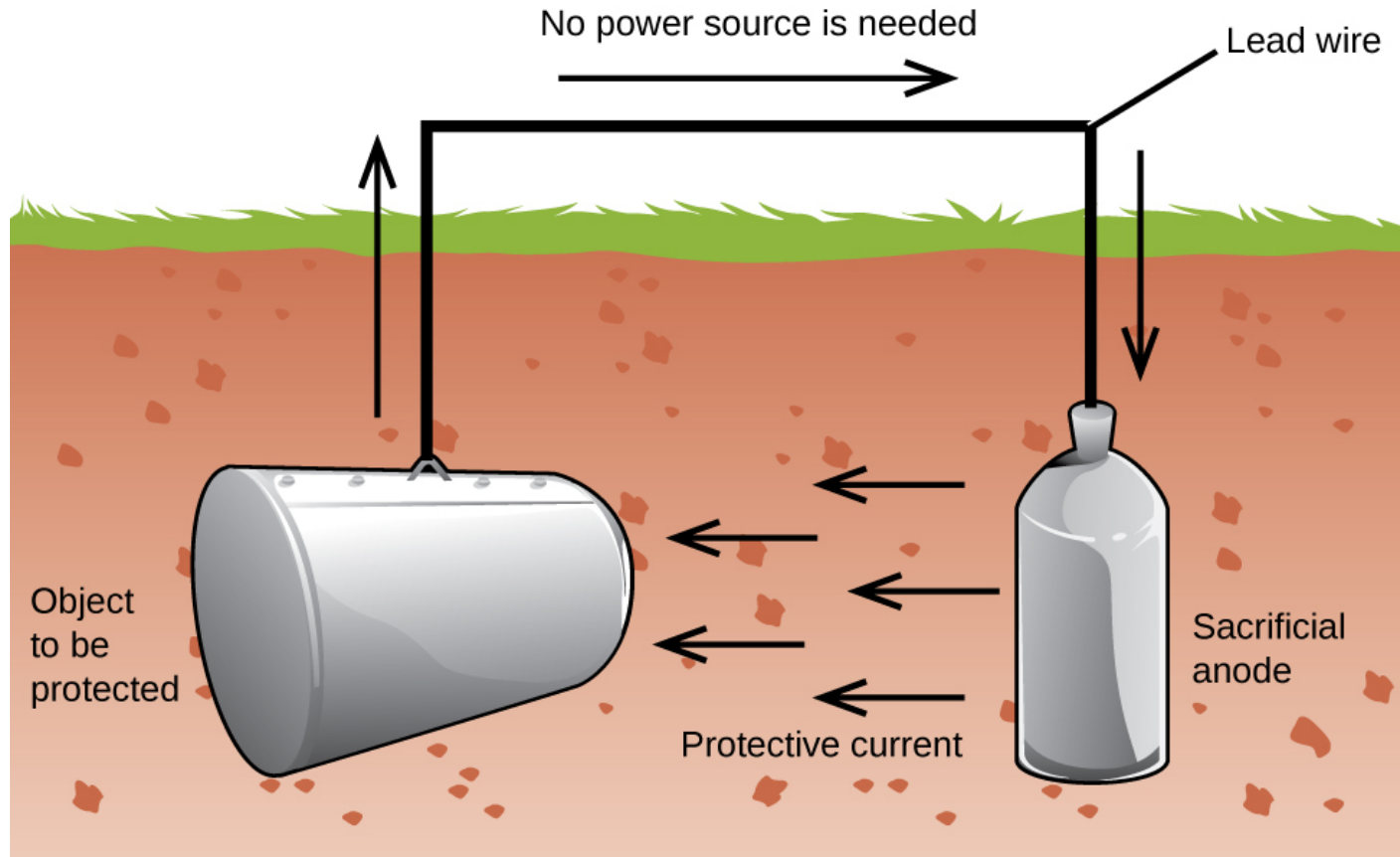
- Corrosion Protection Options
 - Cathodic Protection
 - Impressed Current
 - Sacrificial Anodes
 - External Coatings
 - Internal Coatings
 - Eliminating Contact with Soil or Water (or other electrolyte)

Corrosion Protection



Falcon Technologies – Interlocking Tank Base and Liner

Corrosion Protection

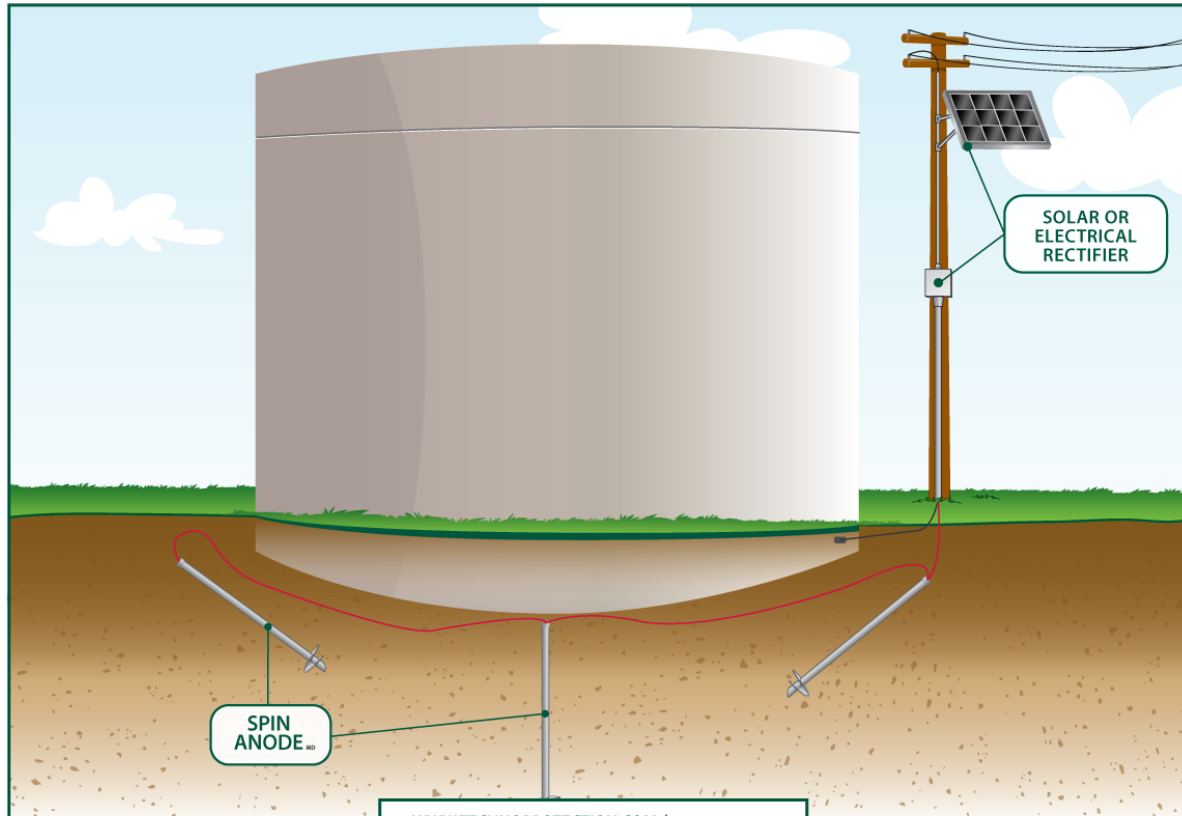


Sacrificial Anodes

Corrosion Protection



ABOVEGROUND STORAGE TANK FLOOR (existing)



Impressed Current Using Solar Cell

Corrosion Protection



Exterior Coatings

Source: stock photo

AST Secondary Containment

- **Secondary Containment**
 - Sized to accommodate precipitation (~110 of the largest tank)
 - Sufficiently impervious to retain fluids for 72 hours
 - Permeability = 1×10^{-7}
 - Laboratory Testing
 - Field Testing – Record water retainage time after rain event (in conjunction with draining procedure)
- **Options**
 - Liners – Manufactured, Spray-on
 - Clay or Bentonite or other earthen material meeting the standard
 - Replace Tank with Double-walled Tank

Secondary Containment



Sufficiently Impervious?

Secondary Containment



Secondary Containment

