Aboveground Storage Tanks (AST)

Enhanced Vapor Recovery (EVR)

Presented on 04/16/09
Topics

- Overview
- Regulations
- AST EVR Deadlines
- Standing Loss Control Overview
- Standing Loss Control Certification
- Phase I AST Certification
- Phase II and ISD AST Certification
- Summary
Overview of AST Program

The Board approved new vapor recovery certification requirements to reduce emissions from AST’s in 2007.

- **Standing Loss Control Certification**
  - New to the Certification Matrix

- **Phase I AST Certification**
  - Fueling of aboveground storage tanks

- **Phase II and ISD AST Certification**
  - Refueling of vehicle fuel tanks

Similar to the existing EVR requirements for USTs
Adopted by the Board on May 2, 2008

**CP-206** – *Certification Procedure for Vapor Recovery Systems at GDFs Using Aboveground Storage Tanks* (references to CP 201)

**AST Test Procedures:**

- **TP-206.1** – *Determination of Emission Factor for Standing Loss Control*
- **TP-206.2** – *Determination of Emission Factor for Standing Loss Control Using Processors*
- **TP-206.3** – *Determination of Static Pressure Performance of Vapor Recovery Systems at GDF with ASTs*
Executive Order G–70–213 issued on December 31, 2009 extended all the AST EVR deadlines

- Original effective and operative date was January 1, 2009
- Extensions were necessary since there were no systems commercially available
- New effective and operative dates are as follows:
  - Standing Loss Control: April 1, 2009
  - Phase I: January 1, 2010
  - Phase II and ISD: January 1, 2011

Major modification and/or replacement of ASTs require upgrading to current EVR specifications

Existing ASTs have four years from the new effective dates above to comply
Standing Loss Control Overview

Standing Loss Control

- Controls emissions during idle periods – Heating of the tanks by the sun causes the fuel to volatize and vent into the atmosphere

Standing Loss Control is certified based on one of the following approaches:

- Performance – Tests all GDF components as a system, components are certified together as a system
- Design – Tests GDF components independently. Once the components are certified, they are added to a consolidated EO. Mixing and matching of components is allowed.
Standing Loss Control Overview (cont.)

- **Standing Loss Control specifications and requirements**
  - **Existing Installations (P/V Valve and approved paint or shade)** – Emission Factor Requirement of \( \leq 2.26 \text{ lbs/1000 gallons ullage/day} \)
  - **New Installations (P/V Valve and insulation)** – Emission Factor Requirement of \( \leq 0.57 \text{ lbs/1000 gallons ullage/day} \)

- **Standing Loss Control certification requirements**
  - **Minimum requirements** – 30 consecutive days during the summer months (June 1 – September 30), at least seven of the 30-days shall have a peak temperature between 90 F - 105 F. Testing outside of the above dates may be approved by ARB if the temperature criteria are met.
Standing Loss Certification (typical setup)
**VR-301-A** - Standing Loss Control Vapor Recovery System for *Existing Installations* of Aboveground Storage Tanks
- Approved by Board on April 2, 2009
- White Paint (*OPW is the Applicant*) for Existing ASTs
- Existing SuperVault MH Series and Fireguard ASTs (*Modern Custom Fabrication, Inc and Steel Tank Institute are the applicants respectively*)
- Available soon at [http://www.arb.ca.gov/vapor/ast/ast.htm](http://www.arb.ca.gov/vapor/ast/ast.htm)

**VR-302-A** - Standing Loss Control Vapor Recovery System for *New Installations* of Aboveground Storage Tanks
- Approved by Board on April 2, 2009
- New Installations of SuperVault MH Series and Fireguard ASTs (*Modern Custom Fabrication, Inc and Steel Tank Institute are the applicants respectively*)
- Available soon at [http://www.arb.ca.gov/vapor/ast/ast.htm](http://www.arb.ca.gov/vapor/ast/ast.htm)
ConVault ASTs

Location: Denair, California

System: Husky 5885 PV Valve installed on a 250-gallon protected ConVault AST

Status: 30-day operational test period completed.

Standing Loss Certification completed outside the summer month requirements set forth in CP-206.

Alternative Test Procedure was submitted by applicant and approved by ARB to allow the use of an environmentally controlled chamber to meet the ambient temperature requirements set forth in CP-206.

Temperature profile from this test site is similar to other Standing Loss Certifications that were conducted during the summer month.
ConVault Standing Loss Control
Denair, CA
Phase I AST EVR Certification

Differences between Phase I AST and Phase I UST

- Emergency vents
- Over-fill prevention valve
- Non-rotatable vapor and product adaptors
- Mechanical tank gauge
OPW Phase I EVR for AST

Location: Firebaugh, California

- System: OPW Phase I EVR, Husky 5885 PV Valve installed on a 550-gallon single-wall AST painted with an approved white paint listed in VR-301-A

Seal Date: January 9, 2009

Status: Within 180-day operational test period
OPW Phase I EVR: Firebaugh, CA
Various Phase II manufacturers have expressed interest in certifying their systems.

- Can’t Start Phase II until Phase I is completed
Contacts

- Sam Vogt
  - (916) 322-8922
  - svogt@arb.ca.gov

- Donielle Jackson
  - (916) 445-9308
  - dljackso@arb.ca.gov

- Tahir Muhammad
  - (916) 449-5289
  - tmuhamma@arb.ca.gov