MassDEP Stage I Vapor Recovery Program

New Program Requirements for Owners and Operators

Winter 2015 Workshops
Welcome!

• Introductions
  – Tom DeNormandie, Program Manager
  – Staff: Jeff Gifford

• Overview of Workshop
  – New Stage I Requirements
  – Weekly Inspections
  – Compliance Issues
Stage I Training

- Stage I System owner/operators must be trained in the correct installation, operation, and maintenance of their Stage I system.
- You can train your employees and have them sign the training log when training is complete.
- Training is self-training.
- MassDEP does not require or issue Stage I Training Certificates.
Stage I Training

The following resources are applicable for Stage I training:

• Today’s MassDEP Stage I Training Presentation
• MassDEP Stage I Training Manual
• CARB executive orders for your Stage I system
• Manufacturers Guidance for Stage I systems and components
Why MassDEP is eliminating Stage II

• Cars manufactured since 1998 are equipped with onboard carbon canisters.
• The carbon canisters control gas fumes in your gas tank and are your vehicles vapor recovery system.
Why MassDEP is eliminating Stage II

• The Federal Environmental Protection Agency (EPA) has determined that vehicles with onboard canisters are in wide spread use (80+% of registered vehicles.)

• MassDEP is eliminating their Stage II Program since vehicles with onboard canisters are in wide spread use and these new vehicles make the existing Stage II Program obsolete.
Stage II Decommissioning

• Stage II Decommissioning is the removal of Stage II equipment.

• The Stage II Decommissioning Deadline is JANUARY 2, 2017.

Stage II Decommissioning Forms

There are two required forms:

• **MassDEP Stage II System Decommissioning Notification**
  – To be completed by the testing company and the facility’s Stage II Responsible Official.

• **PEI RP300 Stage II Decommissioning Checklist**
  – To be completed by your decommissioning contractor.
What is Stage I Vapor Recovery?

• Stage I Vapor Recovery refers to the vapor recovery control system for a fuel dispensing facilities gasoline storage tanks.

• Stage I Vapor recovery components are installed on the tank to contain the gasoline vapors in the tank.
Stage I Vapor Recovery
Stage I Applicability

- Stage I vapor recovery control is required for gasoline and gasoline/alcohol blends
- For gasoline tanks 250 gallons or greater
- For USTs, ASTs, and mobile truck refuelers
- For public or private use
Stage I Exemptions

- **Farm** tanks less than 550 gallons but submerged fill pipe is required.

- **Auto salvage yard** tanks (250 to 1000 gallons) need a submerged fill pipe and Pressure Vacuum (P/V) vent valve.

- **Auto salvage yard** tanks greater than 1000 gallons need a submerged fill pipe and EVR P/V vent valve.
Stage I Vapor Recovery

There are two types of Stage I vapor recovery; coaxial and dual-point.

• **Coaxial Stage I:** Gasoline tanks with coaxial Stage I have a single product fill / vapor return connection where gasoline is delivered and vapors are extracted.

• **Dual-Point Stage I:** Gasoline tanks with dual-point Stage I have a single product fill connection for gasoline delivery and a separate connection for vapor extraction.
Coaxial Stage I
Dual-Point Stage I
Stage II Decommissioning
Additional Equipment

The Following Equipment must be installed at the time of Stage II Decommissioning:

Coaxial Stage I Systems:

– EVR Pressure Vacuum (PV) vent valves
– Poppeted Coaxial Drop tubes must be installed
– Non-poppeted coaxial drop tubes will not pass the new two inch pressure decay test with vapor caps removed
Stage II Decommissioning
Additional Equipment

Dual-Point Stage I Systems:

- EVR Pressure Vacuum (PV) vent valves
- EVR product and vapor rotatable adaptors

Aboveground Storage Tanks (ASTs):

- EVR Pressure Vacuum (PV) vent valves
- EVR product and vapor rotatable adaptors (optional)
Existing Stage I Facilities

Additional Equipment

Existing Stage I systems must install the same components on the previous two slides by the decommissioning deadline of 1/2/17.

**Exception:** Coaxial Stage I Systems must install poppeted coaxial drop tubes at time of first annual Stage I compliance test.
CARB Stage I Systems

There are two types of CARB Stage I Systems; Pre-EVR and EVR Stage I.

• Pre-EVR Stage I:
  – The California Air Resources Board (CARB) started approving Stage I systems in 1976.
  – This earlier generation of CARB Stage I vapor recovery is called Pre-EVR Stage I.
  – MassDEP started requiring Stage I systems in 1980.
CARB Stage I Systems

- EVR Stage I:
  - EVR Stage I refers to a new generation of Stage I equipment and operating requirements that meet stricter CARB standards for Stage I vapor recovery.
  - MassDEP has adopted CARB’s EVR Stage I requirements.
  - New Stage I installations must be EVR Stage I.
CARB Stage I Systems

• EVR Stage I:
  – All EVR systems require Dual-Point Stage I.
  – CARB has only approved Dual-Point Stage I systems with screw-on spill buckets.
  – Slip-On spill buckets are not EVR approved.
  – Coaxial Stage I systems are not EVR approved.
EVR Stage I

Note: The Drain Valve is Optional – spill containers with an OPW factory installed or field installed OPW 1DP-2100 drain plug are permitted for fill applications.

Note: The discharge opening of the fill-pipe must be entirely submerged when the liquid level is six inches above the bottom of the tank.
Pre-EVR / EVR Stage I

- Pre-EVR / EVR System is a **hybrid** Stage I system installed with **both** pre-EVR and EVR Stage I components.

- **Example:** Stage II facility with Pre-EVR Stage I that installed EVR Rotatable adaptors and EVR P/V valves to meet the decommissioning requirements.

- Pre-EVR / EVR Systems are **temporary** systems that must be changed over to a MassDEP approved Stage I EVR system.
MassDEP Stage I EVR Systems

• There are two types of Stage I EVR Systems approved under MassDEP’s Stage I regulation:
  – CARB Certified EVR System
  – Component EVR System

• **CARB Certified EVR System** - is a Stage I system where **all** components are listed and approved under a **single** Stage I EVR CARB Executive Order.
CARB Certified Stage I EVR

CARB Certified Stage I EVR systems for **underground storage tanks**.

<table>
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<tr>
<th>CARB #</th>
<th>Manufacturer</th>
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<tr>
<td>VR-101</td>
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<td>VR-105</td>
<td>Emco Wheaton</td>
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MassDEP Stage I EVR Systems

• **Component EVR System**- is a Stage I system installed with only EVR components that are approved in *any of the five* Stage I EVR CARB Executive Orders.
  
  – This system is also known as a “*mix and match*” EVR system.
  
  – This system is not CARB approved but is approved under the MassDEP Stage I regulation.
Aboveground Storage Tank (AST) EVR

There are two CARB EVR certification processes for ASTs; Standing Loss Control, and CARB certification.

• **Standing Loss Control** - All AST systems have to meet Standing Loss Control, “fugitive emissions”.
AST - Standing Loss Control

• VR-301 - Existing AST Installations
  – EVR Pressure Vacuum Vent Valve
  – Approved AST Tank Coating for Tank Mfg.

• VR-302 - New AST Installations
  – EVR Pressure Vacuum Vent Valve
  – Approved AST Tank Coating for Tank Mfg.
  – The AST must be one of the approved ASTs listed in this order.
# Approved AST EVR Tank Coatings

<table>
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<tr>
<td>AGT Vault</td>
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</table>
AST EVR System CARB Orders

• G-70-216 – For existing older ASTs that have any of the following conditions:
  – Does not receive gasoline through top fill
  – No emergency vent
  – Less than three bungs available for vapor recovery components
  – Product adaptor diameter less than four inches
AST EVR System CARB Orders

• G-70-216 – For existing older ASTs
  – If the AST meets *any* of these conditions the AST is not currently subject to EVR upgrade requirements.
  – At a minimum the AST must meet the Standing Loss Control conditions described in VR-301.
AST EVR System CARB Orders

• If the AST does not meet any of the conditions listed in G-70-216 the facility owner/operator must install one of the CARB Certified Stage I EVR AST systems listed below.

  VR-401-D    OPW
  VR-402-B    Morrison Brothers

• Or they can install a Component AST EVR “Mix and Match” System.
Stage I EVR Installation Deadlines

• **New Fuel Dispensing Facilities** must install a Stage I EVR system at installation.

• **Dual-Point** Stage I facilities must install Stage I EVR by **JANUARY 2, 2022**.

• **Coaxial** Stage I facilities must install Stage I EVR when the tanks are replaced.

• **Aboveground Storage Tank** facilities – Existing AST’s must install Stage I EVR by 1/2/22 or if the AST meets G-70-216 at a later date.
Stage I Weekly Visual Inspections

• Stage I systems must be visually inspected on a **weekly** basis (once every seven days).

• The weekly inspections ensure that the system is operating correctly and is properly maintained.

• Only persons who have been **trained** can conduct Stage I Inspections.
Inspection Safety Precautions

• Safety cones around the tank pad area.
• Be aware of moving vehicles.
• Wear high visibility safety vest, safety goggles, gloves, and steel toe boots.
Stage I System Components

• The following Stage I components must be inspected on a weekly basis:
  – Dual-Point Stage I Product and Vapor Adaptors
  – Coaxial Stage I Adaptors
  – Vapor Caps and Rubber Gaskets
  – Spill Containment Buckets
Actions to take when damaged components are discovered

• Immediately repair or replace the component; or

• Repair or replace the component within 30 days; or

• Cease the transfer of motor vehicle fuel into the motor vehicle fuel storage tank until damaged components are repaired or replaced.
Actions to take when damaged components are discovered

• If any Stage I system component is replaced it must be replaced with a CARB EVR component.

• **Exception:** Coaxial components and slip-on spill buckets may be replaced with same Pre-EVR component.
Stage I Certification Forms

• Installation Certification Forms
  – Form A – for new installations and for substantial modifications (testing required)

• Annual Certification Forms
  – Form C - (testing required)

• Alternative Annual Certification Forms
  – Form D1- (no testing)
  – Form D2 - (testing required)
Stage I Certification Forms

Certification Forms must be completed by:

• The Stage I Responsible Officials
  – Must answer the compliance questions

• The Testing Company
  – Must fill out compliance testing section
Stage I Certification Due Dates

• Forms C, D1, & D2 are mailed to the Responsible Official #1 four months before the due date.

• Your certification form due date is printed on your certification form.

• Due dates are determined by the postmark date, not the test date!

• The Stage I Responsible Official is responsible for submitting the forms to MassDEP!
Stage I Tests

- Pressure Decay test – 2 inch test
- Vapor Tie test
- Pressure Vacuum (P/V) Vent Valve test
New Stage I EVR Tests

• Static Torque Rotatable Adaptor test

For EVR Spill Buckets Only:

• Leak Rate of Drop Tube / Drain Valve test; or

• Leak Rate of Drop Tube / Overfill Prevention Device test
Recordkeeping Requirements

- Stage I facilities must maintain on-site in either hard copy or electronic format the following records:
  - Stage I Training Log
  - Stage I Weekly Inspection Checklists
  - Stage I Certification Forms
  - Stage I Testing Company Test Results
Notifying MassDEP
Change of Owner/Operator (O/O)

• Ended your role as a O/O at facility:
  A letter is required telling us...
  – Termination date
  – New O/O contact names
  – O/O business name & mailing address
  – O/O phone number & email address
Notifying MassDEP
Change of Owner/Operator (O/O)

• If you are a new O/O at a facility:
  – A Stage I Form E must be submitted to MassDEP within 30 days.
  – The Stage I Form E must be signed by a designated Stage I Responsible Official #1.
Notifying MassDEP Stage I Closure

• Tanks Temporarily Out of Service, Permanently Closed in Place, Removed, or converted to fuel other than gasoline.

• Must do the following:
  – Submit Stage I Closure Form F
  – Update the status of each UST in the MassDEP UST Online Filing Data Management System.

http://www.mass.gov/eea/agencies/massdep/toxics/ust/
MassDEP Stage I / II Contacts

• Email: aq.stage2@state.ma.us
• Stage I/II Hotline: 617-556-1035 ext. 1
• MassDEP Stage II Website:
  http://www.mass.gov/eea/agencies/massdep/air/programs/stage-ii-vapor-recovery.html

To download Stage I Forms, Weekly Inspection Manuals, Checklists, and more.