

# **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.**
- Required Decommissioning Procedure – Petroleum Equipment Institute Recommended Practices, PEI/RP300-09, Section 14.

# Stage II Decommissioning Forms

There are two required forms:

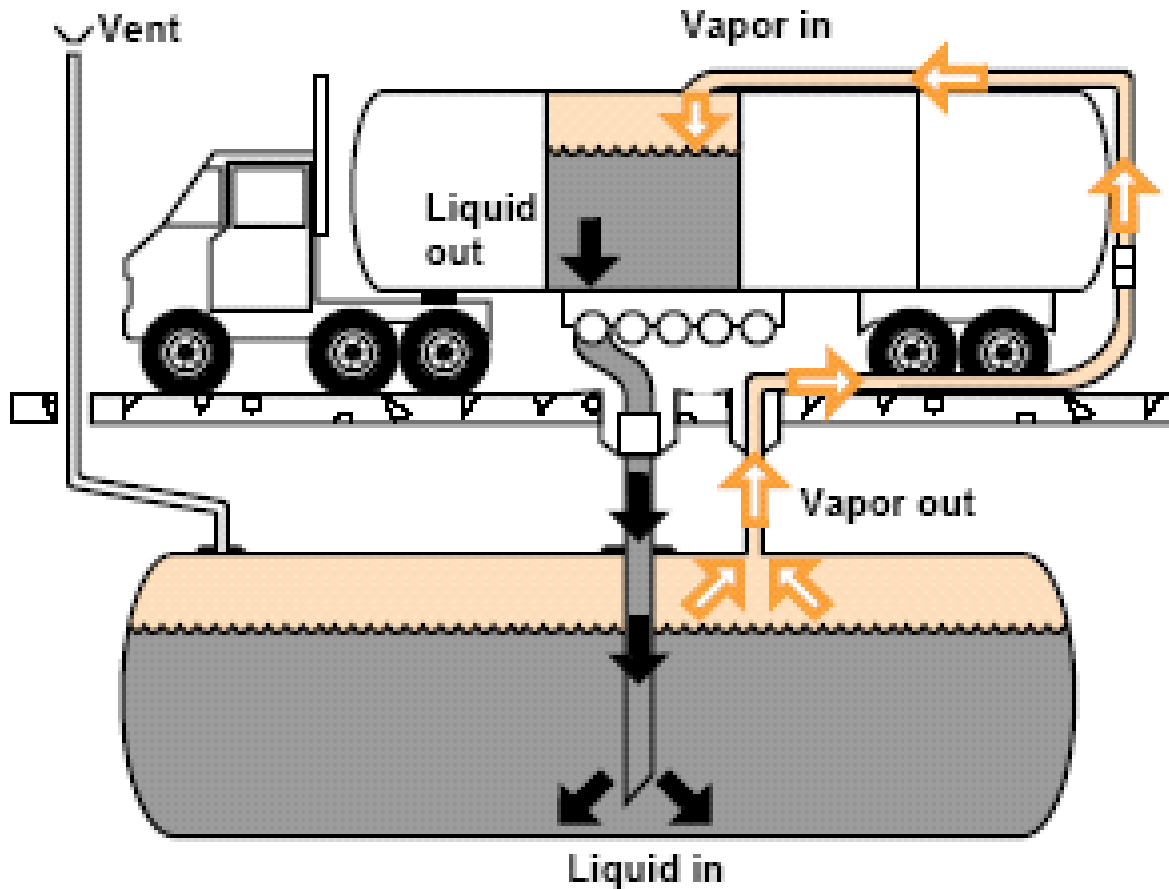
- **MassDEP Stage II System Decommissioning Notification**
  - To be completed by the testing company and the facility's Stage II Responsible Official.
- **PEI RP300 Stage II Decommissioning Checklist**
  - To be completed by your decommissioning contractor.



# 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

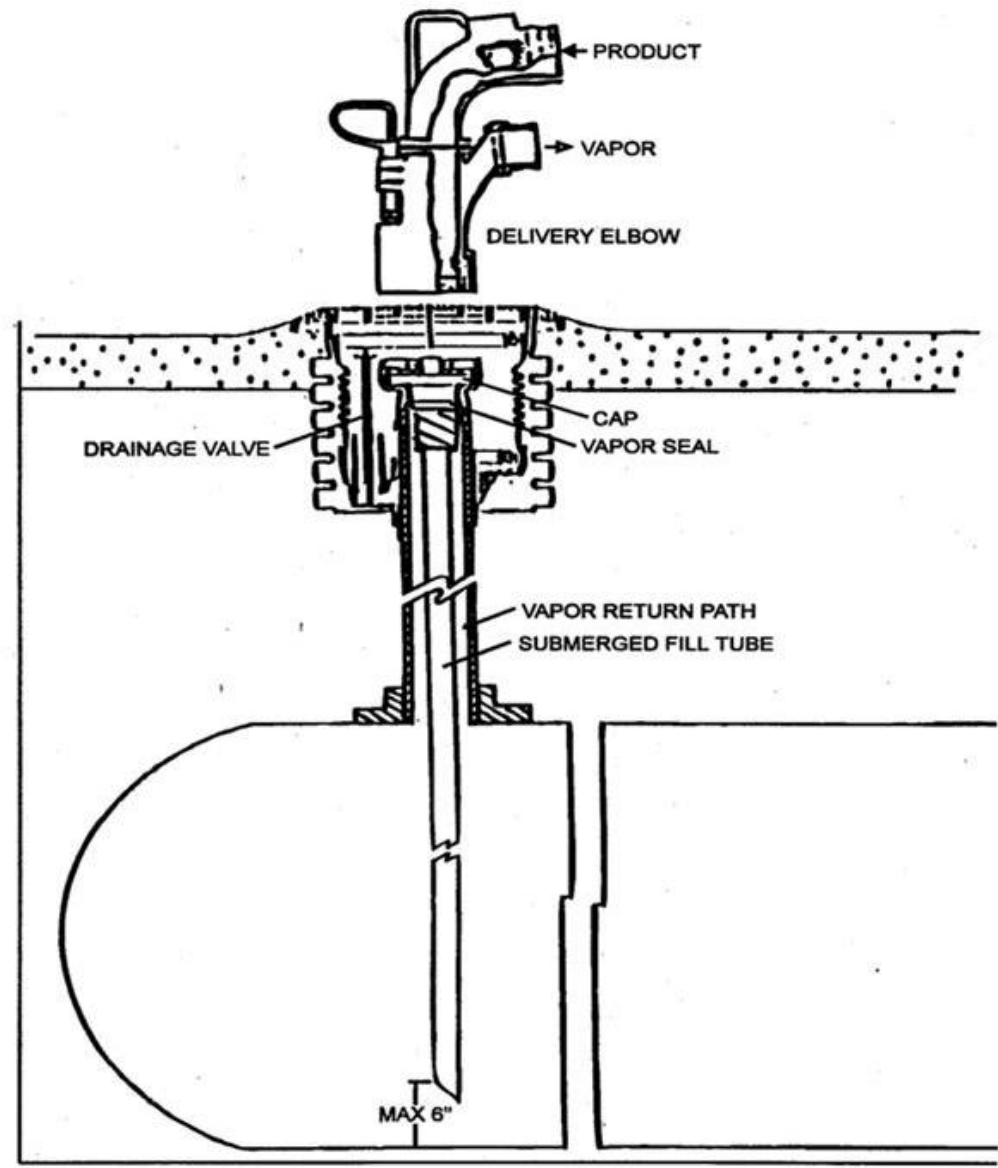
- **Farm** tanks less than 550 gallons but submerged fill pipe is required.
- **Auto salvage yard** tanks (250 to 1000 gallons) need a submerged fill pipe and Pressure Vacuum (P/V) vent valve.
- **Auto salvage yard** tanks greater than 1000 gallons need a submerged fill pipe and EVR P/V vent valve.

# Stage I Vapor Recovery

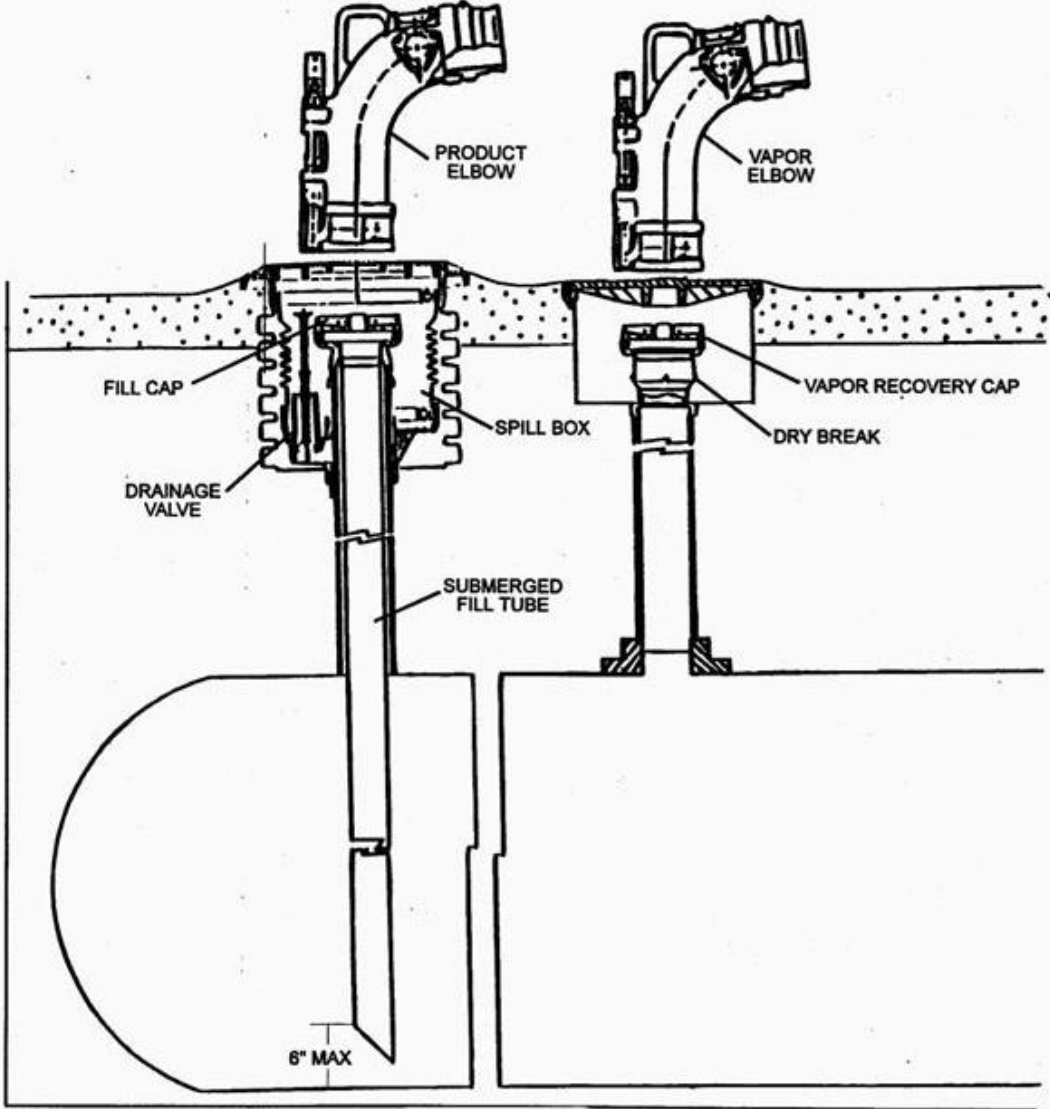
There are two types of Stage I vapor recovery; coaxial and dual-point.

- **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.

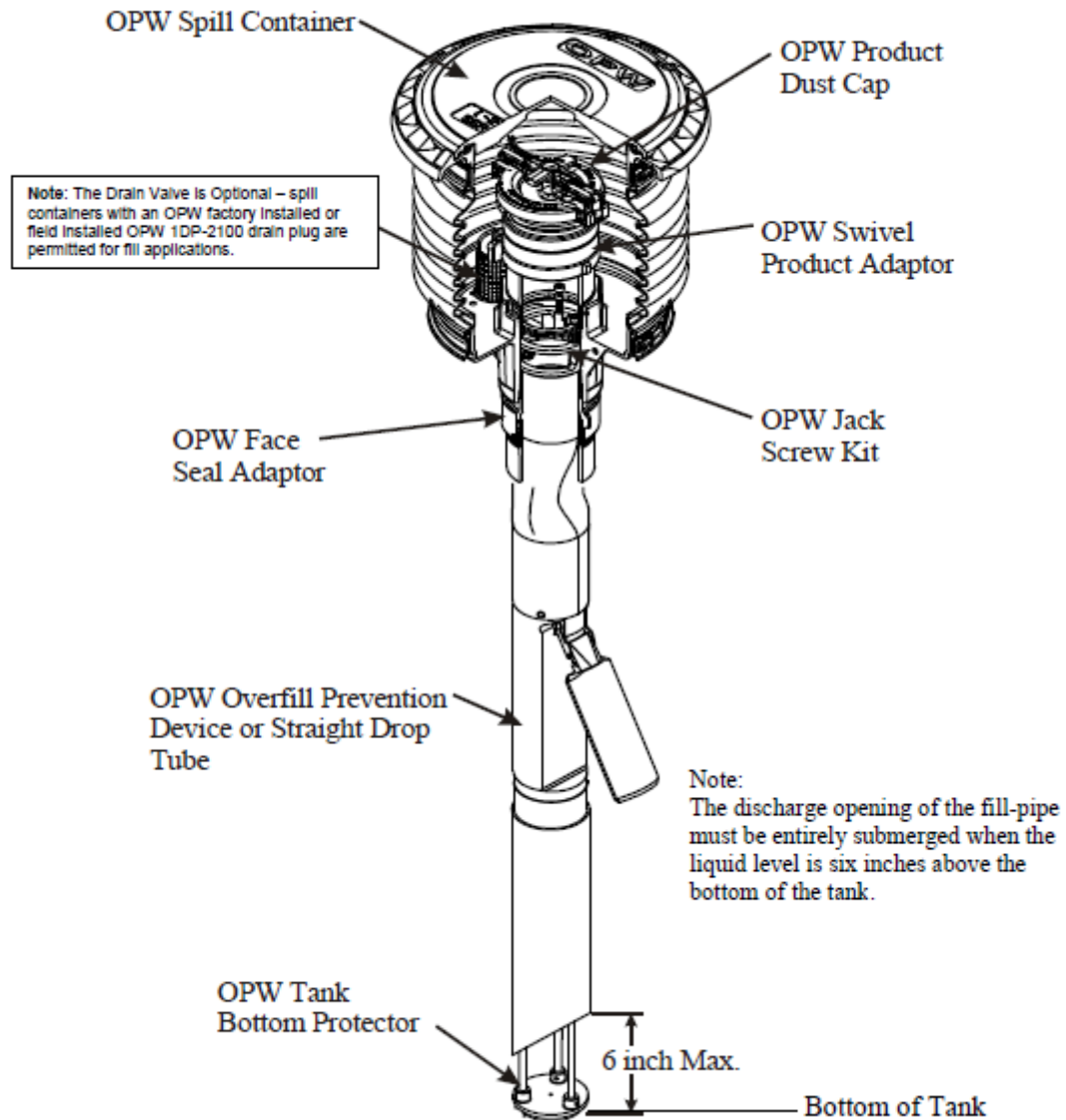
# CARB Stage I Systems

- **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



# 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.**

<b>CARB #</b>	<b>Manufacturer</b>
VR-101	Phil-Tite
VR-102	OPW
VR-103	EBW
VR-104	CNI
VR-105	Emco Wheaton

# 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

AST	White Paint	Desert Tan Paint	Aggregate Finish
Hoovervault	Yes	Yes	
Supervault	Yes	Yes	
Fireguard	Yes		
Armorcast	Yes		Yes
Convault	Yes		
AGT Vault	Yes		

# 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.