New Jersey Department of Environmental Protection
Gasoline Transfer Operations, Vapor Recovery Systems
NJAC 7:27-16.3

Phase I Vapor Recovery Rule Amendments
Frequently asked Questions

Revision Adopted: October 24, 2017
Revision Effective: November 20, 2017 (49 N.J.R. 3590(a))
Revision Operative: December 23, 2017

Last Updated: February 16, 2023

Where are the current Regulations?

NJDEP-Air Quality Management
Subchapter 16, Section 16.3

What are Phase I and Phase II Systems?

"Phase I vapor recovery system" means a system that controls vapors during the transfer of gasoline from a delivery vessel to a gasoline dispensing facility vessel. This system is also known as a Phase I vapor recovery system or a Phase I vapor control system.

"Phase II vapor recovery system" means a system that controls vapors during the transfer of gasoline from a gasoline dispensing facility vessel to a motor vehicle. This system is also known as a Phase II vapor recovery system or a Phase II vapor control system.

"CARB-certified Phase I Enhanced Vapor Recovery system" or "CARB-certified Phase I EVR system" means a Phase I vapor recovery system that has been certified by CARB in an Executive Order after February 1, 2001, which Executive Order has not been superseded or disapproved at the time of installation.

"CARB-certified Phase II Enhanced Vapor Recovery system" or "CARB-certified Phase II EVR system" means a Phase II vapor recovery system that has been certified by CARB in an Executive Order after February 1, 2001, which Executive Order has not been superseded or disapproved at the time of installation.

What was included in the 2017 rule amendments?

A summary of the 2017 rule amendments is as follows:

Phase II/Decommissioning

- Remove requirements to install Phase II gasoline refueling vapor recovery systems at new gasoline dispensing facilities;

- Require decommissioning of existing Phase II vapor recovery systems within 3 years with the option to keep Phase II beyond the 3 years if the system is ORVR compatible and the system is maintained;

- Decommission in accordance with “PEI RP300-09 Recommended Practices for Installation and Testing of Vapor-Recovery Systems at Vehicle-Fueling Sites” with the following additions:

    - Underground piping removed at a later date when it becomes exposed for another reason, or if the system fails a pressure test due to the underground piping;
    - Certified contractor required;
    - 14 days advance notification to DEP; and
    - Work on business days between 8:00 A.M. and 5:00 P.M

Testing

- Phase II Dynamic Backpressure and A/L volume ratio testing no longer required after decommissioning;
- The Static Pressure Test and PV Valve Test remain;
- Two new tests: Annual Torque Test for sites with rotatable adapters and Tie-Tank test per PEI during decommissioning;
- 14 days advance notification to DEP;
- Work on business days between 8:00 A.M. and 5:00 P.M;
- Notify DEP if system fails a test the first time, instead of second time; and
- No corrective action on the day of the test before or during the test

Vapor Recovery Equipment Updates

- CARB-certified EVR pressure/vacuum (PV) valve within one year;

- CARB-certified dripless/enhanced conventional (ECO) nozzles (once CARB certified) and low permeation hoses for new facilities, when decommissioning or replacing equipment after decommissioning

- CARB-certified Phase I EVR mix and match system (parts from any EVR executive order) within 7 years with maintenance including but not limited to:

    - CARB EVR PV valve
    - Rotatable adaptors at dual point loading facilities (existing coaxial exempt)
    - Dual point loading at new stations
    - Low-emission spill containment and cover (manholes)
    - Drop tube with overfill protection
    - Fuel Blend Compatibility

- Aircraft and marine refueling vapor recovery systems exempt from update requirements until the parts are being replaced.

Other

- Submerged Fill Pipe: Amendment to existing definition to align requirement at gasoline dispensing facilities more closely with Federal and CARB rules (6 inches from vessel bottom)

- Overfilling and Spillage or "Stop at the Click":

    - During the transfer of gasoline into any gasoline-laden vehicular fuel tank, any person refueling a vehicle prevents overfilling and spillage and does not allow the transfer of gasoline to continue after the nozzle automatic shut-off point;

What is ORVR and ORVR compatibility?

"Onboard refueling vapor recovery system," "ORVR system," or "ORVR" means a vehicle emission control system that captures vapors from the vehicle gasoline tank during refueling. The gasoline tank and fill pipe are designed so that, during the vehicle refueling, vapors in the tank travel to an activated carbon packed canister, which adsorbs the vapor. When the engine is in operation, it draws the gasoline vapors into the engine intake manifold to be used as fuel.

"ORVR-compatible Phase II vapor recovery system" means a Phase II vapor recovery system that is one of the following:

1. A vapor balance system;

2. A vapor recovery system with tank pressure management emission control equipment installed on the atmospheric vent of the system and operated in conjunction with the Phase I and Phase II vapor recovery systems with the purpose of reducing emissions and recovering gasoline vapors during fuel deliveries and refueling vehicles at a gasoline dispensing facility at greater than or equal to 95 percent recovery efficiency for the Phase II system and 98 percent recovery efficiency for the Phase I system. A system with only a pressure/vacuum relief vent valve on the atmospheric vent is not considered an ORVR-compatible Phase II system;

3. A vacuum assist system that has ORVR-compatible nozzles, which are nozzles that are approved as ORVR-compatible in a CARB-certified Phase II system Executive Order or that can be demonstrated to the Department to be ORVR-compatible; or

4. A vapor recovery system used exclusively for the refueling of marine vehicles or aircraft.

What is the deadline to upgrade my Phase I Pre-EVR system to a CARB-Certified Phase I EVR system?

A CARB-certified Phase I EVR system pressure/vacuum relief vent valve on or before December 23, 2018; and

A CARB-certified Phase I EVR system, the components of which shall have been approved in one or more CARB-certified Phase I EVR System executive orders in effect at the time of installation, but the components need not all be approved in the same executive order on or before December 23, 2024.

What is a coaxial system and is it required to upgrade to dual point?

"Single-point vapor balance system" means a type of vapor balance system in which the storage tank is equipped with one entry port for a gasoline fill pipe and the same port is used as an exit port for vapor recovery. A single-point vapor balance system utilizes a coaxial drop tube that consists of a pipe within a pipe.

A Phase I vapor recovery system that is using a single-point vapor balance system installed before December 23, 2017, is not required to replace the single-point vapor balance system with a dual-point vapor balance system. The CARB-certified Phase I EVR System Executive Order requirements for rotatable adapters shall not apply to a gasoline dispensing facility using a single-point vapor balance system.

How do I determine what kind of Phase I system is installed at my GDF?

Those records should be at the facility site. If they are not, NJDEP recommends that you consult with your Phase I installation contractor and/or Phase I testing company and/or parts manufacturer.

What are the approved CARB Phase I EVR systems or parts that can be installed?

The approved CARB Phase I EVR vapor recovery systems and parts are located in CARBs Executive Orders at the following links:

Vapor Recovery Executive Orders | California Air Resources Board

Additional information on required parts specifications can be found in the CARB Certification and Testing Procedures at the following links:

Vapor Recovery Certification and Test Procedures | California Air Resources Board

And most specifically "Vapor Recovery Certification Procedure CP – 201 Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Underground Storage Tank" and "Vapor Recovery Certification Procedure CP – 206 Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Aboveground Storage Tanks"

The parts do not all have to be in the same executive order or specific to ASTs or USTs. Some parts are certified on their own such as nozzles and hoses. Any certified parts can be used as long as they are compatible with the existing system. New Jersey's rule was written to allow a "mix and match", with the intent of making sure the most up to date and efficient parts are being utilized, while also allowing flexibility.

For compatibility you should contact your Phase I installation contractor and/or Phase I testing company and/or manufacturer of the parts.

What are the standing loss control requirements for aboveground storage tanks and are they required in New Jersey?

CARB has another EVR requirement called Standing Loss Control (SLC) (controls to reduce storage tank breathing losses) contained within Vapor Recovery Certification Procedure CP – 206 Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities

Using Aboveground Storage Tanks. SLCs are included in CARB's Phase I EVR Executive Orders (EO), and therefore, they do apply in New Jersey.

For existing ASTs, there are two ways to comply with SLC: 1. apply a CARB certified reflective coating and install a CARB EVR-certified P/V valve, or if you happen to have a CARB certified make and model protected AST, simply install a CARB EVR-certified P/V valve.

As of January 1, 2021, EO VR 301 lists six protected ASTs that are not required to apply one of the certified coatings, if the existing OEM paint is in good condition. These protected ASTs are: ConVault, SuperVault MH series, Fireguard, Hoover Vault, Jensen Precast Armor Vault, and Above Ground Tank AGT Vault. Your AST must be of the same model and make listed in EO VR-301 Vapor Recovery Standing Loss Control Executive Orders | California Air Resources Board.

Additionally, based on engineering evaluation, CARB staff has included protected ASTs from the pre-EVR Executive Orders that are also listed under Underwriters' Laboratories (UL) Standard 2085. These tanks are Trusco Tank, Inc.'s SuperVault FL (G-70-132), Ace Tank and Equipment Company's Fuel Safe (G-70-137), Mosier Brother Tanks and Manufacturing AST (G-70-152), RECoVault Inc.'s Ecovault (G-70-156 and G-70-157), Hoover Containment Systems, Inc.'s Hoover Fuelmaster (G-70-161), and Bakersfield Tank Company's EnviroVault (G-70-167). UL-2085 listed ASTs generally have placards or other markings identifying them as such.

Additionally, the ASTs should be labeled with one of the names listed above. All protected ASTs listed in EO VR-301 also need to be equipped with a CARB EVR-certified P/V valve.

For existing single wall ASTs, application of one of the coatings listed in the latest version of EO VR-301 and the installation of a CARB EVR-certified P/V valve will satisfy the standing loss control requirement. EO VR-301 lists the coating systems that are certified.

For additional information on CARB's requirement see:
Vapor Recovery Standing Loss Control Executive Orders | California Air Resources Board
and Frequently Asked Questions: Vapor Recovery Requirements For Gasoline Dispensing Facilities Equipped with Aboveground Storage Tanks | California Air Resources Board

Are there any exemptions to the Phase I upgrade requirements?

Marine and Aircraft

Refueling operations associated with marine vehicles and aircraft are not exempt from Phase I vapor recovery systems, however, as shown at NJAC 7:27-16.3 (i) New Jersey's rule does exempt existing systems associated with marine vehicles and aircraft from several equipment upgrades unless the parts are being replaced such as the CARB EVR PV valve, other CARB EVR Phase I parts, unihose, CARB-certified enhanced conventional (ECO) nozzle ECO nozzles and the low permeability hoses. Upon replacing parts, CARB EVR certified parts are required.

Coaxial Exemption

A Phase I vapor recovery system that is using a single-point vapor balance system installed before December 23, 2017, is not required to replace the single-point vapor balance system with a dual-point vapor balance system. The CARB-certified Phase I EVR System Executive Order requirements for rotatable adapters shall not apply to a gasoline dispensing facility using a single-point vapor balance system.

Throughput

In accordance with CARB CP 206, if an aboveground tanks Maximum Annual Throughput is 18,000 gallons or less, an existing vapor recovery system installed prior to December 23, 2017, may operate until the end of its useful life.

Pre-EVR CARB certified parts that were deemed in compliance with CARB EVR

ConVault aboveground storage tanks equipped with integral spill containers do not require the use of external spill containers manufactured by OPW or Morrison Brothers as indicated in Executive Orders VR-401 and VR-402, respectively.

For additional information, NJDEP recommends that you consult with your Phase I installation contractor and/or Phase I testing company and/or parts manufacturer.

What are the Phase I requirements for new Phase I system installations?

For new systems installed after December 23, 2017, a CARB-certified Phase I EVR system, including a dual point vapor balance system, the components of which shall have been approved in one or more CARB-certified Phase I EVR System executive orders in effect at the time of installation, but the components need not all be approved in the same executive order.

When I upgrade to a CARB-certified Phase I EVR system are Phase I compliance tests required before I commence operation?

No. Parts do not have to be replaced all at the same time. Parts can be replaced individually during normal maintenance of the system when they are at the end of their useful life, over the 7 years provided to comply, but before the deadline. Testing should be done in accordance with the rule.

Do I need any permits or approvals prior to upgrading a Phase I Pre-EVR system?

No, not for replacement of existing parts. Parts do not have to be replaced all at the same time. Parts can be replaced individually during normal maintenance of the system when they are at the end of their useful life, over the 7 years provided to comply, but before the deadline. New installations or modifications to existing equipment already permitted (such as tank replacements or conversion to a dual point system) would follow the same procedures and requirements for obtaining a permit as prior to the amendments.

“Modify” or “modification” means any physical change in, or change in the method of operation of, existing equipment or control apparatus that increases the amount of actual emissions of any air contaminant emitted by that equipment or control apparatus or that results in the emission of any air contaminant not previously emitted. This term shall not include normal repair and maintenance. Also, for the purposes of this definition, "air contaminant" shall have the meaning of "category of air contaminants" in a case where the regulatory limit is placed on a grouping of contaminants (such as VOCs) rather than on a single species of contaminant.

Who should I contact if I have any questions about the Phase I regulation?

For Underground Storage Tanks (USTs):
UST Compliance and Enforcement
Michael Hollis, Bureau Chief, 609-477-0945
Greg Davis, Vapor Recovery Lead, 609-439-9414

For Aboveground Storage Tanks (ASTs):
James Scarvalli, Bureau Chief, 856-614-3601

Air Quality Permitting 609-292-6716

Where can I get more information?

Compliance and Enforcement website:
NJDEP-Compliance and Enforcement (state.nj.us)

Division of Air Quality Permitting Program website:
NJDEP| Bureau of Stationary Sources | Bureau of Stationary Sources