



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Air Quality

# **Preliminary Draft Proposed Stage II Vapor Recovery Amendments**

## **Small Business Compliance Advisory Committee**

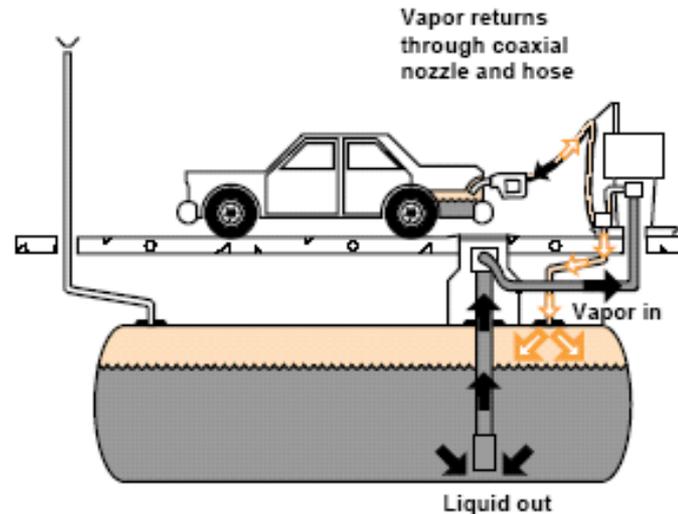
January 23, 2019

Harrisburg, PA

Tom Wolf, Governor

Patrick McDonnell, Secretary

# Stage II System Design



## Stage II – Vehicle Fueling

As fuel enters the vehicle tank, vapors are collected at the vehicle fill neck and returned to the GLD tank.

# Stage II in PA

- Stage II requirements are in place in the 5-county Philadelphia area and 7-county Pittsburgh-Beaver Valley area as an ozone-precursor reduction measure.
- The Department sent a survey to over 2,500 stations and received over 2,100 responses.
- Over 90 percent of Stage II systems in PA use vacuum assist nozzles; the rest use vapor balance.
- Stage II equipment is still required and operating in Pittsburgh and Philadelphia.

# Incompatibility with ORVR

- Onboard Refueling Vapor Recovery (ORVR) systems act like a Stage II system on a vehicle. ORVR system captures vapors in a canister to be combusted later.
- The vacuum-assisted Stage II systems pull air from ORVR vehicles and returns air to the storage tank.
- The air returned to the storage tank pulls vapor out of liquid fuel in the tank, which under certain conditions, is vented to the atmosphere causing excess emissions.
- Clean Air Act allows removal of Stage II after ORVR is deemed to be in widespread use.

# Background of Stage II Issue

- New York forced issue by decommissioning stations without EPA approval.
- EPA developed widespread use analysis for onboard refueling vapor recovery equipment.
- EPA believed that Stage II was approaching the point of no longer being necessary.
- Allowed for states to decommission on their own schedule.
- EPA left out beneficial elements of Stage II from its widespread use analysis.

# Enforcement Suspension

- In response to industry concerns about installing Stage II systems that would become obsolete and are no longer providing net positive emission reductions, DEP developed two enforcement suspension notices:
  - On August 18, 2012, DEP suspended enforcement of Stage II requirements from new and newly affected GDFs.
  - On November 12, 2016, DEP suspended enforcement of Stage II requirements with regard to the addition of new gasoline dispensers and dispenser replacements.

# Widespread Use and Backsliding

- EPA has now waived the CAA Stage II requirements for moderate and worse nonattainment areas. These waivers enable states to repeal Stage II programs.
- On May 16, 2012, EPA issued a final rule determining that ORVR technology is in widespread use (77 FR 28772).
- According to DEP's analysis using an EPA provided tool, ORVR is in widespread use. DEP has met its obligation pertaining to Stage II, and backsliding is not an issue.
- DEP's analysis indicated that Stage II started increasing emissions in Pittsburgh in 2017 and in Philadelphia in 2018.
- Proposed requirements keep beneficial elements of Stage II to hold fugitive emissions in check.

# Stage II Impacts Addressed by EPA

- EPA states in its guidance that only impacts of vehicle fuel tank displacement emissions and impacts of vent pipe emissions are addressed.
- EPA did not include beneficial elements of the Stage II requirements in its widespread use analysis.
  - Annual leak decay inspections
  - Annual Pressure Vacuum Vent Valve Test
  - Low permeation hoses
  - Dripless nozzles
  - New technology

# Updated Requirements to Prevent Leaks

Proposed new section § 129.61a, “Vapor leak monitoring procedures and other requirements for small gasoline storage tank emission control:”

- This section would update requirements to prevent emissions backsliding before and after decommissioning. It would:
  - Require annual leak testing.
  - Require leak testing every 6 months if a test fails.
  - Allow the GDF to resume 12-month testing when two 6-month tests do not require a corrective action.

# Updated Requirements to Prevent Leaks

(Continued)

- Offer an option to forego annual leak testing if a continuous pressure monitor is installed and operated.
- Require Stage I *enhanced* vapor recovery system if using an optional continuous pressure monitor.
- Require low-permeation hoses for non-Stage II dispenser.
- Require dripless nozzles for non-Stage II dispensers when two manufacturers certify nozzles.

# Decommissioning Procedures

Proposed new § 129.82a, “Requirements to decommission a Stage II vapor recovery system.” This section would:

- Require decommissioning of vacuum-assist Stage II systems by December 31, 2022. Until decommissioned, the system must meet § 129.82.
- Allow immediate decommissioning of all Stage II systems.
- Require decommissioning to follow industry and EPA recognized standards in Petroleum Equipment Institute’s procedures in PEI/RP300-09.
- Upon decommissioning, relieve the owner and operator from installing and operating Stage II systems.

# Decommissioning Procedures

(continued)

- Allow a vapor balance vapor recovery system to be retained.
- Require a person performing testing requirements on a GDF to meet certification requirements under the Storage tank regulations in Chapter 245, Subchapter B.
- Require certified installer to complete a form after decommissioning and send the form to the Regional Air Program Manager.

## Other States' Stage II Activities

- Maryland - Regulations require decommissioned stations to perform annual leak test, P/V vent valve test, and a tie-tank test.
- Delaware – Regulations require decommissioning, annual leak testing and P/V vent valve test, certified hoses and nozzles, when two manufacturers have been issued CARB Executive Orders for certified nozzles. Option to participate in a pilot program that allows substitution of testing with continuous pressure monitoring.

# Other States Stage II Activities

- New Jersey – After decommissioning, requires annual leak testing and P/V vent valve testing, CARB-certified Phase I EVR components, ECO nozzles and hoses.
- New York – Decommissioning and relying on federal requirements, 40 CFR 63, Subpart CCCCCC.
- Virginia – Decommissioning is allowed but not mandatory. Relying on federal requirements, 40 CFR 63, Subpart CCCCCC.



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