Regulation Walkthrough: Amendments to the Requirements for the Control of VOC Emissions from Gasoline Dispensing Facilities (Stage I and II)

Storage Tank Advisory Committee
June 7, 2022
Harrisburg, PA

Tom Wolf, Governor
Patrick McDonnell, Secretary
There are two technologies for reducing fugitive VOC emissions from refueling at a gas pump:
- Stage II Vapor Recovery (Stage II) systems, and
- Onboard Refueling Vapor Recovery (ORVR) systems.
Gas pumps can be equipped with Stage II systems, while vehicles can be equipped with ORVR.
Vehicles equipped with ORVR systems are incompatible with some Stage II systems, which lowers the overall control efficiency below that achieved by either technology operating separately.
DEP’s analysis, using EPA’s methodology, indicated that continued use of Stage II systems started increasing overall VOC emissions in Pittsburgh in 2021 and in Philadelphia in 2022.
• The rulemaking includes maintaining several Stage II requirements because they do not impede ORVR.

• The major items that the final-form rulemaking include:
  ➢ Provides for the decommissioning of Stage II equipment
  ➢ Two new leak tests and testing on an annual basis
  ➢ Requires low polluting nozzles and hoses
  ➢ Option to use new technology
New Definitions

- CARB Executive Order
- Decommission
- Monthly throughput
- Phase I vapor recovery system
- Phase II vapor recovery system
- Pressure/vacuum vent valve
- Stage I enhance vapor recovery system
- Stage I vapor recovery system
- Stage II vacuum assist vapor recovery system
- Stage II vapor balance recovery system
- Stage II vapor recovery system
- Storage tank system
- UMI
- UMX
- Ullage
- Underground Storage Tank
Amended 129.61 – Small gasoline storage tank control (Stage I control) – Corrected minor errors.

Added 129.61a – Vapor leak monitoring procedures and other requirements for small gasoline storage tank emission control – This new section contains most of the new requirements except for decommissioning.

Amended 129.82 – Control of VOC from gasoline dispensing facilities (Stage II) – Old Stage II requirements kept for Stage II while being decommissioned and for vapor balance systems.

Added 129.82a – Requirements to decommission a Stage II vapor recovery system – covers all decommissioning requirements.
• Statewide rule

• The changes are not too significant.

• Brought language up-to-date based on the Legislative Reference Bureau’s Style Manual.

• Corrected “vapor right” to “vapor tight.”

• Added ‘Additional Requirements’ subsection that alerts owners and operators of the new 129.61a.
Subchapter 129.61a

• Added 129.61a to outline all new testing, recordkeeping and equipment requirements.

• Three annual leak tests and sometimes an additional rotatable adapter test are required versus previous two leak tests.

• Failure of the water column leak test means the GDF will need to perform once-in-every 6 months testing.

• Low permeation hoses and enhanced conventional nozzles will be required.

• Compliance option for continuous pressure monitoring.
Section (a) – Applicability

• 12 counties in the Pittsburgh and Philadelphia areas affected.

• Throughput applicability begins in 2021.

• Gasoline throughput is greater than 10,000 gallons per month or 50,000 gallons per month for an independent small business marketer for any 12-month period.

• Throughput is an average over 365 days in a calendar year and averaged. Once throughput threshold is exceeded, the GDF is always considered subject to the regulation.
Section (b) – CARB vapor recovery procedures

Two current tests
- CARB TP-201.1E – Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves
- CARB TP-201.3 – Determination of 2-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities

Two new tests
- CARB TP-201.3C – Determination of Vapor Piping Connections to Underground Storage Tanks (Tie-Tank Test)
Section (c) – Vapor leak rate monitoring procedures
• Options: annual testing or continuous pressure monitoring.

Section (d) – Vapor leak rate monitoring using specified procedures
• Three annual leak tests, (vent valve, tie-tank and leak rate tests) performed and a rotatable adapter test if equipped with rotatable adapter.
• Cannot perform repairs prior to vapor testing on day of tests.
• Repairs must be made within 10 days following a test failure.
• If a repair is needed to pass the leak rate test, the facility must perform the leak test once in every 6-month period until two successive 6-month leak tests pass.
• Leak testing must be completed by March 26, 2023.
Section 129.61(e)

Section (e) – Continuous vapor leak rate monitoring

• Installation of a continuous pressure monitor (CPM) is allowed as a substitute for annual testing.

• Requires CARB-certified Stage I system to operate properly which makes it expensive to retrofit a facility.

• CARB specifies what comprises a CPM and how it should be operated and is written in the regulation.

• Any facility that has an automatic tank gauging system can install a CPM can install a CPM for about $5,000 - $6,000.
Section (f) – Stage I vapor recovery system installation requirements

• This subsection specifies the four tests that need to be performed upon installation of a Stage I vapor recovery system.

• Maintain a copy of the CARB Executive Order for an enhanced Stage I system.

• Install and maintain a pressure/vacuum vent valve cap on each atmospheric vent.
Section (g) – Monitoring the condition of the Stage I vapor recovery system components and other gasoline dispensing facilities

After each gasoline delivery truck delivery, it is required:

- Fill pipe adapter, Stage I adapter, and each dry break are tightly sealed.
- Each dry break and the automatic tank gauge is sealed.

Each month, it is required:

- Inspect each automatic tank gauging electric grommet and vent extractor cap and the riser and pressure/vacuum vent valve and cap installed and not damaged above ground level.
Section (h) – Vapor leak rate of the gasoline storage tank system

- The subsection gives leak rate parameters, reporting and recordkeeping requirements for the leak rate as it pertains to a CPM.

- Requires that a CPM passes operability test once every three years which includes passing a CARB leak test.
Section (i) – *First exceedance of the allowed vapor leak rate*

- The subsection directs the owner or operator about what steps and recordkeeping to take if a CPM indicates a leak two times the allowed vapor leak rate.
- The subsection allows the owner or operator to reset the alarm without a repair or correction and the person correcting the cause of failure does not need a certification.
- This allows one “free pass” in case the alarm was triggered by a severe temperature or other atmospheric change.
Section (j) – Second exceedance of the allowed vapor leak rate

• This subsection directs owners what actions to take when a second alarm within seven days of the last failure indicates a leak rate two times the allowed amount.
• The owner or operator must reset the alarm and determine the cause of the failure.
• The cause of failure to the storage tank must be corrected by a person that is UMI or UMX certification within seven calendar days.
Section (k) – Low permeation hoses and enhance conventional nozzles

- The subsection requires low permeation hoses and enhanced conventional (ECO) nozzles to be installed.
- For new facilities and new dispensers, low permeation hoses and ECO nozzles must be installed immediately.
- Low permeation hoses must be installed at all facilities by March 26, 2024.
- ECO nozzles must be installed within two years of when a Pa. Bulletin notice appeared stating that more than two manufacturers certified an ECO nozzle.
The CARB Executive Orders in NVR-1 updates certified low permeation hoses and ECO nozzles. Exhibit Component list after signature on the order.

### EXHIBIT 1
Component List

<table>
<thead>
<tr>
<th>Component</th>
<th>Manufacturer / Model</th>
<th>Hose Size (inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Permeation Curb Hose and Whip Hose</td>
<td>ContiTech¹ Futura Low Perm</td>
<td>3/4</td>
</tr>
<tr>
<td></td>
<td>Parker 7282 Low Perm</td>
<td>5/8, 3/4, 1</td>
</tr>
<tr>
<td></td>
<td>VST V58EC Low Perm</td>
<td>5/8</td>
</tr>
<tr>
<td></td>
<td>VST V34EC Low Perm</td>
<td>3/4</td>
</tr>
<tr>
<td></td>
<td>Husky EagleFlex Low Perm</td>
<td>5/8, 3/4, 1</td>
</tr>
<tr>
<td>Enhanced Conventional Nozzle</td>
<td>OPW 14E</td>
<td>3/4</td>
</tr>
<tr>
<td></td>
<td>VST Enviro-Loc™</td>
<td>3/4</td>
</tr>
<tr>
<td></td>
<td>Husky 6025</td>
<td>3/4</td>
</tr>
</tbody>
</table>
Section (l) – Additional requirements for gasoline dispensing facilities

- This section lists requirements about how dispensers must be maintained, handling defective components, operating requirements, and requirements for training.
- Posting of operating instructions and what minimum amount of information must be included.
- Information about topping-off and spills.
- Contact information
Section (m) – Recordkeeping and reporting requirements

- Applies to recordkeeping storage and reporting requirements for entire § 129.61.
- Specifies how records can be maintained and that records must be submitted to the Department upon request.

Section (n) – Record certifying the Stage I enhanced vapor recovery system

- Requires CARB EO for Stage I enhanced vapor recovery system
Sections 129.61(o) & (p)

Section (o) – Record certifying the low permeation hoses and enhanced conventional nozzles

• Requires CARB EO for low permeation hoses and nozzles to be stored at the site or electronically.

Section (p) – Record of training schedule and written instructions

• Requires training schedule and written instructions to be kept at the site or electronically.
Section (q) – Certification requirements for a person who performs underground storage tank system installation or modification work

- Requires that an owner and operator of a GDF ensure that appropriately qualified persons perform installation or repairs to USTs
- Requires either UMI or UMX certification per Chapter 245, Subchapter A
- Specifies that leak testers do not need UMI or UMX certification
Subchapter 129.82 – Control of VOC from gasoline dispensing facilities (Stage II)

• Amended to no longer require Stage II installation.
• Required maintenance of Stage II systems with leak testing and periodic inspections until decommissioning.
• Made amendments for clarity. Added recordkeeping.
• Included leak testing for vapor balance systems from guidance into the regulation.
• Placed requirements of § 129.61 and § 129.82a into this section.
Subchapter 129.82a – Requirements to decommission a Stage II vapor recovery system

- This section applies to owners of GDFs with Stage II systems or owners who are or have decommissioned.
- Gives deadline for decommissioning Stage II vacuum assist vapor recovery systems.
- Gives needed test procedures for decommissioning.
- Gives decommissioning process, requires notification form, and recordkeeping requirements.
- Requires certified installers to perform work and defines responsibilities from previous sections.
Subchapter 129.82a – Important things to know

• Vapor balance systems do not need to be decommissioned.
• Successful decommissioning requires use of PEI/RP300-09 procedure and two vapor leak tests.
• Vapor tight return lines must be capped unless inaccessible at time of decommissioning. They must be capped if leak test indicates problem or if concrete is broken exposing the line.
• Person must be a certified UMI or UMX under Chapter 245.
• Removes and retain responsibilities.
Questions

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