



Bureau of Air Quality



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

Storage Tank Advisory Committee

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Harrisburg, PA

Tom Wolf, Governor

Patrick McDonnell, Secretary

Background: Stage I and Stage II

- 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 ORVC.
- 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.

Background: Stage I and Stage II

- 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

Subchapter 121.1

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

▶ Regulatory Overview and Organization

- 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.

Subchapter 129.61

- 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 129.61a(a)

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 129.61a(b)

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)
- CARB TP-201.B – Static Torque of Rotatable Phase I Adaptors.

Sections 129.61a(c) & (d)

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 for about \$5,000 - \$6,000.

Section 129.61(f)

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 129.61(g)

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 129.61a(h)

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 129.61a(i)

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 129.61a(j)

Section (j) – Second exceedance of the allowed vapor leak rate

- This subsection direct 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 129.61a(k)

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.

Section 129.61a(k) cont.

- 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

Component	Manufacturer / Model	Hose Size (inch)
Low Permeation Curb Hose and Whip Hose	ContiTech ¹ Futura Low Perm	3/4
	Parker 7282 Low Perm	5/8, 3/4, 1
	VST V58EC Low Perm	5/8
	VST V34EC Low Perm	3/4
	Husky EagleFlex Low Perm	5/8, 3/4, 1
Enhanced Conventional Nozzle	OPW 14E	3/4
	VST Enviro-Loc™	3/4
	Husky 6025	3/4

Section 129.61a(I)

Section (I) – 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

Sections 129.61(m) & (n)

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 129.61(q)

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

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

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

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.



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Questions

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