



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

**CONTROL OF VOC EMISSIONS FROM
GASOLINE DISPENSING FACILITIES
(STAGE I AND STAGE II)**

25 Pa. Code Chapters 121 and 129
50 Pa.B. 5236 (September 26, 2020)
Environmental Quality Board #7-525
(Independent Regulatory Review Commission #3266)

Comment and Response Document

Control of VOC Emissions from Gasoline Dispensing Facilities (Stage I and Stage II)

On September 26, 2020, the Environmental Quality Board (Board or EQB) published notice of three public hearings and a public comment period on the proposed amendments to various sections of Chapter 129 (relating to standards for sources) in the *Pennsylvania Bulletin* (50 Pa.B. 5236). The proposed rulemaking would amend § 121.1 (relating to definitions), § 129.61 (relating to small gasoline storage tank control (Stage I control)) and § 129.82 (Control of VOC from gasoline dispensing facilities (Stage II)). The proposed rulemaking would add § 129.61a (Vapor leak monitoring procedures and other requirements for small gasoline storage tank emission control) and § 129.82a (Requirements to decommission a Stage II vapor recovery system). The proposed rulemaking would amend and add sections that would require that air quality emission control systems that cause unnecessary excess emissions be removed from gasoline dispensing facilities (GDF) without causing excess emissions in the process and without increasing emissions at GDFs over the long-term.

The public comment period opened on September 26, 2020 and closed November 30, 2020. In accordance with the Governor's emergency disaster declaration and based on advice from the Pennsylvania Department of Health regarding the mitigation of the spread of novel Coronavirus (COVID-19), the Department held three virtual public hearings for the proposed rulemaking on October 27, 28, and 29, 2020.

This document summarizes the written comments received during the public comment period. No individuals presented testimony during the public hearings. The Independent Regulatory Review Commission (IRRC) submitted written comments following the public comment period, which are also summarized in this document. A list of the commentators, including name and affiliates, can be found below.

This final-form rulemaking will be submitted to the United States Environmental Protection Agency (EPA) for approval as a revision to the Commonwealth's State Implementation Plan (SIP) upon publication in the *Pennsylvania Bulletin* as a final-form regulation.

All comments received by the Board are posted on the Department's e-Comment website at <https://www.ahs.dep.pa.gov/eComment/>. Additionally, copies of all comments received are posted on the IRRC web site at <http://www.irrc.state.pa.us>. Search by Regulation # 7-525 or IRRC #3266.

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Acronyms used in this Comment and Response Document

CARB – California Air Resource Board
DEP – Pennsylvania Department of Environmental Protection
ECO – Enhanced Conventional
EPA – U.S. Environmental Protection Agency
EQB – Environmental Quality Board
PPA – Pennsylvania Petroleum Association
VOC – Volatile Organic Compound
RAF – Regulatory Analysis Form

Certification Levels Used in this Comment and Response Document

The following terms appear and are defined under the term “certification categories” in 25 Pa. Code § 245.1 (relating to definitions).

IUM – Inspection of underground storage tank system and facilities
UMI – Underground storage tank system minor modification
UMX – Underground storage tank system major modification
UTT – Underground storage tank system tightness tester

1. Comment: The Pennsylvania Petroleum Association (PPA) supports this proposed rule, which would provide for the decommissioning of these systems.

Response: The Department acknowledges the comment and appreciates the support of the PPA.

2. Comment: After investing in the initial costs of the process outlined in this proposed rule, tank owners will realize significant cost savings from the burden of upkeep and maintenance of these systems.

Response: The Department agrees. Decommissioning Stage II equipment will be very cost-effective in reducing lost product and reducing fugitive emissions starting in 2021.

3. Comment: There is no clear timeline in the proposed regulations for existing facilities that have already decommissioned their stage II vapor recovery systems in the 12 affected counties to begin performing the “once-in-every-12-month” testing requirements (CARB TP-201.3, TP-201.1E, TP-201.3C and TP-201.1B) or install a continuous pressure monitoring system. Can the Department clarify when the routine once-in-every-12-month testing must begin for existing decommissioned facilities once the regulations are final? Our suggestion would be that all decommissioned facilities begin to perform the routine once-in-every-12-month testing within 1 year of the effective date of the regulations.

Response: Under § 129.61a(d)(1), a gasoline dispensing facility owner or operator must, “[c]onduct each of the CARB TP-201.1E, CARB TP-201.3 and CARB TP-201.3C test procedures at least once in every 12-month period. Also, if the Stage I vapor recovery system is equipped with a rotatable adaptor, conduct a CARB TP-201.1B test procedure once in every 12-month period.”

The Department has revised § 129.61a(d) of the final-form rulemaking by adding subparagraph (v) to further clarify that the owner or operator of the gasoline dispensing facility will need to perform annual testing using the tests specified under § 129.61a(b)(1), CARB TP-201.1E, CARB TP-201.3, CARB TP-201.3C, and CARB TP-201.1B, within one year after the effective date of the final-form regulation and on an annual basis thereafter.

4. Comment: IRRC noted that under Section 129.82a, requirements to decommission a Stage II vapor recovery system, Subsection (g) (relating to retention of responsibilities under Section 129.61) and Subsection (h) (relating to retention of responsibilities under Section 129.61a), an existing decommissioned facility is subject to routine testing once in every 12-month period. Would the 12-month period begin with the effective date of publication of the final regulation or is the testing to take place once each calendar year? We ask the Board to clarify in the final regulation how the regulated community will satisfy this requirement.

Response: As stated in the response to comment 3, the Department has revised § 129.61a(d) of the final-form rulemaking to further clarify that the owner or operator of the gasoline dispensing facility will need to perform annual testing using the tests specified under § 129.61a(b), CARB TP-201.1E, CARB TP-201.3, CARB TP-201.3C, and CARB TP-201.1B within one year after the effective date of the final-form regulation and on an annual basis thereafter.

5. Comment: IRRC noted that in response to Regulatory Analysis Form Question #15 regarding who is affected by the regulation, the Board states that “small businesses that test vapor recovery systems exist, but it is impossible to determine their exact number” because “these companies are not required to register with the Department [of Environmental Protection (Department)].” However, the Board states that the regulation would require all testers and installers of vapor recovery equipment to be certified by the Department. How does the Board plan to publicize the certification requirement so that unregistered testers and installers are aware of the certification requirement? We ask the Board to explain in the Preamble and RAF of the final regulation how this requirement will be implemented.

Response: As a point of clarification, this rulemaking does not require leak testers to be certified by the Department. The RAF erroneously stated in seven places that a tester or individual performing testing or inspection would need to obtain certification from the Department. The Department has corrected the RAF to remove references to a certification requirement for leak testers.

DEP will notify all individuals affected by the requirements when the final-form regulation becomes effective. Individuals who perform liquid leak testing are registered with DEP’s Storage Tank Program as being certified as a UTT (Underground Tightness Tester). Individuals who install, modify and repair underground storage tanks are registered to a certification of a UMX (Underground storage tank system installation and modification) or a UMI (Underground storage tank system minor modification). Individuals who hold these certification categories likely perform vapor leak testing. DEP will also notify the public by placing a notice on DEP’s public website. In addition, DEP personnel will work with trade organizations that represent gasoline dispensing facilities to inform their members of the new testing requirements. Finally, DEP will use the addresses in the Bureau of Storage Tank database of gasoline dispensing facilities to notify the owners and operators of gasoline dispensing facilities of the new requirements. See also the response to comment #8.

6. Comment: IRRC and a commentator inquired whether records required by § 129.61a(o) and other sections to be kept in hard copy onsite at the gasoline dispensing facility could be maintained electronically instead. The commentators suggest that the language in proposed subsection (o) and other sections should be written to state that the CARB Executive Order and other records can be maintained onsite or available from another location within a reasonable amount of time. Since multiple sites are owned by large companies (i.e., Wawa, Sunoco, Speedway, etc.) the CARB E.O. would be available to the operator upon request or via an online portal.

Response: The Department agrees. In response to the comments, the Department has revised the recordkeeping requirements in §§ 129.61a, 129.82 and 129.82a of the final-form rulemaking to clarify that CARB Executive Orders and other records may be electronically stored at gasoline dispensing facilities subject to inspection. The electronically stored CARB Executive Orders and other records must be readily available for onsite examination upon request by the Department.

7. Comment: The Department should consider including wording to, at minimum, incorporate 40 CFR Part 63 Subpart CCCCCC and the routine 3-year testing (CARB TP-201.3 and CARB TP-201.1E) that is required with the federal regulation for facilities with throughputs greater than 100,000 gallons per month for all counties in PA outside the 12-county Philadelphia and Pittsburgh areas.

Response: The U.S. Environmental Protection Agency (EPA) currently has the responsibility to enforce requirements in 40 CFR Part 63, Subpart CCCCCC. The purpose of this rulemaking is to maintain current volatile organic compound (VOC) emission levels and to not default to less stringent federal standards at gasoline dispensing facilities in the 12-county Philadelphia and Pittsburgh areas. The Department does not intend to expand the requirements of this final-form rulemaking into other areas of the Commonwealth. In 2012, the EPA issued guidance describing how states could properly allow for the decommissioning of Stage II vapor recovery systems, and at the same time, demonstrate that previous state commitments in the State Implementation Plan were not revised in a way that interfered with clean air goals. See “Guidance on Removing Stage II Gasoline Refueling Vapor Recovery Programs from State Implementation Plans,” Stephen D. Page, EPA 457/B-12-001. DEP recognized flaws in EPA’s analysis that potentially would allow significant increases in VOC emissions if all Stage II vapor recovery requirements were eliminated. This rulemaking addresses the flaws in EPA’s analysis and does not seek to expand the geographic scope of the program.

8. Comment: The commentator suggests allowing only individuals who obtained either the UTT, UMX, UMI or IUM certifications as prescribed by the Storage Tank Program 25 Pa. Code Chapter 245 to perform leak testing. The commentator states that it is not appropriate to allow a non-certified individual to perform the leak testing.

Response: The UMX and UMI certification level requirements were included in this rulemaking to ensure that personnel performing repairs achieved a level of training and familiarity with safely repairing underground storage tanks that hold highly volatile gasoline. The purpose of requiring a specified level of certification in the proposed rulemaking for personnel performing repairs was entirely to help avoid situations where untrained people would attempt to make repairs, and as a result, create an increased danger to themselves and the public. The Department does not believe that individuals performing vapor leak testing pose a significant safety risk to themselves or others. Leak testing takes place at ground level and above where there is adequate air circulation limiting the chance for combustion of volatile vapors. The leak tester would need to follow standard safety precautions followed by a motorist using the GDF. In addition, following the safety precautions specified in the pre-test procedures in vapor recovery test procedure for TP-201.3 required in this final-form rulemaking will also greatly limit the chance of a safety risk. The final-form rulemaking requires an individual to obtain other types of certification, like UMI or UMX certification, for some types of work in this rulemaking involving cutting and capping connections below ground level where gasoline vapors may concentrate.

Neither the UMX nor the UMI certification level applies directly to leak testing activity. The IUM certification category also does not apply to leak testing activity. These certification levels would be inappropriate to require of a vapor leak tester. The UTT certification level does apply to leak testing, but the UTT certification was meant to apply to individuals testing for underground liquid leaks. The UTT certification category was not meant to qualify individuals that test for vapor leaks, and thus, is not appropriate to include as a requirement in this rulemaking. An individual possessing the UTT certification level would also be subject to various reporting and enforcement requirements that would make the UTT certification inappropriate to require for vapor leak testers in this rulemaking. No change has been made to the final-form rulemaking as a result of this comment.

Also see the Department's response to Comment 5.

9. Comment: The commentator states that the Enhanced Conventional (ECO) nozzles have an interlock system that makes it challenging for customers to operate. Customers of gasoline dispensing facilities will refuel their vehicles in counties that do not have ECO nozzles.

Response: The Department believes that technology has significantly improved since the early 1990s. California is a self-serve state and motorists have been refueling with Stage II vapor balance nozzles with a 4-inch deflection since the 1980s. After 2008, California motorists started using the newer designed vapor balance nozzles with the easier to use one-half inch deflection. These small deflection nozzles are similar in design to the ECO nozzles that this rulemaking would require. DEP staff examined an ECO nozzle (the nozzle was not attached to a gasoline dispenser). Engaging the interlock system was easily accomplished when the nozzle was properly inserted into the vehicle's filler neck. When the nozzle is inserted into the filler neck straight up and down, so that the handle is oriented in a 12 o'clock to 6 o'clock orientation in the filler neck, the weight of the nozzle itself engages the interlock system. This is not to say that in some instances a problem may occur. A motorist's vehicle could be aligned too far forward or too far behind the pump, which could cause the nozzle to be oriented incorrectly in the filler neck. This misalignment could cause operating difficulties with the ECO nozzle, and potentially, a conventional nozzle as well.

Certainly, an initial period of learning for some motorists will be necessary. Gasoline retailers using the ECO nozzle have seen some motorists that initially have a problem operating the nozzle on their own. Some of these motorists may need a little instruction. Some will learn on their own. According to a representative from one nozzle manufacturer, most motorists seem not to even notice a difference and easily adapt using the ECO nozzle. No changes have been made to the final-form rulemaking as a result of this comment.

10. Comment: Retailers in the early 1990's who were early to comply with Stage II and installed balance nozzles experienced customers avoiding gasoline dispensing facilities that had difficult to operate vapor balance nozzles.

Response: DEP agrees that earlier versions of the Stage II vapor balance nozzles were difficult to operate. DEP does not believe that comparing ECO nozzles to the older Stage II vapor balance nozzles is a fair comparison. The Department believes that technology has significantly improved since the early 1990s. An original Stage II balance nozzle had a long spout and nozzle boot that required quite a bit of compression in order to activate the interlock mechanism. Operating one of the early Stage II vapor balance nozzles was awkward and difficult for a motorist who did not have enough strength to engage the mechanism.

During the CARB Enhanced Vapor Recovery regulatory upgrades in 2008, manufacturers started to manufacture vapor balance nozzles that were more user friendly than earlier nozzle versions. Spout and boot length on the newer vapor balance nozzles require approximately one-half inch of deflection to operate. The older versions required three to four inches of deflection to operate. These shorter deflection balance nozzles are the predominant type of balance nozzles installed and used in California, which is a self-serve market, where customers fill their own gasoline. ECO nozzles incorporate the same concept of having a short deflection of compression (approximately one-half inch) to make the nozzle more user friendly. Although interlock engagement is necessary, and some user education may be necessary, overall customer feedback has been positive. Other than a few comments surrounding a small number of vehicle models with out-of-specification filler necks (see DEP's response to Comment 11 below), the nozzles are performing well when used properly.

11. Comment: The commentator states that he has personal experience with three instances of ECO nozzles getting stuck in the vehicle's fill pipe at the gasoline dispensing facilities for which he works.

Response: ECO nozzles can become lodged in a few models of one manufacturer's vehicles. Specifically, Dodge Ram models starting with model year 2015 and ending with model year 2019 have filler necks installed that have a steeper angle than all other manufacturers' filler neck designs. This steep angle causes two problems: 1) the automatic shutoff is engaged more frequently which only allows the motorist to fill the tank ounces at a time and 2) the nozzle can become stuck on the top of the filler neck. The stuck ECO nozzle can be removed in most instances if the motorist places slight pressure on the bottom of the handle and turns the handle slightly, this can make it easier for the motorist to extract the nozzle.

CARB adopted regulations in 2012, that were subsequently amended in 2019, called "Specifications for Fill Pipes and Openings of 2015 and Subsequent Model Motor Vehicle Fuel Tanks," that attempts to address this issue. Unfortunately, some Dodge Ram trucks that have the steeper angle fuel necks will be in the fleet for some time unless a recall addresses the issue. Gasoline dispensing facilities may need to render some assistance for the few Dodge Ram owners confronted with a stuck nozzle.

12. Comment: The commentator states that one ECO nozzle that received CARB approval is from a manufacturer the company had to switch away from 15 years ago because of the frequency of spills due to the automatic shutoff failing.

Response: If a company who operates gasoline dispensing facilities prefers one nozzle manufacturer over another, the company will have a choice to purchase ECO nozzles from several manufacturers. Two companies currently market certified ECO nozzles and another manufacturer is testing a nozzle for future CARB certification. A purchaser will not be limited to purchasing a nozzle produced by one manufacturer.

13. Comment: The commentator states that ECO nozzles cost 8 times the cost of a conventional nozzle (and three times the cost of a Stage II nozzle).

Response: DEP agrees that the price of ECO nozzles will be more expensive than conventional nozzles. DEP does not agree with the commentator's belief of how much more expensive the nozzles are. Although prices for ECO nozzles may vary widely, a routine web search indicated that the nozzles are available from \$199 to \$228 each, excluding installation costs, which should be the same for ECO and conventional nozzles. If a gasoline dispensing facility company buys the nozzles in bulk, the price should be less than this range. In the RAF, DEP used \$195 as the cost of the ECO nozzle and approximately \$64 for a conventional nozzle. DEP spoke with an industry representative who currently purchases ECO nozzles about the price used in DEP's analysis. Although the representative would not comment on the exact price that their company pays for nozzles, the representative indicated that the price DEP used in the RAF conforms more with real-world prices than the examples given by the commentator, which in one instance exceeded \$400.

In addition, ECO nozzles are new. A significant amount of research, development and testing costs were expended bringing them to market. It is conceivable that as the research and development costs are paid, the price will decrease slightly in the future, especially as more manufacturers introduce their version of the ECO nozzle into the market. Additionally, at least one manufacturer is offering a rebuild program for ECO nozzles, whereas the "no pressure no fill" conventional nozzles are thrown away at the end of life. The rebuilt ECO nozzle should cost less than a new ECO nozzle. Please also see response to #16.

14. Comment: Feedback from attendants at Costco's gasoline dispensing facilities report that the ECO nozzles significantly reduce minor drips and spills.

Response: The Department acknowledges the comment. The Department believes that those drips add up to at least 80 gallons of reduced drips per 1 million gallons of gasoline sold at gasoline dispensing facilities. In the two Pennsylvania regions affected by this rulemaking, approximately 2 billion gallons of gasoline are sold in a year.

15. Comment: We have had some customers complain about the boot interlock, especially in areas that have not previously mandated a booted nozzle. Our attendants overcome most of those complaints at the station level, but we have also had the manufacturer's representatives visit some stations to help with the transition.

Response: The Department acknowledges the comment. The Department realizes that there may be a period of learning for some customers, especially for customers of model year 2015 to 2019 Dodge Ram vehicles that have a differently designed filler neck. The Department expects that motorists will learn how to engage the mechanism as motorists in California have learned at self-service gasoline dispensing facilities that use a similar interlock system.

16. Comment: IRRC notes that in Subsection (k) (relating to low permeation hoses and enhanced conventional nozzles), the proposed regulation requires an owner or operator in Paragraph (2) to install enhanced conventional nozzles on each gasoline dispenser. Commentators assert that this requirement would have a negative fiscal impact on the owner or operator due to the high cost of these nozzles. Additionally, commentators state that the emission factor calculation for spillage does not account for nozzles with unreliable automatic shutoff mechanisms. We ask the Board to explain in the Preamble and Regulatory Analysis Form (RAF) of the final regulation how the benefits of enhanced conventional nozzles outweigh the negative fiscal and environmental impacts.

Response: DEP has addressed this comment in the Preamble and RAF as requested by IRRC.

The automatic shutoff system is well established technology that has been used for decades to control gasoline spills around gasoline dispensers. According to representative of a nozzle manufacturer, the efficacy of the automatic shutoff system to control spills can potentially be defeated when a motorist overrides the system by clicking the nozzle handle repeatedly to “top off” the gasoline. When a motorist operates a nozzle this way, the nozzle may “spit” gasoline upon removing the nozzle from the vehicle or the dispenser. Gasoline spitting can occur in conventional nozzles as well. DEP reminds motorists to not top off their tanks during ozone action days, but motorists should not top off in general to minimize spills. In any case, when a motorist tops off gasoline using any type of nozzle, a spill may result.

Enhanced gasoline nozzles are performing so well that CARB is contemplating tightening the performance standard to prevent manufacturers from backsliding on emission reductions. In 2007, CARB developed a performance standard of 0.24 lb/kgal for Enhanced Vapor Recovery nozzles, and in 2015, a performance standard of 0.12 lb/kgal for ECO nozzles. CARB recently examined spill emission factors during certification of EVR and ECO nozzles. Preliminary results indicate that emissions from ECO nozzles appear to be exceeding the current performance standard (i.e. lower emissions than the current performance standard).

DEP does not believe that there are any negative environmental benefits associated with requiring the ECO nozzle because 1) similar types of spills can occur with conventional nozzles when motorists top off gasoline and 2) preliminary results from studying spills during nozzle certification seem to indicate that ECO nozzles are exceeding their own stringent performance

standard. ECO nozzles are more expensive, but the cost-effectiveness as a VOC air emission control measure is comparable to other VOC air emission controls. The cost-effectiveness of ECO nozzles controlling gasoline from entering the environment is approximately \$2,173 per ton averaged over all subject GDFs. When considering that VOC emission reduction credits (ERCs) are nearly unavailable in the two areas subject to this final-form rulemaking and those ERCs would likely be priced at a higher premium when compared to the cost-effectiveness of the ECO nozzle at an average cost of approximately \$2,173 per ton over all subject GDFs, ECO nozzles are a cost-effective control measure.

17. Comment: IRRC asked if, in Section 121.1 (relating to definitions), the term “Stage II vapor recovery system” included the terms “Stage II vacuum assist vapor recovery system” and “Stage II vapor balance vapor recovery system?” If so, we ask the Board to clarify the definition in the final form regulation.

Response: In response to the comment, DEP has clarified in the Preamble and Annex that the definition of “Stage II vapor recovery system” includes the terms “Stage II vacuum assist vapor recovery system” and “Stage II vapor balance vapor recovery system.”