



Proposed Amendments to Vehicle Fill Pipe Regulations to Help Address Storage Tank Overpressure

October 25, 2018



What is a Vehicle Fill Pipe?

Where the nozzle is inserted to refuel a vehicle leading into the fuel tank

Today the focus is the fill pipe head



Vehicle Attributes Leading to Improper Seal



1. Capless fill pipes with open drain path



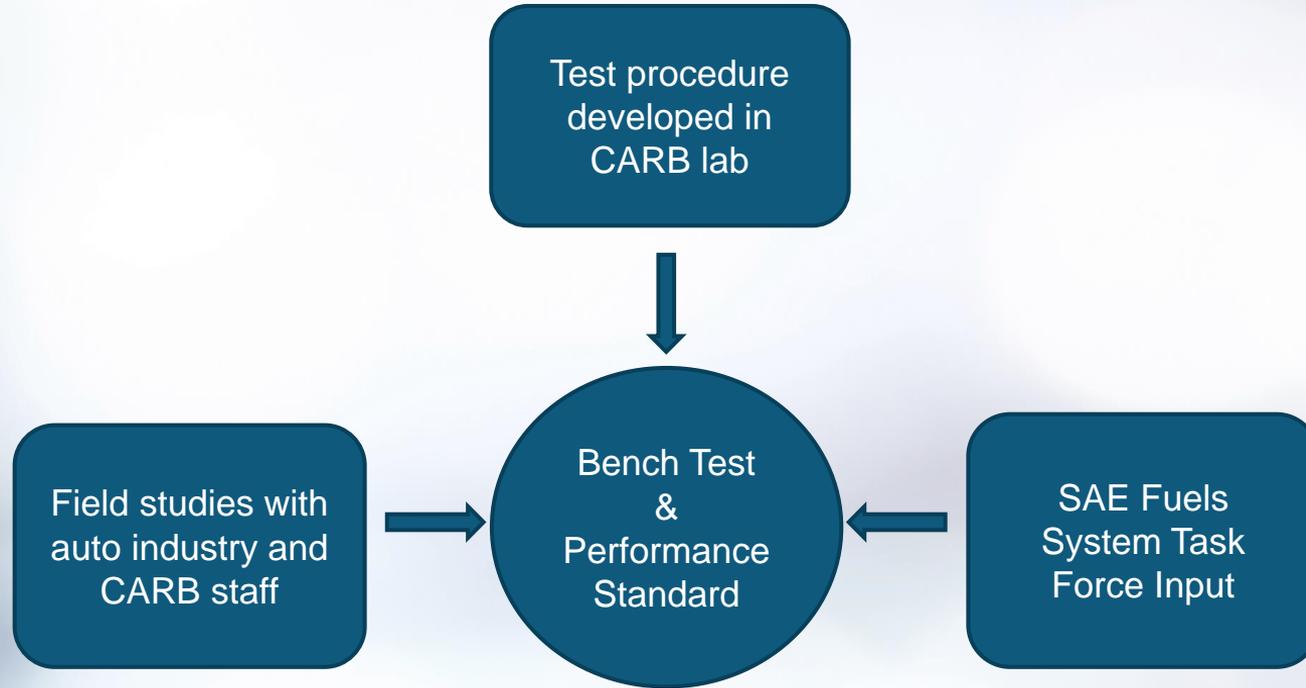
2. Loose Latch
Depth of fill pipe locking lip
Diameter of fill pipe



3. Secondary outer ring

Performance Leak Standard Development Process

Leak
Standard

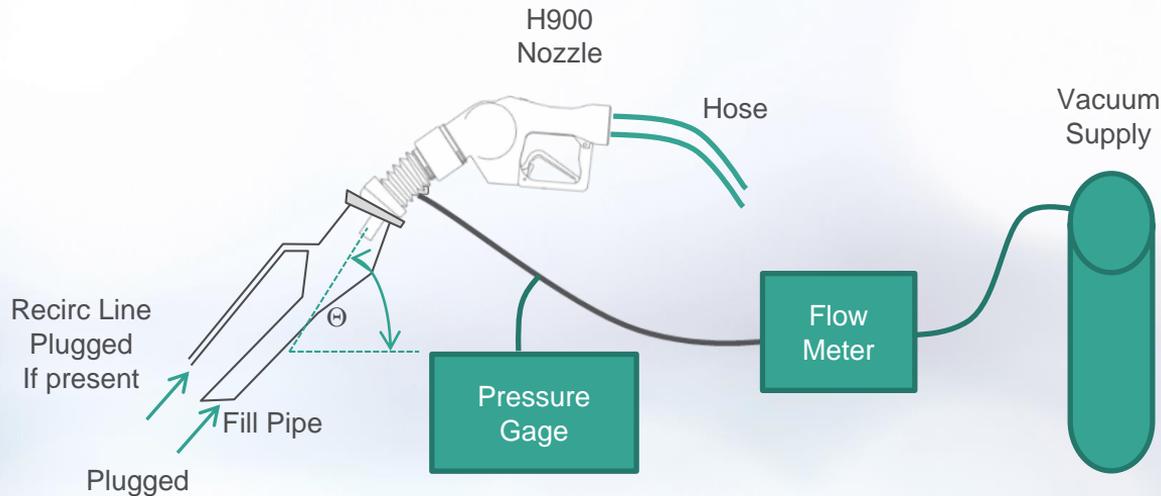


Bench Performance Leak Test

Method, Equipment, Standard

Leak
Standard

- Adjust vacuum supply: -500 Pascal @ pressure gage
- Output = leak rate in liters per minute @ flow meter



Standard: 2.5 liters per minute

Performance Leak Standard

Leak
Standard

A simple test to verify a good seal:



- Quantifies a “good seal”
- Allows a maximum leak rate
 - To prevent / minimize air intake

Standard: 2.5 liters per minute

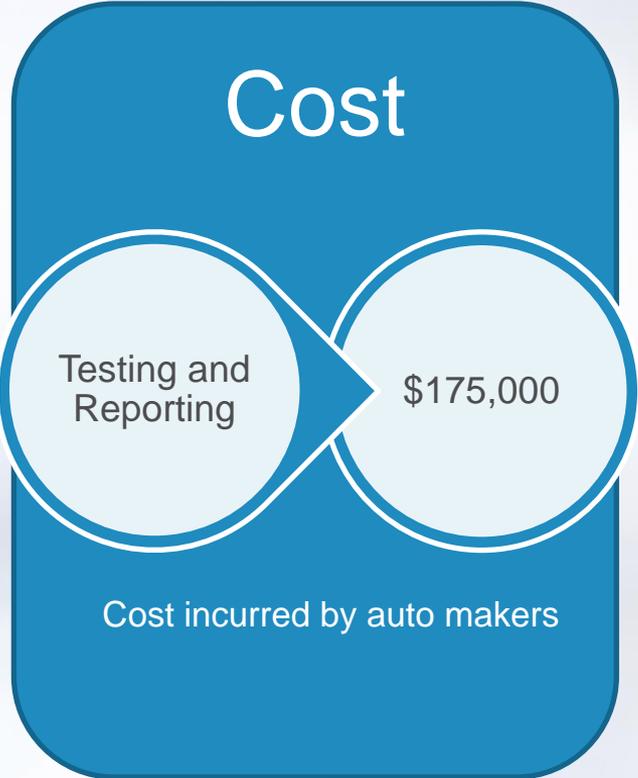
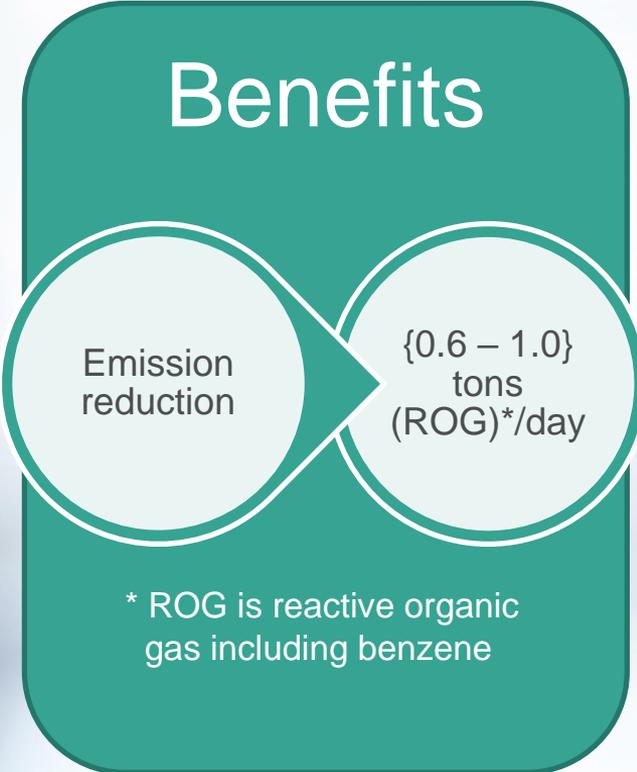
Dimensional Specifications for New Fill Pipe Head Designs

Dimensions

- Improved dimensions will further ensure emission benefits
- Affects new fill pipe head designs only
 - Minimize compliance burden / cost
- Dimensions being changed
 - Locking lip depth
 - Outer diameter
 - Access zone



Benefits & Cost



Stakeholder Comments

- Auto Industry, SAE, Other Stakeholder Comments
 - Mostly Supportive
 - Relax the Performance Leak Standard
 - Minor clarifications on Dimensional Specifications and Bench Test Procedure
- Staff Recommends working with industry
 - Dimensional Specifications and other clarifications
 - Consider any additional information on Leak Standard

Summary

Anticipated Benefits

Vehicle fill pipe
performance leak test
+
Additional dimensions
specifications
+
Change to nozzle

- Improve vapor recovery system performance
- Stop further decline in emissions due to poor nozzle/fill pipe seal
- Reduce station alarms
- Emission reductions of ROG including benzene

Staff Recommendation

Adopt Proposed Amendments

