

Working Group Meeting #4



Proposed Amended Rule 461 – Gasoline Transfer and Dispensing

Proposed Rule 461.1 – Gasoline Transfer and Dispensing for Mobile Fueling Operations

Proposed Amended Rule 219 – Equipment not Requiring a Written Permit Pursuant to Regulation II

Meeting Information

**June 2, 2021
10:00 a.m.**

Zoom Meeting Link:

<https://scaqmd.zoom.us/j/99607876209>

**Dial In:
+1 (669) 900-6833**

**Meeting ID:
996 0787 6209**



Presentation Agenda Overview



Summary of Working Group Meeting #3



Overview of Issues for Emerging Retail Mobile Fueling Industry



Overview of Proposed Regulatory Approach for Mobile Fueling



Proposed Rule Concepts for Gasoline Transfer into a Mobile Fueler



Proposed Rule Concepts for Gasoline Dispensing from a Mobile Fueler

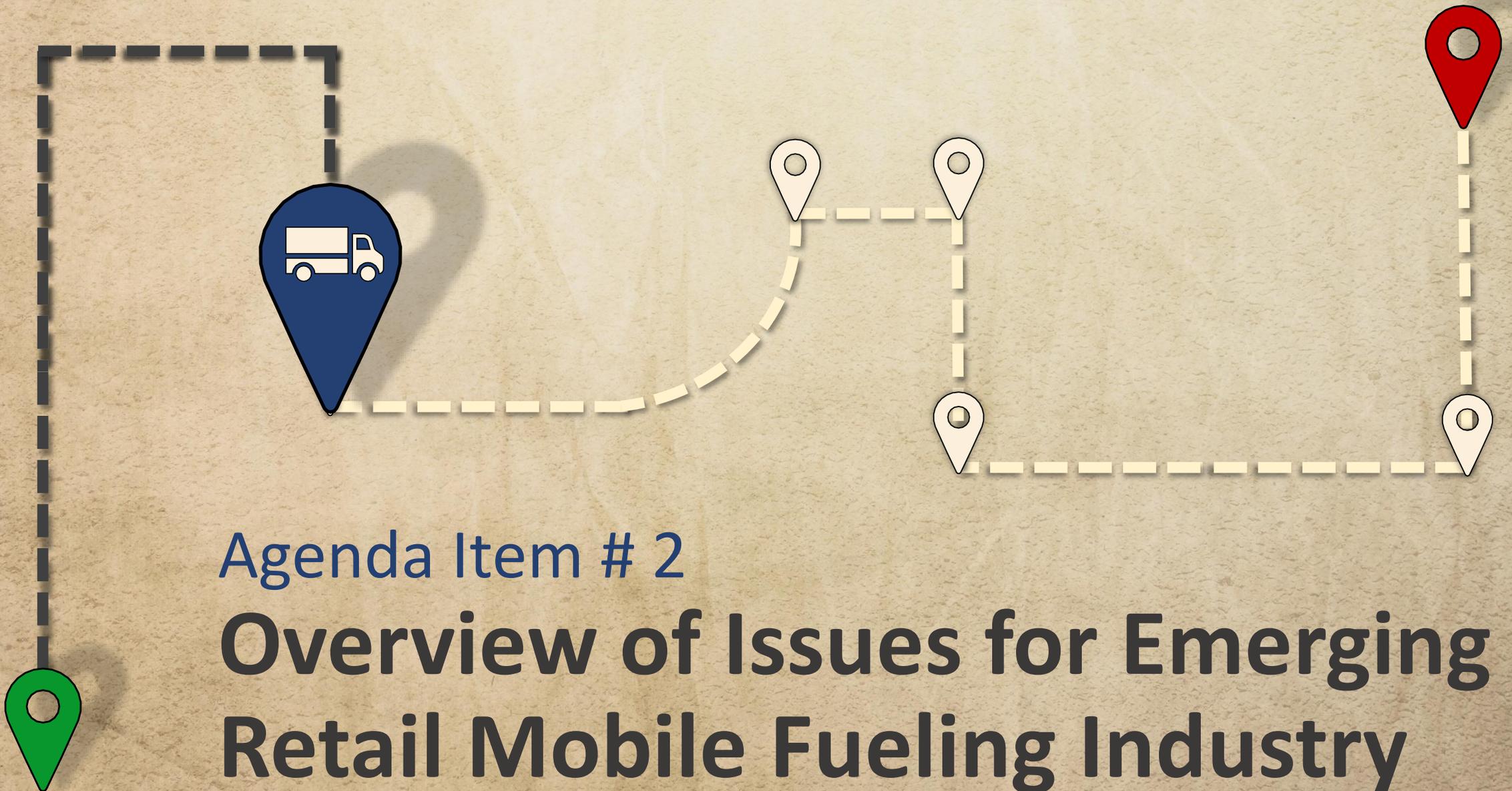


Looking Ahead



Working Group #3 Summary

- Summarized equipment needing a permit and permit requirements
- Provided an overview of how health risks for gasoline dispensing permits are evaluated
- Overview of emission sources for gasoline dispensing
- Discussed health risk assessment tiers for gasoline dispensing facilities



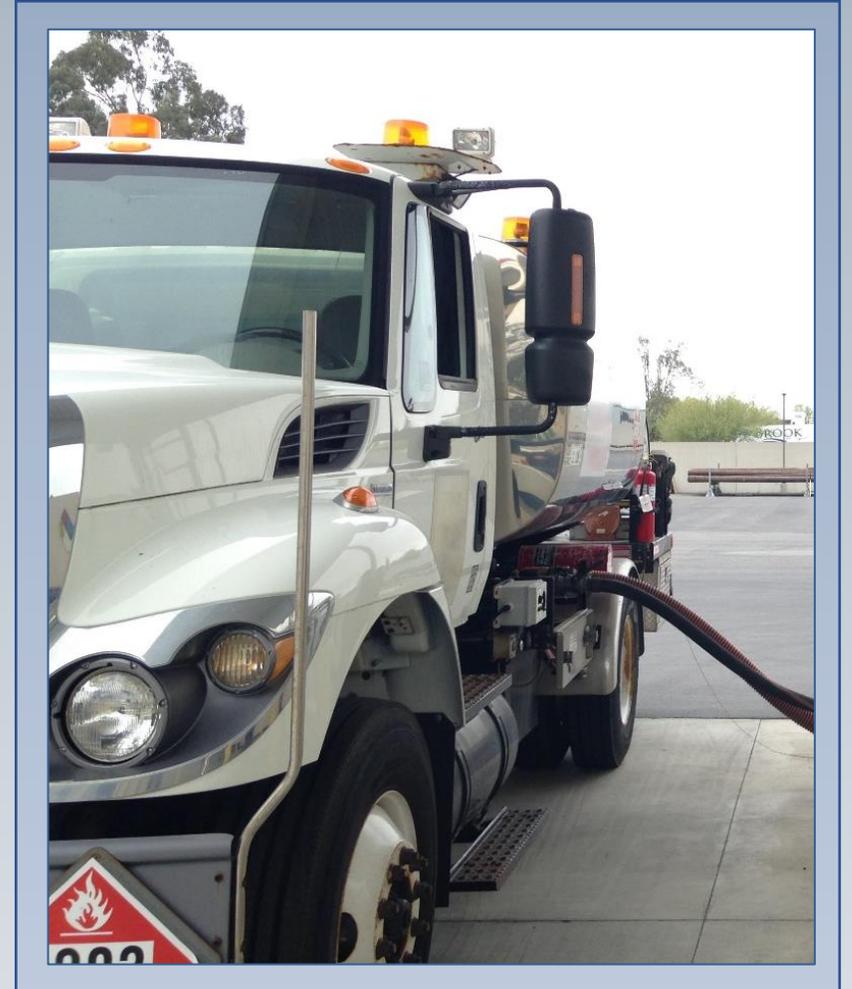
Agenda Item # 2

Overview of Issues for Emerging Retail Mobile Fueling Industry



Emerging Retail Mobile Fueling

- Rule 461 – Gasoline Transfer and Dispensing focuses on retail stationary fueling facilities and non-retail fleet mobile fuelers
- Rule 461 defines retail gasoline dispensing as “any gasoline transfer and dispensing facility subject to the payment of California sales tax for the sale of gasoline to the public”
- Although there are provisions for mobile fueling in Rule 461, they were not designed to address retail mobile fueling
- As discussed in previous Working Group Meetings, there has been a recent emergence of retail mobile fueling companies in the South Coast Air Basin





Rule 461 Background

- Rule 461 was adopted in 1976 and is designed to control gasoline vapors which include VOC and benzene emissions
 - Requires permitted retail gasoline stations to be equipped with Phase I and Phase II vapor recovery systems
 - Phase I and Phase II vapor recovery systems are certified by the California Air Resources Board (CARB)
 - Rule 461 establishes requirements for equipment, operations, inspection, maintenance, testing, reporting, and recordkeeping



Rule 461 Mobile Fueler Vapor Recovery Requirements

- Requirements for any mobile fueler (retail or non-retail) tank greater than 120 gallons:
 - Mobile fueler must have a Phase I vapor recovery systems with a minimum volumetric efficiency of 95%
 - Mobile fueler must have a Phase II vapor recovery system that is CARB certified to:
 - Recover or process displaced gasoline vapors by at least 95% or
 - With an emission factor not exceeding 0.38 pounds per 1,000 gallons
- Alternate requirement option for exclusively non-retail mobile fueling operations:
 - Mobile fueler must have a Phase I vapor recovery systems with a minimum volumetric efficiency of 95%
 - May instead have a CARB certified vapor recovery system with the return line sealed off
 - Must maintain dispensing records to ensure fueling only into vehicles owned, under direct control of the operator, and equipped with onboard refueling vapor recovery (ORVR)



General Types of Mobile Fuelers

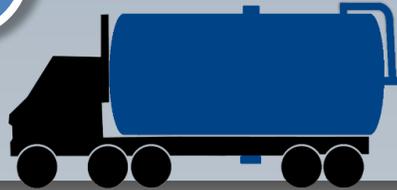
1



Phase I and Phase II Cab and Chassis Truck with Cargo Tank

- Capacity of 350 to 4,000 gallons
- Equipped with CARB certified Phase I and II vapor recovery systems
- Models have South Coast AQMD permits and are used for non-retail operation

2



Phase I Cab and Chassis Truck with Cargo Tank

- Total capacity $\leq 1,200$ gallons
- Equipped with CARB certified Phase I and non-vapor recovery dispensing equipment

Only retail model reported in the survey

3*



Pickup Truck with 3 Tanks

- Trucks can carry multiple tanks
- 3 tanks each ≤ 120 gallons with cumulative ≥ 251 gallons
- Not equipped with CARB certified Phase I or Phase II vapor recovery systems

4*



Pickup Truck with 2 Tanks

- Trucks can carry multiple tanks
- 1 or 2 tanks each ≤ 120 gallons with cumulative < 251 gallons
- Not equipped with CARB certified Phase I or Phase II vapor recovery systems

* Retail models 3 and 4 were identified based on news articles and internet searches. Operators of these models did not respond to the survey.



Rule 461 Applicability for Mobile Fuelers

Mobile Fueler Vapor Recovery	Non-Retail	Retail	Mobile Fuelers
CARB Certified Phase I and II Vapor Recovery	Allowed	Allowed	 Phase I and Phase II Cab and Chassis Truck with Cargo Tank
CARB Certified Phase I Vapor Recovery and Non-Vapor Recovery Dispensing	Allowed	Not Allowed	 Phase I Cab and Chassis Truck with Cargo Tank
No Vapor Recovery with Cumulative Capacity of ≥ 251 Gallons	Not Allowed	Not Allowed	 Pickup Truck with 3 Tanks
No Vapor Recovery with Cumulative Capacity of < 251 Gallons ¹	Unregulated	Unregulated	 Pickup Truck with 2 Tanks

¹ Each individual tank is ≤ 120 gallons



Permitted and Unpermitted Gasoline Dispensing Operations

Retail and Non-Retail Gasoline Dispensing Operations

Permit Not Required

- Stationary underground or aboveground tank capacity of < 251 gallons
- Mobile fueler cumulative capacity of < 251 gallons and tank capacity of \leq 120 gallons
- Estimated health risks \leq Rule 1401 thresholds

Permit Required

- Stationary underground or aboveground tank capacity of \geq 251 gallons
- Mobile fueler cumulative capacity of \geq 251 gallons and tank capacity of > 120 gallons
- If health risk expected to be > Rule 1401 thresholds¹
- Any tanks equipped with vapor recovery

- In Working Group Meeting #1, staff presented the gasoline operations that require a permit
- A South Coast AQMD permit establishes specific operating conditions for the equipment or process

¹ Permit will establish conditions to ensure health risks are maintained \leq Rule 1401 thresholds



Retail Mobile Fueler Regulatory Gap Between Rule 461 and Permitting Requirements

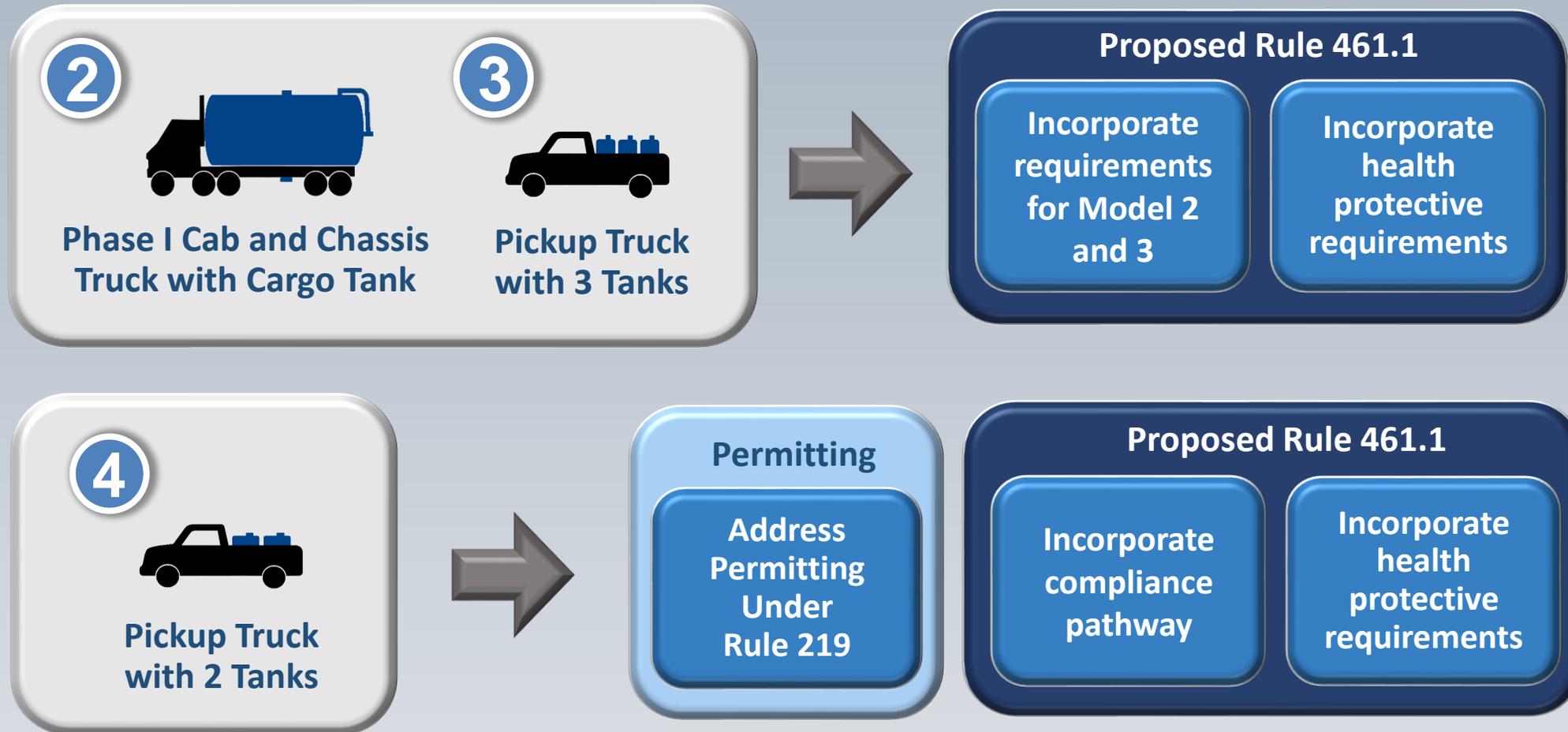
Mobile Fueling System	Cumulative Capacity (Gallons)	Allowed in Rule 461		Requires a South Coast AQMD Permit to Operate? ¹	Regulatory Gap
		Non-Retail	Retail		
1  Phase I and Phase II Cab and Chassis Truck with Cargo Tank	350-4000	Allowed	Allowed	Yes	None
2  Phase I Cab and Chassis Truck with Cargo Tank	1,200	Allowed	Not Allowed	Yes	Permit required, but cannot be issued since retail fueling is not allowed under Rule 461
3  Pickup Truck with 3 Tanks	≥ 251	Not Allowed	Not Allowed	Yes	Permit required, but cannot be issued since retail and non-retail fueling is not allowed under Rule 461
4  Pickup Truck with 2 Tanks	< 251 ²	Unregulated	Unregulated	No	Not required to be permitted and Rule 461 does not currently apply to this equipment

¹ Determined based on Rule 219 cumulative capacity

² Each individual tank is ≤ 120 gallons



Approach to Closing the Regulatory Gap for Retail Mobile Fueling





Initial Objectives of Proposed Rule (PR) 461.1 and Proposed Amended Rule (PAR) 219

PR 461.1

- Address regulatory gaps with retail mobile fueling operations
- Establish requirements for retail mobile fueling operations

PAR 219

- Require permits for retail mobile fuelers that are currently exempt from permitting
- Through the permitting process all sources are evaluated to ensure compliance with Rule 1401 – New Source Review of Toxic Air Contaminants and Rule 1401.1 – Requirements for New and Relocated Facilities Near Schools



PAR 461 and PR 461.1 Approach

Existing Approach

Rule 461 – Gasoline Transfer and Dispensing

- Stationary Retail
- Stationary Non-Retail
- Mobile Non-Retail
- Mobile Retail



Proposed Rulemaking Approach

PAR 461 – Gasoline Transfer and Dispensing

- Stationary Retail
- Stationary Non-Retail

PR 461.1 – Gasoline Transfer and Dispensing for Mobile Fueling Operations

- Mobile Retail
- Mobile Non-Retail

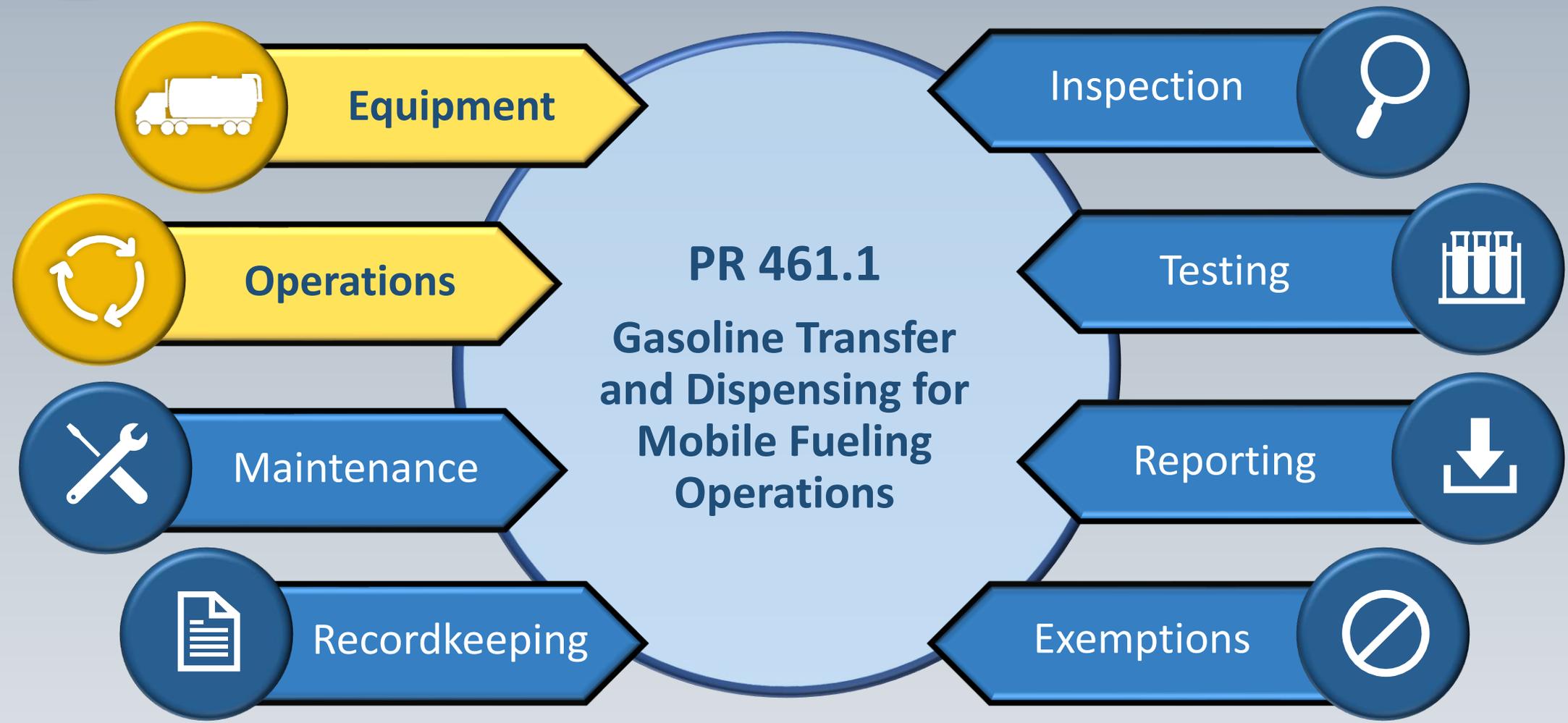


Proposed Applicability for PR 461.1

- PR 461.1 will apply to mobile fueling operations
- Apply to the transfer (loading/unloading) of gasoline:
 - From any source (e.g., such as a tank truck, trailer, railroad tank car, or storage tank) into any mobile fueler
 - From any mobile fueler into any motor vehicle fuel tank



Structure of PR 461.1





Overview of Proposed Provisions for Equipment and Operations

Gasoline Transfer (loading)

- Tank truck
- Trailer
- Fuel terminal
- Stationary storage tank



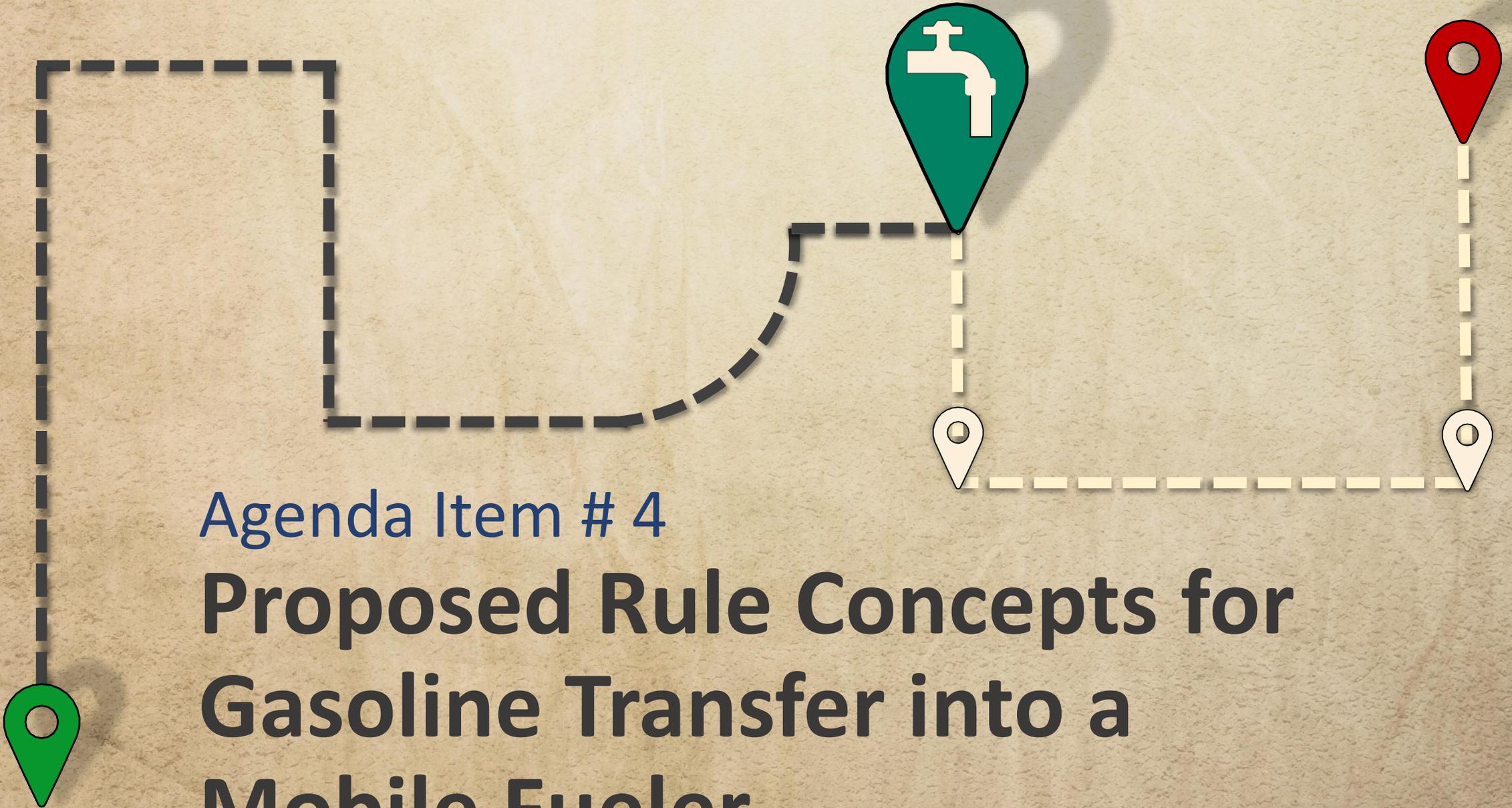
- Mobile fueler tank

Gasoline Dispensing (into motor vehicle)



- Motor vehicle tank (> 5 gallons)

- Proposed concepts for mobile fueler equipment and operations will focus on:
 - Gasoline transfer of loading into the mobile fueler tank
 - Gasoline dispensing from the mobile fueler tank to the motor vehicle



Agenda Item # 4

Proposed Rule Concepts for Gasoline Transfer into a Mobile Fueler



Overview of Approach for Proposed Concepts for Retail Gasoline Transfer Equipment

- PR 461.1 equipment requirements for gasoline transfer will be based on a similar approach as Rule 461
- Approach to PR 461.1 is to have equitable vapor recovery requirements for mobile and stationary operations
- Next slides will discuss current Rule 461 requirements and proposed concepts for PR 461.1 for gasoline transfer

Gasoline Transfer (loading)





Background: Current Rule 461 Gasoline Transfer Requirements

- Tank truck
- Trailer

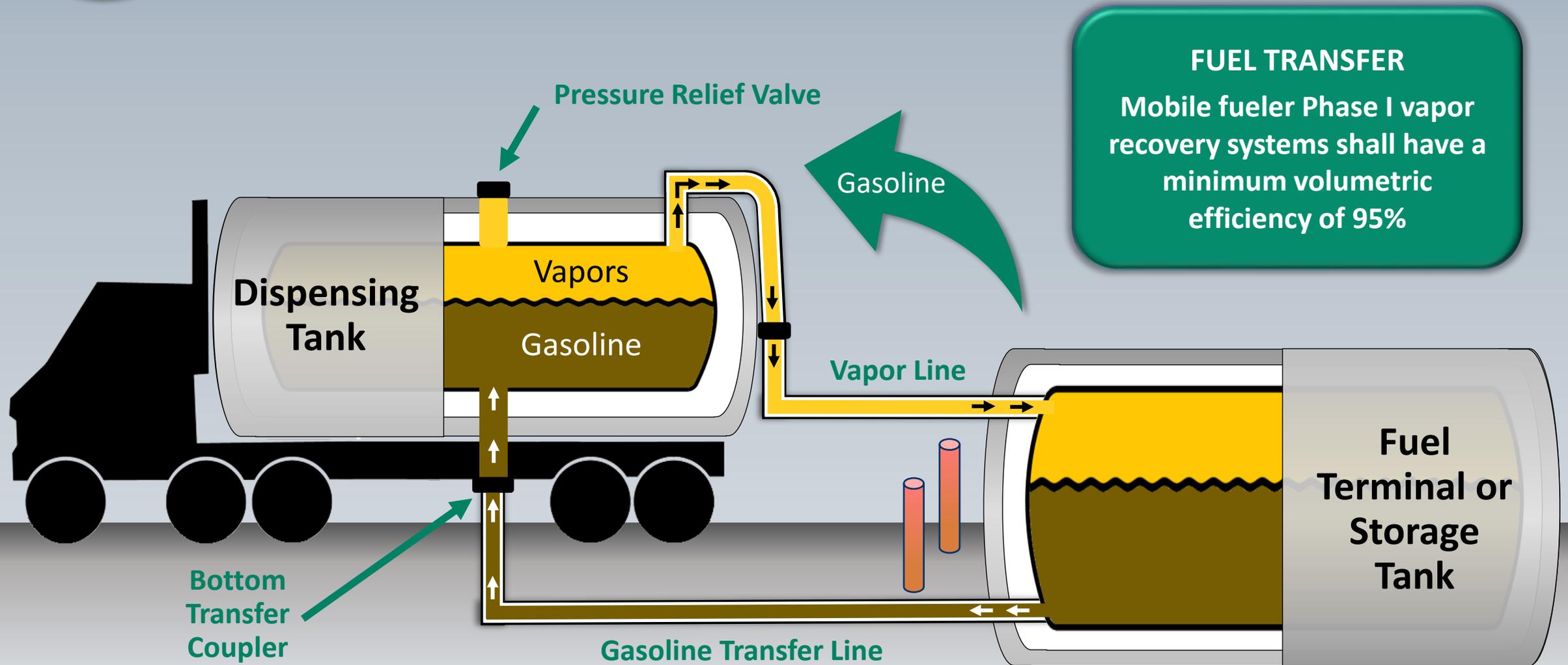


- Stationary storage tank (≥ 251 gallons)
- Mobile fueler tank (> 120 gallons)

- CARB's Benzene Air Toxics Control Measure for Retail Service Stations requires gasoline transfer operations to be equipped with CARB certified Phase I vapor recovery systems
- Consistent with the Benzene Air Toxics Control Measure, Rule 461 requires CARB certified Phase I vapor recovery systems when transferring:
 - Stationary storage tank (≥ 251 gallons)
 - Mobile fueler tank (> 120 gallons)
- Rule 461 also includes requirements to ensure proper operation of the equipment and addresses loading tank truck and trailers into stationary and mobile fueler tanks
 - Rail tank car, fuel terminal, and stationary storage tanks are not identified



Current Emission Requirements During Transfer of Gasoline Into Mobile Fueler





Current Mobile Fuelers Equipped with CARB Certified Vapor Recovery

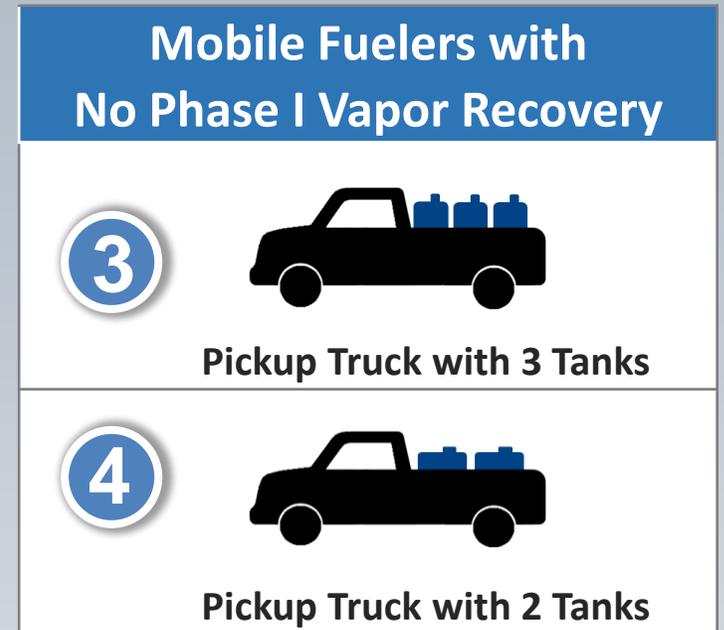
Transfer Configuration	Transfer Method	Mobile Fuelers
CARB Certified Phase I Vapor Recovery	<ul style="list-style-type: none">• Bottom transfer with Phase I vapor recovery return line• Certified under CARB issued Executive Order G-70-193 and VR-601-A respectively	<p data-bbox="1676 505 1786 611">1 </p> <p data-bbox="1691 644 2474 672">Phase I and Phase II Cab and Chassis Truck with Cargo Tank</p> <hr/> <p data-bbox="1676 705 1786 811">2 </p> <p data-bbox="1773 839 2384 868">Phase I Cab and Chassis Truck with Cargo Tank</p>

- Models 1 and 2 are equipped with CARB certified Phase I vapor recovery equipment capable of demonstrating ongoing compliance with the vapor integrity requirements contained in CARB’s “CP-204, Certification Procedures for Vapor Recovery Systems of Cargo Tanks”
- Requiring mobile fuelers to be equipped with Phase I vapor recovery is similar to Rule 461 for stationary fueling operations



Concerns for Retail Mobile Fuelers with no Phase I Vapor Recovery Systems

- There are currently no CARB certifications for Phase I vapor recovery for Models 3 and 4
- Transferring gasoline without a Phase I vapor recovery system can be more than 50 times emissive than using a Phase I vapor recovery system
- Phase II vapor recovery nozzles at stationary gasoline dispensing facilities are ineffective when loading gasoline into Model 3 and 4 tanks because the bellows are pulled back when filling tanks
- Based on lack of survey response, it is unknown if Model 3 and 4 tanks are equipped with a submerged fill tube assembly





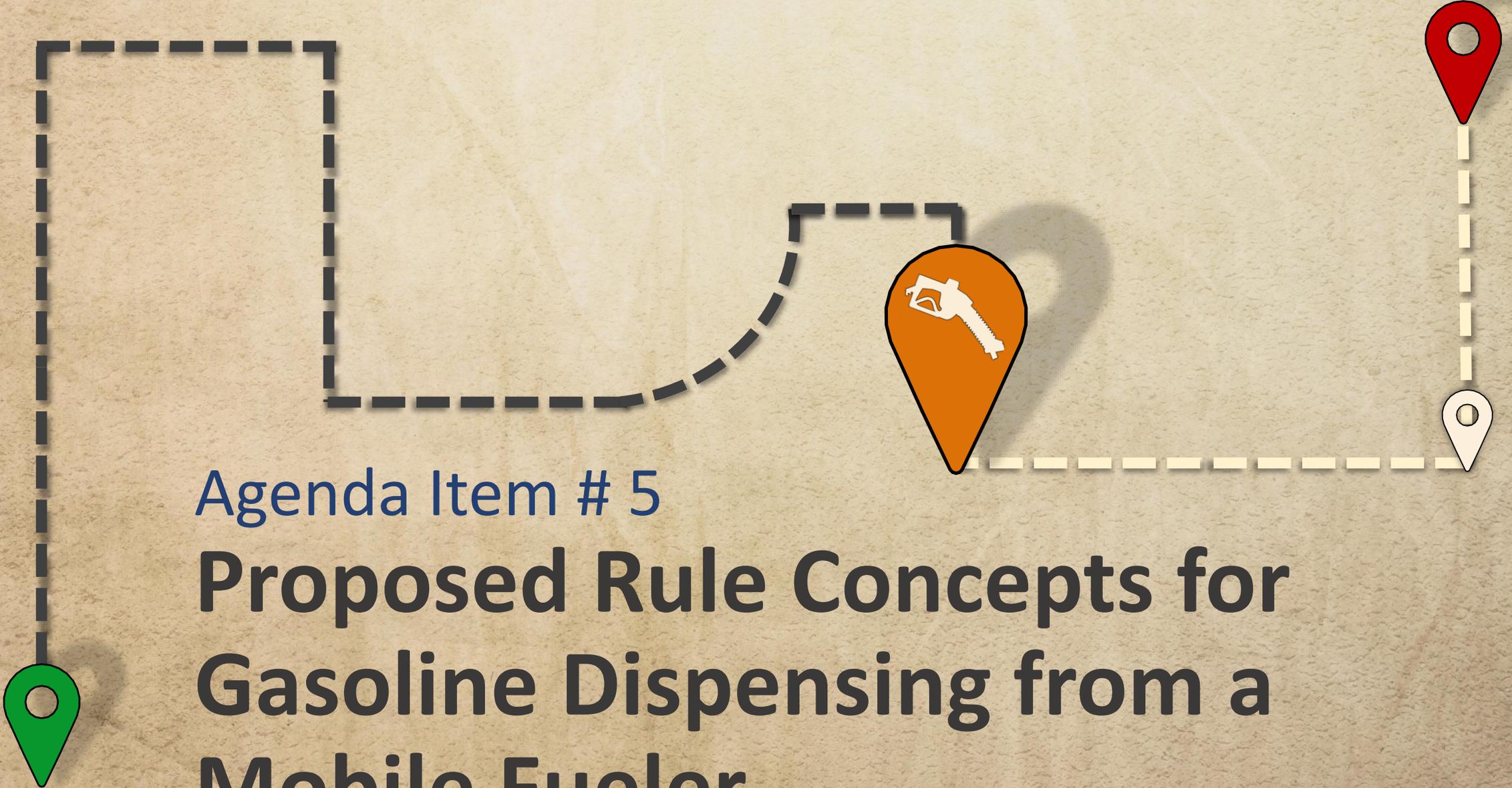
Initial Concepts for Transferring Gasoline into a Mobile Fueling Tank

- Any source



- Non-retail mobile fueler (any capacity)
- Retail mobile fueler tank (any capacity)

- Any non-retail mobile fueler and any retail mobile fueler must be equipped with CARB certified Phase I vapor recovery equipment capable of demonstrating ongoing compliance with the vapor integrity requirements contained in CARB's "CP-204, Certification Procedures for Vapor Recovery Systems of Cargo Tanks"
- Alternatives must be certified by CARB to demonstrate the performance standard
- PR 461.1 would incorporate requirements from Rule 461 for mobile fueler tanks, such as:
 - Operate in accordance with manufacturer specifications and applicable CARB Executive Order
 - Use of an overfill protection device



Agenda Item # 5

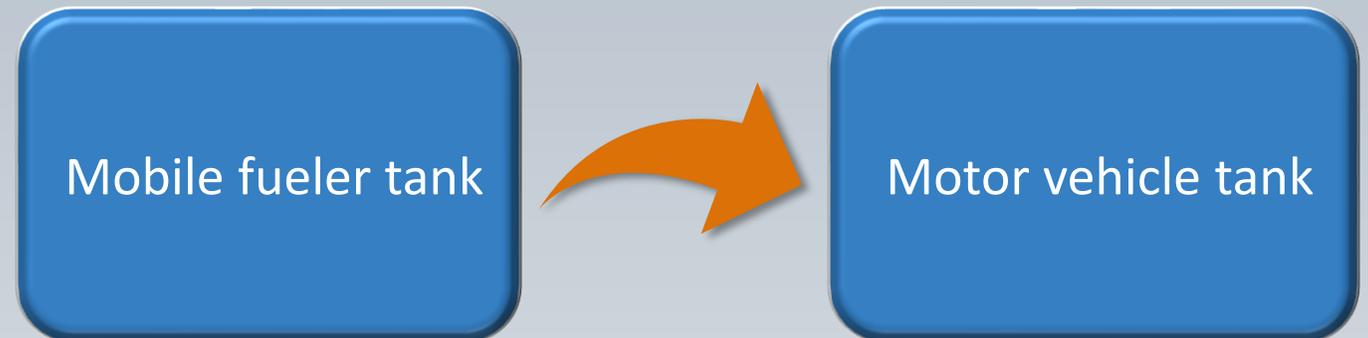
Proposed Rule Concepts for Gasoline Dispensing from a Mobile Fueler



Approach for Proposed Concepts for Gasoline Dispensing Equipment

- PR 461.1 equipment requirements for gasoline dispensing will be based on a similar approach as Rule 461
- Approach to PR 461.1 is to have equitable vapor recovery requirements for mobile and stationary operations
- Next slides will discuss current Rule 461 requirements and proposed concepts for PR 461.1 for gasoline dispensing

**Gasoline
Dispensing**
(into motor vehicle)





Background – Current Rule 461 Gasoline Dispensing Vapor Recovery Requirements

- Mobile fueler tank (>120 gallons)
- Stationary storage tank (≥251 gallons)

Gasoline

- Mobile fueler tank (>120 gallons)
- Motor vehicle tank (>5 gallons)

- CARB's Benzene Air Toxics Control Measure for Retail Service Stations requires operations to be equipped with CARB certified Phase II vapor recovery systems
- Consistent with the Benzene Air Toxics Control Measure, Rule 461 (c)(2) requires the use of Phase II vapor recovery systems (vacuum assist or balance system) when dispensing gasoline
- CARB certified Phase II vapor recovery systems are designed to work with vehicles regardless of them being equipped with ORVR and based on CARB's emission estimates provide an additional 95 percent reduction as compared to vehicles without ORVR
- Rule 461 also includes requirements to ensure proper operation of the equipment



Background – Rule 461 Alternative Gasoline Dispensing Vapor Recovery Requirements

- Mobile fueler tank (>120 gallons)
- Stationary storage tank (≥251 gallons)



- Exclusive non-retail dispensing into motor vehicle tank (>5 gallons)

- Under Rule 461, a non-retail facility can alternatively utilize a certified Phase II vapor recovery system with the vapor return line sealed off¹ provided:
 - Vehicles are owned or under the direct control of the operator of the gasoline dispensing operation
 - Vehicles are equipped with ORVR systems
 - Maintain vehicle dispensing records to ensure that vehicles are equipped with ORVR

¹ PAR 461 amendments to address other CARB approved methods will be discussed in future Working Group Meetings

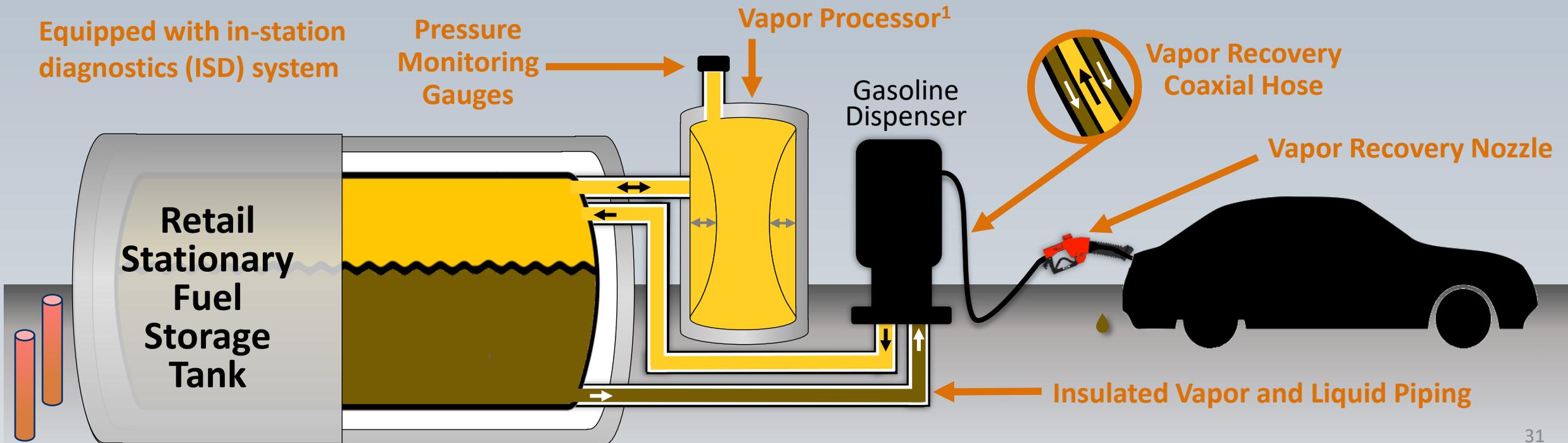


Current Emission Requirements for Dispensing Gasoline from a Retail Stationary Gasoline Dispensing Facility

FUEL DISPENSING VAPOR RECOVERY

Fuel tank is equipped with a "CARB certified" vapor recovery system as capable of

- Recovering or processing displaced gasoline vapors by at least 95%, or
- Having an emission factor not exceeding 0.38 pounds per 1,000 gallons

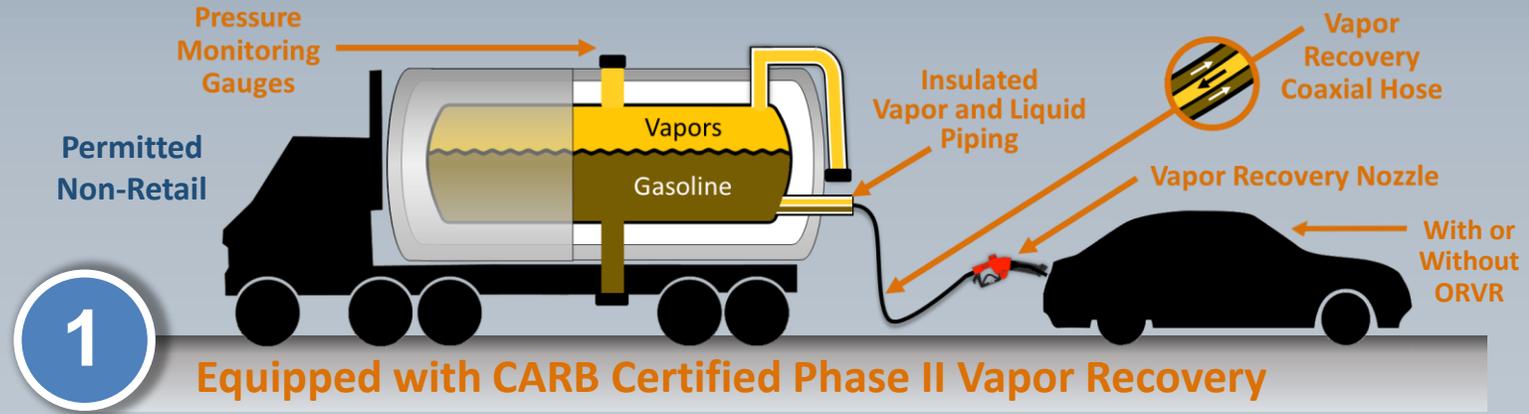


¹ Types of vapor processors include a vapor storage tank bladder system (simplistically depicted), carbon canister, thermal oxidizer, and two types of cell membranes



Potential Air Quality Concerns with Retail Gasoline Mobile Fueling Operations

Emissions can be significantly higher if gasoline dispensing activities are using non-CARB certified dispensing nozzles and gasoline is dispensed into vehicles that are not equipped with ORVR





Recent CARB Certification of a Mobile Fueler Not Equipped with Phase II Vapor Recovery

- In February 2021, CARB issued Executive Order VR-601-A Related to the Certification of Mobile Dispensing Systems and Non-Vapor Recovery Components for Booster Fuels, Inc., Mobile Fueling On-Demand Tank Vehicle Gasoline Dispensing System for ORVR Vehicles
 - CARB certification is applicable to Model 2 (Phase I Cab and Chassis Truck with Cargo Tank)
 - Dispensing equipment does not include a Phase II vapor recovery system (e.g., balance or vacuum assist)
 - Dispensing limited to vehicles with ORVR only
 - This equipment is not currently allowed for retail dispensing operations as Rule 461 requires the use of Phase I and Phase II vapor recovery system



Summary of Vapor Recovery Systems for Dispensing on Retail Mobile Fueler Models

Dispensing Configuration	Dispensing Method	Mobile Fuelers
CARB Certified Phase II Vapor Recovery	<ul style="list-style-type: none"> Fuel dispensed from a Phase II vapor recovery system capable of: <ul style="list-style-type: none"> Recovering or processing displaced gasoline vapors by at least 95%, or Having an emission factor not exceeding 0.38 pounds per 1,000 gallons Certified under CARB issued Executive Order G-70-193 	 <p>Phase I and Phase II Cab and Chassis Truck with Cargo Tank</p>
CARB Certified Non-Vapor Recovery	<ul style="list-style-type: none"> Fuel is dispensed from a CARB certified system with a non-vapor recovery hose and an enhanced conventional nozzle Certified under CARB issued Executive Order VR-601-A for dispensing in ORVR equipped vehicles 	 <p>Phase I Cab and Chassis Truck with Cargo Tank</p>
No Vapor Recovery	<ul style="list-style-type: none"> Staff is unaware of any dispensing operations using CARB certified systems or components Based on lack of survey response, non-vapor recovery equipment used to dispense into motor vehicles is unknown 	 <p>Pickup Truck with 3 Tanks</p>
		 <p>Pickup Truck with 2 Tanks</p>

- Existing non-retail mobile fuelers are using a CARB certified Phase II vacuum system to control dispensing emissions
- Approach to PR 461.1 is to have equitable vapor recovery requirements for mobile and stationary operations



Initial Concepts for Mobile Fueler Fuel Dispensing with Vapor Recovery Systems

- Non-retail mobile fueler (any capacity)
- Retail mobile fueler tank (any capacity)



Motor vehicle tank
(>5 gallons)

- Any non-retail mobile fueler and any retail mobile fueler must be equipped with CARB certified equipment for dispensing fuel from a mobile fueler to a motor vehicle
- Staff is considering allowing retail mobile fuelers to use of a CARB certified non-vapor recovery equipment for dispensing until a CARB certified Phase II vapor recovery system is commercially available
 - Since other air districts¹ currently require Phase II vapor recovery systems for retail mobile fueling, staff believes that PR 461.1 must be equally as stringent to ensure implementation of Reasonable Achievable Control Technology
 - Staff will discuss this issue with U.S. EPA

¹ Antelope Valley Air Quality Management District, El Dorado County Air Quality Management District, Mojave Desert Air Quality Management District, Northern Sierra Air Quality Management District, Sacramento Metropolitan Air Quality Management District, San Joaquin Valley Air Pollution Control District



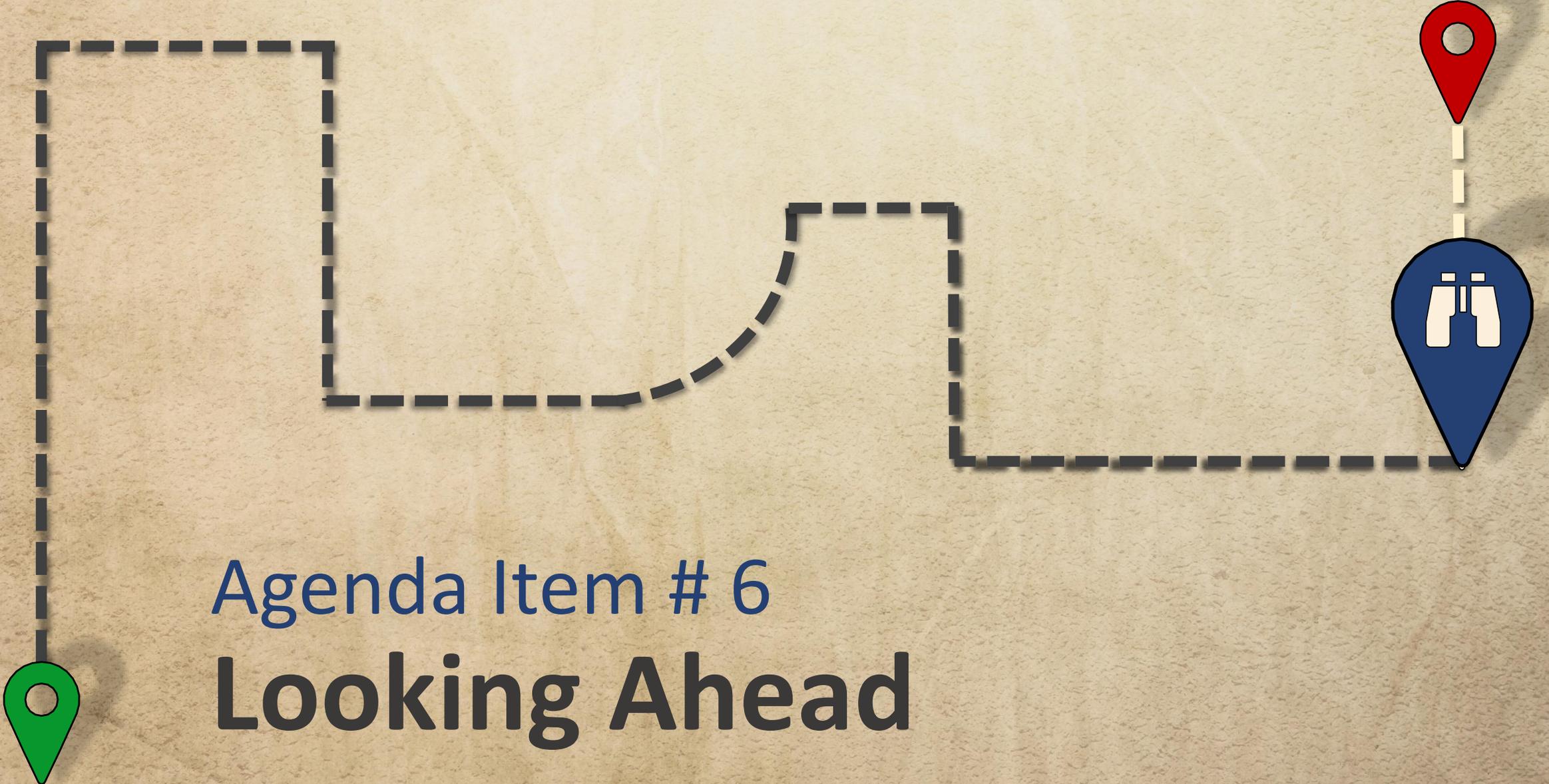
Initial Concepts for Mobile Fueler Fuel Dispensing with Vapor Recovery Systems *(Continued)*

- Non-retail mobile fueler (any capacity)
- Retail mobile fueler tank (any capacity)



Motor vehicle tank
(>5 gallons)

- PR 461.1 will incorporate requirements from Rule 461 for dispensing from a mobile fueler such as:
 - Operate in accordance with manufacturer specifications and applicable CARB Executive Order, including restrictions on the type of vehicle (ORVR/non-ORVR)
 - Requirements to ensure the proper operation of the equipment
 - Additional recordkeeping will likely be required when using CARB certified non-vapor recovery equipment to ensure compliance with CARB's Executive Order
- Future presentations will address additional applicability requirements for retail mobile fueling



Agenda Item # 6

Looking Ahead



Summary of Proposed Transfer and Dispensing Concepts for Mobile Fueling

- PR 461.1 applies to mobile fueling operations for the transferring of gasoline into a mobile fueler and the dispensing of gasoline into a motor vehicle
- Proposed concepts for transfer of gasoline into a mobile fueler
 - Equipment must be equipped with CARB certified Phase I vapor recovery equipment capable of demonstrating ongoing compliance with the vapor integrity requirements contained in CARB's "CP-204, Certification Procedures for Vapor Recovery Systems of Cargo Tanks"
- Proposed concepts for dispensing of gasoline from a mobile fueler into motor vehicle
 - Equipment must be certified by CARB to dispense gasoline from a mobile fueler into a motor vehicle
 - Staff is considering allowing equipment that does not have a Phase II recovery system (e.g. vacuum assist, balance) until CARB certified equipment is commercially available
- PR 461.1 would also incorporate existing requirements for mobile fuelers from Rule 461



Next Working Group Meeting

- Fleet and consumer fueling
- Amendments to Rule 219
- Additional requirements for PR 461.1



Next Steps



Public Hearing



Develop rule concepts



Continue information gathering



Hold working group meetings



PARs 461, 219, and PR 461.1 Staff Contacts

Please contact staff with any questions or comments

Britney Gallivan

 (909) 396-2792

 bgallivan@aqmd.gov

Neil Fujiwara

 (909) 396-3512

 nfujiwara@aqmd.gov

Susan Nakamura

 (909) 396-3105

 snakamura@aqmd.gov

Additional information is located on the [South Coast AQMD Proposed Rules and Proposed Rule Amendments website](#)

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