Enhanced Vapor Recovery (EVR) Rulemaking

Board Presentation

September 22, 2011

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History
Vapor Recovery Program

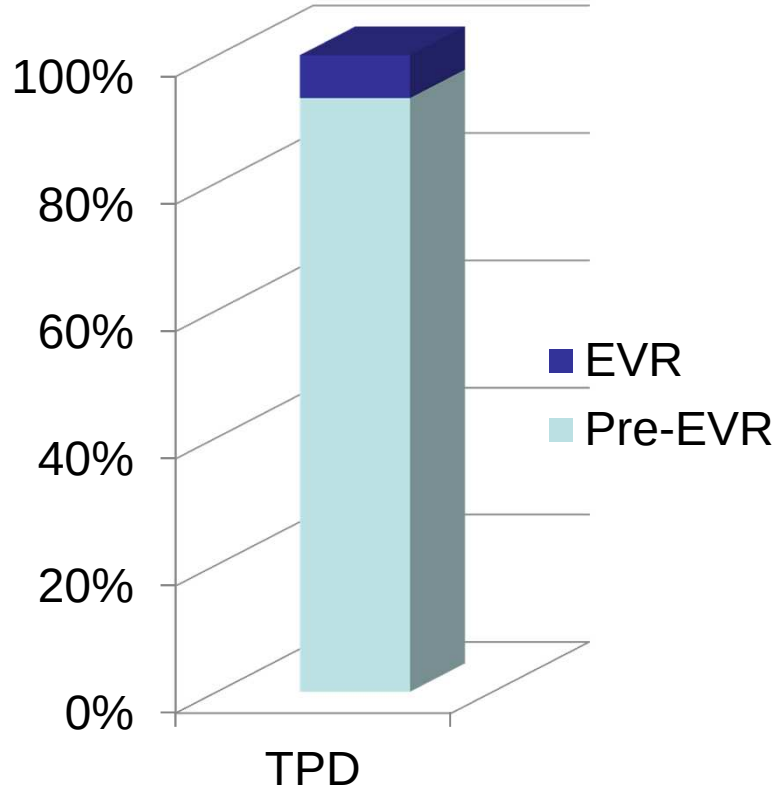
- Vapor Recovery at Gasoline Dispensing Facilities in CA began in 1975
- EVR Regulations Adopted in 2001
  - Greater Emission Reductions
  - Improved equipment certification procedure, field testing, and in-station diagnostics
- EVR for UST phased in from 2001-2010
- EVR for AST adopted in 2008, being phased in

Emission Reductions
Vapor Recovery Program

Emission Reduction:

372 Tons/Day

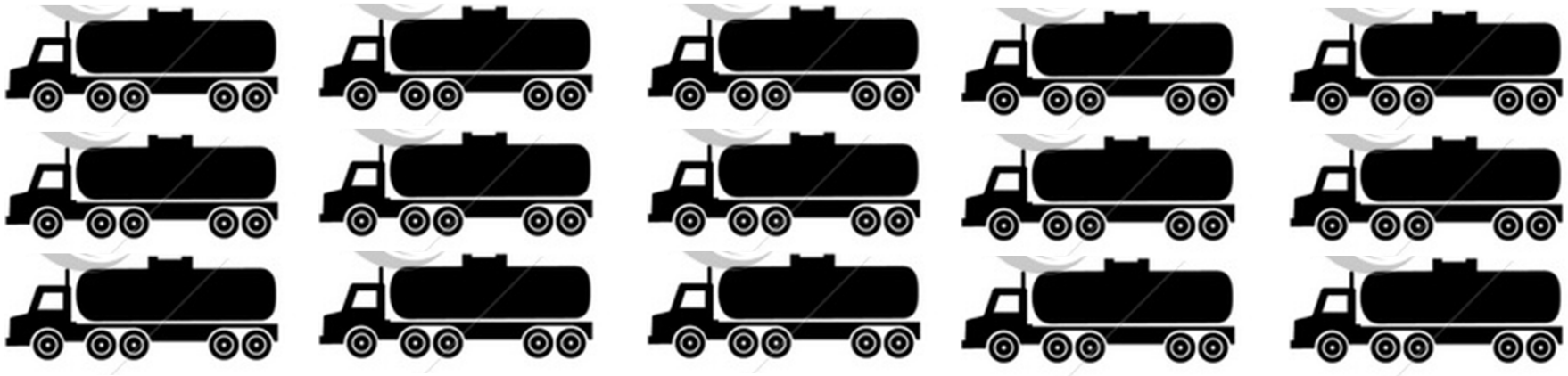
- 347 Tons/Day from pre-EVR
- 25 Tons/Day from EVR



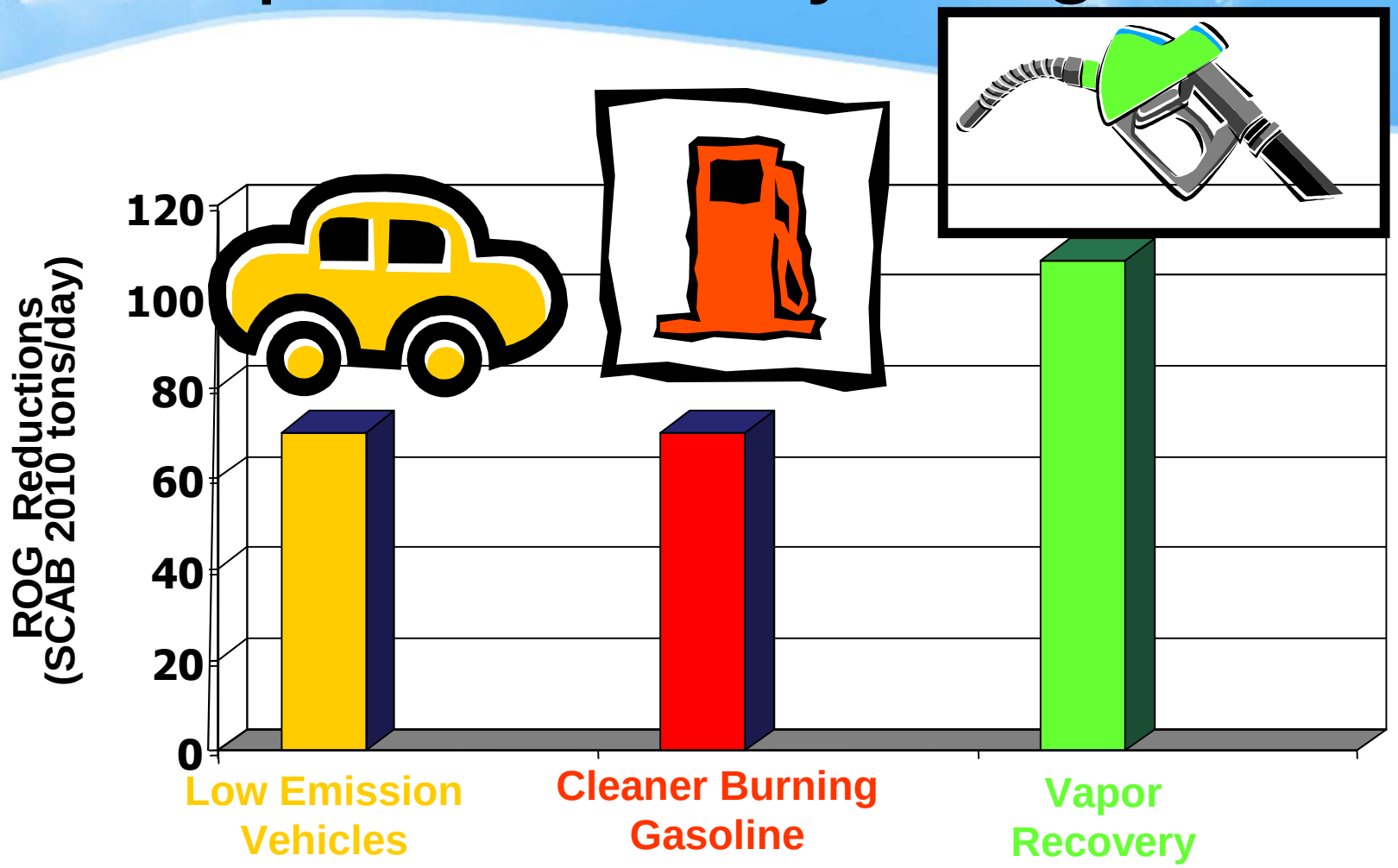
Emission Reductions
Vapor Recovery Program

Liquid Gasoline Equivalent:

- 120,000 gallons per day
- Roughly 15 Tanker Trucks



Emission Reductions
Vapor Recovery Program



California Environmental Protection Agency
AIR RESOURCES BOARD

Proposed Regulation

- Clarify the four year timeframe for upgrades at existing facilities
- Add a new requirement for low permeation dispensing hoses
- Clean-up and minor administrative changes to EVR Test Procedures and Certification Procedures

Four-Year Clock

- Statute allows four years from the “effective date” for existing facilities to upgrade to new standards
- Currently ARB sets the “effective date” for new standards in the Certification Procedure
  - Time required for development and certification of new equipment is hard to predict, so dates are often revised
- New proposal defines “effective date” as the certification date of the first system that meets the new standard

Four-Year Clock (cont.)

- Applies only to effective dates after 1/1/2012
- For clarity, ARB will maintain and publish a list of effective dates and upgrade deadlines
- Proposal also includes a process for delaying upgrade deadlines for facility types where the certified system is incompatible

Low Permeation Hoses

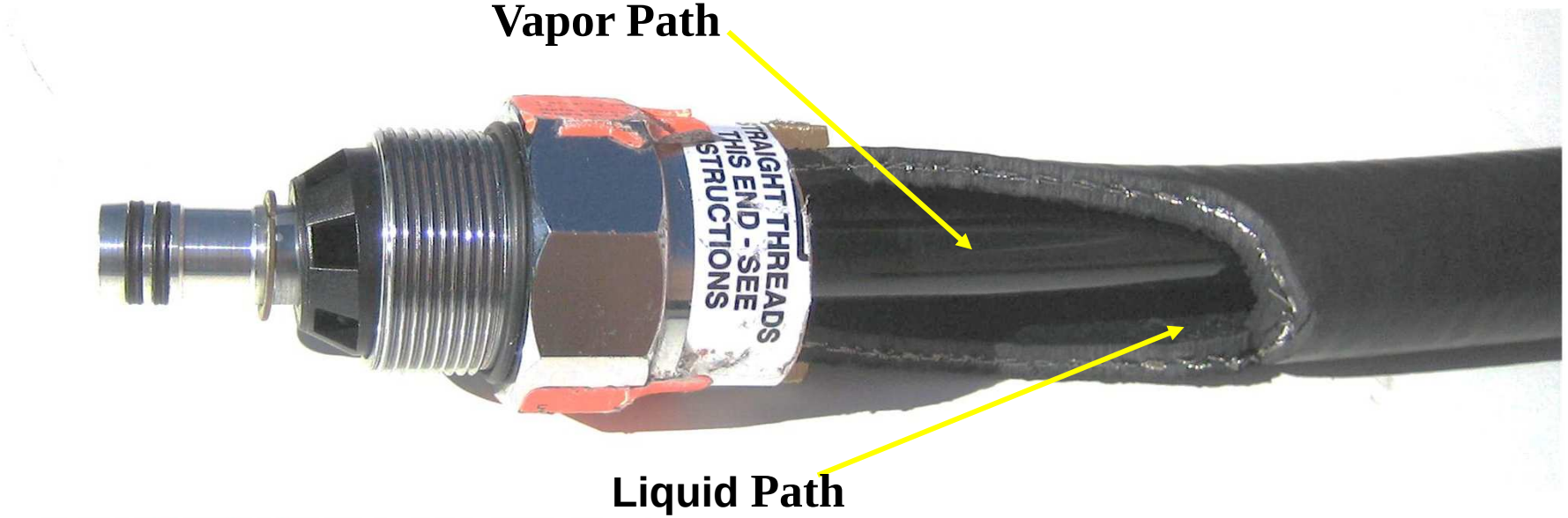
Gasoline Dispensing Facility (GDF) Hose Background

- ARB certifies GDF hoses as part of an EVR system
- EVR systems require the use of vapor recovery hoses
- Currently, no standard exists for controlling permeation emissions from GDF hoses

Low Permeation Hoses

Anatomy of a Vapor Recovery Hose

Vapor recovery hoses have two pathways: one to carry fuel to the vehicle and the other to return vapor to the GDF tank



Low Permeation Hose Proposal

- Maximum permeation rate of 10.0 g/m^2/day
- Determined by UL 330 (Seventh Edition) - Underwriters Laboratories' Standard for Hose and Hose Assemblies for Dispensing Flammable Liquids
- Permeation limit applies only to hoses which carry liquid fuel against the outermost wall

Low Permeation Hoses

GDF Hose Permeation Testing

- In 2004, 2008, and 2009, CARB staff conducted testing to determine permeation rates of vapor recovery hoses
- GDF hoses that meet the new permeation standard have been tested at UL

Low Permeation Hoses

Technology Feasibility

Low permeation fuel hose technology is currently applied in other applications

Low Permeation Hoses

Emission Reductions and Cost-effectiveness

- Estimated Emission Reduction:
  - 66,000 hoses affected
  - 96% reduction from uncontrolled rate
  - ~1 Ton Per Day statewide
- Estimated Costs:
  - Cost increase of $10 per hose
  - Overall cost savings of 0.09 $/lb of emissions reduced

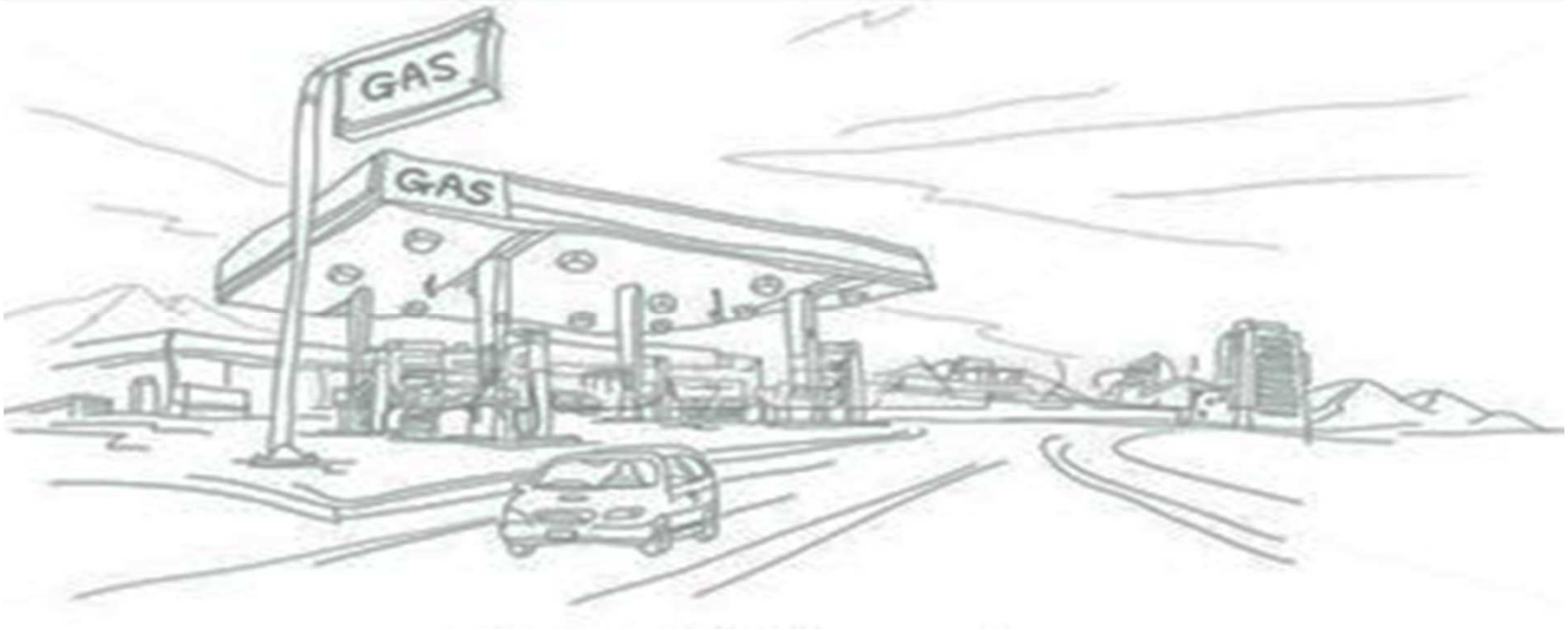
Clean-Up and Administrative Changes

- Amendments to D-200, CP-201, CP-206, and various Test Procedures
- Eliminate inconsistencies and correct known errors within ARB definitions, certification procedures, and test procedures
- Proposed changes will have no significant affect on stakeholders or the regulated community

Looking Forward

Staff will continue to look for opportunities to improve the EVR program

- Reduce unwarranted In-Station Diagnostic alarms
- Refine field compliance procedures used by contractors statewide
- Address increased presence of vehicles with On-board Refueling Vapor Recovery (ORVR)

Staff Recommendation

Adopt a resolution approving the proposed EVR program amendments