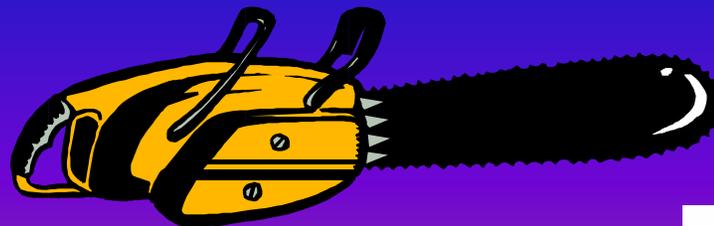
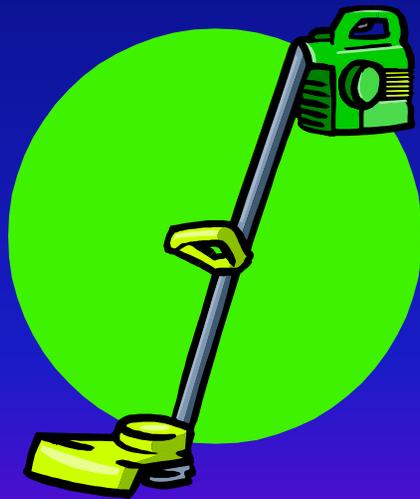


# Evaporative Emission Certification Requirements for Small Off-Road Engines (SORE)

Monitoring and Laboratory Division (MLD)  
Mobile Source Operations Division (MSOD)  
California Air Resources Board

October 13, 2005



California Environmental Protection Agency

 Air Resources Board

## Workshop Focus

- Familiarize equipment manufacturers using non-integrated engines with California certification requirements.

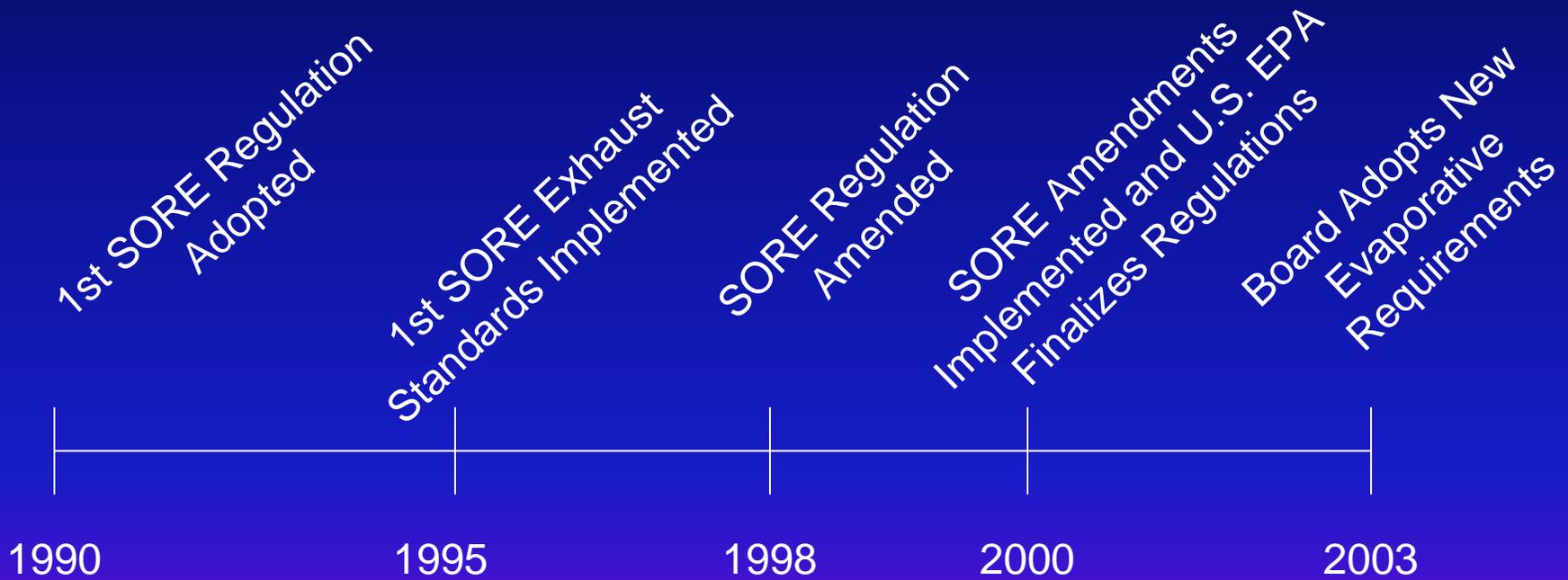
## Disclaimer

Note: All references citing manufacturers of small engines and related equipment in this presentation are for informative and illustrative purposes only. Their use in this presentation does not constitute an endorsement of these manufacturers or their products by the State of California or the California Air Resources Board.

## Outline

- Background and regulatory history
- Part 1: Overview of 2007 model year evaporative emission requirements
- Part 2: Overview of evaporative emission requirements for beyond 2007 model years
- Frequently Asked Questions

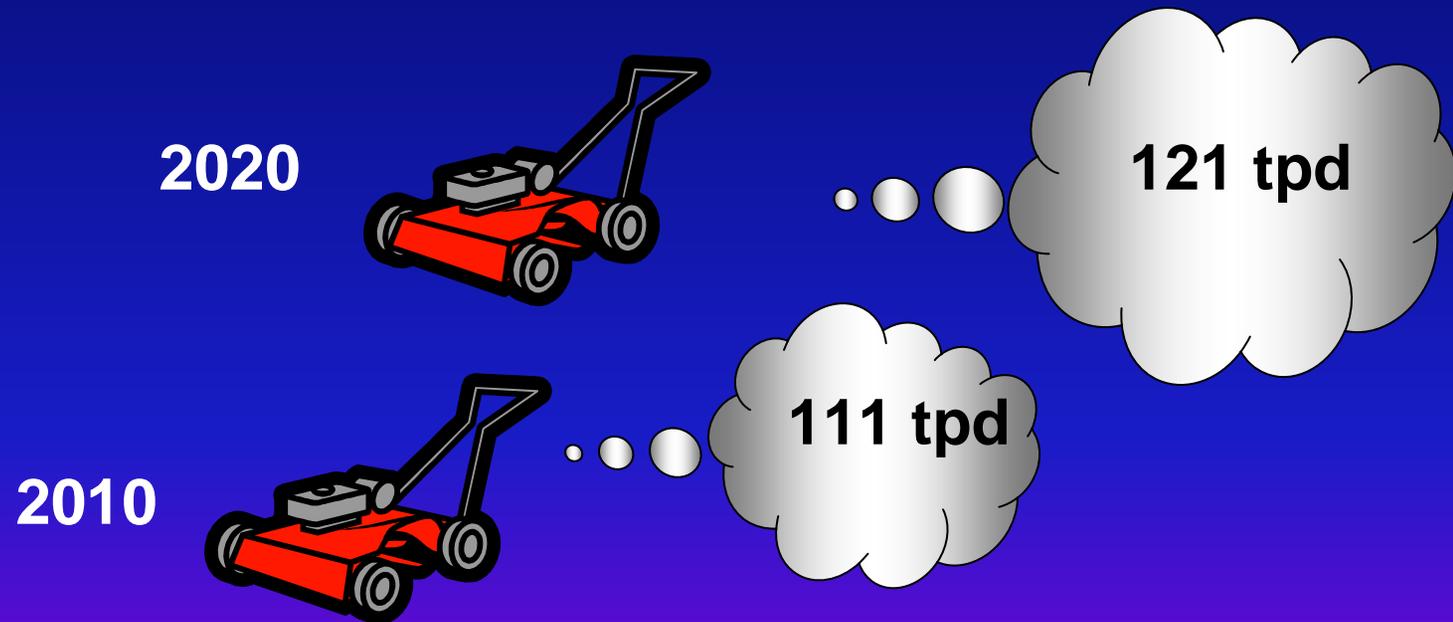
# Background (History)



# Background

(Need for Regulation)

Exhaust and Evaporative Emissions Statewide  
HC+NOx Baseline - Nonpreempt



# Part 1: 2007 Model Year Evaporative Requirements Outline

- Review of evaporative emissions standards in effect for the 2007 model year.
- Evaporative system certification overview
- Component certification
- Performance-based certification
- Design-based certification
- Compliance
- Inventory validation study
- Exemptions

# New SORE Evaporative Requirements (Applicability)

- Engines  $\leq$  19 kW
  - Engines grouped by displacement
    - $\leq$  80 cc, handheld
    - $>$  80 cc to  $<$  225 cc, walk-behind mowers
    - $>$  80 cc to  $<$  225 cc, small non-handheld
    - $\geq$  225 cc, large non-handheld
- Two and four-stroke engines
- Lawn and garden and small industrial equipment
- Preempt: farm and construction equipment  $<$  175 hp

# 2007 Model Year SORE Evaporative Requirements (Handheld)

- Apply to small engines  $\leq 80$  cc
- Typical equipment includes string trimmers, leaf blowers, and chainsaws

<i>Effective Date Model Year</i>	<i>Requirement Tank Permeation</i>
2007	Fuel Tank Permeation Emissions Shall Not Exceed 2.0 Grams Per Square Meter Per Day As Determined By TP-901

# 2007 Model Year SORE Evaporative Requirements (Walk-Behind Mowers)

- Apply to walk-behind mowers with engines > 80 cc to < 225 cc

	<i>Performance Requirements Section 2754(a)</i>
<i>Effective Date Model Year</i>	<i>Diurnal Standard Grams HC/day</i>
2007	1.3

# 2007 Model Year SORE Evaporative Requirements (Small Non-Handheld)

- Apply to equipment other than walk-behind mowers with engines > 80 cc to < 225 cc

	<i>Performance Requirements Section 2754(a)</i>	<i>Design Requirements Section 2754(b)</i>		
<i>Effective Date Model Year</i>	<i>Diurnal Standard Grams HC/day</i>	<i>Fuel Hose Permeation Grams ROG/m<sup>2</sup>/day</i>	<i>Fuel Tank Permeation Grams ROG/m<sup>2</sup>/day</i>	<i>Carbon Canister or Equivalent Butane Working Capacity Grams HC</i>
2007	1.20 + 0.056*tank vol. (liters)	15	2.5	Specified in TP-902

# 2007 Model Year

## SORE Evaporative Requirements

(Walk-behind Mowers and Small Non-Handheld)

### Fuel Cap Performance Standards

- Fuel cap must be permanently tethered to the tank, equipment, or engine.
- Fuel cap must be designed to provide physical and/or audible feedback to the user that a fuel tank vapor seal is established.

<i>Effective Date Model Year</i>	<i>Applicability</i>
2007	<i>Fuel Caps For ALL SORE Equipment With Small Off-Road Engines &gt;80 cc to &lt; 225 cc</i>

# 2007 Model Year SORE Evaporative Requirements (Large Non-Handheld)

- Apply to large equipment like lawn tractors and generators with engines  $\geq 225$  cc
  - Fuel hose permeation rates not to exceed 15 Grams ROG/m<sup>2</sup>/day
  - Fuel Cap requirement is not applicable

# Evaporative System Certification Overview

- What are evaporative emissions?
  - Evaporative emissions are permeation and vented emissions from tanks, fuel lines, and carburetors
  - Evaporative emissions occur in three distinct phases:
    - Running loss - emissions occur during engine operation and include permeation and vented tank emissions
    - Hot soak - emissions occur for a one hour period after engine shutdown
    - Diurnal - emissions occur as a result of daily fluctuations in ambient temperature

# Evaporative System Certification Overview

## (Continued)

- What are evaporative systems?
  - Evaporative systems are fuel system components designed to reduce emissions
  - Specially designed fuel hoses, fuel tanks, fuel caps, and carbon canisters are typically used to control evaporative emissions

# Evaporative System Certification Overview

(Continued)

- What needs to be certified?
  - All small off-road engines or equipment that use small off-road engines sold in California must be certified annually
- Who can certify?
  - engine manufacturers (B&S, Tecumseh, Kawasaki, etc.), or
  - equipment manufacturers (Simplicity, John Deere, Murray, etc.)

# Evaporative System Certification Overview

(Continued)

- Engines or equipment must be certified under one of the following options:
  - Performance-Based Option , 13 CCR 2754 (a)
    - Compliance demonstrated through diurnal test
    - Likely option for engine manufacturers that sell engines with complete evaporative systems
  - Design-Based Option, 13 CCR 2754 (b)
    - Compliance demonstrated by using components that meet specified design requirements
    - Likely option for equipment manufacturers that purchase engine without fuel tanks

# Component Certification

- What is component certification?
  - Component certification is pre-certification of fuel hoses, fuel tanks, and carbon canisters by ARB

# Component Certification

(Continued)

- How is component certification useful?
  - Allows manufacturers to reference a pre-certified component Executive Order (EO) in a certification application when certifying by design
  - Expedites certification process by eliminating the need to review component compliance data
  - A list of EOs can be found on the web at :

<http://arb.ca.gov/msprog/offroad/sore/sorectp/sorectp.htm>

# Component Certification

(Continued)

- Who is expected to apply for a component EO
  - Fuel hose manufacturers like Avon Automotive, Mark IV, and Mold-Ex, Inc.
  - Fuel tank manufacturers like Kelch Corp., Honeywell Plastics, and Mergon Corp.
  - Carbon canister manufacturers like MPC, Eaton, Delphi Automotive, and Sentec E&E

# Component Certification

## (Continued)

Existing EOs for fuel hoses

<i>Manufacturer</i>	<i>Component Executive Order</i>
<i>Avon Automotive</i>	<i>G-05-018</i>
<i>Mark IV Automotive</i>	<i>G-05-016</i>
<i>Mold-Ex Division of SETi Inc.</i>	<i>G-05-017</i>
<i>Mold-Ex Division of SETi Inc., This is an amendment to G-05-017</i>	<i>G-05-017A</i>
<i>Teleflex Fluid Systems</i>	<i>G-05-015a</i>
<i>Walbro Engine Management, LLC</i>	<i>G-05-019</i>
<i>ITT Industries Fluid Handling Systems</i>	<i>C-U-05-001</i>
<i>Mark IV Automotive</i>	<i>C-U-05-002</i>
<i>Kokoku Rubber, Inc.</i>	<i>C-U-05-003</i>
<i>Goodyear Tire &amp; Rubber Company</i>	<i>C-U-05-004</i>
<i>Marugo Rubber Industries, LTD and PML, Inc.</i>	<i>C-U-05-006</i>

# Component Certification

## (Continued)

### Existing EOs for Fuel Tanks

<i>Manufacturer</i>	<i>Component Executive Order</i>
<i>Kelch Corp.</i>	C-U-05-008

### Existing EOs for Carbon Canisters

<i>Manufacturer</i>	<i>Component Executive Order</i>
<i>Miniature Precision Components</i>	G-05-020

### Existing EOs for Innovative Technologies

<i>Manufacturer</i>	<i>Component Executive Order</i>
<i>Arkema Inc.</i>	C-U-05-005

# Performance-Based Certification

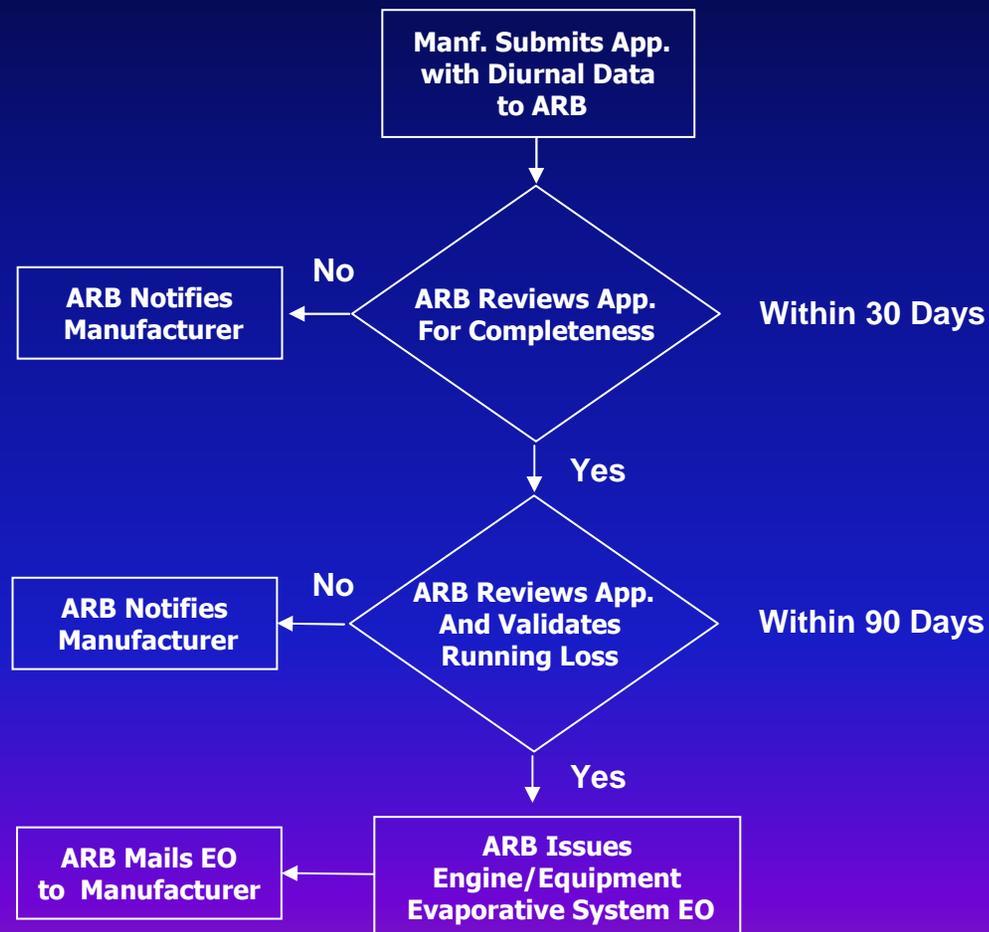
- What is performance-based certification?
  - Compliance with the evaporative requirements are demonstrated by diurnal testing of engines or equipment with complete evaporative emission systems in a SHED

# Performance-Based Certification

(Continued)

- How is performance-based certification useful?
  - Standard method for demonstrating compliance
  - Manufacturers can take advantage of averaging and banking provisions within the regulations to optimize production

# Performance-Based Certification Process Flowchart



# Performance-Based Certification Process

- Manufacturer submits application to:

Mobile Source Operations Division  
Off-Road Certification/Audit Section  
Air Resources Board  
9480 Telstar Avenue, Suite 4  
El Monte, CA 91731-2988  
Attn: Division Chief

# Performance-Based Certification Process

## (Continued)

- Application must include:
  - Cover letter/statement of compliance
  - Fuel tank permeation data ( $\leq 80$  cc engines)
  - Diurnal emissions data ( $>80$  cc engines)
  - Running loss determination ( $> 80$  cc engines)
  - Engineering description of evaporative control system
  - Sample engine or equipment label
  - Emission warranty

# Performance-Based Certification Process

## (Continued)

- MSOD reviews application
- MLD validates running loss control
- MSOD issues executive order of certification

# Performance-Based System Certification

## (Walk-Behind Mower Engine Case Study)

- Example is for a walk-behind mower engine that is certified by the engine manufacturer.
- The engine uses an evaporative system based on the following components:
  - Fluoroelastomer multi-layered hose
  - Fluorinated HDPE tank
  - Actively purged carbon canister

# Performance-Based System Certification

## (Walk-Behind Mower Engine Case Study Continued)

The walk-behind mower engine has the following characteristics:

Engine Model	Engine Disp.	Fuel Tank Volume Liters	Fuel Tank Internal Surf. Area (m <sup>2</sup> )	Fuel Line Length (mm)	Fuel Line Inside Dia. (mm)
MV600	185 cc	1.42	0.08	305	6.4

# Performance-Based System Certification

## (Walk-Behind Mower Engine Case Study Continued)

- Prior to submitting a certification application a manufacturer should:
  - Perform a diurnal test of the engine following TP-902 (result is 0.9 grams HC/day)
  - Submit a letter of intent
- Prior to submitting a certification application a manufacturer may:
  - Submit a pre-certification package for approval of label and emission warranty statement

# Performance-Based System Certification

## (Walk-Behind Mower Engine Case Study Continued)

- Manufacturer fills out certification application
- Manufacturer submits certification application to MSOD

# Performance-Based System Certification

(Walk-Behind Mower Engine Case Study Continued)

- Please refer to the performance-based sample application handout

# Performance-Based System Certification

## (Walk-Behind Mower Engine Case Study Continued)

- After receiving the application, ARB processes the application by:
  - Logging the date of receipt
  - Entering certification data into database

# Performance-Based System Certification

## (Walk-Behind Mower Engine Case Study Continued)

- Reviewing the application and approving running loss control
- Drafting an engine/evaporative system EO
- Reviewing and approving the engine/evaporative system EO
- Mailing the engine EO to the manufacturer

# Performance-Based System Certification

## (Walk-Behind Mower Engine Case Study Continued)

- Please refer to the sample EO

# Design-Based Certification > 80cc

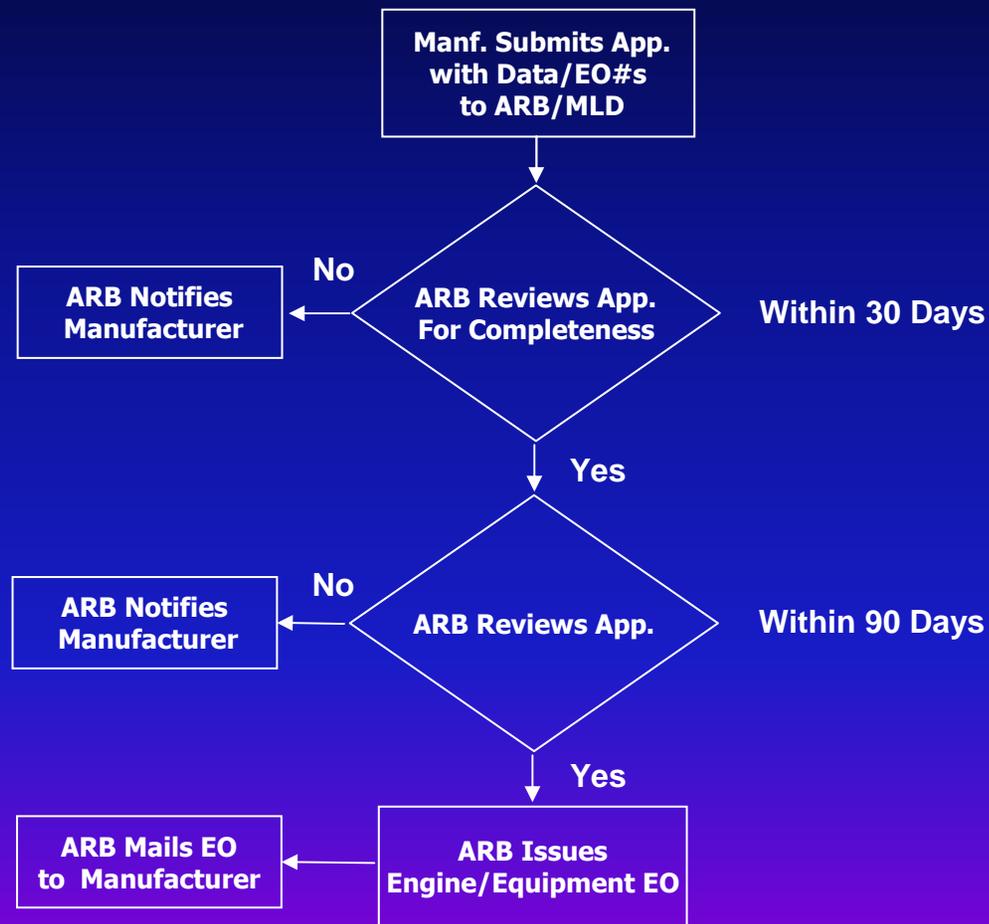
- What is design-based certification?
  - Engine or equipment manufacturers use fuel hoses, fuel tanks, and carbon canisters in evaporative emission control systems that meet specific design requirements

# Design-Based Certification

(Continued)

- How is design-based certification useful?
  - Allows manufacturers to show compliance without testing the complete evaporative system in a sealed housing for evaporative determination enclosure (SHED)

# Design-Based Certification Process Flowchart



# Design-Based Certification Process

## (Continued)

- Manufacturer submits application to:

Mobile Source Operations Division  
Off-Road Certification/Audit Section  
Air Resources Board  
9480 Telstar Avenue, Suite 4  
El Monte, CA 91731-2988  
Attn: Division Chief

# Design-Based Certification Process

## (Continued)

- Application must include:
  - Component EO numbers in lieu of component test data or, tank and hose permeation data, canister working capacity data
  - Running loss determination
  - Engineering description of evaporative control system
  - Sample engine or equipment label
  - Warranty and other applicable requirements

# Design-Based Certification Process

## (Continued)

- MSOD reviews application
- MSOD issues executive order of certification

# Design-Based System Certification (Generator Case Study)

- Example: A manufacturer intends to sell three models of generators in California.
- All models use an evaporative system based on the following pre-certified components:
  - Fluoroelastomer multi-layered hoses
  - HDPE tanks with Selar barriers
  - Actively purged carbon canisters

Component Description	EO Number from Pre-certified List
Avon Automotive Fuel Hose	G-05-018
Arkema Inc. Petroseal Technology Fuel Tank	C-U-05-005
MPC Carbon Canister	G-05-020

# Design-Based System Certification

## (Generator Case Study Continued)

The generators have the following characteristics:

Generator Model	Engine Disp. cc	Fuel Tank Volume Liters	Fuel Tank Internal Surf. Area (m <sup>2</sup> )	Fuel Line Length (mm)	Line Line Inside Dia. (mm)
G8500	260	9.5	0.27	610	7.9
G7500	230	7.5	0.23	492	7.9
G5500	170	6.7	0.21	305	6.4

# Design-Based System Certification

## (Generator Case Study Continued)

- Prior to submitting a certification application a manufacturer should:
  - Reference component EOs or perform component testing
  - Submit a letter of intent
- Prior to submitting a certification application a manufacturer may:
  - Submit a pre-certification package for approval of label and warranty statement

# Design-Based System Certification

## (Generator Case Study Continued)

- Manufacturer fills out certification application
- Manufacturer submits certification application to:

Mobile Source Operations Division  
Off-Road Certification/Audit Section  
Air Resources Board  
9480 Telstar Avenue, Suite 4  
El Monte, California 91731-2988  
Attn: Division Chief

# Design-Based System Certification

## (Generator Case Study Continued)

- Please refer to the sample design-based application handout

# Design-Based System Certification

## (Generator Case Study Continued)

- ARB processes the application by:
  - Logging the date of receipt
  - Entering certification data into database
  - Reviewing the application
  - Drafting an evaporative system EO
  - Reviewing and approving the evaporative system EO
  - Mailing the evaporative system EO to the manufacturer

# Compliance

## (Performance-Based Systems)

- What happens if ARB identifies through new equipment compliance testing a system that does not meet the diurnal emission design requirements?
  - Manufacturer is notified of ARB's finding
  - Manufacturer may challenge ARB's findings
  - ARB may revoke EO and seek appropriate remedies

# Compliance

## (Design-Based Components)

- What happens if ARB identifies through new equipment compliance testing a design-based component that does not meet design specifications?
  - Manufacturer is notified of ARB's finding
  - Manufacturer may challenge ARB's findings
  - ARB may revoke EO and seek appropriate remedies

# Compliance

## (Pre-Certified Components)

- What happens if ARB identifies a pre-certified component as no longer meeting design specifications?
  - Component EO is revoked
  - Manufacturers may continue to sale current model year engines and equipment
  - Manufacturers may not use the component on engines or equipment the next model year

# Validation Study

- Purpose is to validate emission reduction goals
- ARB and industry will measure emissions from certified systems
- Study to be conducted in 2010 and 2015
- Executive officer selects equipment to be tested

# Validation Study (continued)

<b>Year</b>	<b><i>Number of Data Points (# of Equipment Tested) for Units Certified per the Performance-Based Standards Under Section 2754(a)</i></b>	<b><i>Number of Data Points (# of Equipment Tested) for Units Certified per the Design-Based Standards Under Section 2754(b)</i></b>
2008	9 (3)	45 (15)
2009	3 (1)	15 (5)
2010	3 (1)	15 (5)
2013	9 (3)	45 (15)
2014	3 (1)	15 (5)
2015	3 (1)	15 (5)

# Exemptions

- Handheld equipment using structurally integrated nylon tanks
  - Typical equipment eligible are mainly chainsaws and some models of leaf blowers
  - Exemption allowed because of the thermal resistance properties of nylon 6,6
  - Equipment only exempt from tank permeation standard

# Exemptions

(Continued)

- Metal tanks, co-extruded multi-layered tanks, and PetroSeal™ technology rotomolded tanks
  - Engines and equipment using these tanks do not need to supply tank permeation data in a certification application
  - Exemption allowed because these tanks have inherently low permeation emissions

# Exemptions

## (Continued)

- Equipment using small production volume tanks
  - Applies to all models with identical tanks produced by an engine or equipment manufacturer with total California sales of 400 or fewer units per year
  - Applies only to engines with displacements  $\geq 225$  cc

# Exemptions

## (Continued)

- Exemption allowed because of cost to replace rotationally molded tanks
- Equipment must use a low permeation line and carbon canister
- Exempt from tank permeation standard

# Exemptions

## (Continued)

- Generators fueled by motorhome tank
  - Applies to generators fueled by the fuel tank of an on-road vehicle
  - On-road evaporative requirements apply (Please Refer to Soon to be Released MSOD Mailout)

# Exemptions

## (Continued)

- Exemption allowed because on-road vehicles already control evaporative emissions
- Equipment must use a low permeation line
- Exempt from the diurnal performance requirements and the fuel tank permeation and carbon canister design requirements

Break  
(3:30-3:45)

## Part 2: Beyond 2007 Model Year Evaporative Emission Requirements Outline

- Review of evaporative emissions requirements
- Frequently asked questions
- ARB contacts

# Beyond 2007 Model Year SORE Evaporative Requirements (Handheld)

- Apply to small engines  $\leq 80$  cc
- Typical equipment includes string trimmers, leaf blowers, and chainsaws

<i>Model Years</i>	<i>Requirement Tank Permeation</i>
<b>2007 and Later</b>	<b>Fuel Tank Permeation Emissions Shall Not Exceed 2.0 Grams Per Square Meter Per Day As Determined By TP-901</b>

# Beyond 2007 Model Year SORE Evaporative Requirements (Walk-Behind Mowers)

- Apply to walk-behind mowers with engines > 80 cc to < 225 cc

	<i>Performance Requirements Section 2754(a)<sup>1</sup></i>
<i>Model Years</i>	<i>Diurnal Standard Grams HC/day</i>
<b>2008</b>	<b>1.3</b>
<b>2009 and Later</b>	<b>1</b>

# Beyond 2007 Model Year SORE Evaporative Requirements (Small Non-Handheld)

- Apply to equipment other than walk-behind mowers with engines > 80 cc to < 225 cc

	<i>Performance Requirements Section 2754(a)<sup>1</sup></i>	<i>Design Requirements Section 2754(b)</i>		
<i>Model Years</i>	<i>Diurnal Standard Grams HC/day</i>	<i>Fuel Hose Permeation Grams ROG/m<sup>2</sup>/day</i>	<i>Fuel Tank Permeation<sup>2</sup> Grams ROG/m<sup>2</sup>/day</i>	<i>Carbon Canister<sup>3</sup> or Equivalent Butane Working Capacity Grams HC</i>
2008 Through 2011	1.20 + 0.056*tank vol. (liters)	15	2.5	Specified in TP-902
2012 and Later	0.95 + 0.056*tank vol. (liters)	15	1.5	Specified in TP-902

# Beyond 2007 Model Year SORE Evaporative Requirements (Large Non-Handheld)

- Apply to large equipment like lawn tractors and generators with engines  $\geq 225$  cc

	<i>Performance Requirements Section 2754(a)<sup>1</sup></i>	<i>Design Requirements Section 2754(b)</i>		
<i>Model Years</i>	<i>Diurnal Standard Grams HC/day</i>	<i>Fuel Hose Permeation Grams ROG/m2/day</i>	<i>Fuel Tank Permeation<sup>2</sup> Grams ROG/m2/day</i>	<i>Carbon Canister<sup>3</sup> or Equivalent Butane Working Capacity Grams HC</i>
2008	1.20 + 0.056*tank vol. (liters)	15	2.5	Specified in TP-902
2010 <sup>4</sup> And Later	None	15	None	Specified in TP-902
2013 and Later	1.20 + 0.056*tank vol. (liters)	15	1.5	Specified in TP-902

<sup>4</sup> Applies to small production volume tanks exempted pursuant to section 2766.

# Beyond 2007 Model Year SORE Evaporative Requirements (Walk-Behind Mowers and Small Non-Handheld)

## Fuel Cap Performance Standards

- Fuel cap must be permanently tethered to the tank, equipment, or engine.
- Fuel cap must be designed to provide physical and/or audible feedback to the user that a fuel tank vapor seal is established.

<i>Model Years</i>	<i>Applicability</i>
<b>2007 and Later</b>	<b><i>Fuel Caps For ALL SORE Equipment With Small Off-Road Engines &gt;80 cc to &lt; 225 cc</i></b>
<b>2008 and Later</b>	<b><i>Fuel Caps For ALL SORE Equipment With Small Off-Road Engines &gt; 225 cc</i></b>

## FAQs by Equipment Manufacturers

Q: Is the certification holder liable if an end user modifies the evaporative emission system?

A: No. However, the end user is prohibited from tampering with certified control systems pursuant to California Health and Safety Code Section 43008.6.

# FAQs by Equipment Manufacturers

## (Continued)

Q: Are vapor lines (line connecting the tank vent to a carbon canister) required to meet the 15 g/m<sup>2</sup>/day permeation standard?

A: No.

# FAQs by Equipment Manufacturers

(Continued)

Q: Do vapors from the carburetor need to be controlled?

A: There are no requirements to control emissions from the carburetor.

# FAQs by Equipment Manufacturers

(Continued)

Q: Does a manufacturer need to describe how running loss emissions are controlled in a certification application?

A: Yes. A manufacturer must provide an engineering description of the evaporative emission system as part of the certification application. The description should describe how vented tank emissions are prevented from being emitted into the atmosphere during engine operation.

# FAQs by Equipment Manufacturers

(Continued)

Q: What criteria will ARB utilize for determination of fuel cap acceptance?

A: In the certification application, the manufacturer must describe how their fuel cap meets the performance standards in Section 2756. The description should include an evaluation of how a vapor seal is established. Fuel caps used on systems that pass a diurnal performance test are considered compliant.

# FAQs by Equipment Manufacturers

(Continued)

Q: How do the effective dates of the evaporative and exhaust emission regulations interact for cases where the engine manufacturer is the exhaust EO holder and the equipment manufacturer is the evaporative EO holder? For example if an OEM certifies and produces a product in their 2008 model year, can that product be built with an engine certified and built by the engine manufacturer in the 2007 model year?

# FAQs by Equipment Manufacturers

(Continued)

A: For equipment manufactured prior to or during a specific model year, the engine or equipment must comply with the respective exhaust and evaporative standards in effect for that model year in which it was produced. In the example just described, as long as the 2007 MY engine was compliant with the 2007 MY exhaust standards, and the 2008 MY equipment is compliant with 2008 MY evaporative requirements, a 2008 MY evaporative certification could be issued for the equipment.

# FAQs by Equipment Manufacturers

(Continued)

Q: Do carbon Canisters need to be used on systems with pressurized non-vented fuel tanks?

A: No. The regulations do not specify the technology that must be used.

# FAQs by Equipment Manufacturers

(Continued)

Q: Does a running change need to be submitted if the OEM puts an “Equivalent Fuel Tank” or “Equivalent Fuel Line” on the engine?

A: Yes. Any changes to a certified evaporative emission system will require the certification holder to submit a running change request.

# FAQs by Equipment Manufacturers

(Continued)

Q: Can “running losses” be redirected back into the intake manifold as opposed to into a carbon canister?

A: Yes. Running loss emissions that are combusted are considered controlled.

# FAQs by Equipment Manufacturers

(Continued)

Q: Does the small production volume tank exemption apply to engines less than 225 cc in displacement?

A: No. The staff report and the final statement of reasons clearly describes ARB's intent to only allow the exemption for engines greater than or equal to 225 cc.

# FAQs by Equipment Manufacturers

(Continued)

Q: Do diesel engines need to be counted in the total of models sold in California when qualifying for a small production volume tank exemption?

A: No. Compression-ignited engines are not regulated in the small off-road engine regulations.

# FAQs by Equipment Manufacturers

(Continued)

Q: What do manufacturers of equipment meeting the small production volume exemption in Section 2766 need to do to be compliant with the regulations prior to the MY 2010?

A: Manufacturers meeting the small production volume exemption in Section 2766 must certify equipment annually pursuant to Section 2753 (d). However, equipment is not required to be configured with low permeation fuel hoses and carbon canisters until MY 2010.

# FAQs by Equipment Manufacturers

(Continued)

Q: Can a manufacturer omit the evaporative code from the label on engines and equipment for model years when only a low permeation hose is required?

A: Yes. For the model years when only a low permeation hose is required, the manufacturer can omit the evaporative code from the label. However, the label must still contain an unconditional statement of compliance.

# FAQs by Equipment Manufacturers

(Continued)

Q: In Table 1 of Section 2754 for the displacement category  $> 225$  cc, there is an effective date of 2010 with a reference to footnote 4. The reference is not in the regulations. Please clarify.

# FAQs by Equipment Manufacturers

(Continued)

A: Footnote 4 was inadvertently removed from the proposed 15-day modifications, published May 14, 2004, when the regulations were finally approved by the Office of Administrative Law. The footnote reads as follows: “4 Applies to small production volume tanks exempted pursuant to section 2766.”

# FAQs by Equipment Manufacturers

(Continued)

Q: Can a manufacturer use more than two characters for the evaporative family codes as required by CP-902?

A: Yes. However, the first two characters of the evaporative family code must be as specified by CP-902.

# FAQs by Equipment Manufacturers

(Continued)

Q: What is the maximum time for the issuance of an Executive Order of Certification?

A: 120 days.

# FAQs by Equipment Manufacturers

## (Continued)

Q: How does a manufacturer submit data?

A: Data should be submitted using Filemaker Pro template forms created by OPEI. Since the ARB does not use Filemaker Pro, hardcopies must be submitted to ARB for processing.

# FAQs by Equipment Manufacturers

(Continued)

Q: In the year(s) you are required to meet fuel hose permeation standard only, what will the Evaporative Family Code be?

A: In years that you are required to meet fuel hose permeation standards only, the evaporative family code can be omitted from the label. However, the label must still contain an unconditional statement of compliance for evaporative emissions.

# FAQs by Equipment Manufacturers

(Continued)

Q: Are chainsaws 45 cc and greater less than 25 hp (19 kW), presumed to be construction or farm equipment and therefore preempted, still preempted?

A: Yes. See the Construction and Farm Equipment Preemption handout.

# FAQs by Equipment Manufacturers

(Continued)

Q: How can you measure the internal surface area for irregular tanks?

A: Good engineering practices are used to calculate surface areas for irregular shaped tanks.

# FAQs by Equipment Manufacturers

(Continued)

Q: Do you have to repeat preconditioning when conducting a retest or confirmatory test if the original test results indicate marginal compliance?

A: The retest must be performed on the same engine and/or equipment that generated the original test results. No additional preconditioning is required if the fuel system has continuously contained fuel subsequent to the original test.

# FAQs by Equipment Manufacturers

(Continued)

Q: The manufacturer does not want to specify Date of Manufacture (DOM) on the emissions label and instead use a serial number, which he says, can be used to identify the DOM if necessary. Would this be acceptable?

A: 13 CCR Section 2759 (h) applies here. Although ARB can approve alternate labels, the manufacturer must have the DOM listed on the emission label.

# FAQs by Equipment Manufacturers

(Continued)

Q: Alternatively, can the manufacturer specify the DOM on a separate decal placed adjacent to the evaporative label?

A: As previously mentioned, 13 CCR Section 2759 (h) applies here. Although ARB can approve alternate labels, the manufacturer must have the DOM listed on the emission label.

# FAQs by Equipment Manufacturers

(Continued)

Q: For MY 2006, would "Fuel Hose" be acceptable under the emission control system portion of the evaporative label or could it be left blank?

A: 13 CCR 2759 (c)(4)(C) applies here. Fuel hose should be acceptable for 2006 MY equipment.

# FAQs by Equipment Manufacturers

(Continued)

Q: Can a manufacturer opt to report only the base engine/equipment model(s) in the Model Summary page (A-9) of the certification application?

A: Yes. A manufacturer may report just the base engine/equipment model(s), provided all variations of the base model are equipped with identical evaporative controls.

# FAQs by Equipment Manufacturers

(Continued)

Q: When opting to report only the base engine/equipment model(s) in the Model Summary page (A-9) of the certification application, how should naming convention be handle?

# FAQs by Equipment Manufacturers

## (Continued)

A: The naming convention for base engine/equipment model(s) reported must contain sufficient common identifiers to associate specific model variation to its appropriate base model. For design based certification, manufacturers must report the component(s) (via reporting the component Executive Order number) associated with each engine model in the Model Summary page of the certification application.

## ARB Contacts and Resources

- MSOD Contact for Equipment Certifications  
Kumar Muthukumar, Manager  
Off-Road Certification/Audit Section  
(626) 575-7040 [cmuthuku@arb.ca.gov](mailto:cmuthuku@arb.ca.gov)
- MLD Contact for Component Certifications  
Jim Watson, Manager  
Engineering Development and Testing Section  
(916) 327-1282 [jwatson@arb.ca.gov](mailto:jwatson@arb.ca.gov)

# ARB Contacts and Resources

## (Continued)

- SORE regulations and test procedures can be viewed on ARB's web page at:

<http://www.arb.ca.gov/regact/sore03/sore03.htm>

- Guidelines for Evaporative Certification of 2006 and Later Small Off-Road Engines can be downloaded from ARB's web page at:

Questions?