

Off-Road Compression-Ignition Engines  
Small Spark-Ignition Engines  
Large Spark-Ignition Engines

Q/A and Update

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2007 EMA Certification Workshop

April 24, 2007

California Environmental Protection Agency

 **Air Resources Board**

# OFCI – Flexibility Program

## Engine Mfr's Reporting Requirements

- Letter requesting E.O. for flex engines
- Statement that assures flex engines are materially identical to previously certified engine family
- Flex engine certified to FEL greater than the STANDARD must be offset with ABT credits
- Estimated national production of flex engines
- Mid-Year and End-of-Year updates of flex engines produced

# OFCI – Flexibility Program

## Engine Mfr's Labeling Requirements

Provide draft label & one time actual production label

Trade  
Mark

### IMPORTANT EMISSIONS INFORMATION

Full Corporate Name

THIS ENGINE COMPLIES WITH CALIFORNIA EMISSION REQUIREMENTS UNDER TITLE 13, CCR 2423(d). SELLING OR INSTALLING THIS ENGINE FOR ANY PURPOSE OTHER THAN FOR THE EQUIPMENT FLEXIBILITY PROVISIONS CITED MAY BE A VIOLATION OF STATE LAW SUBJECT TO CIVIL PENALTY. [ Insert Family Name]

Specifications: any adjustments

Emission Control Systems:

Engine Displacement: cm<sup>3</sup>, liters

DOM: month and year

Operating Fuel:

# OFCI – Flexibility Program

## Equipment Mfr's Requirements - Tier 2/3

- For each power category produced:
  - Verify compliance with the requirements
  - Based on actual national production
  - Final Report—Available December 31 of the year following the last year of allowances
- Keep records for 2 years after final year of allowance usage

# OFCI – Flexibility Program

## Equipment Mfr's Reporting Requirements - Tier 4

- Prior to January 1, notify ARB of intent to participate
- Annually report for each category:  
(By March 31, of following year)
  - ✦ Flex engines sold as a percent of total U.S. directed production
  - ✦ Cumulative yearly totals
  - ✦ Keep records for 5 years after final year of allowance usage
- Meet labeling requirements in accordance to CCR Title 13, 2423, 2424

# OFCI – Flexibility Program

## Equipment Mfr's Labeling Requirements

Provide draft label & one time actual production label

Trade  
Mark

### EMISSIONS CONTROL INFORMATION

Full Corporate Name

THIS EQUIPMENT [or identify the type of equipment]  
HAS AN ENGINE THAT MEETS CALIFORNIA  
STANDARDS UNDER 13, CCR 2423(d)

Contact Name:  
Email Address:

DOM: month and year  
Telephone Number:

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# Auxiliary Emissions Control Devices

## Provide justification for AECD:

- During engine start-up
- For engine protection
- AECD occurs during certification test cycle

# Auxiliary Emission Control Devices

- Use EPA's template for AECD submission

AECD document must include:

- General function
- Sensor locations
- Operational hierarchy
- Parameters sensed and threshold values
- Occurrence in test procedure

ARB & EPA will collaborate during review process



# OFCI – Rebuilding Practices

- Rebuilt Original Engines
- Rebuilt Replacement Engines
- Rebuilt New Engines

# Replacement Engines (OFCI, SSIE)

- A newly produced engine
- Does not meet the current standards
- To be used to repower existing equipment

# Replacement Engines (OFCI, SSIE)

## Manufacturer Responsibilities

- Meet replacement engine criteria
- Meet labeling requirements
- May **NOT** use this provision to circumvent current regulations

# Replacement Engines (OFCI, SSIE)

## Manufacturer's Reporting Requirements

- Annually report actual number of replacement engines produced for California at the end of each model year
- Report even if zero produced
- Engine models
- Description of the physical and performance characteristics

# Replacement Engines (OFCI, SSIE)

## Sample Label Format

Trade  
Mark

### IMPORTANT EMISSIONS INFORMATION

Full Corporate Name

THIS ENGINE DOES NOT COMPLY WITH CALIFORNIA AND FEDERAL OFF-ROAD OR ON-HIGHWAY EMISSION REQUIREMENTS. SALE OR INSTALLATION OF THIS ENGINE FOR ANY PURPOSE OTHER THAN AS A REPLACEMENT ENGINE FOR AN ENGINE MANUFACTURED PRIOR TO JANUARY 1 [Insert appropriate year] IS A VIOLATION OF CALIFORNIA AND FEDERAL LAW SUBJECT TO CIVIL PENALTY

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# Small Spark - Ignition Engines

## Engine – Equipment Matching

Model Year		Will ARB Certify ?
Engine	Equipment	
2007	2007	Yes
2006	2007	Yes
Previous	2007	Yes (ARB will monitor)

# Small Spark - Ignition Engines

## Evaporative Emissions Requirements

Engine $\geq$ 225 cc	Equipment	Acceptable Strategy
2008	2008	Actively Purged Carbon Canister
(Non- integrated)* 2007 or 2006	2008	Carbon Canister with purge port capped

\*Engine manufacturer does not supply the fuel tank with the engine

# Large Spark-Ignition Engines

2007 Model Year and Later

## Certification Requirements:

- Steady State Emissions
- Transient Emissions
- Field Testing
- Evaporative Emissions
- Engine Diagnostic System



# Large Spark Ignition Engines

## Field Testing

### *To Demonstrate Compliance:*

- Use Transient / Discrete-Mode / Ramped-Modal Testing Data

**OR**

- Portable Emission Measurement System (PEMS)
  - Follow 40 CFR Part 1065, Subpart J

# Any Questions ??



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