Public Workshop

Issues Related to the Zero Emission Vehicle Regulations

Air Resources Board
October 25, 2000
Overview

- Biennial Review process to date
- Next steps
- Today’s agenda
Biennial Review Process to Date

- Staff investigation
- March and May workshops
- Staff Report
- September 7 Board meeting
Board Resolution

- ZEV program is essential component of state long term air quality strategy
- Basic ZEV requirements should be retained and implemented
- Staff to develop and propose steps to address challenges and result in sustainable market
Next Steps: Regulatory

- Today’s Workshop
- Initial Statement of Reasons
  - To be released by December 8, 2000
- Board meeting
  - January 25, 2001
Next Steps: Non-Regulatory

- Incentives--AB 2061
  - Guidelines to Board November 16
- Marketing, Infrastructure, Education
  - Report on status and plans at January 25 Board meeting
Today’s Workshop: Purpose

- Solicit public comment on issues
- Confront tradeoffs
  - Critical mass vs. cost, risk
  - Certainty vs. flexibility
- Assist in development of possible regulatory changes
- Must consider combined effect of various measures
Today’s Agenda

- Board’s direction to staff
- PZEV proposal
- Other issues
  - ZEV production level
  - Credit structure: vehicles
  - Credit structure: other areas
  - Overall ZEV requirement
Board’s Direction to Staff

- Enhance environmental protection
- Maintain true ZEV component, increasing over time
- Encourage advanced technologies
- Provide market opportunity for today’s ZEVs
- Address cost to manufacturers
- Communicate clear message
Today’s Agenda

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Large automakers may meet 60 percent of their ZEV obligation with PZEVs.

Intermediate automakers may meet 100 percent of their ZEV obligation with PZEVs.
PZEV Requirements

- Certify vehicle to meet
  - 150,000 mile SULEV emission standards
  - Zero evaporative emission standard
  - OBD II requirements for SULEVs
- Extend performance and defects warranty to 15 years/150,000 miles
PZEV Credits

- Baseline: 0.2
- Zero emission VMT (or advanced componentry): 0.0 to 0.6
- Low fuel cycle emissions: 0.0 to 0.2
Objective
- Allow manufacturers to take full advantage of PZEV option

Proposal
- 40/80/100 phase-in
- Provide intermediate in-use compliance standards
- Changes apply to both large and intermediate volume manufacturers
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**ZEV Production Levels**

- **Base case volume estimates (x 1,000)**
  
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- Will vary with early introduction, vehicle mix, PZEV availability

- **Other factors to consider**
  - High cost
  - Uncertain demand
Issues

- What is appropriate number of vehicles?
- What factors should be considered?
- Additional credit for early introduction?
- Increase requirement over time?
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Credit Structure--Vehicles

- Issues
  - Vehicle range
  - Vehicle type
  - Advanced propulsion technologies
  - Vehicle efficiency
  - Battery life/battery warranty
Vehicle Range

• Current status
  – Multiple credits only for vehicles with range greater than 100 miles

• Issues
  – Should any range credit be retained?
  – If so, what minimum range?
  – How big a multiplier?
Vehicle Type

- **Current status**
  - NEVs, City EVs, full function EVs all earn same credit, except for range

- **Issues**
  - Differentiate among different types of vehicles? How?
  - Reduce or eliminate NEV credit?
  - Use other measures to limit compliance using NEVs or City EVs?
Advanced Propulsion Technologies

- **Current status**
  - Little incentive for high scoring PZEVs

- **Issues**
  - Modify credit structure to encourage advanced propulsion technologies?
  - Which technologies?
  - How to encourage?
  - Timeframe?
Vehicle Efficiency

- **Current status**
  - No direct credit for vehicle efficiency

- **Issues**
  - Additional credit for high efficiency?
  - How?
Battery Life/Battery Warranty

- **Current status**
  - Battery life not addressed

- **Issues**
  - Who should pay cost of battery replacement?
  - Additional credit for manufacturer battery warranty?
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Credit Structure--Other Areas

- **Current status**
  - No other credits provided

- **Issues**
  - Vehicle placement
  - Infrastructure development
  - Transportation programs
Credit Structure--Other Areas

- Vehicle placement
  - Additional credit for vehicles placed in service?
- Infrastructure development
  - Additional credit for infrastructure?
- Transportation programs
  - Additional credit for vehicles placed in transportation programs?
Today’s Agenda

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Overall ZEV Requirement

- Percentage requirements
- Vehicle weight classifications
- Manufacturer volume classifications
- Federal motor vehicle safety standards
Percentage Requirement

- Current status
  - Full ZEV allowance vehicles can satisfy ZEV requirement

- Issues
  - Set aside a portion of ZEV requirement for pure ZEVs?
Vehicle Weight Classification

- **Current status**
  - Regulation applies to passenger cars and light duty trucks with gross vehicle weight below 3,750 pounds

- **Issues**
  - Should credits earned by heavier vehicles apply against ZEV requirement?
Manufacturer Volume Classification

- **Current status**
  - Small volume $< 4,500$
  - Intermediate volume $< 35,000$

- **Issues**
  - Increase volume limits?
Federal Motor Vehicle Safety Standards

- Current status
  - Not addressed

- Issues
  - Should full FMVSS compliance be necessary for ZEV credit?
Biennial Review

- **Current status**
  - Start this all over again in late 2001
  - Uncertainty interferes with market

- **Issues**
  - How evaluate technology without negative consequences?