Outline of Today’s Presentation

- Background
- Regulatory Proposal
- Next steps
BACKGROUND
Existing Regulations

- Stringent Engine Emission Standards for Urban Buses
  - October 1, 2002 - diesels, PM 0.01 g/bhp-hr
  - 2004-2006: diesels, NOx 0.5 g/bhp-hr
  - 2007 & beyond - NOx 0.2 g/bhp-hr
Existing Regulations

- Requirements for Transit Agencies
  - Low S Diesel Fuel
  - NOx Fleet Average Reductions
  - PM Fleet Total Reductions
- Zero Emission Bus Demonstration & Purchase Requirements
REGULATORY PROPOSAL
Proposed Amendments

- Exhaust Emission Standards
- Fleet Rule for Transit Agencies
  - Urban Buses
  - Non-Urban Buses: Not Discussed Today
- Zero-Emission Bus Demonstration Project
Proposed Changes to 1956.1: Urban Bus Engine Emissions

- Diesel-fueled Hybrid-Electric Buses (HEB)
  - 2004 to 2006 Diesel HEBs May Certify to 1.8 g/bhp-hr NOx and 0.01 g/bhp-hr PM
  - May Only Sell to Transit Agencies on the Diesel Path with Permission from Executive Officer
Proposed Changes to 1956.1: Urban Bus Engine Emissions

- Align with California 2007 HDE Standards
- Possibility of a 1.2 g/bhp-hr NOx Emission Cap for CA Urban Buses
  - What is the Best Approach?
- Formaldehyde Emission Standard
  - Is It Needed?
  - Is It a Barrier to Technology?
Proposed Changes to 1956.1: Urban Bus Engine Emissions

- Need for Changes 2004-2006
  - Diesel HEBs Will Allow for Replacement of Old Dirty Diesel Buses in the Bay Area

- Need for Changes 2007 & Beyond
  - No Diesel and Maybe No Alternative Fuel Buses 2007-2009 will Keep the Oldest, Dirtiest Diesel Buses on the Road
Proposed Changes to Fleet Rule for Transit Agencies

- Add Hybrid-Electric Bus Definition
- Add HEB NOx Offset Requirements for Diesel Path Transit Agencies Only
- Add Increased Flexibility in Meeting PM Reductions
**Add Hybrid-Electric Bus Definition**

- “Hybrid-electric bus” - an urban bus equipped with at least two sources of energy on board; this energy is converted to motive power using an electric drive motor and an auxiliary power unit, which converts consumable fuel energy into mechanical or electrical energy. The electric drive motor must be used partially or fully to drive the vehicle’s wheels.
HEB Purchase and Reporting Requirements

- Allows Transit Agencies to Purchase Diesel HEBs Meeting 1956.1(a)(11)(b) Emission Standard
- Requires
  - Emission Offset Plan Submittal Before January 1, 2005
  - Executive Officer Approval
  - Documentation of Reduction of Emission Gains Prior to Receipt of Last Diesel HEB
Urban Bus PM Reduction

Flexibility

- Allow Transit Agencies to Meet an Average of 0.01 g/bhp-hr PM
- Allows for Fleet Expansion
ZERO EMISSION BUS PROGRAM
Zero-Emission Bus Rule

Summary of Current Regulation

- 7/1/03 - Start ZEB Demonstration Project
- 1/31/05 - Final project report to ARB
- 1/31/06 - ZEB status report to the Board

Requires 15% of purchases to be ZEB
- 2008-15, Diesel path
- 2010-15, Alternative fuel path
ZEB Rule - Status

- ZEB demonstration 18 to 32 months behind schedule
- Bus cost 3 to 4 times greater than anticipated during February 2000 rulemaking
ZEB Rule - Proposed Changes

- 2/28/06 - Complete demonstration fleet placement
- 7/31/05 - Interim project status report to ARB
- 1/31/06 - ZEB status report to the Board
- 7/31/07 - Final project report to ARB
- ZEB purchase requirement will not be addressed at this time
NEXT STEPS
Public Process

- First Public Workshops 12/2 & 3/03
- Second Public Workshops
  - 03/29/04 - Sacramento
  - 03/30/04 - El Monte
- Comments Requested by 04/02/04
- Board Hearing 06/24/04
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Questions and Comments