San Joaquin Valley Ozone Workshop

ARB’s Mobile Strategy
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Existing Mobile Strategy Provides Significant Reductions

- By 2031, NOx emissions will be reduced by over
  - 70% for Light-duty vehicles
  - 60% for Heavy-duty trucks
  - 40% for Off-road mobile

- Existing mobile source control program provides for 140 tpd of NOx emission reductions by 2031

Programs to Reduce Light Duty On-Road NOx Emissions
Key Light-Duty Controls

- New vehicle engine standards
  - ACC LEV III vehicles 75% cleaner in 2025 than LEV II vehicles today
- On-Board Diagnostics
- Reformulated gasoline
- Enhanced Smog Check Inspection
  - Lower cut points
  - Ensures prompt repair of emission control failures

Programs to Reduce Heavy-Duty On-Road NOx Emissions

Key Heavy-Duty Controls

- New Heavy-Duty engine standards
  - 2010 engine about 85% cleaner than 2007 engine
- ARB Cleaner Diesel Fuel
- Truck and Bus Regulation
  - Accelerated fleet turnover requirements
  - Every truck has a 2010 engine by 2023
**Programs to Reduce Off-Road Mobile NOx Emissions**

- Off-road engine standards
  - Tier 4 engine about 95% cleaner than Tier 1 engine
- Locomotive Standards
  - Tier 4 locomotives 90% cleaner than uncontrolled
- ARB Cleaner Diesel Fuel
- In-Use Off-Road Diesel Rule
  - Accelerated engine turnover requirements
  - All fleets can only add Tier 3 engines by 2023

**Key Off-Road Mobile Controls**

**California’s Air Quality and Climate Goals**

- Federal Air Quality Standards
- Renewable Energy Targets
- Greenhouse Gas Reduction Targets
- Petroleum Reduction Target
- Minimize Near-Source Health Risk
- 2023/2030/2031

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- 2023/2030/2031
Building Blocks of Planning Process

- Current programs provide blueprint for successful strategies
- Technology assessments identify status of advanced technologies and fuels
- Scenario analysis provides framework for coordinated air quality and climate assessment

ARB’s Mobile Strategy

- Multi-pollutant prospective
- State SIP Measures for 2016 SIPs
- Discussion Draft released in September 2015
- Workshop in October 2015
- ARB Board discussion in October 2015

SIP Measures

- Current mobile source control program of 140 tpd NOx reductions provides for attainment
- New SIP measures accelerate progress
- Provides 15-20 tpd of NOx reductions reflecting State and federal action
Proposed Measure Concepts: Passenger Vehicles

- Expand Advanced Clean Cars requirements
- Assessments to ensure durability of passenger vehicle technologies

Proposed Measure Concepts: Heavy Duty Trucks

- Establish low-NOx engine standard and ensure durability
- Need for US EPA action in parallel with California; implementation no later than 2024
- Last Mile Delivery
- Advanced Clean Transit
- ZEV Airport Shuttle Buses

Proposed Measure Concepts: Off-Road Mobile

- Establish requirements for ZEV technologies in:
  - Forklifts
  - Airport ground support equipment
- Develop new engine standards and increase penetration of electric lawn and garden equipment
- Develop more stringent requirements for locomotives
- Develop new low-emission diesel fuel
Next Steps

- Release Mobile Strategy in April with environmental and economic analyses
- Meeting PM2.5 standards is key challenge; will require large reductions