

**EMD SD70 ACE – Tier 2 Locomotive**

**Faster Freight Cleaner Air**

**California's Locomotive and Railyard  
Emission Reduction Strategies**

**February 26, 2007**

California Environmental Protection Agency

 **Air Resources Board**

## **Statewide Locomotive and Railyard Strategies**

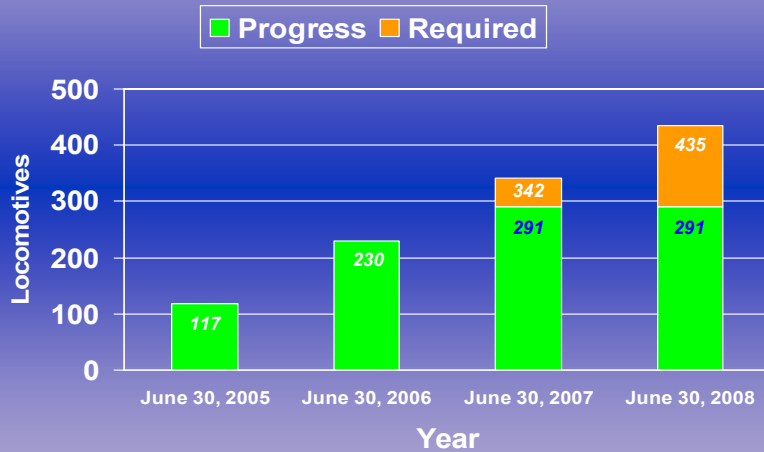
- Locomotive NOx Fleet Average Agreement (1998)
- ARB Diesel Regulation - Intrastate Locomotives (2004)
- Statewide Railyard Agreement (2005)
- ARB Cargo Handling Equipment Regulation (2005)
- Element of California's Goods Movement Plan (2006)
- State Implementation Plans (2007)
- National rulemaking for Tier 3/4 locomotives (2007/8)
- Greater than 90% reduction in diesel PM and NOx (by 2020)

GE AC4400 EVO – Tier 2 Locomotive



## STATEWIDE RAIL AGREEMENT

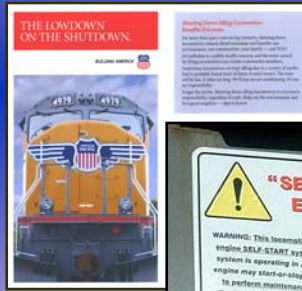
### Idle Reduction Devices Installed on Intrastate Locomotives (UP and BNSF – Progress as of January 2007)



## California is Ahead of the Nation on Intrastate Locomotive Idle Reduction Device Retrofits

California: 66%

National: 31%



5

## CARB and USEPA Low Sulfur Diesel Fuels

- CARB diesel for intrastate locomotives by 1/1/2007: Complying
- Minimum of 80 percent CARB or USEPA low sulfur (15 ppm) diesel fuel dispensed into interstate locomotives by 1/1/2007: Complying



6

## **Visible Emission Inspections by Railroads**

- **Over 13,800 visible emission inspections from July-December 2006.**
- **About 22,200 visible emission inspections for 2006.**
- **2006 compliance rate = 99%**

7

## **Health Risk Assessments (HRAs) Guidelines**

- **Released draft guidelines in July 2006**
- **Two public workshops in August 2006**
  - Northern California
  - Southern California
- **Issued guidelines in September 2006**

8

## Health Risk Assessments (HRAs) Status

- **Current schedule:**
  - March 2007 – 9 yards
  - December 31, 2007 – 7 yards
- **Use of latest ARB emission models**

9

## What's Next

- **U.S. EPA rulemaking**
  - California needs 90% reduction:
    - Particulate Matter
    - Oxides of Nitrogen
- **Replace/upgrade switch locomotives in California by 2010**
- **Accelerate introduction of next generation of interstate line haul locomotives into the state**

10

## ARB Railroad Contact Information

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- ARB Locomotive Website:
  - [www.arb.ca.gov/msprog/locomotive/locomotive.htm](http://www.arb.ca.gov/msprog/locomotive/locomotive.htm)

**BNSF Locomotive Consist**

