Union Pacific Railroad Community Meeting
Air Resources Board Health Risk Assessment
ICTF & Dolores Railyards

Long Beach, CA

March 18, 2008

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UPRR ICTF & Dolores Railyards

• Facility Overview
• Sources of Emissions
• Comparison with Air Basin and Other Area Emissions
• Emission Reduction Measures
• Emission Trends – Past and Future
Union Pacific System Overview

South Coast is a Major Gateway

Fast Facts

• Miles of Track
  • 32,300 in 23 States
  • 3,455 in California
  • 1,272 in Los Angeles area

• Employees
  • 50,000+ in US
  • 5,860 in California
  • 1,900 in Los Angeles area
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Facility Overview

• 300+- Acres for Loco Servicing & Cargo Handling

• Yard Includes:
  – Receiving Tracks
  – Tracks Used to Maintain or Repair Rail Cars or Locomotives (Light Repair)
  – Tracks Used to Load and Unload Containers Trailers From Rail Cars, and for Train Departures

• Facility Operates 24 Hours a Day, 365 Days a Year

• About 20 Trains a Day Operate Through or Originate / Terminate at UP’s Yard
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Comparison with Other Sources of DPM Emissions

99% All Other South Coast Basin Sources
1% Dolores/ICTF Area Sources

68% Other Area Sources
32% Dolores/ICTF Rail Yards

Total DPM Emissions – All South Coast Sources: 7750 tons per year
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Sources of Diesel Particulate Matter (DPM) Emissions

Total DPM Emissions – UPRR Dolores/ICTF: 23.6 tons per year
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Emission Reduction Measures

• Increased Use of Idle Control Devices (ICD’s) for Auto Start-Stop of Locomotives
  – 126 of 130 (97%) of LASU Intrastate Fleet
  – 100% of CA Intrastate Units Equipped by June, 2008
  – 3,432 of 8,428 (41%) of UPRR Total Fleet
  – All New Locomotives Since 2002 Have Factory ICD’s

• Aggressive Fuel Conservation Efforts Since 1995 (System)
  – 14.7% Improvement in Fuel Efficiency
  – 25% Increase in Cargo Tonnage
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Emission Reduction Measures

• Modernizing Cargo-handling Equipment
  – Replace/Upgrade 43 Pieces of Equipment in Next 5 Years
  – Includes 11 Major Items (RTG’s or Top Picks)

• Continued Acquiring of New Transportation Refrigeration Units (TRUs) As Fleet Is Upgraded

• Use of ULSD Diesel – 100% Since 2006

• Continued Aggressive Employee Training
  – Conserving Fuel Via Use of Simulators for New Hires / Refresher
  – Locomotive Shutdown (86+ at ICTF; 1,550+ at LA Area)
  – Visible Emissions (2 at Commerce; 7 at LA Area)
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Emission Reduction Measures

• Continued Aggressive Acquisition & Use of Tier 2 Road Locomotives With Advanced Emission Controls
  – 1,177 Tier 2 Locomotives by July, 2008
  – 3,321 Tier 0, 1, or 2 From 2000 Thru 2008

• Continued Remanufacture of Older Locomotives With New, Lower Emitting Components
  – 2,376 Units YTD Since 2000

• Annual In-use Testing

• Retired 2,250 Older Units (’08)

• Tier 2 Equivalent in South Coast by 2010
Ultra Low Emitting Locomotives (ULEL’s)
- Reduce NOx & PM Emissions by +/- 85%
- Reduce Fuel Consumption by 16 to 37%

Expanded Use of Technologically Advanced Switch Locomotives
- Gensets - 12  Assigned Dolores
- Gensets - 61  Now in the Basin
- Green Goats - 10  Now in the Basin
Emission Reduction Measures
Genset Switchers
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Emission Reduction Measures

• Use of Remote Locomotive Diagnostics to Reduce Test & maintenance Time for Locomotives, Where Applicable

• Develop & Implement Changes to Streamline Operations
  – Technological
  – Operational

• Systematically Evaluating Opportunities for Improving Performance that Result in Reducing Emissions
  – Operational Changes to Minimize Operation of Yard Locomotives
  – Practices for Use of Other Diesel-fueled Equipment
  – Reducing Waiting Time for Trucks Loading / Unloading at Rail Yards
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Emission Trends

• 2% Reduction From 2000 to 2005 (ARB Baseline Year)

• 75% Reduction From 2005 to 2020

• Overall 76% Reduction From 2000 to 2020
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DPM Emissions by Source (Calendar Years 2000-2020)

Emissions (Tons / Year)

- **2000**: 24.2
- **2005**: 23.6
- **2010**: 15.8
- **2012**: 13.0
- **2014**: 9.0
- **2016**: 7.5
- **2020**: 5.9

- **Other**
- **On-road Diesel-fueled Trucks**
- **Cargo-handling Equipment (CHE)**
- **Locomotives**
UPRR State & System-Wide
Recent Activity Update

• Completion of placement of the 71 ULEL’s in the basin

• Acquisition of another 175 Tier 2 road locomotives

• Continuing of upgrade of CHE/yard equip; activity is yard dependent

• Modification/aggressive retrofit of ICD’s on CA intrastate locomotives

• Extensive shutdown training for engineers

• Diligent follow-up on citizen complaints to resolve address concerns
UPRR State & System-Wide
Recent Activity Update

• Greater number of VE inspections w/ immediate repair; > 20,000 in 2007, w, >50% in this area

• Continuing upgrade of TRU’s

• Stronger aggressive conservation efforts such as Fuel Masters – a program that saved 20 million gallons of fuel on the UPRR in 2007

• Result is the most comprehensive/aggressive identification, evaluation, development, acquisition, deployment, optimization & utilization of new & evolving technologies of any RR in North America
THE ROAD TO THE FUTURE ISN'T A ROAD AT ALL.