BNSF Railway (BNSF) Initial Draft Diesel PM Mitigation Plan for Three BNSF Commerce Railyards

California Environmental Protection Agency

Air Resources Board

October 16, 2008
Overview of Meeting

• **ARB**
  - Background on BNSF’s three Commerce railyard health risk assessments
  - Process for the development of draft railyard mitigation plans
  - Explain existing locomotive and railyard regulations and agreements

• **BNSF**
  - Present initial draft railyard mitigation plan for BNSF Hobart, Commerce Eastern and Sheila railyards
  - Discuss next steps to identify and discuss additional mitigation measures

• **Community members encouraged to discuss and provide comments**
Background

• This effort is part of our commitment to address pollution impacts on communities
  • ARB Goods Movement Plan
    • Reduce risks by at least 85 percent by 2020
  • ARB/UP/BNSF Railroad Agreement
    • Reduce exposure to toxic diesel PM as quickly as possible
• Railyard health risk assessments
  • 18 railyard health risk assessments finalized by July 2008
Railyard Mitigation Plan Process

- Railroads prepare initial draft railyard mitigation plans
  - Pursuant to the 2005 Agreement
- ARB provides technical review of draft plans
  - No ARB endorsement or approval of the draft plans
- Public meeting to discuss the draft plans and additional mitigation measures
- Revise the plans based on public comments
- BNSF finalizes the plans
Existing Control Measures

- **Locomotives:**
  - Statewide Railroad Agreement (2005)
  - ARB Diesel Fuel Regulation for Intrastate Locomotives (2007)
  - 1998 South Coast Locomotive NOx Fleet Average Agreement (2010)

- **Non-Locomotives:**
  - On-Road Heavy Duty Diesel Truck Regulation (2007)
  - Port and Intermodal Railyard Truck Regulation (2010)
  - Transport Refrigeration Unit Air Toxic Control Measure (2010)
  - ARB Cargo Handling Equipment Regulation (2011-15)
Statewide Locomotive DPM Emissions

Baseline (without controls)
Baseline (with existing controls\(^1,2,3&4\))

2008 EPA Rulemaking

1) 1998 US EPA Locomotive Rulemaking
2) 2005 ARB /Railroad Statewide Agreement
3) 1998 Locomotive NOx Fleet Average Agreement in the SCAB
4) 2007 CARB Diesel Fuel Regulation for Intrastate Locomotives
Distribution of 18 Railyard Diesel PM Emissions by Source Category

8 Intermodal Railyards DPM Emission Inventory (2005)
- Cargo Handling Equipment: 22%
- HDD Trucks: 26%
- Locomotives: 39%
- TRUs: 11%
- Other: 2%

10 Classification Railyards DPM Emission Inventory (2005)
- Locomotives: 96%
BNSF’s Three Commerce Railyards Diesel PM Emissions

- Off-road Vehicles & Equip.
- Cargo Handling Equipment
- On-road Diesel Trucks
- Locomotives

Year: all 4 Commerce railyards
- 2005: 41.8 Tons per Year
- 2010: 29.7 Tons per Year
- 2015: 17.9 Tons per Year
- 2020: 8.5 Tons per Year

Year: 3 BNSF railyards
- 2005: 29.7 Tons per Year
- 2010: 12.5 Tons per Year
- 2015: 11.4 Tons per Year
- 2020: 5.6 Tons per Year

: all 4 Commerce railyards
: 3 BNSF railyards
Estimated Potential Cancer Risks (four railyards) in 2005
Estimated Potential Cancer Risks in 2005
(BNSF Hobart Railyard)
## Local and Regional Diesel PM Sources

(tons per year in 2005)

<table>
<thead>
<tr>
<th>DPM Sources</th>
<th>Locomotives</th>
<th>Cargo Handling Equip.</th>
<th>On-Road Diesel Trucks</th>
<th>Off-Road Diesel Engines and Others</th>
<th>Total</th>
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<tbody>
<tr>
<td>South Coast Air Basin</td>
<td>300</td>
<td>5,000</td>
<td>2,000</td>
<td>5,000</td>
<td>7,800</td>
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<tr>
<td>Ports of LA/LB</td>
<td>20</td>
<td>170</td>
<td>40</td>
<td>1,570</td>
<td>1,800</td>
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<tr>
<td>Four Commerce Railyards</td>
<td>13.5</td>
<td>8.0</td>
<td>13</td>
<td>5.5</td>
<td>40</td>
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</tbody>
</table>
Four Commerce Railyards
Estimated Changes in DPM Cancer Risks by 2015
(from existing measures)

- **MICR** (Maximum Individual Cancer Risk)
  - 780
  - ~ 230

- **Exposed Population** (> 10 in a million)
  - 1,285,200
  - ~ 418,000

Note: The estimated cancer risks for the BNSF Commerce Eastern and Sheila at or below 25 in a million by 2020.
Summary

1. Diesel PM public health risks are still too high in 2015.
2. The mitigation plan provides significant diesel PM emissions reductions from 2010 to 2015 and later.
3. However, still need to accelerate and provide more diesel PM emissions reductions.
4. ARB is preparing a technical document to evaluate:
   - Feasibility and costs of additional locomotive and railyard mitigation measures.
   - Provide earlier and more locomotive and railyard emissions reductions.
Separate and complementary effort

Evaluate potential strategies based on the following criteria:
- Technical feasibility
- Potential emission reductions
- Costs and cost-effectiveness
- Not intended to address implementation issues (i.e., legal, regulatory, agreement, funding)

Hold public workshops and request comments
Fall 2008
Contact Information

Comments and Questions

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• ARB Railyard HRA and Mitigation Plan Website
  • http://www.arb.ca.gov/railyard/hra/hra.htm