

***Overview:
Draft ARB Health Risk
Assessment
of the BNSF Richmond Railyard***

**Presented by Dr. Phil Martien
Bay Area Air Quality Management District
CARE Task Force Meeting
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Background

- Richmond BNSF Railyard HRA part of ARB/BNSF/UP Railroad Agreement (2005 MOU)
- District working with ARB to review results and discuss with community
- ARB presented draft findings of Richmond HRA at two community meetings (6/13, 7/11/2007)
- Emissions estimates (year 2005) and preliminary health risk estimates available
- Evaluate emissions from railyard and nearby sources

On-site & Off-site Emission Boundaries



Summary of Diesel PM Emissions at the BNSF Richmond Railyard

Diesel PM Emission Sources	Richmond Railyard	
	tons/year	percentage
Locomotives	3.3	70 %
Line Haul Locomotives	1.54	33%
Switch Locomotives	1.16	25%
Service/Maintenance	0.55	12%
Off-road Vehicles and Equipment	0.6	12 %
On-road Trucks and Vehicles	0.5	11 %
Cargo Handling Equipment	0.3	6 %
Stationary Sources	< 0.01	< 1 %
Total	4.6	100 %

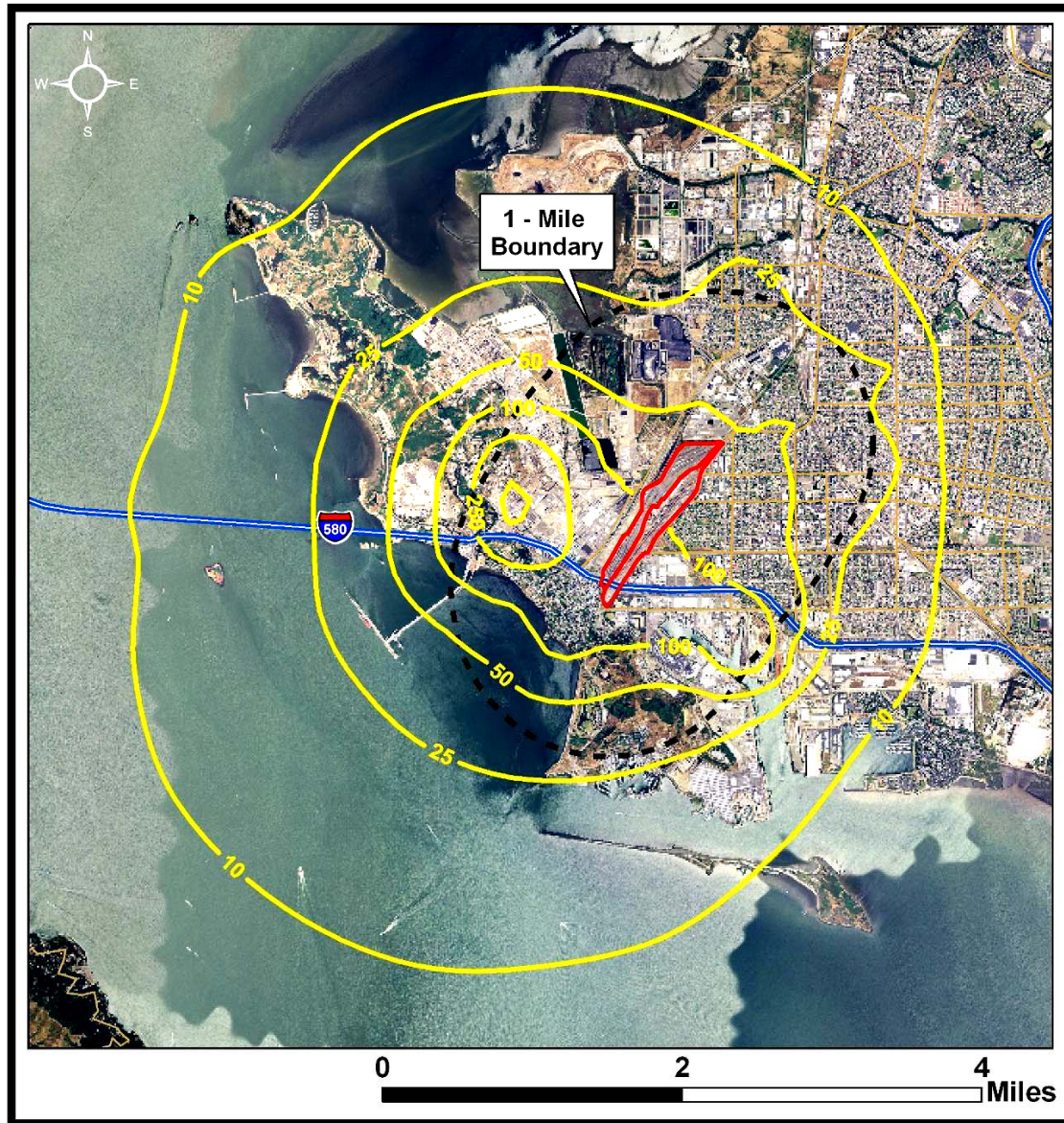
Summary of Off-Site Non-Railyards Diesel PM Emission Inventory

Sources	tons/year	percentage
Mobile Sources	11.7	60%
Stationary Sources	8.1	40%
Total	20	100%

Estimated Potential Cancer Risks Associated with the BNSF Richmond Railyard Diesel PM Emissions (chances per million exposed population)



Estimated Potential Cancer Risks from Off-Site Diesel PM Emissions (chances per million exposed population)



Approach to Reducing Emissions

- **ARB regulations**
 - **Fuels**
 - **Cargo handling equipment (CHE)**
 - **Transport refrigeration units (TRUs)**
 - **Heavy-duty diesel on-road trucks and off-road vehicles**
- **U.S. EPA regulation**
 - **Locomotives**
- **Voluntary agreements**
 - **1998 South Coast/2005 Statewide**
- **Railroad yard locomotive replacement program**
- **Funding programs**
 - **Carl Moyer Incentives**
- **District mitigation programs**

Next Steps and Community Responses

- **ARB will investigate questions raised at meetings, respond to written and verbal comments**
- **ARB, District, community, BNSF to explore additional mitigations**
- **Community requested more comprehensive risk analysis for Richmond, including ports and refineries**

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- <http://www.arb.ca.gov/railyard/hra/hra.htm>