

BNSF Railroad Initial Draft Diesel PM Mitigation Plan for the San Diego Railyard

California Environmental Protection Agency



Air Resources Board

March 24, 2009

Overview of Meeting

- ARB

- Background on the BNSF San Diego railyard health risk assessment
- 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 San Diego railyard
 - 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

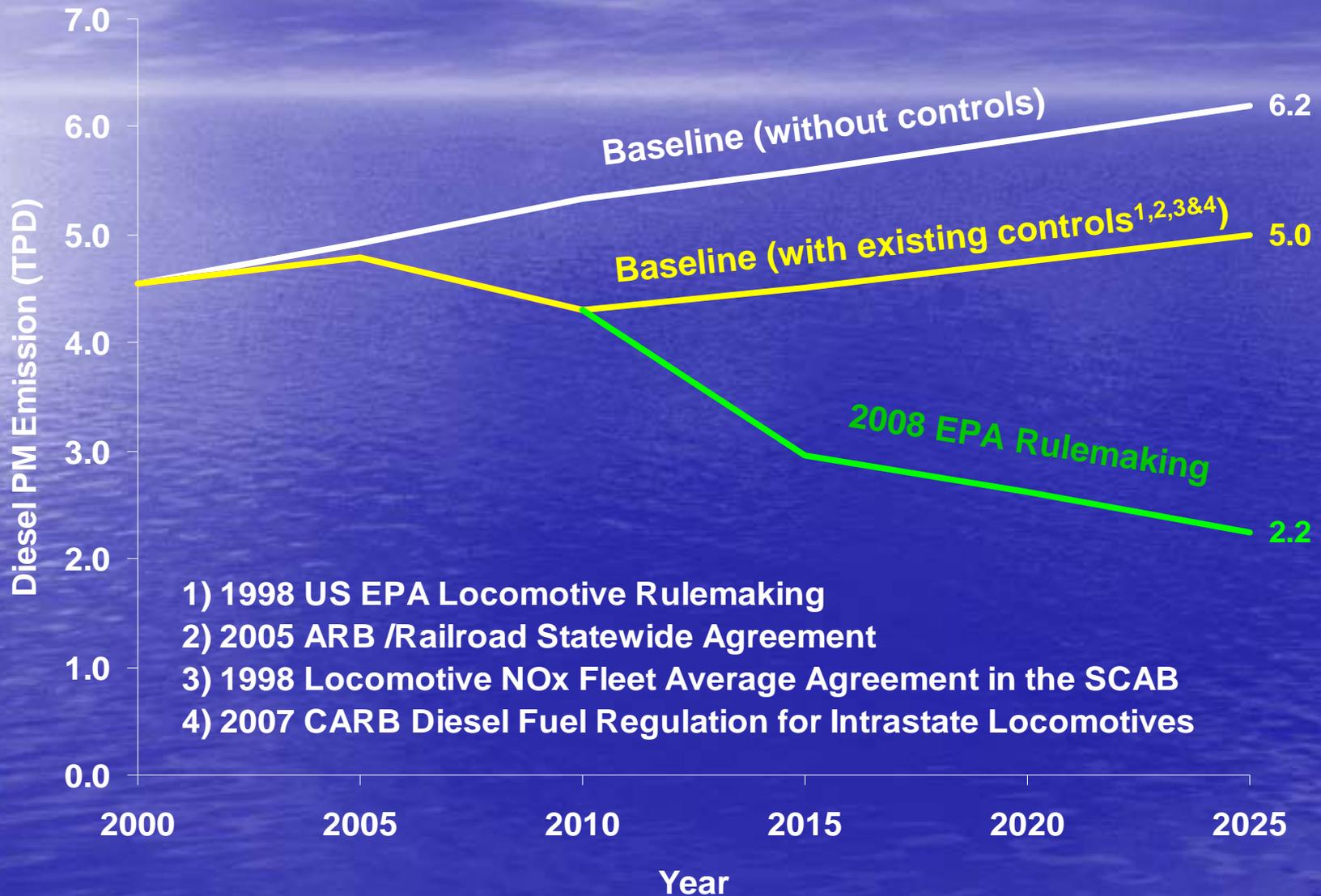
- **Locomotives:**

- Statewide Railroad Agreement (2005)
- ARB Diesel Fuel Regulation of Intrastate Locomotives (2007)
- U.S. EPA Locomotive Emission Standards (2008)
- 1998 South Coast Locomotive NO_x Fleet Average Agreement (2010)

- **Non-Locomotives:**

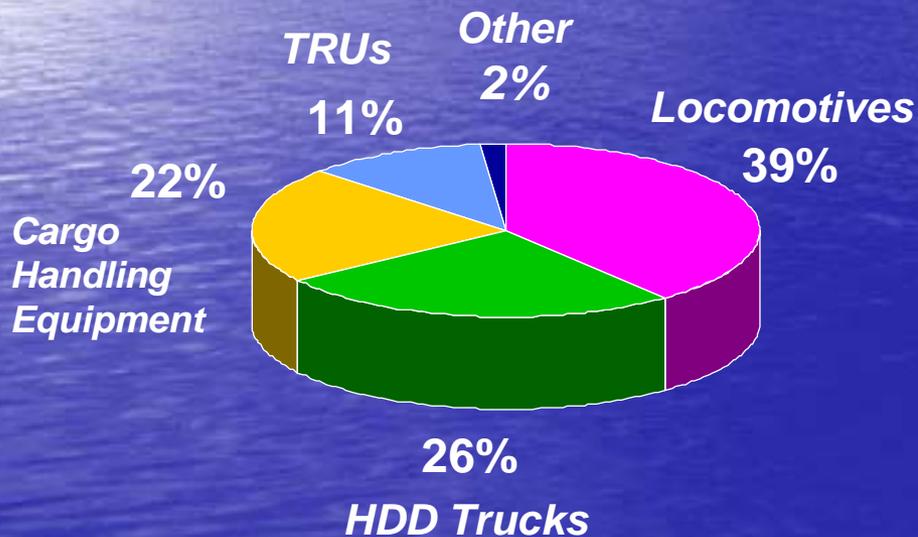
- ARB Cargo Handling Equipment Regulation (2007)
- ARB On-Road Heavy Duty Diesel Truck Emission Standards (2007)
- ARB Port and Intermodal Railyard Truck Regulation (2010)
- ARB ATCM for Transport Refrigeration (2010)
- ARB In-Use Diesel Vehicle Emission Regulation (2010)
- ARB Tier-4 Non-road Diesel-Fueled Emission Standards (2011-15)

Statewide Locomotive DPM Emissions



Distribution of 18 Railyard Diesel PM Emissions by Source Category

8 Intermodal Railyards DPM Emission Inventory (2005)

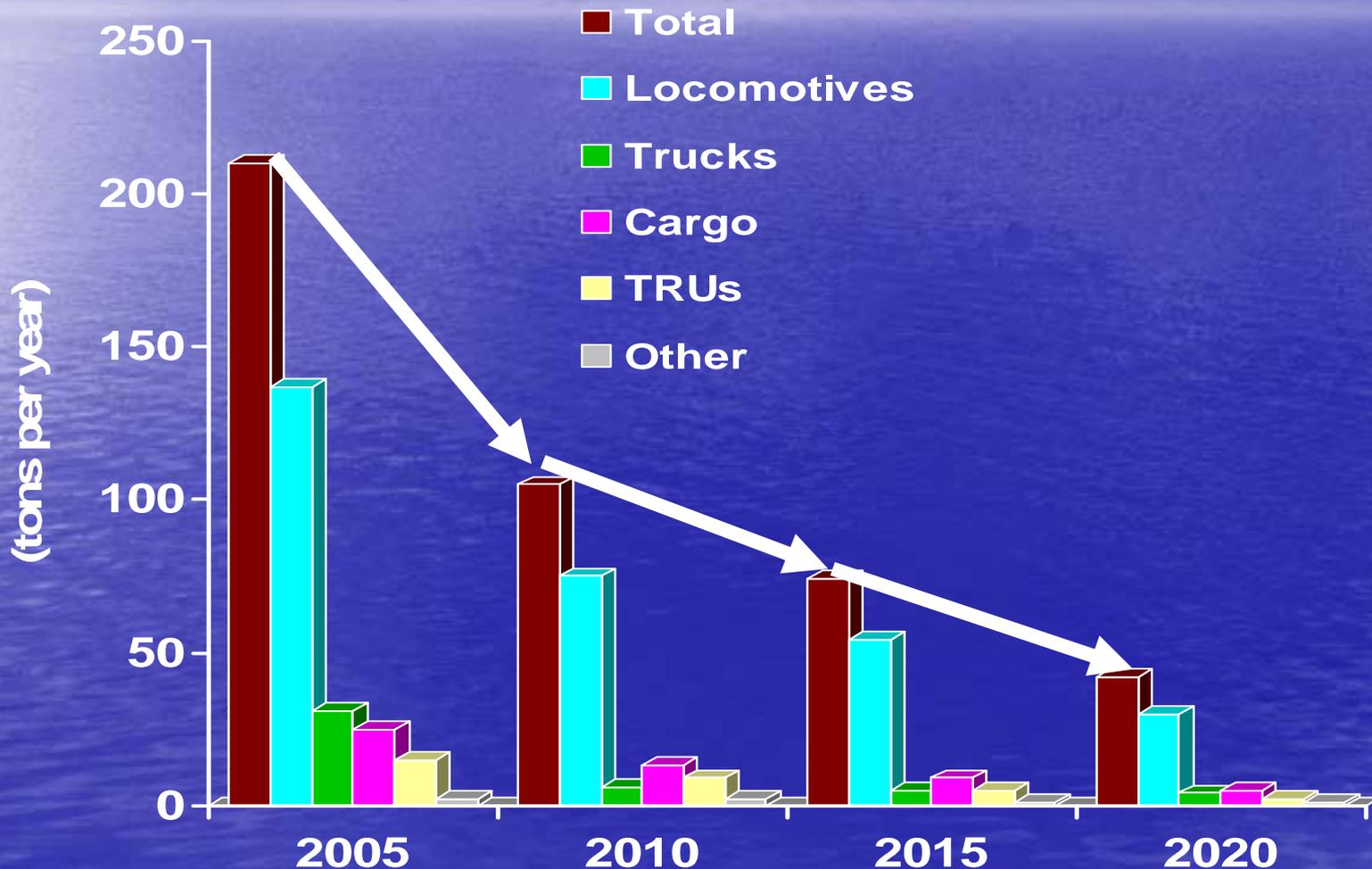


10 Classification Railyards DPM Emission Inventory (2005)



Diesel PM Emissions from 18 Railyards

(Assumes average 80% reduction by 2020)





BNSF San Diego Railyard



BNSF San Diego Railyard Diesel PM Emissions

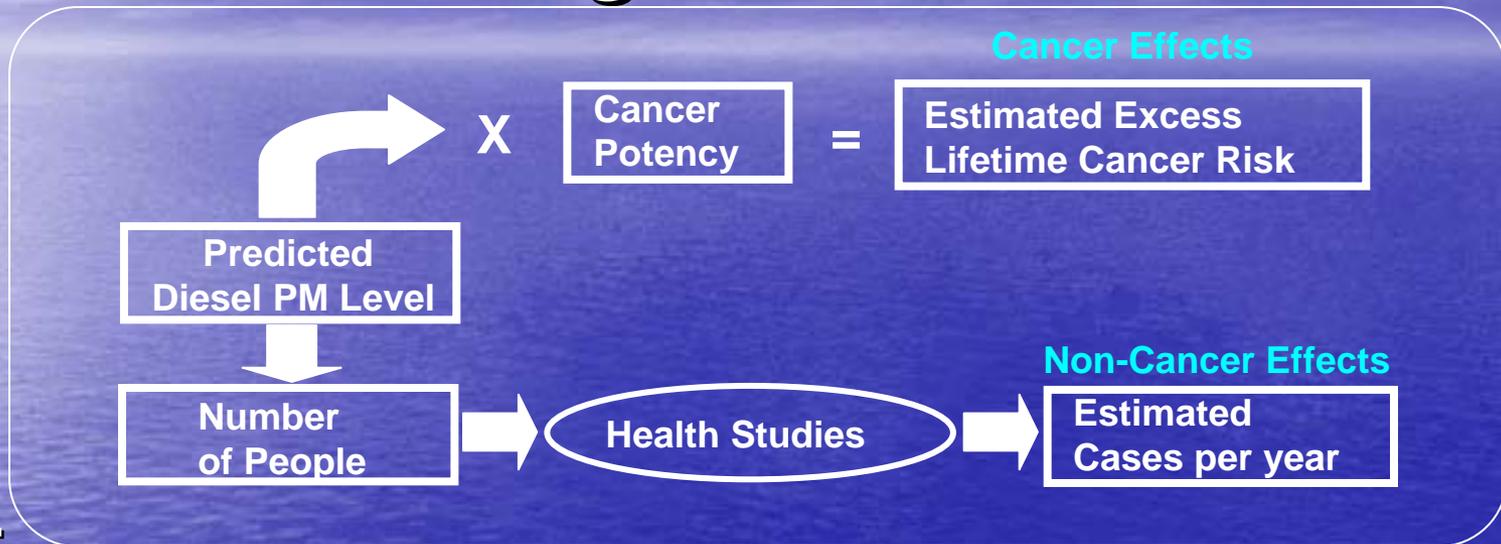


Local and Regional Diesel PM Sources

(Tons per year in 2005)

DPM Sources	Locomotives	Cargo Handling Equip.	On-Road Diesel Trucks	Off-Road Diesel Engines and Others (Stationary Sources)	Total
San Diego Air Basin	-	-	-	-	1,800
BNSF San Diego Railyard	1.63	-	-	0.04	1.67
Nearby Stationary and Mobile Sources			6	5.6	11.6

Health Risk Assessments: Estimating Health Effects



Do:

- Provide an estimate of the amount of a pollutant in the air
- Predict or estimate the lifetime cancer risk and other health impacts – in this case for diesel PM

Don't:

- Actually measure amount of diesel PM in the air
- Gather/use health data on local residents

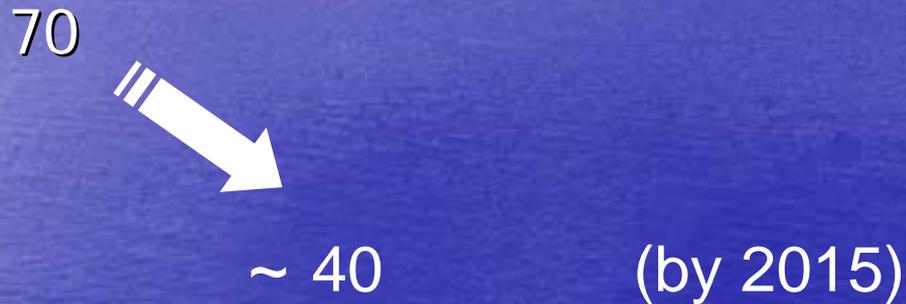
Estimated Potential Cancer Risk in 2005



BNSF San Diego Railyard

Estimated Changes in DPM Cancer Risks (from existing measures)

- MICR (Maximum Individual Cancer Risk)



- Exposed Population (> 10 in a million)



Summary

- The mitigation plan provides significant diesel PM emissions reductions from 2010 to 2015 and later
- Diesel PM public health risks are still high in 2015
- Need to accelerate and provide more diesel PM emission reductions

ARB Technical Evaluation Document

Strategies to Accelerate and Further Reduce Railyard and California Statewide Locomotive Emissions

- 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)
- Request public comments
 - December 22, 2008 to March 23, 2009

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>
- ARB Locomotive Technical Evaluation Document
 - <http://www.arb.ca.gov/railyard/ted/ted.htm>