

Union Pacific Railroad (UP) Initial Draft Diesel PM Mitigation Plan for the City of Industry Railyard

California Environmental Protection Agency



Air Resources Board

December 2, 2008

Overview of Meeting

- ARB

- Background on the UP City of Industry railyard health risk assessment
- Process for the development of draft railyard mitigation plans
- Explain existing locomotive and railyard regulations and agreements

- UP

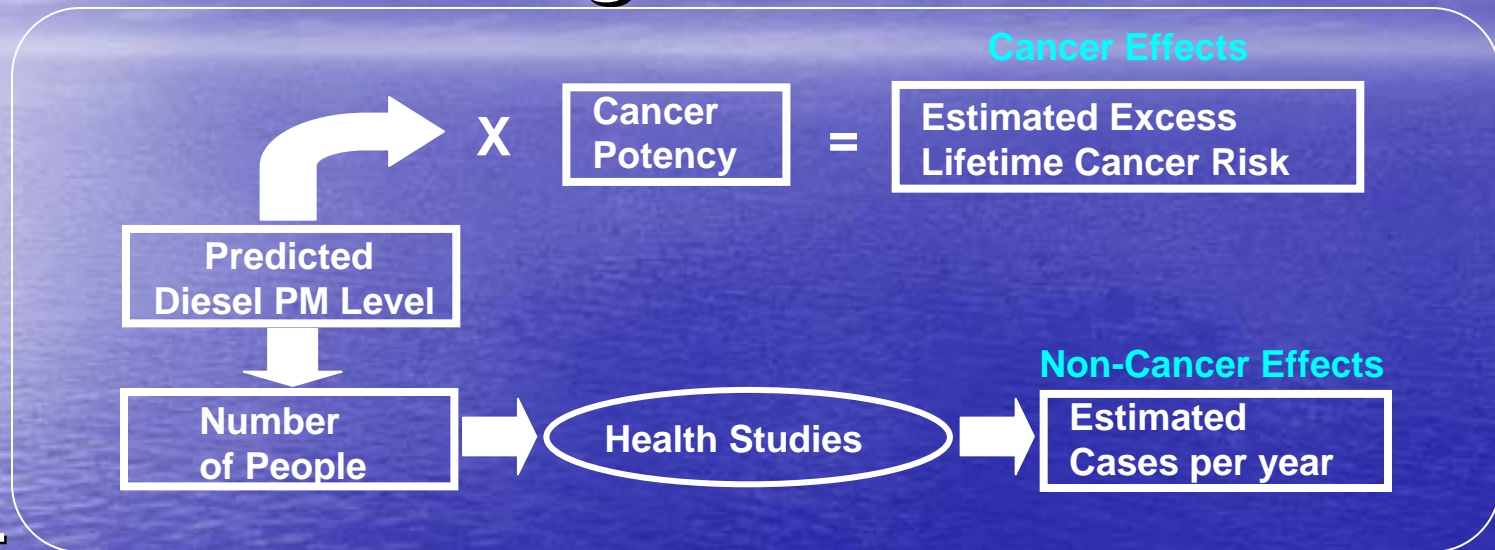
- Present initial draft railyard mitigation plan for UP City of Industry railyard
- Discuss next steps to identify and discuss additional mitigation measures

- 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

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

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
- UP finalizes the plans

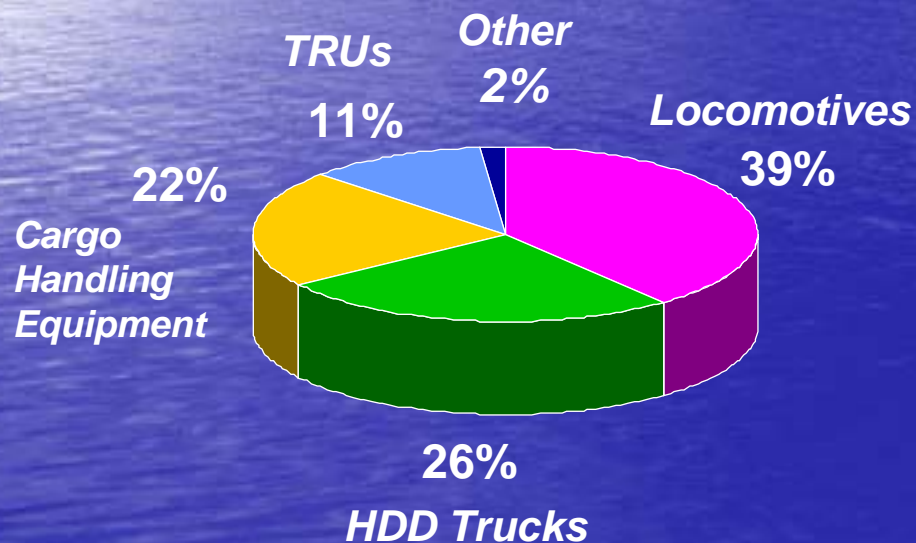


UP City of Industry Railyard



Distribution of 18 Railyard Diesel PM Emissions by Source Category

8 Intermodal Railyards DPM
Emission Inventory (2005)



10 Classification Railyards DPM
Emission Inventory (2005)

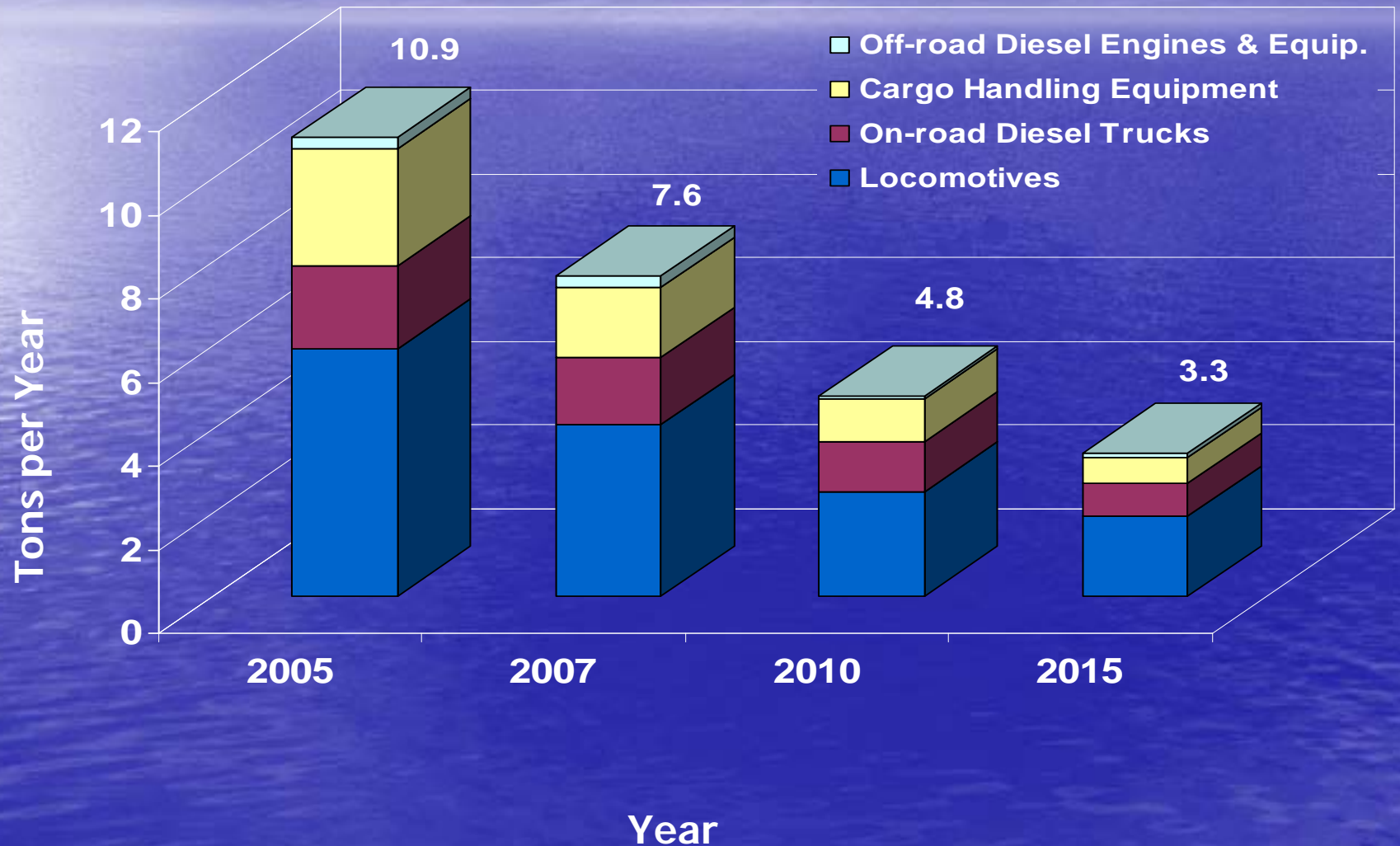


Local and Regional Diesel PM Sources

(tons per year in 2005)

DPM Sources	Locomotives	Cargo Handling Equip.	On-Road Diesel Trucks	Off-Road Diesel Engines and Equip.	Total
South Coast Air Basin	300	5,000	2,000	5,000	7,800
Ports of LA/LB	20	170	40	1,570	1,800
UP COI Railyard	5.9	2.6	1.9	0.5	10.9

UP City of Industry Railyard Diesel PM Emissions



Estimated Potential Cancer Risks (in 2005)



Existing Control Measures

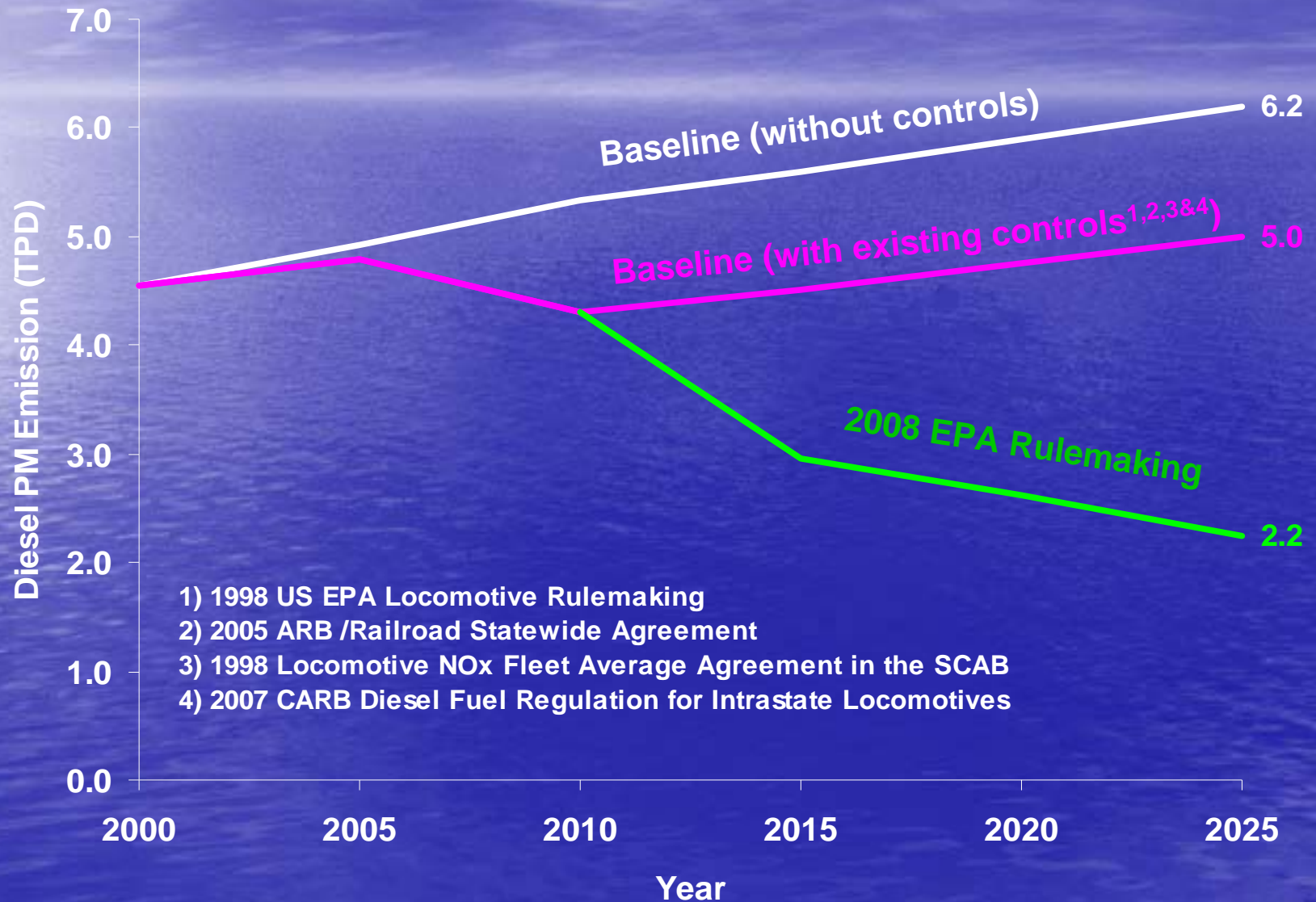
- **Locomotives:**

- 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)

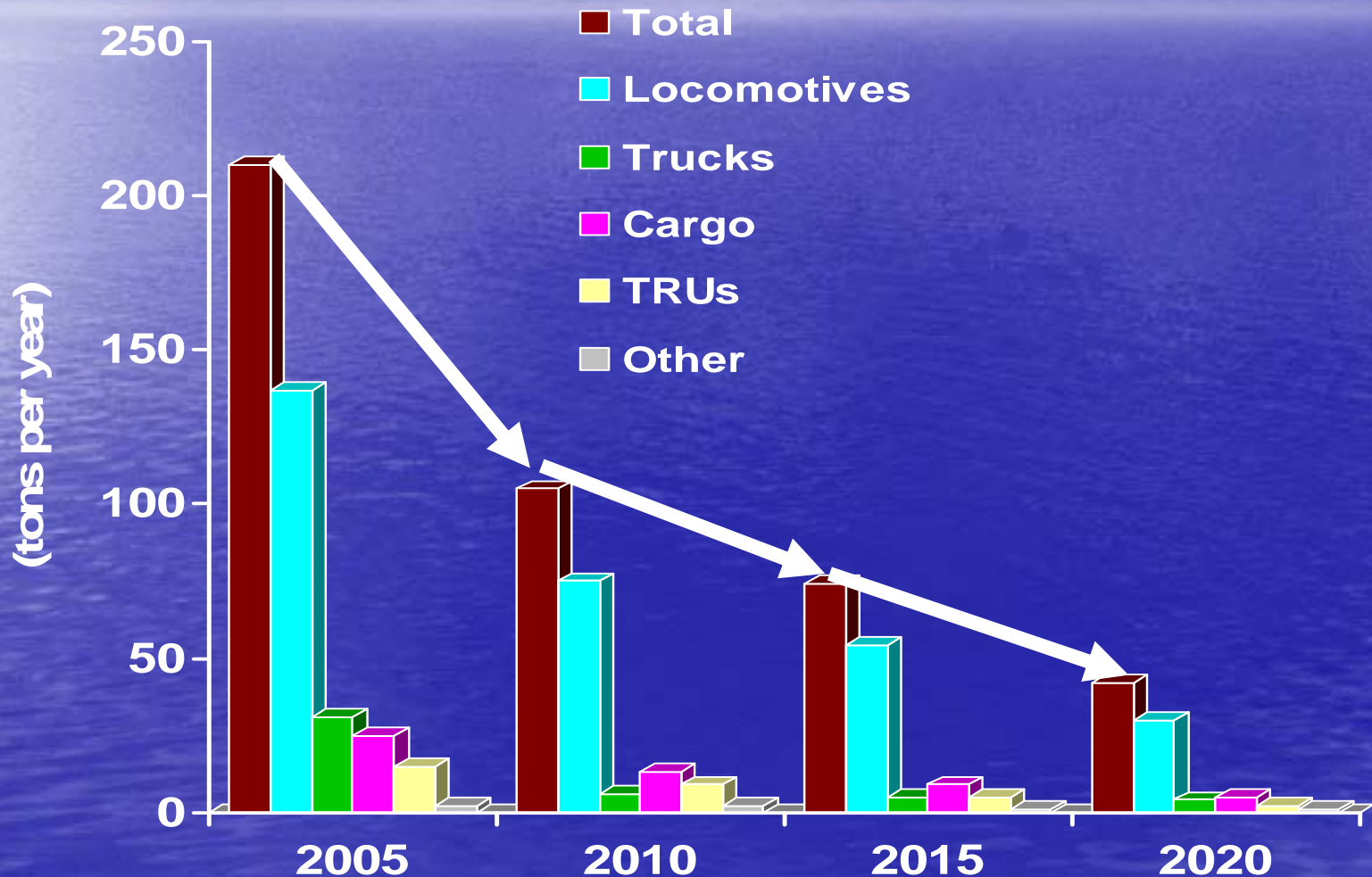
- **Non-Locomotives:**

- ARB Cargo Handling Equipment Regulation (2007)
- ARB On-Road Heavy Duty Diesel Truck Regulation (2007)
- ARB Port and Intermodal Railyard Truck Regulation (2010)
- ARB ATCM for Transport Refrigeration (2010)
- ARB Tier-4 Nonroad Diesel-Fueled Emission Standards (2011-15)
- ARB's Proposed Existing Private Truck Fleet Regulation (2010)
 - ARB Board will consider in December 2008

Statewide Locomotive DPM Emissions



Diesel PM Emissions from 18 Railyards (Assumes average 80% reduction by 2020)



UP COI Railyard

Estimated Changes in DPM Cancer Risks by 2015 (from existing measures)

- MICR (Maximum Individual Cancer Risk)

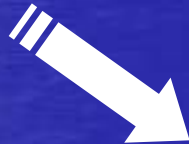
450



~ 135

- Exposed Population (> 10 in a million)

230,000



~ 98,000

Summary

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

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)
- Hold public workshops and request comments
Nov-Dec 2008

Contact Information

Comments and Questions

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