

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

California Environmental Protection Agency

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**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

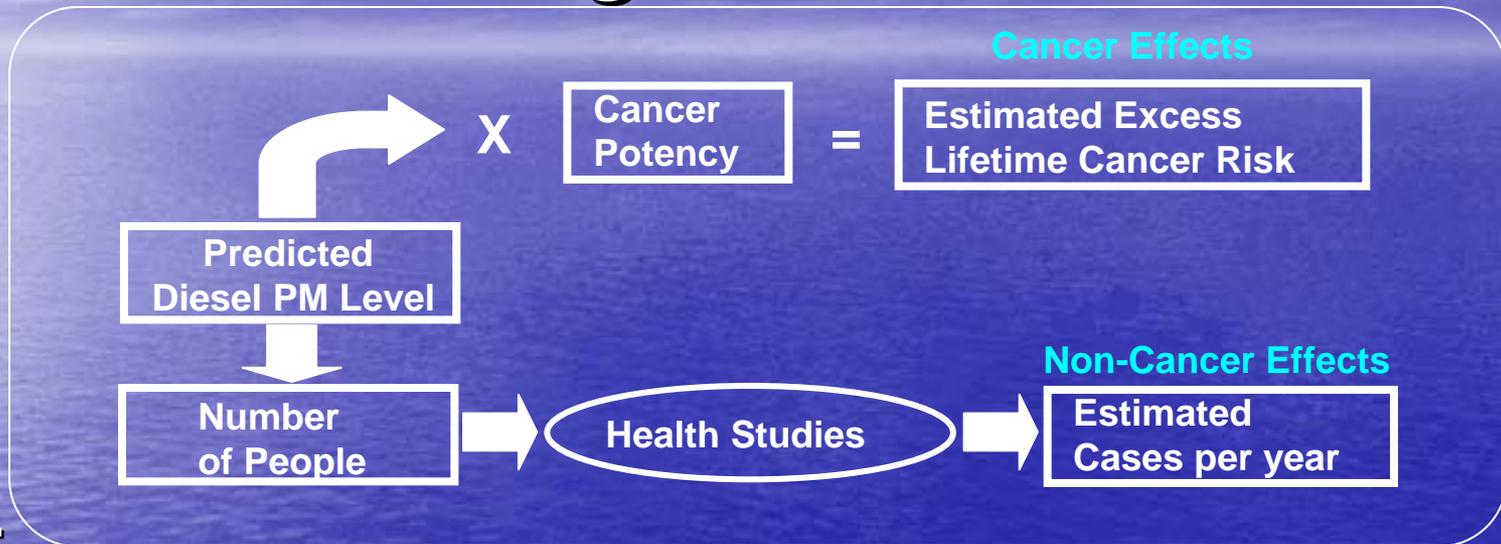
- Present initial draft railyard mitigation plan for UP City of Industry railyard
- Discuss next steps to identify and discuss additional mitigation measures

- 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

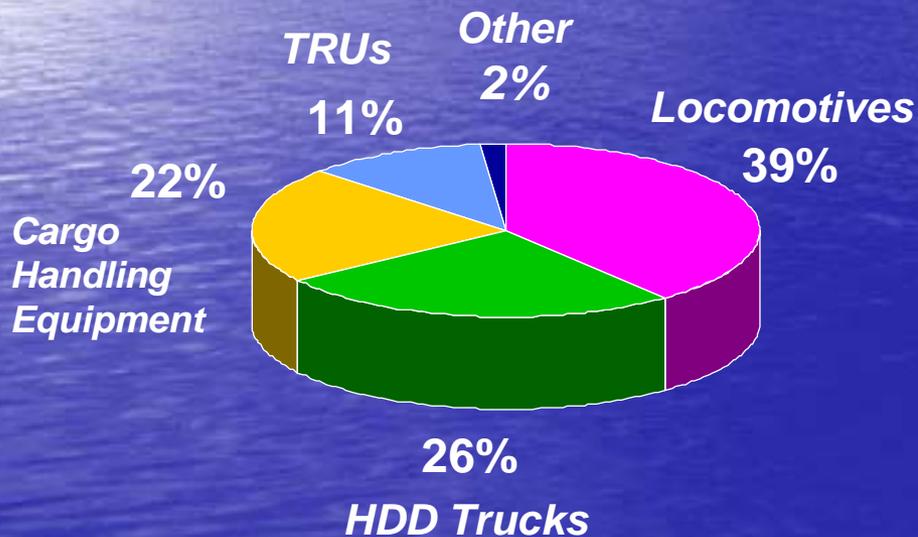


# UP City of Industry Railyard



# 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

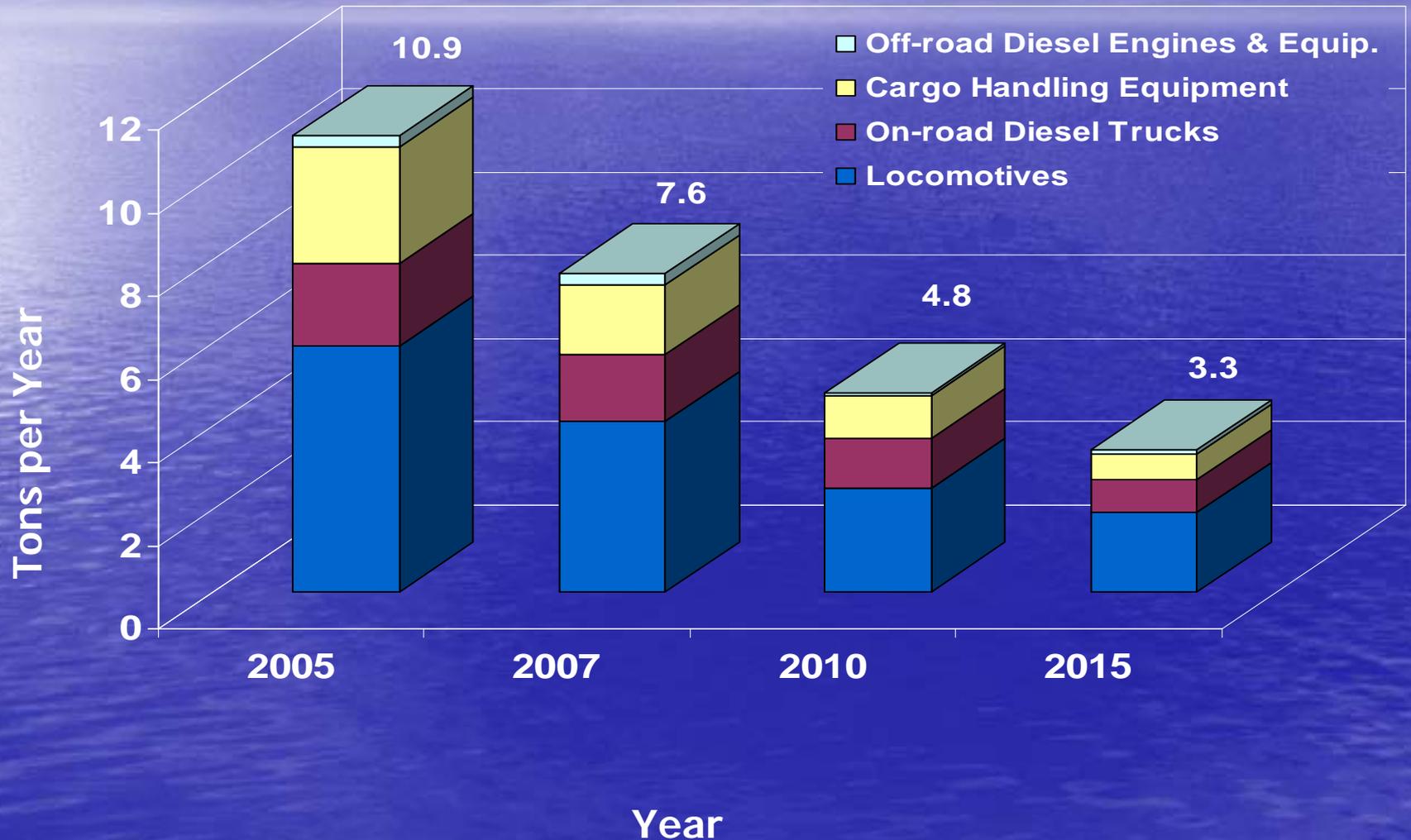
(tons per year in 2005)

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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

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# UP City of Industry Railyard Diesel PM Emissions



# Estimated Potential Cancer Risks (in 2005)



# Existing Control Measures

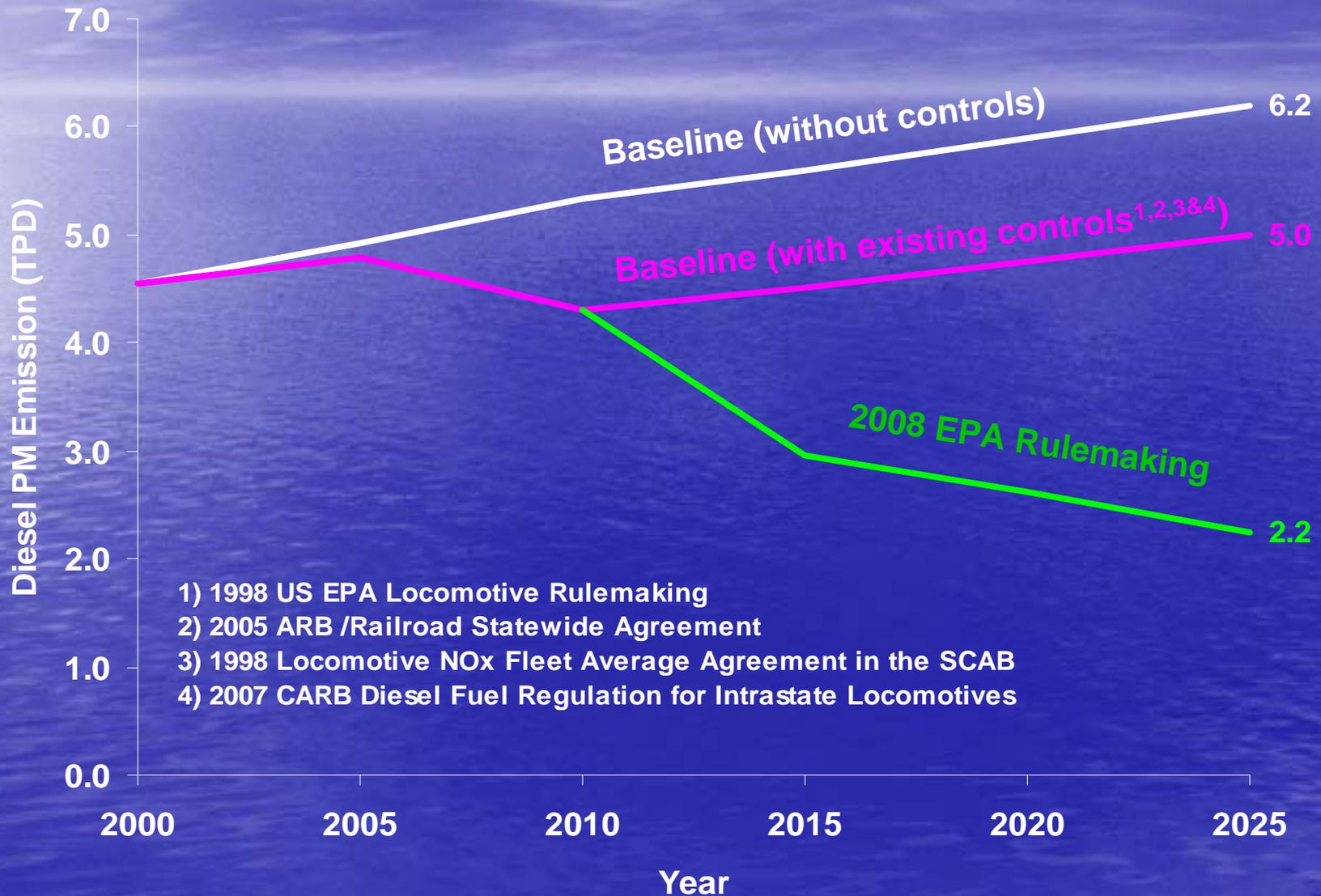
- **Locomotives:**

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

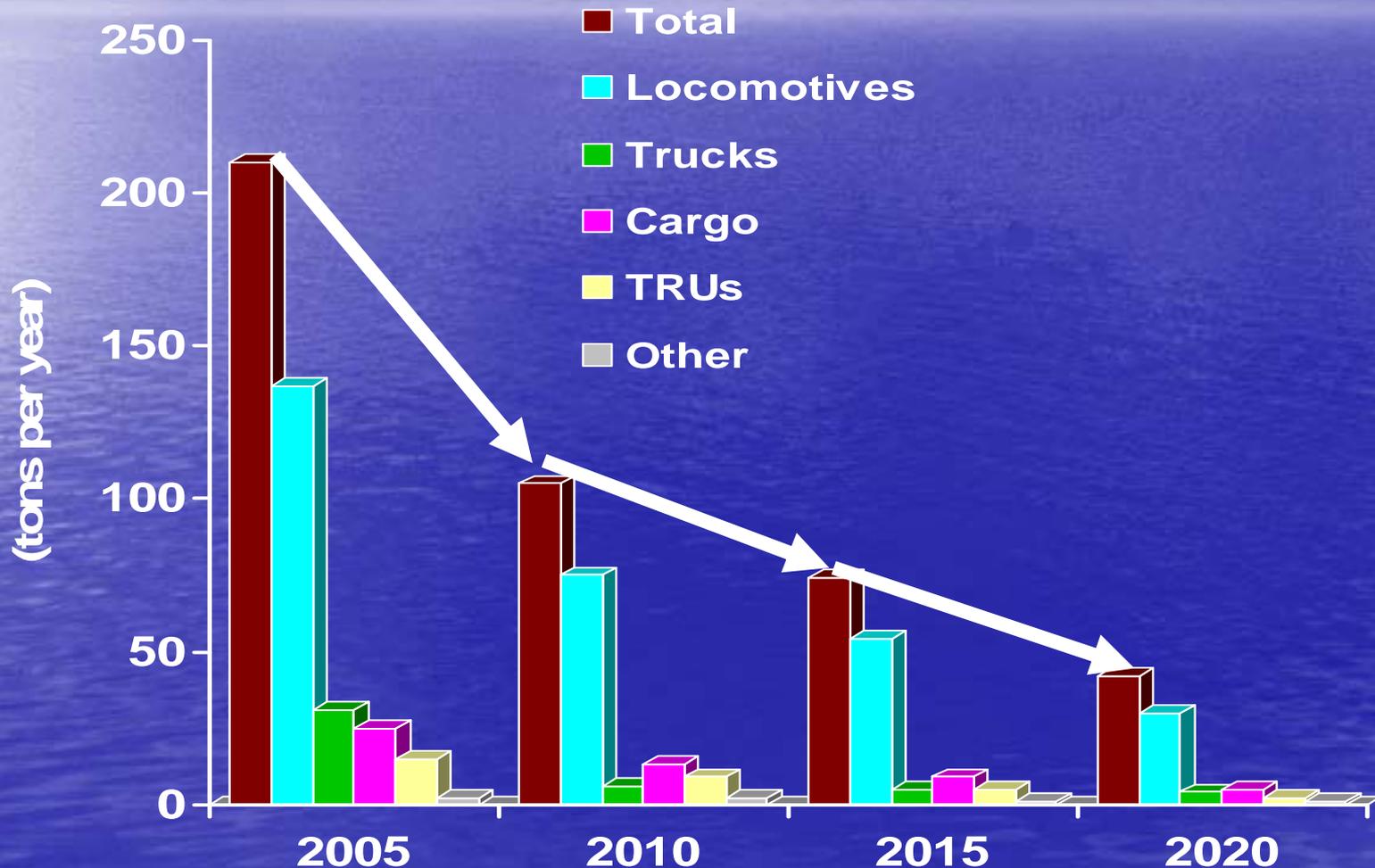
- **Non-Locomotives:**

- 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)

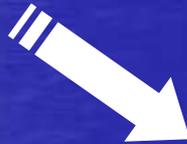
450



~ 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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- ARB Railyard HRA and Mitigation Plan Website
  - <http://www.arb.ca.gov/railyard/hra/hra.htm>