Draft ARB Health Risk Assessments For The UP Mira Loma Railyard

(Second Meeting)

June 28, 2007

California Environmental Protection Agency

Air Resources Board

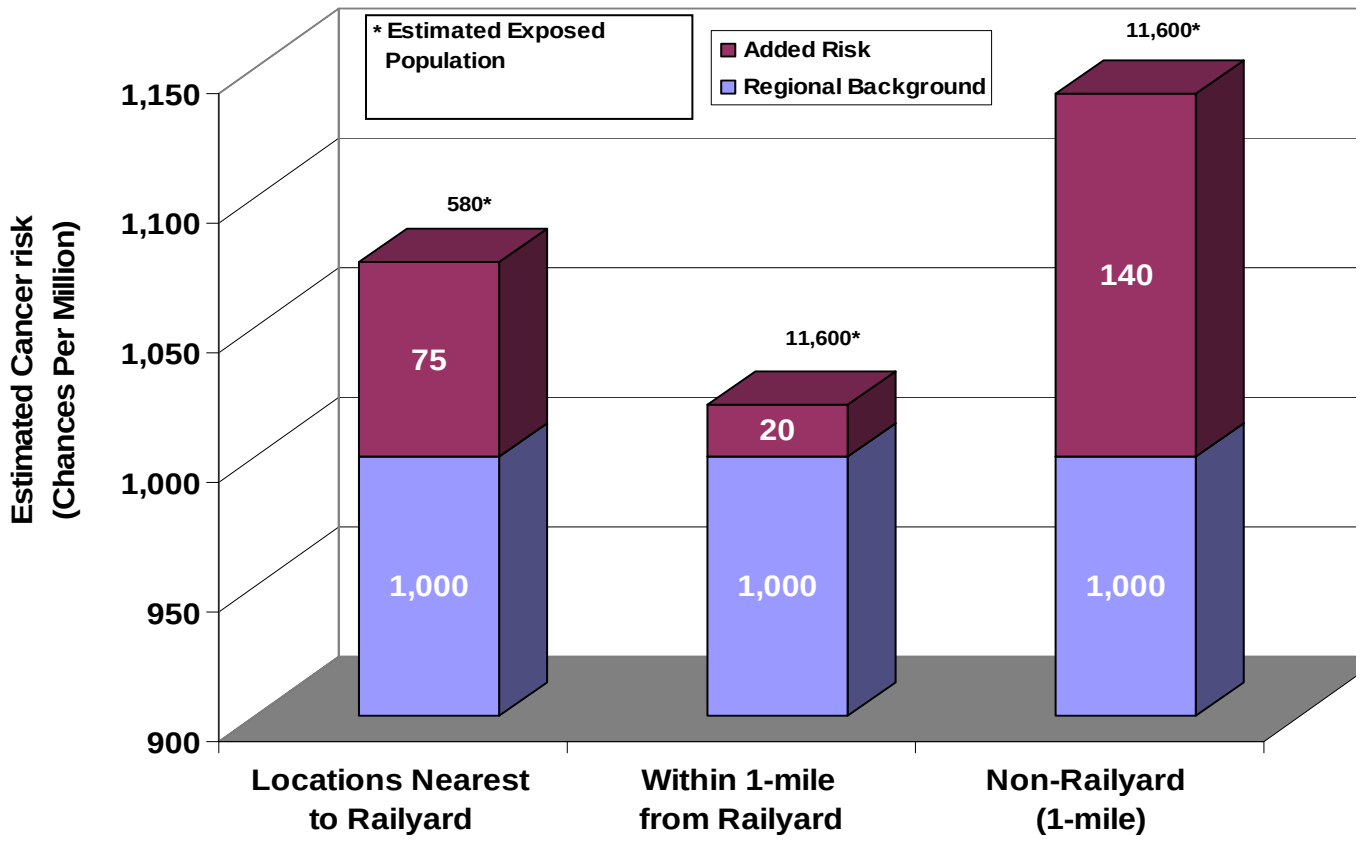
Purpose of tonight's meeting

- Receive your comments on the draft health risk assessments
- Consultation to obtain your ideas on future emission reduction actions

Background

- **This effort is part of our commitment to address pollution impacts on communities**
  - Implements the ARB Goods Movement Plan
  - Required by the ARB/UP/BNSF Railroad Agreement
- **The State's goals are to:**
  - Reduce exposure to diesel PM as quickly as possible
  - Reduce risks by at least 85 percent by 2020
  - Obtain the emission reductions needed to attain air quality standards

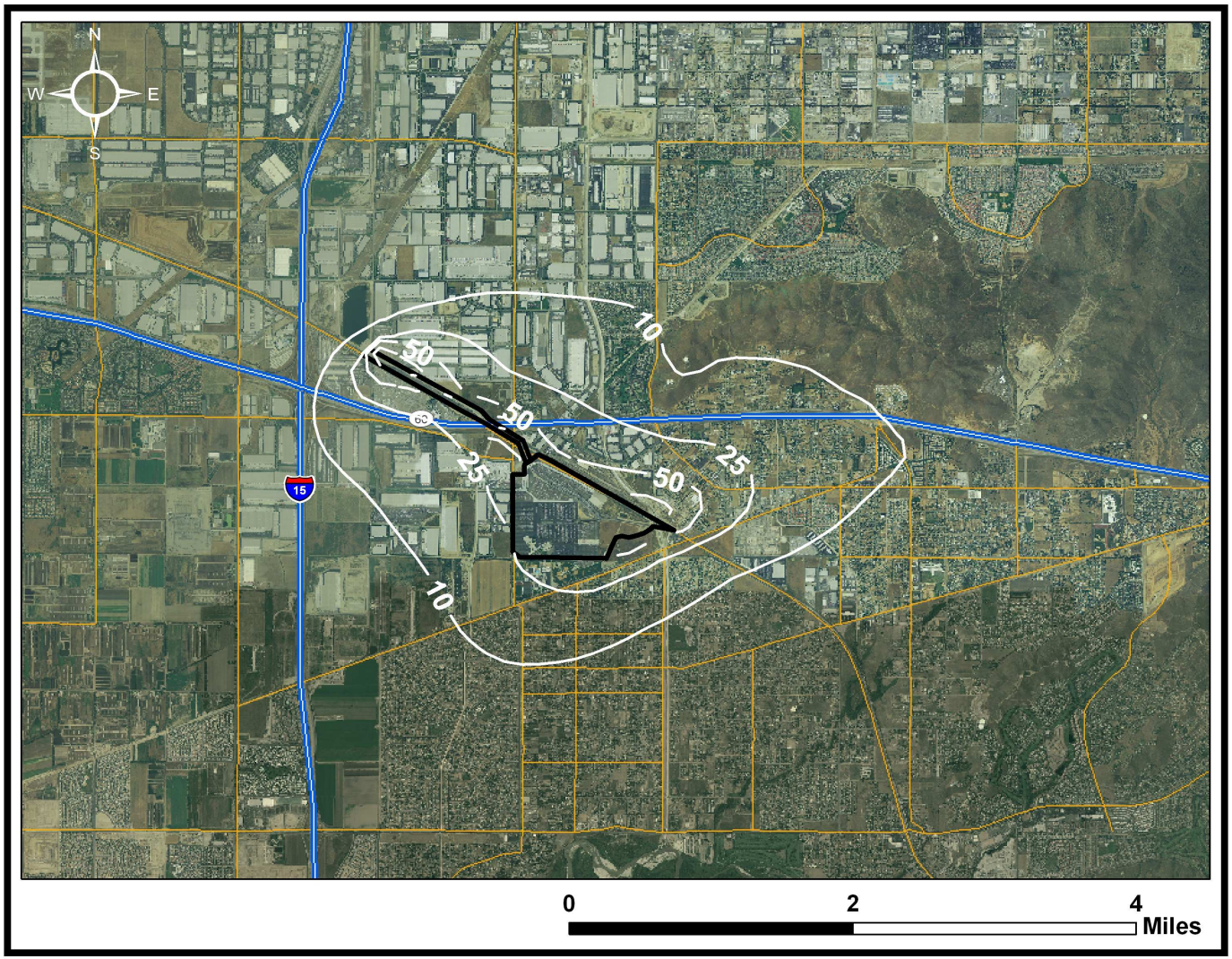
Summary of Health Risk Assessment Findings



Findings:

Location of Potential Cancer Risks

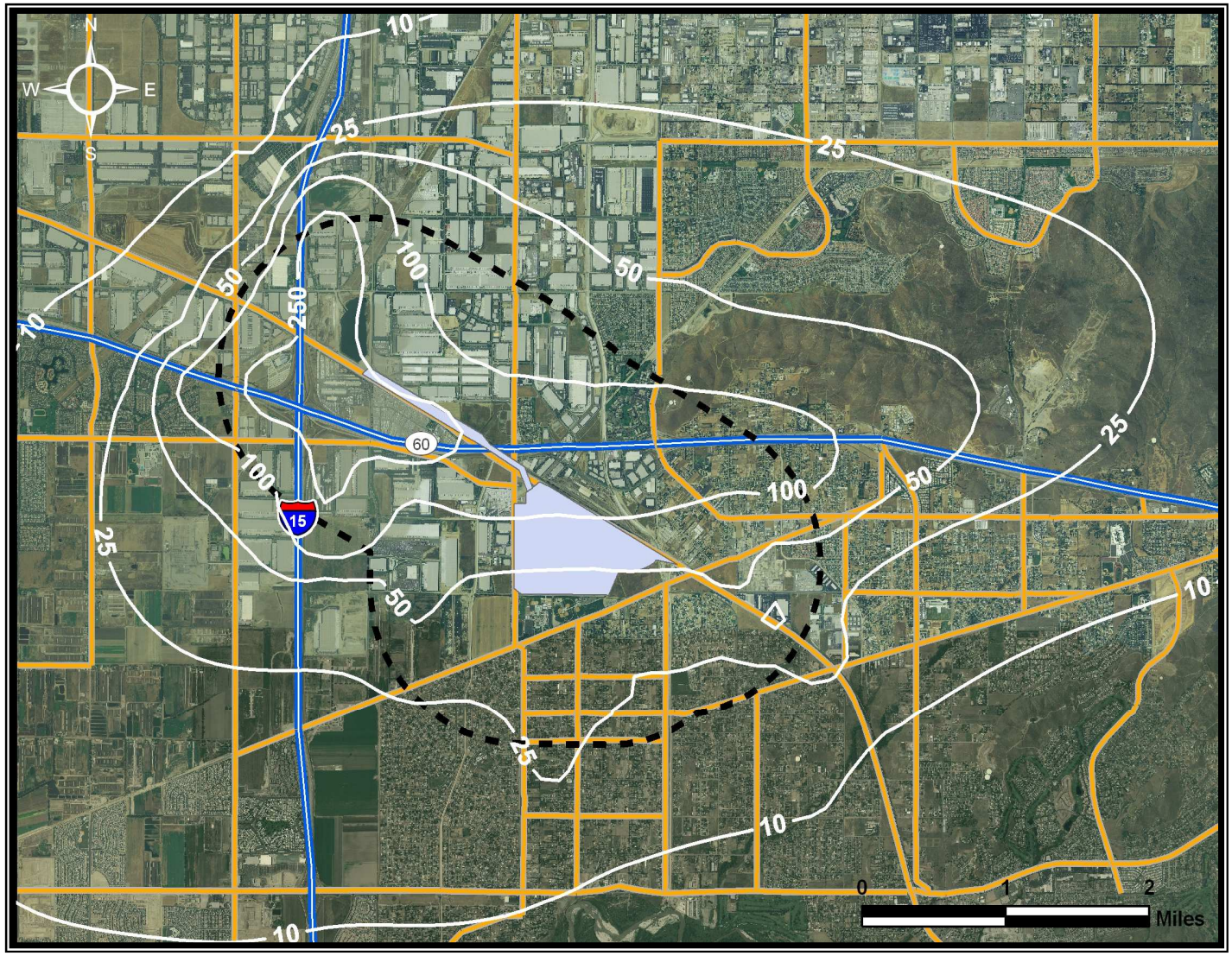
UP Mira Loma Railyard



Findings:

Location of Potential Cancer Risks

Non-Railyard Sources



Next Steps

- Evaluate comments and complete the HRAs
- Evaluate feasible mitigation measures to reduce health risks

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- **ARB Railyard HRA Website:**
  - **http://www.arb.ca.gov/railyard/hra/hra.htm**

Actions to Reduce Health Risk

Approach to Reducing Emissions

- ARB regulations
  - Fuels
  - Cargo handling equipment
  - Transport refrigeration units
  - 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

Benefits of California Railyard Diesel PM Emission Reduction Measures

- **2005-2007:**
  - **CARB diesel fuel for intrastate locomotives**
  - **2005 railyard agreement**

≈15-20%

- **2005-2010:**
  - **Measures above plus:**
  - **1998 NOx locomotive fleet average agreement (South Coast)**
  - **ARB cargo handling equipment regulation**
  - **ARB on-road heavy-duty truck regulation**
  - **ARB transport refrigeration unit regulation**

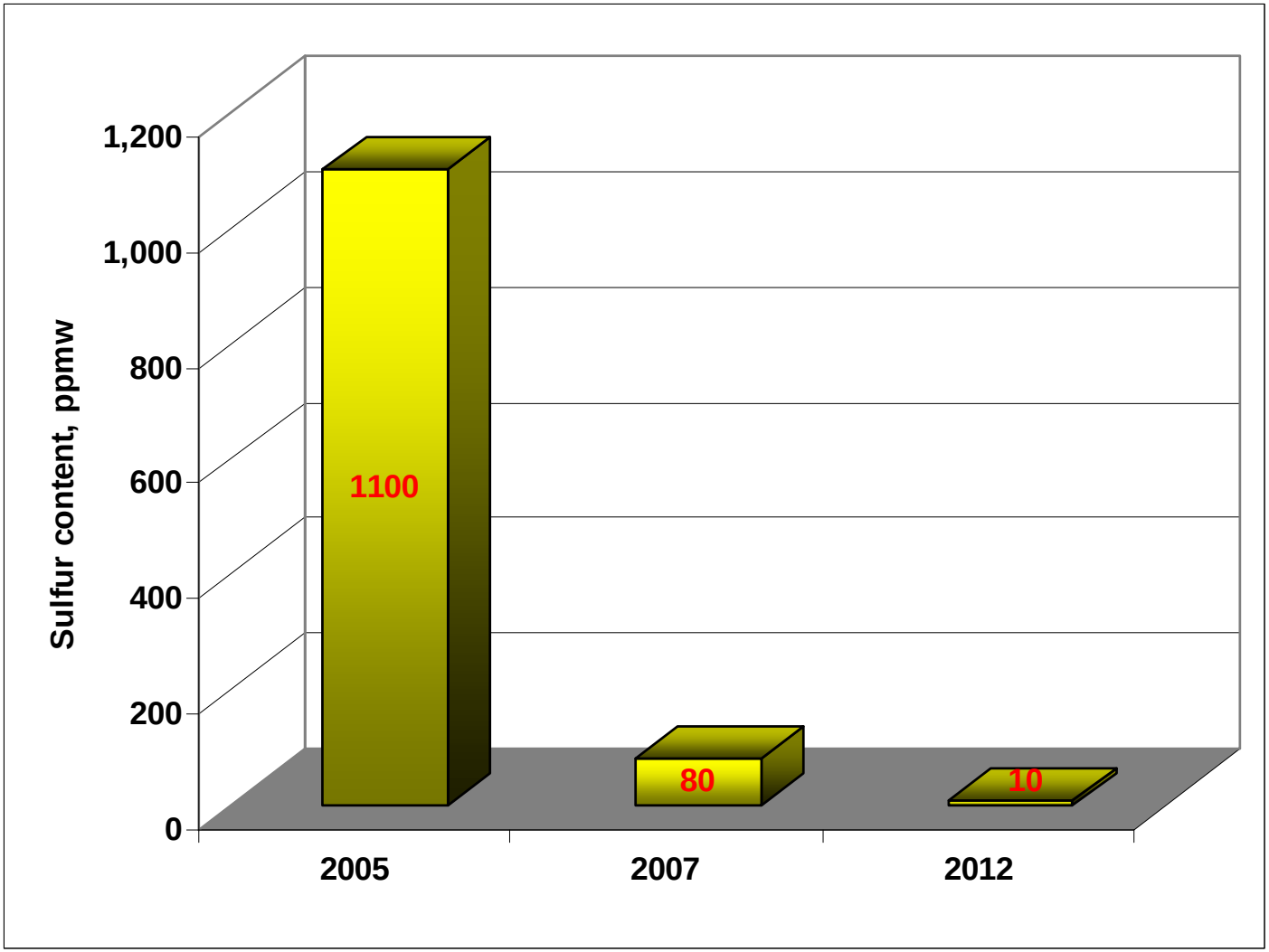
≈40-50%

Progress Report - Existing Measures Diesel Fuel Standards

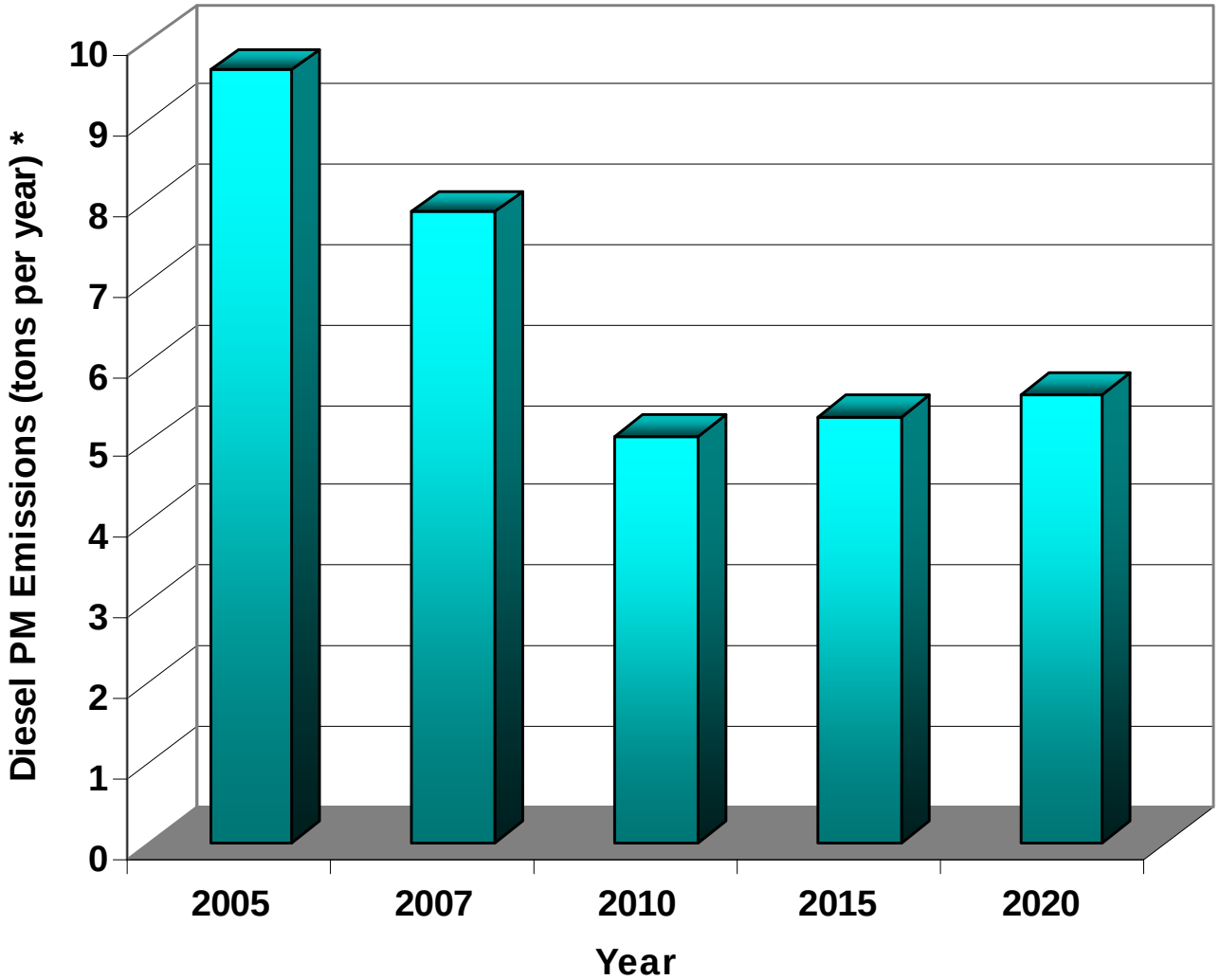
Fuel Type	Maximum Sulfur Level (ppmw)		Aromatics Maximum (% by volume)
	Prior	2006-2007	
CARB Diesel	500	15	10
EPA On-Road Diesel	500	15	35
EPA Non-road Diesel	5,000	500*	35

* Lower to 15 ppmw in 2012.

Progress Report - Existing Measures
Average Diesel Fuel Sulfur Levels Consumed by Locomotives in California

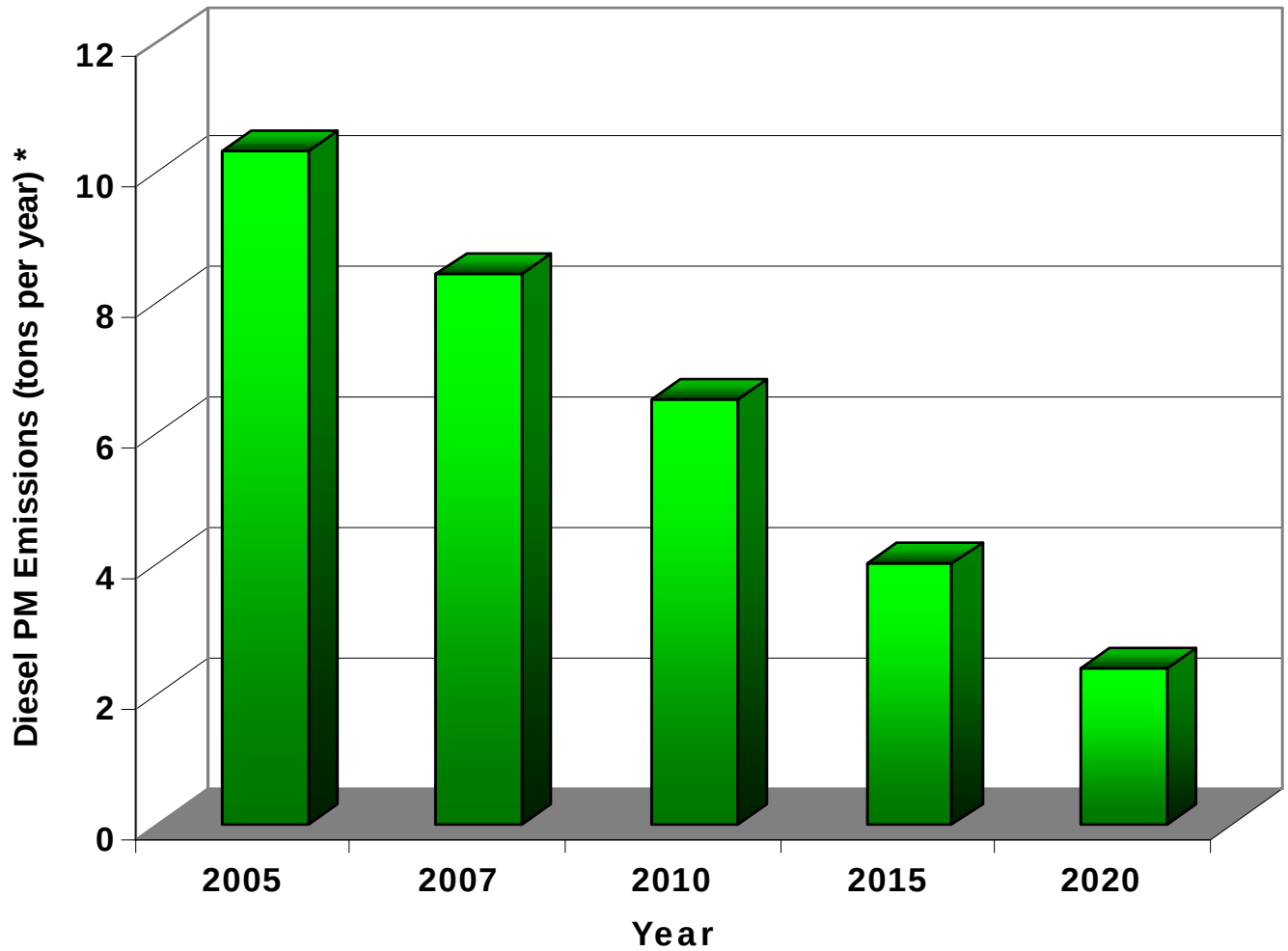


Progress Report - Existing Measures
South Coast Railyard Diesel PM Emission Reductions: Line-Haul Locomotives



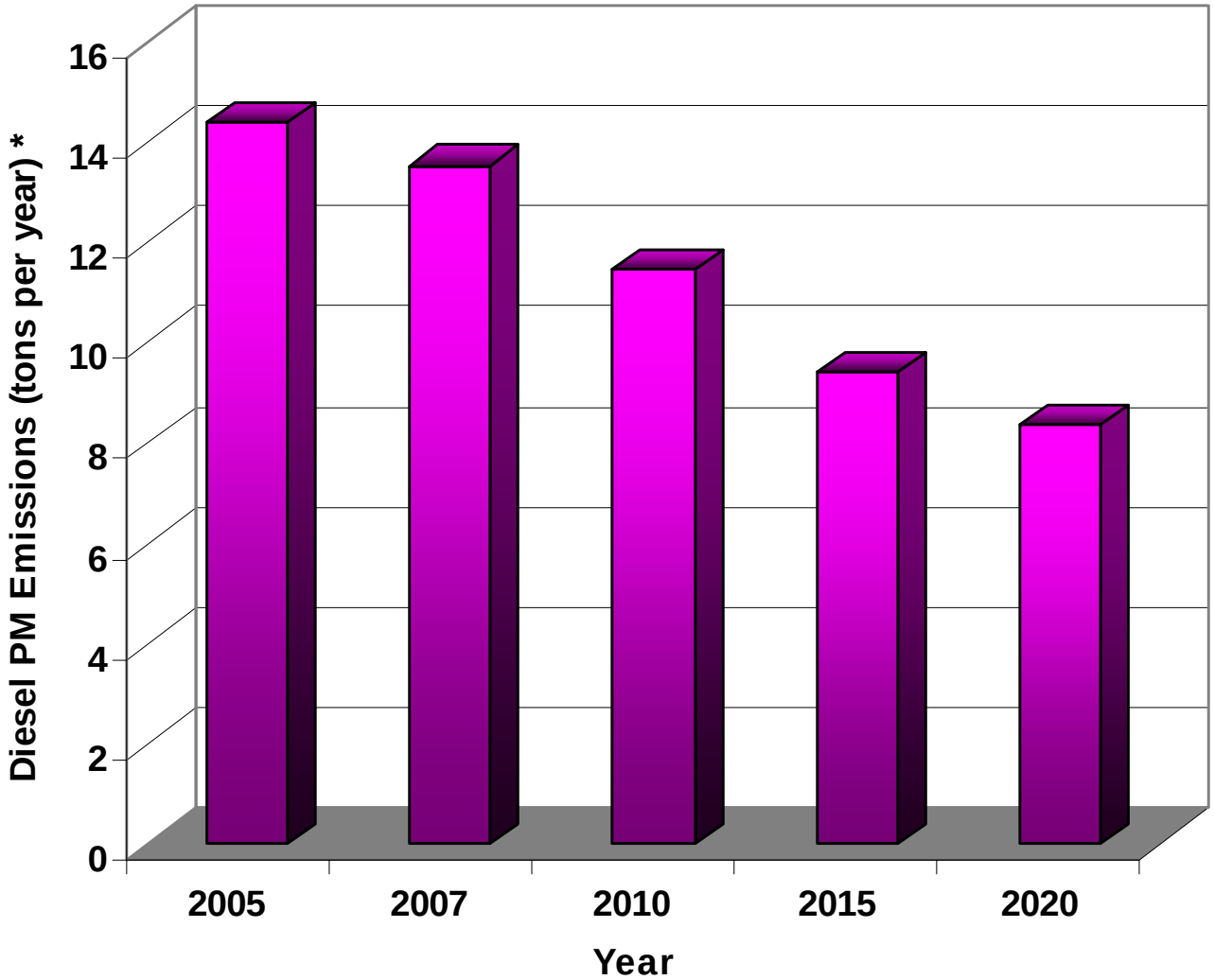
* Based on 7 South Coast railyards line-haul locomotives emissions

Progress Report - Existing Measures
South Coast Railyard Diesel PM Emission Reductions: Cargo Handling Equipment



* Based on 7 South Coast railyards cargo handling equipment emissions

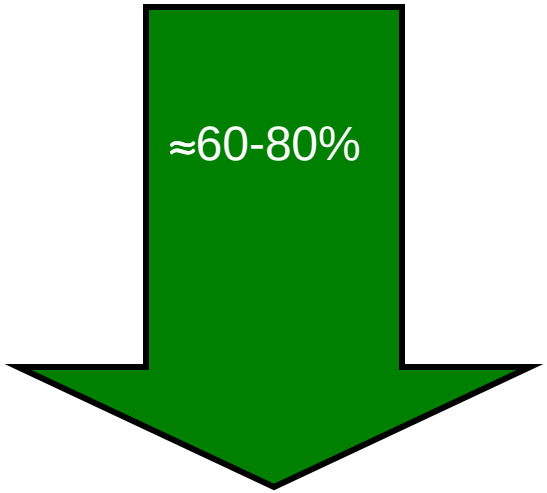
Progress Report – Existing Measures
South Coast Railyard Diesel PM Emission Reductions: New On-Road Trucks



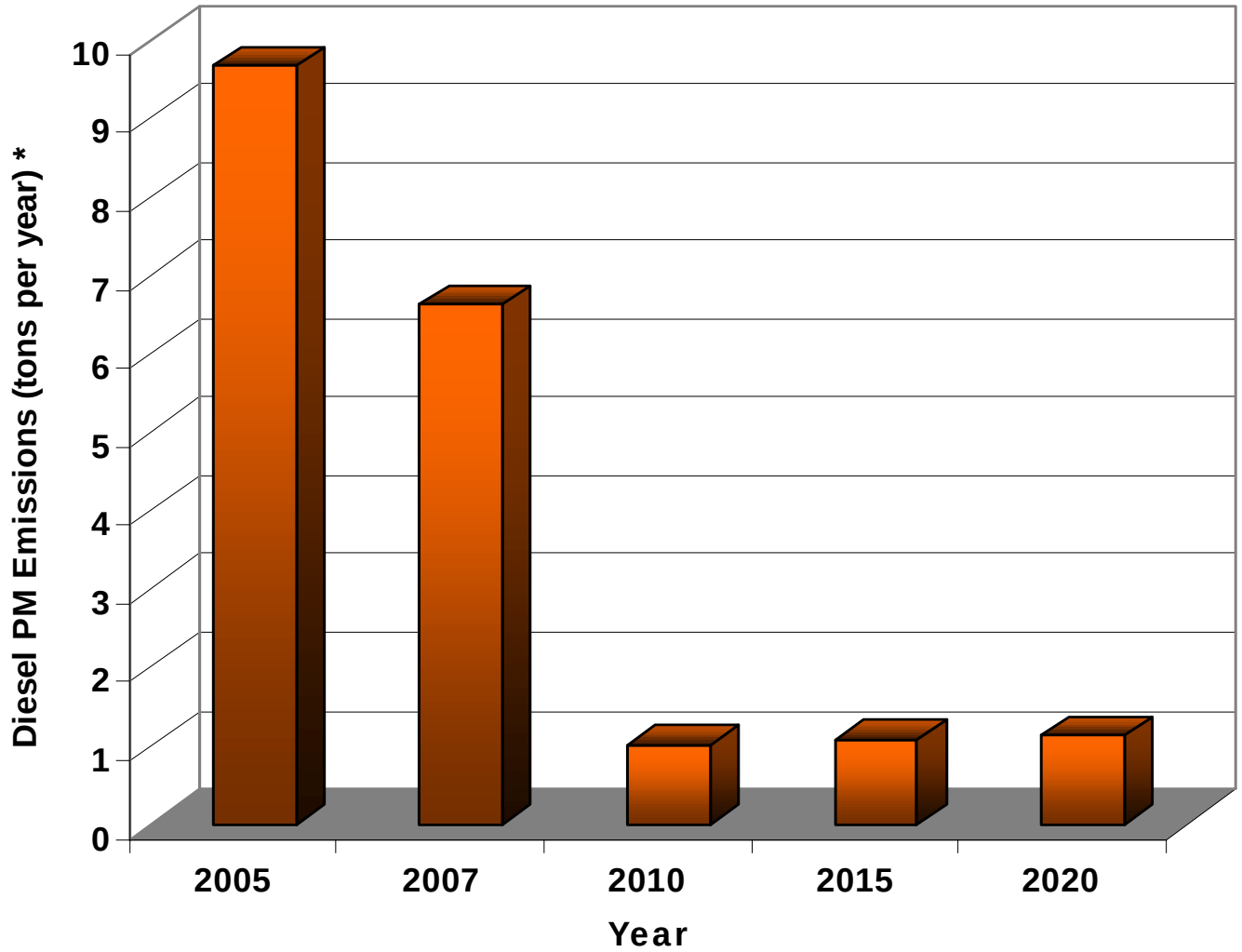
* Based on 7 South Coast railyards on-road truck emissions

Possible Additional Measures

- **2005-2020:**
  - **U.S. EPA locomotive rulemaking**
  - **California replacement of switch locomotives**
  - **ARB in-use truck measure**

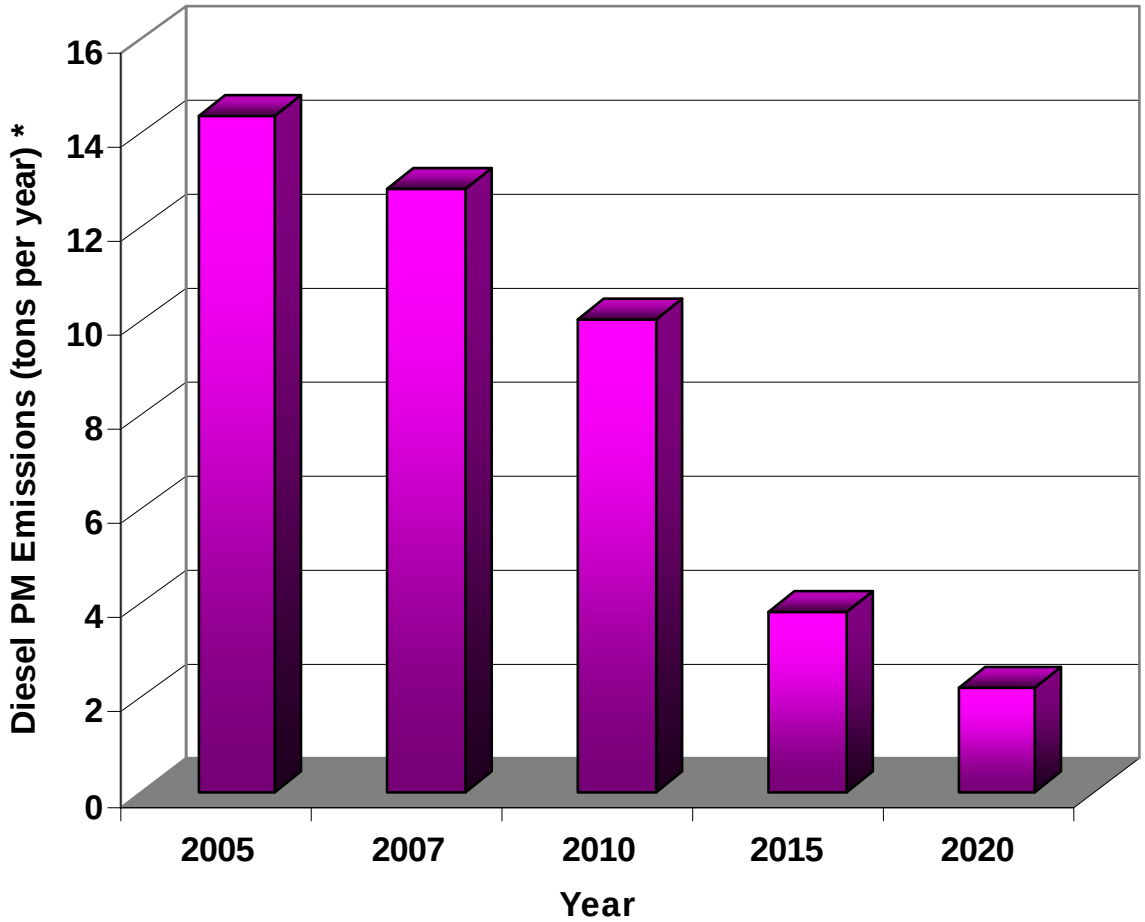


Progress Report – Potential Measures
South Coast Railyard Diesel PM Emission Reductions: Switcher Locomotive Replacement by 2010



* Based on 7 South Coast railyards switcher locomotives emissions

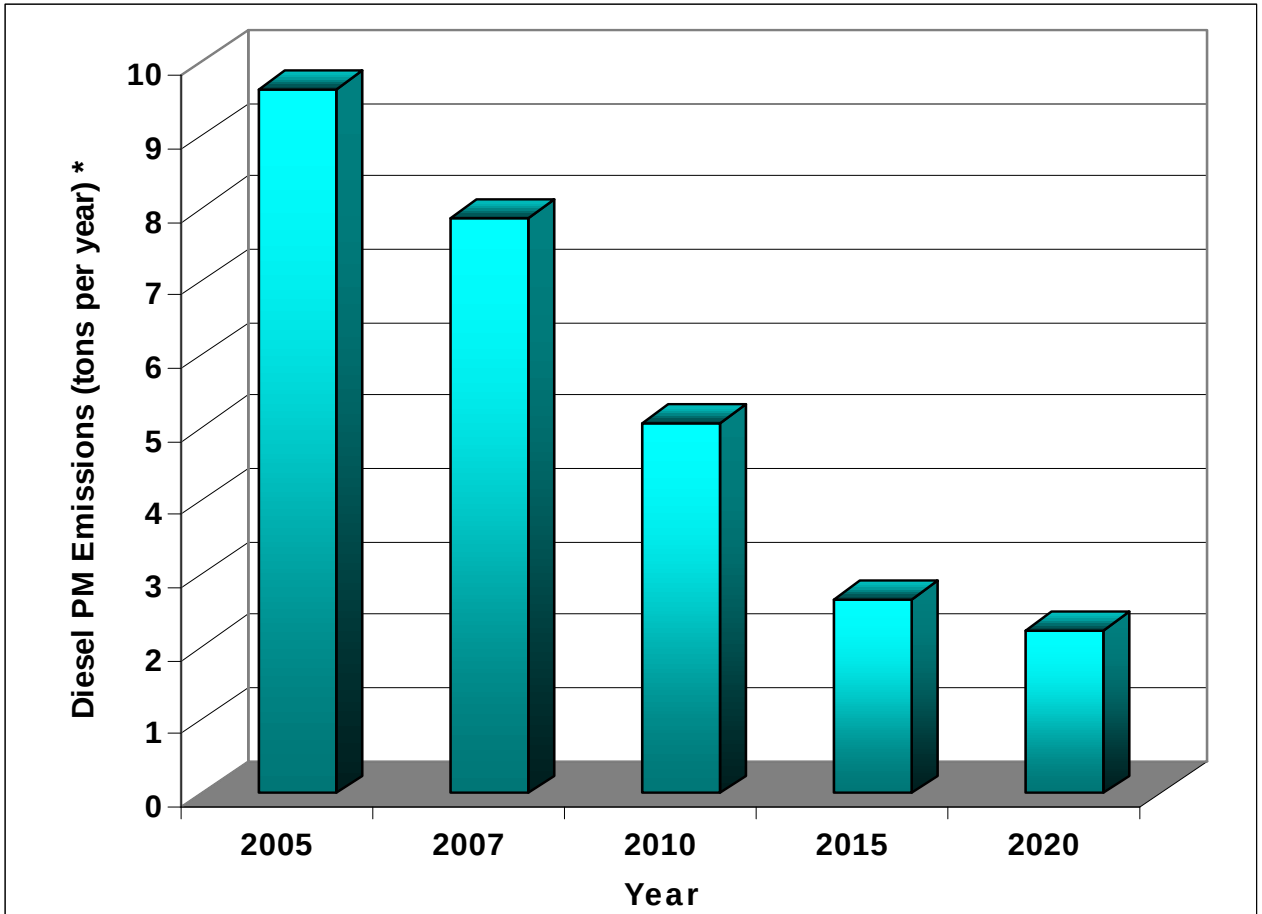
Progress Report - Potential Measures
South Coast Railyard Diesel PM Emission Reductions: In Use On-Road Trucks



* Based on 7 South Coast railyards on-road truck emissions

- In addition to the existing **on-road heavy-duty truck regulation.**

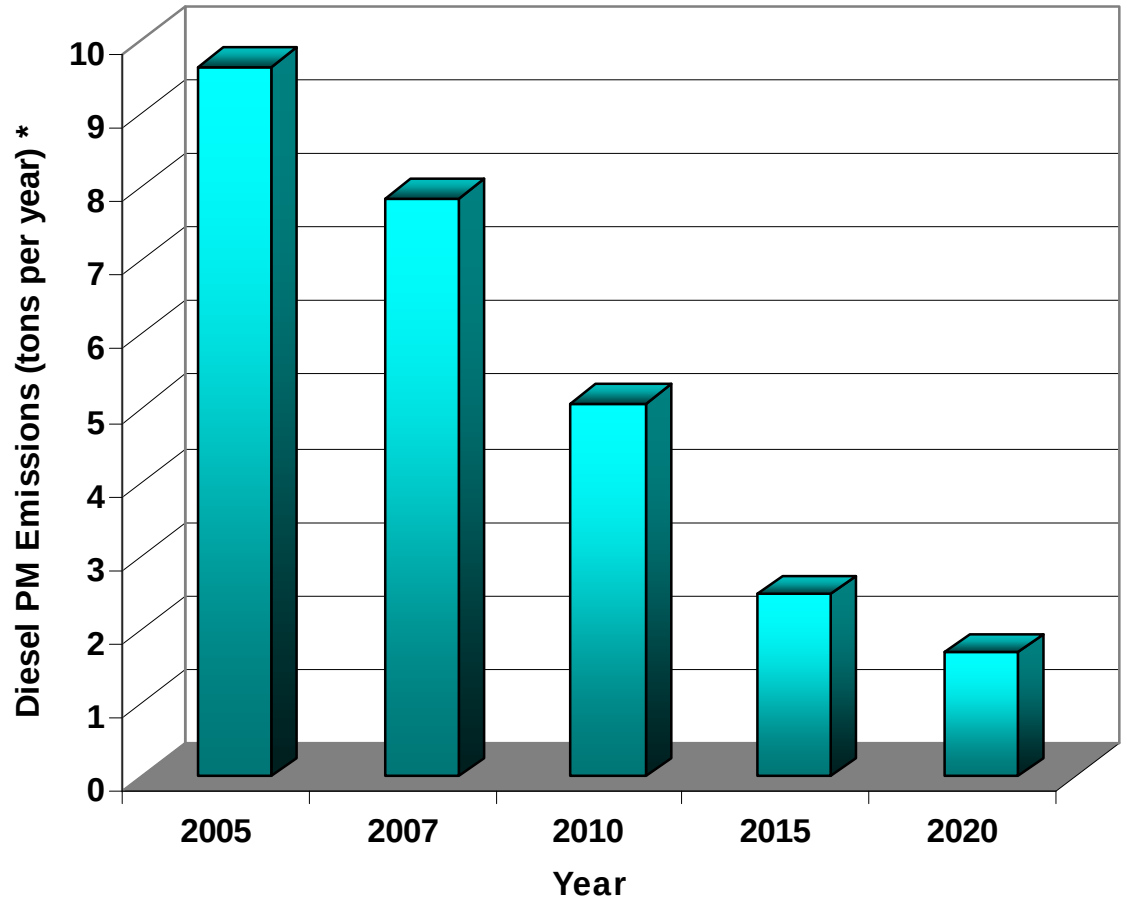
Progress Report - Potential Measure
South Coast Railyard Diesel PM Emission Reductions: U.S. EPA Locomotive Rulemaking



* Based on 7 South Coast railyards line-haul locomotives emissions

- In addition to the existing Line-haul locomotive fleet average agreement.

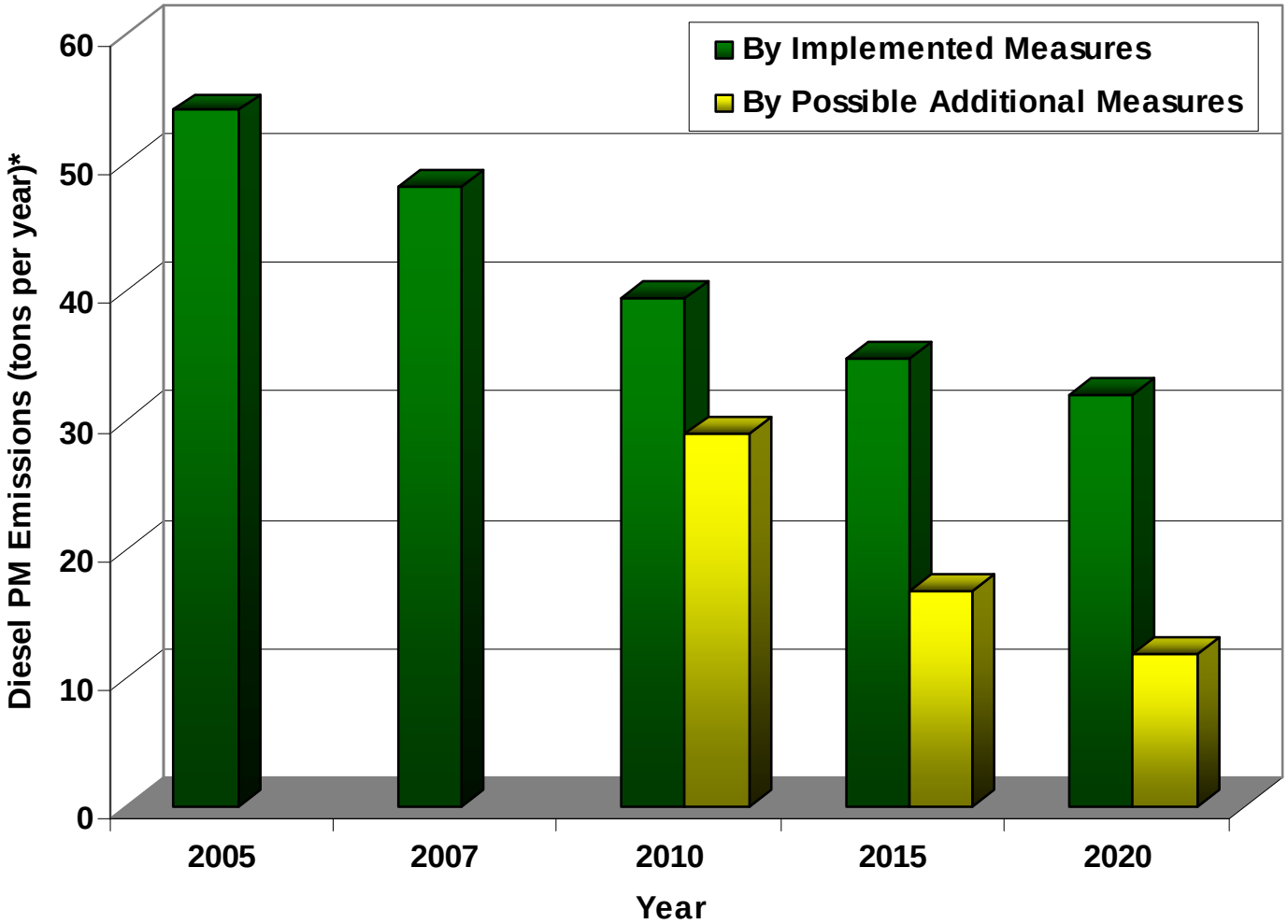
Progress Report - Potential Measure
South Coast Railyard Diesel PM Emission Reductions: Existing Line-haul Locomotive Aftertreatment Certification



* Based on 7 South Coast railyards line-haul locomotives emissions

- In addition to the existing Line-haul locomotive fleet average agreement and U.S. EPA Locomotive rulemaking.

Progress Report - Existing + Potential Measures
Total Benefits of the Emission Reductions Measures for the South Coast Railyards



* Based on 7 South Coast railyards diesel PM emissions