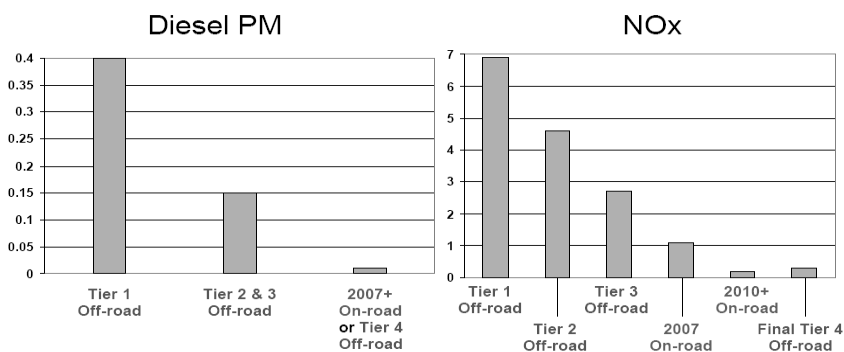


Marine Terminals

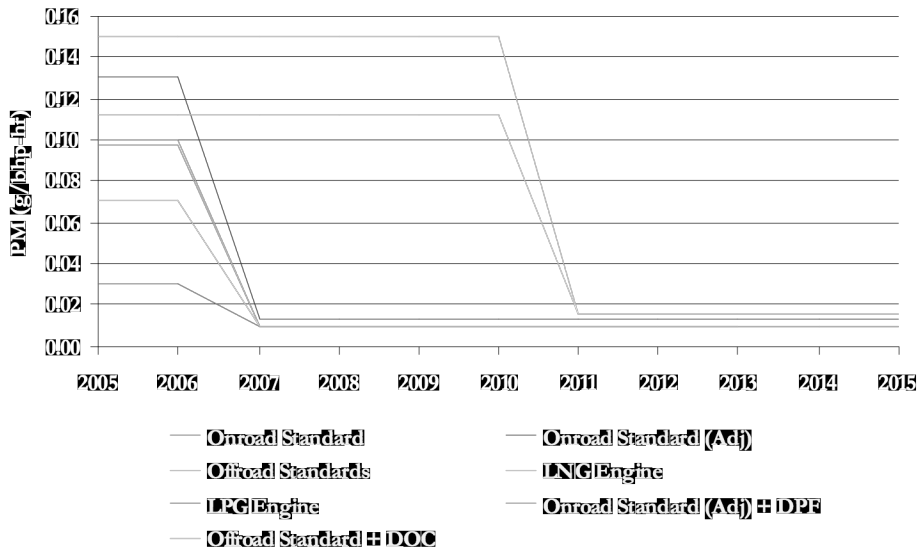
- 8 Marine Terminals
 - 6 Terminal Operating Companies
- Processed 2,391,598 TEU in 2006
 - Volume down about 1 percent in 2007
- Over 500 Units Cargo Handling Equipment
 - 65% Yard Trucks
 - 35% Other Types of Equipment
 - Side & Top Picks – RTGs– Forklifts

Goal of CHE Reg. is Tier 4

Current Off-road and On-road New Engine Standards

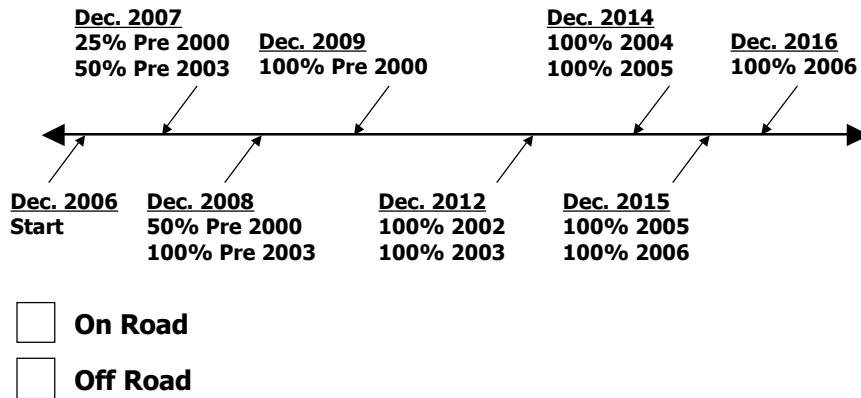


Emission Factors



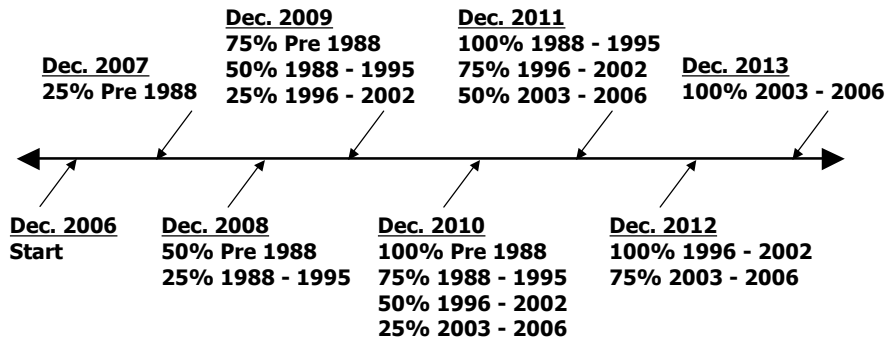
CARB REQUIREMENTS CARGO HANDLING EQUIPMENT

Yard Trucks – Majority of Equipment
Purchase of 2007 On Road or Better



CARB REQUIREMENTS OTHER CARGO HANDLING EQUIPMENT

**RTGs / Top Picks / Side Picks, etc.. – Minority of Equipment
Purchase of Best Available Tier or Retrofit**



Marine Terminals' Summary

- Exceeding Current Regulation
 - Yard Trucks – 36%
 - RTGs, Side & Top Picks – 33%
 - Much of the Non Diesel Equipment Runs on LPG

- RFID and GPS Technology
 - Improved Efficiencies
 - Reduce Idling and Handling

- Engine Idling Shut Off Controls

Marine Terminals Desired Improvements & Constraints

- Improvements – Wish List
 - Expedite Development of Tier 4 Engines <2011
 - Appropriate Appointment Systems for Trucks
 - Hybrid and Electrified Cargo Handling Equipment

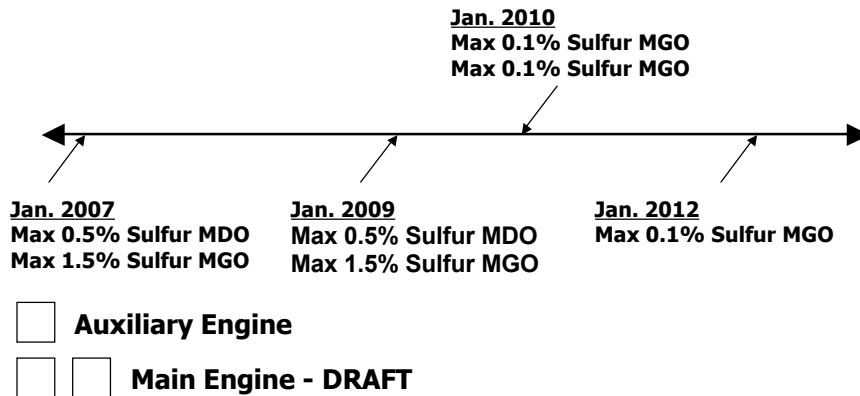
- Constraints
 - Money / Investment Incentives
 - Technology Lagging (Tier 4)
 - Dialogue with Labor, Community and Shippers

Shipping Lines

- 30 Major Water Carriers
 - 392 Vessels (2005)
 - 1,916 Unique Vessel Calls (2005)
 - Main Engines – Diesel Category 3
 - Large - Category 3 Engines Provide Propulsion
 - Auxiliary Engines – Diesel Category 1 and 2
 - Small – Provide Electrical Power
 - Boilers
 - Provide Steam Heating of Fuel, Power for Winches and Pumps

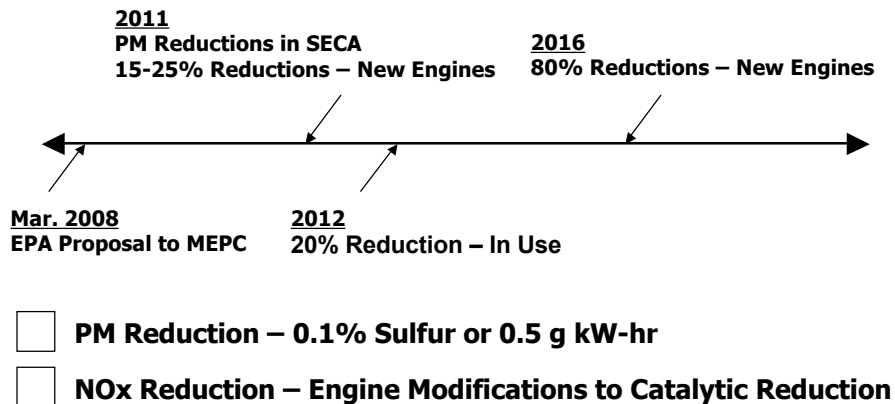
CARB Ship Fuel Regulations

**Main Engines - Used Underway
Auxiliary Engines & Boiler - Used At Sea and Dock
Fuel Use Within 24 Nautical Miles**



US EPA Ship Emission Proposal

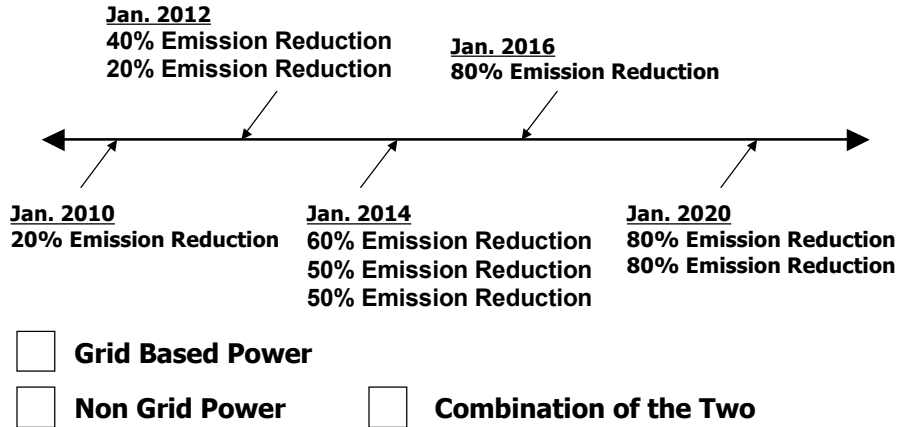
**Performance Based Measures
Proposed Through the IMO (UN)
Reductions in Defined Coastal Areas / SECA**



CARB

Draft Proposal - Cold Ironing

Auxiliary Engines - Used At Dock



CARB Thermal Refrigeration Units

Portable Diesel Generators or Gensets Purchase of Best Available Tier

MY	07	08	09	10	11	12	13	14	15	16	17	18	19	20
<01		L	L	L	L	L	L	L	U	U	U	U	U	U
02			L	L	L	L	L	L	L	U	U	U	U	U
03				U	U	U	U	U	U	U	U	U	U	U
04					U	U	U	U	U	U	U	U	U	U
05						U	U	U	U	U	U	U	U	U
06							U	U	U	U	U	U	U	U
07								U	U	U	U	U	U	U
08									U	U	U	U	U	U
09										U	U	U	U	U
10											U	U	U	U
11												U	U	U
12													U	U
13														U

- Low Emission TRU – L = 0.22 g
- Ultra Low Emission TRU – U = 0.02 g Compliance Dates Dec. 31

Shipping Lines' Summary

- **Beyond Regulation**
 - LS Fuel in Auxiliary Engines
 - LS Fuel in Main Engines
 - Compliant with MARPOL Annex VI
 - Reefer Gensets Ahead of Schedule – Up to 100%
- **Combustion Technology**
 - Slide Valves/Common Rail Injection on Main Engines
 - SCR and Filters on Auxiliary Engines
- **Fuel Testing – Emulsified Fuel in Main Engines**
- **Cold Ironing**
 - Many Vessels Already Equipped - Newbuilds Scheduled
 - Testing Non Grid Electrical Generation - Wittmar

Shipping Lines Desired Improvements & Constraints

- **Improvements – Wish List**
 - Cold Ironing Infrastructure – Cost and Time
 - Scrubber Technology
 - Catalytic Reduction Improvements
 - Better Accommodation of LS Fuel in Main Engines
 - Fuel Cell – Hydrogen Power - Biodiesel
- **Constraints**
 - Money / Investment Incentives
 - Technology Lagging (Scrubber, SCR)
 - Dialogue with Labor, Community and Shippers
 - Legal Concerns with Independent Regional Actions