

# Future Regulatory Plans for Ocean-going Vessels



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## Plans for Ocean-Going Vessels

- Vessel Speed Reduction Regulation
- Main Engine Fuel Regulation
- Sulfur Emission Control Area (SECA)
- Cleaner Vessels
- Cold Ironing
- Incineration

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## Current Vessel Speed Reduction MOU

- Initiated in 2001
- Voluntary
- NO<sub>x</sub> reduction
- Air Quality Compliance Zone
- Applicable to POLA and POLB



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## Vessel Speed Reduction Regulation

- Considering expanding zone
- Possible speed limit: 12 knots
- Region affected:
  - POLA, POLB, and possibly other CA ports
- Emission Reductions: NO<sub>x</sub> and potentially other pollutants

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## Main Engine Fuel Regulation

- Use of low sulfur distillate fuel (MGO)
- Applicability: 24 nautical miles or more off CA coastline
- Staff will perform a fuel availability analysis
- Tentative Implementation Date: Jan. 2010
- Potential emissions reductions relative to use of heavy fuel oil:
  - 75% reduction of diesel PM and SOx
  - 6% reduction of NOx

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## SOx Emission Control Area (SECA) or Alternative

- Average sulfur content in heavy fuel oil is now 25,000 ppm (2.5%)
- A SECA caps fuel sulfur at 15,000 ppm (1.5%)
- ARB supporting U.S. EPA by providing technical support
- ARB is seeking 5,000 ppm (0.5%) sulfur or less by 2015

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## Cleaner Vessels: Cleaner Engines

Step 1: New and rebuilt engines, starting in 2010

- 30% reduction of PM\*
- 30% reduction of NOx\*

Step 2: New engines, starting in 2015

- 60% reduction of PM\*
- 90% reduction of NOx\*

\*Reductions from current IMO standards

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## Cleaner Vessels: Potential Technology

- Low sulfur fuel
- Slide Valves
- Water / fuel oil emulsion
- Saturated Air Motor / Humid Air Motor
- Exhaust Gas Recirculation (EGR)
- Selective Catalytic Reduction (SCR)
- Reduced cylinder lube oil consumption

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# Cleaner Vessels: Targets for Cleaner Vessel Visits

- Strategy calls for increasing percentage of ship visits by vessels using cleaner technology

	Ship Visits by Year		
	2010	2015	2020
30% Lower Emissions	20%	50%	40%
60% less PM, 90% less NOx	--	25%	50%

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