

# Public Workshop to Discuss At-Berth Regulation

Thursday November 6, 2014  
Sacramento, CA

California Environmental Protection Agency  
 **Air Resources Board**



# Agenda

- Introduction
- ❑ At-Berth Regulation and Implementation Status
- ❑ Potential Concepts for Amendments
- ❑ Next Steps
- ❑ Open Discussion



*Introduction*

## Regulatory Staff

# Development & Implementation of the At-Berth Regulation

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*Introduction*

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*Introduction*

## Legal Staff

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*Introduction*

## Meeting Information

- Meeting materials available on shore power website

[www.arb.ca.gov/ports/shorepower/shorepower.htm](http://www.arb.ca.gov/ports/shorepower/shorepower.htm)

- Join list serve

[www.arb.ca.gov/listserv/listserv\\_ind.php?listname=shorepower](http://www.arb.ca.gov/listserv/listserv_ind.php?listname=shorepower)

- E-mail questions to [Shorepower@arb.ca.gov](mailto:Shorepower@arb.ca.gov)



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## At-Berth Regulation – Applicability

- Container, passenger, & refrigerated cargo vessels
- Ports of Los Angeles, Long Beach, Oakland, San Diego, Hueneme, & San Francisco
- Fleets with  $\geq 25$  annual visits
  - For passenger vessels, 5 or more visits



## At-Berth Regulation – Requirements

- Emission/power reduction percentages increase over time, 10% in 2010 to 80% in 2020
- Two pathways to reduce emissions
  - Reduced onboard power generation option
  - Equivalent emission reduction option
    - Most fleets chose reduced onboard power generation option
- 2014 requirements are 50%



## Significant Efforts Expended Preparing for Compliance

- ~200 vessels outfitted to receive shore power
- 27 companies submitted 2014 compliance plans
  - 51 fleets
  - Expected ~2750 shore power visits out of 4400 total visits
- Ports and terminals installed land-side infrastructure for shore power
  - 63 berths at 23 terminals shore power equipped
- Alternative technologies under evaluation



## Prop 1B Berth Funding

- Proposition 1B funding helped bring shore power to 35 berths at 4 ports
  - 3 at Hueneme
  - 10 at Los Angeles
  - 12 at Long Beach
  - 12 at Oakland
- \$74 million in funding dispersed



## Status of Equivalent Emission Reduction Technologies

- Two companies, ACTI and CAE have potential Equivalent Emission Reduction Technologies
- Both systems capture emissions and treat with mobile barge mounted control devices
- ACTI and CAE currently have approved test plans
- Test plans require source testing and 200+ hours of in-use testing
- Result of tests will be used by ARB to determine At-Berth Regulation control factor



## 2013 Regulatory Advisory

- Issued December 2013 for January – June 2014 time period
- Assisted with transition to 2014 compliance requirements
- Addressed five scenarios:
  1. Terminal's berth is not completed
  2. Vessels first commissioning visit
  3. Vessel connection time exceeds 3 hours
  4. Shore power equipment delays
  5. Alternative technologies



## Summary of Advisory Status

- 34 fleets submitted request for relief under one or more advisory scenarios
  - 32 container/reefer fleets
  - 2 passenger fleets.

	Container / Reefer	Passenger
Scenario 1	6	4
Scenario 2	20	1
Scenario 3	13	1
Scenario 4	13	0
Scenario 5	1	0

**Fleets could request relief under more than one scenario**



## On-going Challenges

- Good faith efforts to comply underway
- Advisory assisted but compliance challenges remain
  - 3-hr requirement / visit requirement
  - Berth availability
  - Commissioning
  - Redeployment
  - Compliance periods
  - Equivalent technologies



## Reported Challenges: 3-hr Requirement / Visit Requirement

- 3-hour window difficult to meet
  - Issues outside control of vessel operator make compliance difficult – time for Customs and Border Protection, labor/pilot/tug concerns, unexpected events
  - Most outside control of vessel operator
  - Failure to meet 3-hr limit results in loss of visit towards compliance, even if vessel uses shore power
- Fleets have incentive to connect quickly based on framework of power reduction and emission reduction requirements



## Reported Challenges: Berth Availability

- Shore power ready vessels having difficulty accessing shore power berth
  - Vessel sent to non-shore power berth if shore power berth already in use
    - Fleets may not always have control over their berth assignment
  - Vessel incompatible with shore power at the shore power equipped berth
  - Vessels positioned such that they are unable to connect with shore power



## Reported Challenges: Commissioning

- At-Berth Regulation does not address vessel/berth commissioning
  - Shore power vessel's first visit to terminal with shore power requires commissioning process before the two can safely connect
  - Commissioning can take more than 1 visit
  - Commissioning visits currently count as normal non-shore power visits



## Reported Challenges: Redeployment

- Redeployment is an on-going reality for fleets
  - Changes in demand, dry dock schedules, vessel sharing agreements
- Redeployment impacts a fleets vessel plan and can effect ability to comply
- Suggested that 2 quarters needed to retrofit and commission redeployed vessels



## Reported Challenges: Compliance Periods

- Quarterly compliance periods can be challenging for small fleets
  - Example: passenger fleet with 2 visits per quarter must use 100% shore power on every visit
- Quarterly compliance makes it harder to make-up visits, plan for commissioning and plan for a redeployment
  - Only 3 months allowed to average out a disruption



## Reported Challenges: Equivalent Technologies

- At-Berth Regulation not clear on switching options post-2014
- Some fleets indicate they would like to utilize alternatives to shore power to reduce emissions
- Alternative technologies give fleets ability to choose the most cost effective approach to compliance



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Potential Concepts for Amendments

## Goals and Objectives

- Address operational and technical challenges
- Expand accountability for compliance
- Retain and potentially enhance expected emission benefits



## 3-hr / Visit Requirement

- Modify 3-hr component of visit requirement
  - Visit counts if use shore power or approved technology
- Establish default reduction percentages for shore power:

Hours operating Aux Engines	Default Value
3 hours or less	90%
More than 3, less than 4 hours	80%
More than 4 hours, less than 5 hours	70%
5 hours or more	Actual Values



## Berth Availability

- Explore mechanisms to expand accountability to terminals and ports for ensuring shore power equipped vessels are able to connect when arriving to a port
  - Berth availability is dependent on working relationship between terminals and fleets



## Commissioning

- Explore approaches for addressing commissioning visits under the At-Berth Regulation
  - Provide flexibility to accommodate new vessels
  - Consider approach consistent with advisory
  - Evaluate alternative approaches



## Redeployment

- Other amendments will help
  - Expanding compliance periods
  - Use of alternative technologies
  - Commissioning visits
- Fleets that bring shore power ready vessels to California will not have a problem with redeployment



## Compliance Periods

- Explore using an annual compliance period or other compliance period
  - Allows fleets greater opportunity to plan compliance
  - Equitable requirement for fleets that are near the visit threshold
  - Need to ensure air quality not adversely impacted



## Equivalent Technologies

- Merge Equivalent Emission Reduction Option pathway into Reduced Power Generation Option pathway
  - Using approved reduction technology counts toward visit requirement
  - Fleets complying with Equivalent Emission Reduction pathway prior to 2014 will not have a visit requirement



## Exploring Additional Reductions

- Exploring possibilities for additional cost effective reductions from:
  - New technologies
  - Additional fleet types
  - Additional ports



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## Next Steps

- Continue to explore potential concepts for amendments
- Additional public workshop – 1<sup>st</sup> Quarter 2015
- Welcome your feedback
  - Send comments via email to [shorepower@arb.ca.gov](mailto:shorepower@arb.ca.gov)
  - Work with staff to schedule teleconference or in person meeting



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# Open Discussion Topics

E-mail: [shorepower@arb.ca.gov](mailto:shorepower@arb.ca.gov)

- Other unaddressed issues
- Comments on concepts
  - 3-hr requirement / visit requirement
  - Berth availability
  - Commissioning
  - Redeployment
  - Compliance periods
  - Equivalent technologies
- Suggestions for alternative concepts

