Cold-Ironing Regulatory Requirements Overview
Regulated Entities

- Fleet Operators
  - Primary responsibility

- Terminal Operators
  - Coordinate with fleet operators to implement compliance options
Fleets consist of:

- Ships owned and directly operated by company
- Ship operating under chartering agreement
- Ports of Los Angeles and Long Beach are considered one port
Compliance Options

- **Reduced Onboard Power Option**
  - Grid-based approach
  - Auxiliary engines operated no more than 3 hours

- **Equivalent Emission Reduction Option**
  - Allows alternative options (e.g., distributed generation)
  - Earlier implementation dates

- **Credit options for early or surplus reductions**
## Regulatory Deadlines

- **Schedule for reduction:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Reduced Onboard Power Option (reduced visits &amp; engine operation)</th>
<th>Fleet-Wide Emission Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 2010</td>
<td>--</td>
<td>10%</td>
</tr>
<tr>
<td>January 1, 2012</td>
<td>--</td>
<td>25%</td>
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<tr>
<td>January 1, 2014</td>
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<td>January 1, 2017</td>
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</tr>
<tr>
<td>January 1, 2020</td>
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<td>80%</td>
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</tbody>
</table>
Vessel Plans

• Vessel plan due to ARB Executive Officer July 2009 or July 2013
  - Subsequent updates

• Plan provides information on how the fleet will be modified to satisfy regulation
Terminal Plans

- Terminal operator required to develop plan
- Due to ARB Executive Officer July 2009
- Affects terminals with more than 50 visits in 2008
Terminal plans must identify:

- Ship activity (2008) and anticipated growth of activity through 2020

- Needed infrastructure:
  - Utility infrastructure (grid)
  - Port infrastructure (grid)
  - Terminal infrastructure (grid, DG, shore-side controls)
Terminal Plans

• Plan details depends upon:
  – Compliance options chosen by ship operators
  – Anticipated ship activity

• Schedule
  – Identify major implementation milestones
  – Identify critical elements and responsible party
Thank You