Environmental Issues Impacting the Cruise Industry
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Vice President, Public Affairs
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MIKE WATTS
Manager, Marine Division
Cochran, Inc.
Shoreside Power: the West Coast Experience
OR ...

SMOKING STACKS ATTRACTION

Don't Invite Disaster

THIRTEENTH NAVAL DISTRICT  ★ ★ ★ UNITED STATES NAVY
An Industry Initiative

Princess Developed . . .

In Juneau — 2001
Seattle — 2005
Vancouver — 2009
San Francisco — 2010
San Diego — 2010
Long Beach — ?
Los Angeles — ?
# is Now the Law

**2008 California EPA Regulation** —

What is the compliance schedule?

<table>
<thead>
<tr>
<th>Date</th>
<th>Reduced Onboard Power Generation Option</th>
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<tbody>
<tr>
<td>Jan. 1, 2010</td>
<td>Shore-power equipped ships must use shore power if available at berth</td>
</tr>
<tr>
<td>Jan. 1, 2014</td>
<td>50% of all cruise ship calls on shore-power</td>
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<tr>
<td>Jan. 1, 2017</td>
<td>70% of all cruise ship calls on shore-power</td>
</tr>
<tr>
<td>Jan. 1, 2020</td>
<td>80% of all cruise ship calls on shore-power</td>
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OR – equivalent emissions reduction by other means
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WHY?
Public Benefits of a Shoreside Project

Emission Reductions per Ship Call
(based on 77,441 GRT / 856’ LOA as typical)

- 1.3 tons of nitrogen oxides (NOx)
- 0.87 tons of sulfur oxides (SOx)
- 19.7 tons of CO₂
- 140 lbs of PM
Shoreside Power
the San Francisco Experience

- 2004  — Cruise Terminal Environmental Advisory Committee
- 2005  — U.S. EPA Low Sulfur Fuel Incentive
- 2006  — Air Quality Board Grant $1.9 million
- 2010  — Shorepower Project Completion
INITIAL TEST PHASE
San Francisco’s Pier 27
Shoreside Power Project Plan

PIER 27/29

Existing vault
Existing switches, breakers, transformer
New conduit & cable
Existing conduit & cable
Existing transformer

P27 Shed
New transformers

Connect Pt. 1
Connect Pt. 2

BERTH 27
COMING TO A PORT NEAR YOU . . . .

When Is Shore Power Sustainable?

- Abundant Low Emitting Sources of Electricity
- Hydro; Natural Gas; Nuclear
- Available Distribution Infrastructure
- Frequent & Regular Cruise Ship Calls