

Port of Oakland Presentation

MAQIP Task Force Meeting No. 5
December 14, 2007



MARITIME AIR QUALITY IMPROVEMENT PLAN

Introductory Remarks

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MARITIME AIR QUALITY IMPROVEMENT PLAN

Preliminary Emission and Risk Reduction Goals

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MARITIME AIR QUALITY IMPROVEMENT PLAN

- 1. Goal Development**
- 2. Preliminary Goals**
- 3. Achieving the Goals**



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Basis and Context for Goals - I

- Port is refining its emissions forecasts
 - Growth of certain source categories
 - Recent regulatory changes
- Goals presented today are therefore **PRELIMINARY** and subject to change



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Basis and Context for Goals - II

- Going forward, recognize the importance of emission reductions from all source categories, ships and trucks in particular
- Generally approach reductions from risk perspective (e.g. proximity to people), so we think in terms of 2 categories of seaport-wide goals:
 - On/near-shore
 - Off-shore
- Goals based on “medium” growth scenario



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Basis and Context for Goals - III

- Regulations that level the playing field are critical to emission/risk reductions and to Port achieving MAQIP goals
 - We are counting on all our agency partners
- Some delays may occur in currently planned regulatory activity due to issues of international and interstate commerce
 - Our goals must reflect uncertainty, be ambitious yet realistic



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General Guidance to Inform Goal Setting

- **Short Term (2012)**
 - **Ships:** 0.5 to 0.1% fuel sulfur content
 - **Ships:** small % calls have shoreside power (pending)
 - **Trucks:** pre-2006 trucks PM retrofits
 - **CHE yard trucks:** 2007 on-road emission standards
 - **CHE other:** pre-1996 & post-2006 meet Tier 4 off-road standard
 - **Rail:** low sulfur fuel, idle reduction, and some line haul turnover to Tier 2
 - **HC:** no engines with model year 1985 or earlier



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General Guidance to Inform Goal Setting

- **Long Term (2020)**

- **Ships:** 0.1% fuel sulfur content
- **Ships:** about 80% calls have shoreside power
- **Trucks:** 2010 emission standards
- **CHE yard trucks:** 2010 on-road emission standards
- **CHE other:** Tier 4 off-road
- **Rail:** Tier 0/1/2 retrofits, some turnover to Tier 3 and Tier 4
- **HC:** no engines with model year 2005 or earlier; most are 2010+ model year



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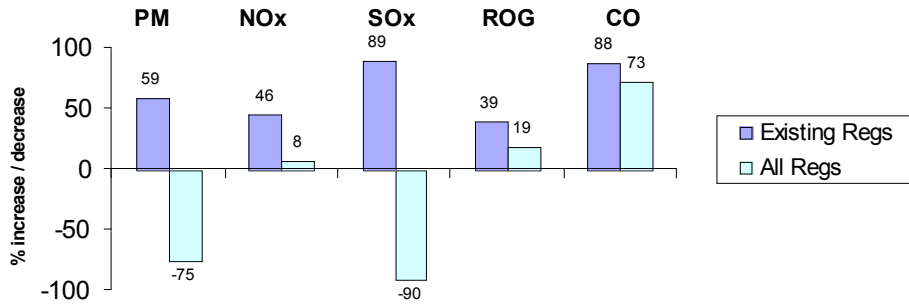
Preliminary Goals



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**Pollutant Reductions in 2020 As Compared to 2005
Medium Growth**

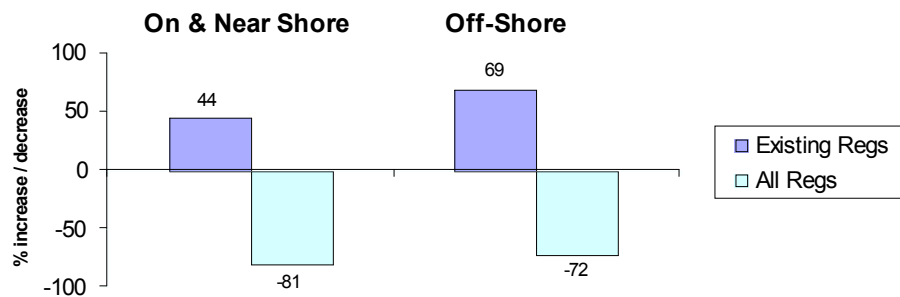
(Estimated Reductions from Existing and Pending Regulations)



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**PM Reductions in 2020 As Compared to 2005
Medium Growth**

(Estimated Reductions from Existing and Pending Regulations)



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PM Emission Reductions

(Baseline = 2005)

- OGV (ships - all except hotelling)
- Harbor Craft

- OGV (ships - hotelling)
- Cargo handling
- Truck
- Rail

	2012	2020
Off-Shore	NNI	-75%
On/Near-Shore	-50% (-70%)*	-85%

NNI = no net increase/decrease
 * with estimated benefit related to recent rules

**Draft and Subject to Change
 Do Not Cite or Quote**



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PM Risk Reductions

(Baseline = 2005)

2012: minimum of -20% (expect -25% to -30%)

2020: minimum of -80% (expect -85%)

- Based on cancer risk; As cancer risk decreases, so does non-cancer risk
- Based on working assumption of approx. 1:1 emission to risk ratio (pending HRA)

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Keys to PM Reductions

2012:

- Existing regulations in effect (CHE in particular) see handout
- Ship auxiliary engines
- Trucks (PM retrofits)

2020:

- Same as 2012 +
 - Ship shore-side power
 - Ship main engines
 - Trucks (new)



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NOx Emission Reductions

(Baseline = 2005)

	2012	2020
Off-Shore	TBD	NNI
On/Near-Shore	-5% (-30%)*	-30%

- OGV (ships - all except hotelling)
- Harbor Craft

- OGV (ships - hotelling)
- Cargo handling
- Truck
- Rail

NNI = no net increase/decrease
 TBD = To be Determined
 * with estimated benefit related to recent rules

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Keys to NOx Reductions

2012:

- Existing regulations in effect (CHE in particular)
- Ship auxiliary engines

2020:

- Same as 2012 + ship shore-side power
- NOx reductions are especially challenging
- Ability to require new/retrofits of in-use engines questionable for foreign-flag ships
- Local, state and federal work has been focused on PM reduction because of health risk concerns



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SOx Emission Reductions

(Baseline = 2005)

- OGV (ships - all except hotelling)
- Harbor Craft

- OGV (ships - hotelling)
- Cargo handling
- Truck
- Rail

	2012	2020
Off-Shore	NNI	-90%
On/Near-Shore	-85%	-85%

NNI = no net increase/decrease

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Keys to SOx Reductions

2012:

- Existing regulations in effect (CHE, rail, HC)
- Ship auxiliary engines

2020:

- Same as 2012 + ship main engines
- SOx closely tied to PM reductions



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Other Pollutant Reductions

- Current focus is on:
 - Health risk (and hence proximity to people)
 - Regulatory drivers
 - Therefore: PM, NOx, SOx
- More work to be done on NOx - Port to evaluate feasibility of establishing off-shore NOx reduction goals.
- ROG expected to decrease about 20% (on/near-shore, 2012 and 2020)
- Port to evaluate setting emission reduction goals for CO within approximately 1 year.
- For GHG, note major regulatory guidance and requirements are pending (AB 32).



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Achieving The Goals



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Achieving Our Goals

- A goal is something to strive for. We may do better; we may fall short.
- We are committed to achieving our goals by taking all feasible measures.
- We can't achieve our goals alone.



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Compliance

- Compliance with all laws and regulations across seaport
 - Port
 - Maritime businesses



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Projects

- Beyond compliance:
 - Port funding for DPF for 80 port trucks (2008).
 - Port Clean Truck Program to phase out dirty trucks and improve operational efficiencies (under study, 2008-2009).
 - Leveraging Port funding to 3rd party to purchase 9 LNG port trucks and 2 mobile fueling stations (2009).



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Projects

- Establish administrative mechanisms and provide support for early implementation of alternative shore-side power, if viable under CARB program (under study, 2010).
- Port to help fund 2 new switcher engines for BNSF rail yard (2008).
- Port/City opened CNG station open in maritime area (2007).
- Biodiesel pilot for Port vehicle fleet (2008).
- More to be developed over time



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Collaboration

- Work closely with carriers to continue use of low sulfur fuel in ship aux. engines in particular
- Support U.S. Proposal to IMO for long term equivalent of 0.1% sulfur content fuel
- Support potential adoption of SO_x Emissions Control Area (SECA) legislation (federal)
- Work closely with terminal operators to encourage advance purchase of new equipment in lieu of retrofits
- Work closely with City on land-use decisions
- More to be developed over time



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Other

- Port commitment to on-going operational efficiency improvements through developments, such as the 7th Street Grade Separation and OHIT
- Port commitment to pilot projects for emerging technologies that may be long-term solutions
 - Green construction equipment program (2007-2008)
 - Air monitoring project in partnership with BAAQMD (2008-2009)
 - Alternative shore-side power (2007)
- More to be developed over time



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Actions We Need from Others

- State, Federal, International laws and regulations (or equivalent agreements)
- Action from our business partners
- Community partnership
- Funding and support for funding from all our stakeholders



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Cost of Achieving Goals

- Costs are high; challenging to quantify
- Next steps include:
 - Cost estimating
 - Feasibility analysis
 - Budget development
- Issues to think about:
 - Reducing costs while cutting emissions and risk
 - Cost/benefit
 - Affordability



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Implementation, Monitoring, & Reporting

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1. Implementation
2. Monitoring and Reporting
3. Enforcement



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Two Primary MAQIP Functions

Function 1

Regulatory Reductions

Identify regulatory framework and design appropriate mechanisms for tracking **performance** in achieving benefits of aggressive regulatory program ("compliance").

Function 2

Additional Reductions

Identify specific initiatives for achieving additional emission and risk reductions, as well as framework for implementation.



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Implementation



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Function 1 (regulatory)

Basis:

- Promulgation of rules by CARB, BAAQMD, and/or EPA (CARB rules are focal point at this time)
- Regulations are based on feasibility analysis and detailed design for implementation
- Port requires compliance with laws and regulations in lease agreements



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Function 2 (additional) - Overview

Basis:

- Initiatives not required by regulation may be implemented in other ways
 - MAQIP is a 'well' from which to draw additional actions to reduce emissions and risk
- Port and tenants to consult "primary interest" list first when considering air quality projects (see handout)
- List can also guide development of pilot projects



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Function 2 (additional) - Implementation

- Regulation is promulgated and deemed legal
 - CEQA document certification
 - Discretionary (voluntary action)
 - Tenant or Port decision & policies
 - With and without incentives
 - Partnership with agency or other entity
 - Regulatory enforcement or other legal remedy
 - Change in market forces
- Subject to feasibility



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Port's 4-Part Program

- Part 1. Ask our tenants and business partners to take voluntary actions
- Part 2. Develop an incentive program while leases are in effect (closed)
 - Leases do not open for several years
 - Leases not always applicable (e.g. ocean carriers)
- Part 3. Negotiate when leases are open
- Part 4. Requirements imposed by Port if and when necessary and feasible



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Part 2 - Incentive Program

- Tenants, business partners wanting to participate in incentive program must:
 - Submit proposal to Port staff
 - Outline actions for which incentive is being requested
 - Obtain Port approval
- Incentives may or may not be financial
 - Example: container fee discount
 - Enacted through MOU, tariff, lease supplement or other mechanism
 - Subject to feasibility



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Part 3 – Lease Negotiation

- Lease negotiation provides opportunity for agreement by tenants for:
 - Specified additional action
 - Submittal of proposal (similar to incentive program)
- Leases expire at different times (8 terminals)
 - 1 terminal - 2009
 - 2 terminals - 2013
 - 2 terminals - 2016
 - 2 terminals - 2017
 - 1 terminal - 2019
 - Most leases have 1 or 2 five-year options to extend
- Continuation of incentive program (e.g. container fee discount)



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Monitoring and Reporting



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Functions 1 & 2 Combined

- Monitoring and reporting hinge on:
 - Estimating regulatory emission reduction locally
 - Tracking growth of Port activity and reductions relative to forecasts
 - Adjusting forecasts as appropriate
 - Documentation



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Functions 1 & 2 Combined

- Port to monitor and document actions it takes
 - Routine reporting to Board of Commissioners
 - Post reports to web platform
- Tenants to report every 1 to 3 years on status of air quality improvements
 - Regardless of participation in incentive program
 - Possible use of calculator/database to calculate emissions
- Regular meetings with tenants & partners



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Functions 1 & 2 Combined

- Port to update seaport-wide emission inventory every year (no less than every 2 years) starting in 2008
 - Possibility of updating inventory for 2007
- Coordinate to update health risk assessments (~ 5-yr updates from BAAQMD)
- Stakeholder dialogue via [stakeholder group](#)
- Agency-only dialogue via [interagency group](#)



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Stakeholder Group - Structure

- On-going and advisory to Port
- Smaller group (10-20 people)
 - Key agencies (including enforcement staff), community, maritime businesses, and others.
- Opportunity for community & industry to meet on regular basis
- Meet quarterly for first year (start summer '08)
- Meet semi-annually or annually thereafter
- Possibility of sub-groups over time if necessary



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Stakeholder Group - Roles

- Check-in about MAQIP status
- Education*
- Review implementation of initiatives*
- Review and seek resolution of any encountered difficulties
- Identify “priority” projects*
- Help identify and obtain funding*
- Input and review for HRA updates (BAAQMD)
- Help develop content for web platform*



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Interagency Group

- Check-in about MAQIP status
- Check-in on regulatory enforcement
- Review “additional” actions and priorities
- Review and seek resolution of any encountered difficulties
- Help obtain and leverage funding sources/access
- Discuss HRA updates



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Enforcement



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Function 1 (Regulatory)

- Work with tenants if non-compliance is identified and take appropriate next steps as necessary.
 - Current storm water program is an example:
 - Plans submitted to Port
 - Tenant self-monitoring and reporting program
 - Inspections by Port staff
 - Inspections by regulatory agency
- Ultimate enforcement authority lies with promulgating agency



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Function 2 (additional)

- Applicability and type of enforcement will vary with implementation mechanism (see slide 34)
- For example:
 - Incentive program > Port and/or others (terms of program)
 - Lease negotiation > Port (terms of lease)
 - Regulatory action > promulgating agency
 - CEQA > MMRP obligations under CEQA law
 - Voluntary (e.g. pilot project) > “investor” requirements
 - Change in market forces > NA



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Functions 1 & 2 Combined

- Stakeholder group
- Interagency group



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Comments and Discussion



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