

Revised Draft Port of Oakland Presentation

MAQIP Task Force Meeting No. 5
December 14, 2007



MARITIME AIR QUALITY IMPROVEMENT PLAN

Introductory Remarks

Richard Sinkoff
Manager, Environmental
Port of Oakland



MARITIME AIR QUALITY IMPROVEMENT PLAN

Preliminary Emission and Risk Reduction Goals

Delphine Prévost
Port of Oakland



MARITIME AIR QUALITY IMPROVEMENT PLAN

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

5

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

6

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

7

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

8

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

9

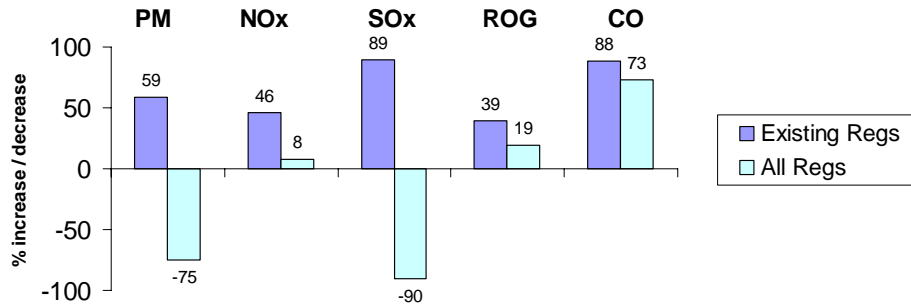
Preliminary Goals



MARITIME AIR QUALITY IMPROVEMENT PLAN

Pollutant Reductions in 2020 As Compared to 2005 Medium Growth

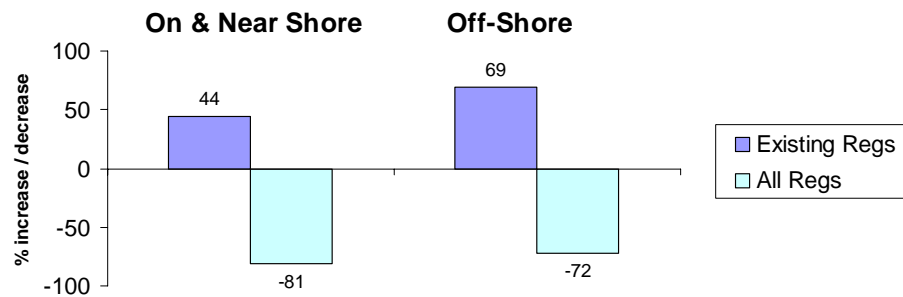
(Estimated Reductions from Existing and Pending Regulations)



MARITIME AIR QUALITY IMPROVEMENT PLAN

PM Reductions in 2020 As Compared to 2005 Medium Growth

(Estimated Reductions from Existing and Pending Regulations)



MARITIME AIR QUALITY IMPROVEMENT PLAN

PM Emission Reduction Goals

(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**



MARITIME AIR QUALITY IMPROVEMENT PLAN

13

PM Risk Reduction Goals

(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)

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Do Not Cite or Quote**



MARITIME AIR QUALITY IMPROVEMENT PLAN

14

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)



MARITIME AIR QUALITY IMPROVEMENT PLAN

NOx Emission Reduction Goals

(Baseline = 2005)

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

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

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

NNI = no net increase/decrease

TBD = To be Determined

* with estimated benefit related to recent rules

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

SOx Emission Reduction Goals

(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

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

19

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).



MARITIME AIR QUALITY IMPROVEMENT PLAN

20

Achieving The Goals



MARITIME AIR QUALITY IMPROVEMENT PLAN

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.



MARITIME AIR QUALITY IMPROVEMENT PLAN

22

Compliance

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

23

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).



MARITIME AIR QUALITY IMPROVEMENT PLAN

24

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

25

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

26

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

27

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

28

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

29

Implementation, Monitoring, & Reporting

Delphine Prévost

Port of Oakland



MARITIME AIR QUALITY IMPROVEMENT PLAN

1. Implementation
2. Monitoring and Reporting
3. Enforcement



MARITIME AIR QUALITY IMPROVEMENT PLAN

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.



MARITIME AIR QUALITY IMPROVEMENT PLAN

32

Implementation



MARITIME AIR QUALITY IMPROVEMENT PLAN

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

34

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

35

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

36

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

37

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

38

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)



MARITIME AIR QUALITY IMPROVEMENT PLAN

39

Monitoring and Reporting



MARITIME AIR QUALITY IMPROVEMENT PLAN

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

41

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

42

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](#)



MARITIME AIR QUALITY IMPROVEMENT PLAN

43

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

44

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*



MARITIME AIR QUALITY IMPROVEMENT PLAN

45

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

46

Enforcement



MARITIME AIR QUALITY IMPROVEMENT PLAN

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

48

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



MARITIME AIR QUALITY IMPROVEMENT PLAN

49

Functions 1 & 2 Combined

- Stakeholder group
- Interagency group



MARITIME AIR QUALITY IMPROVEMENT PLAN

50

Comments and Discussion



MARITIME AIR QUALITY IMPROVEMENT PLAN