

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

APPROVED MINUTES

Advisory Council Public Health Committee Meeting
1:30 p.m., Monday, April 14, 2003

- 1. Call to Order – Roll Call. 1:30 p.m. Quorum Present:** Brian Zamora, Chairperson, Elinor Blake, Linda Weiner. Absent: Ignatius Ding, Jane Kelly.
- 2. Public Comment Period.** There were no public comments.
- 3. Approval of Minutes of March 10, 2003.** Ms. Blake moved approval of the minutes with the following three corrections: (a) insert “what is now” before “the” on line four of Item No. 4 on page four; (b) replace “Little” with “No” in the second sentence of paragraph three on page two; (c) delete “full” from line two of paragraph three on page three. Ms. Weiner seconded the motion, which carried unanimously.
- 4. Maritime Emission Sources and Controls.** Jim McGrath, Environmental Planning Manager, Port of Oakland, presented (a) “Ships, Trucks and Trains: Control of Emissions of Shipping at the Port of Oakland,” which outlines the emission mitigation program in the Vision 2000 Port Expansion Project for the Fleet Industrial Supply Center in Oakland; and (b) a “Background Information” paper dated 1999. Displaying aerial photographs of the Port, he indicated that the marine area was dredged to a depth of 40 feet and the channel edge was moved back 700 feet. Five new berths and a joint inter-modal terminal were constructed. Other Port modifications included habitat restoration, improved public access and the installation of air quality monitors.

Emissions at the Port derive primarily from the following sources: *ships* (44% of the nitric oxide (NO_x); 65% of the particulate matter (PM)); *trucks* (19% of the NO_x; 10% of the PM), *cargo equipment* (22% of the NO_x; 19% of the PM) and *trains* (11% of the NO_x; 5% of the PM). The Port has focused on reducing PM since it is the major health concern of the community. The West Oakland Neighbors community group had earlier sued the Port over a programmatic document that concluded the Port lacked the regulatory authority to effectively mitigate emissions. The Court ruled that the Port must implement mitigations to the extent possible. Subsequently, the Port met with community groups to discuss mitigation measures. The dialogue was constructive.

Sound emission projections depend upon accurate emission inventories. The most recent Port inventories date from 1995 and are contained in the Clean Air Plan adopted during the last State Implementation Plan. These are dated and require some correction. The Port will improve its emission inventories through the Environmental Impact Report (EIR) and State Implementation Plan (SIP) processes. However, emission inventories should not project emission increases over time like interest on a bank account. For example, sports utility vehicles—which have truck level emissions—were first categorized as “off-road vehicles” and comprised 8% of the vehicle fleet. They now comprise 47%. The Port will therefore adopt a more logistically robust understanding of emission inventories by taking into account the impacts of market factors such as the trucking, air transportation and air cargo industries, all of which distinctly influence emissions.

The Port and West Oakland Neighbors agreed on a group of feasible emission mitigation measures. A separate “Good Neighbor Agreement” was reached regarding the allocation of \$1.5 million to mitigate emissions from local trucks. Retrofits of PM traps and oxidation catalysts were initially estimated at \$2,300 each but ultimately cost \$5,000. Another and now completed mitigation is the cost-effective reduction of emissions from 85% of the Port’s cargo equipment through retrofits, costing less than the \$5.2 million budgeted for it. The \$245,000 assigned to miscellaneous cargo exhaust scrubbing will likely be spent elsewhere. The \$500,000 allocated for changing-out a tug-boat engine has proven very cost-effective. The \$700,000 allocated for bus re-powering and retrofits has been enhanced by AC Transit’s hiring of 97 West Oakland residents to work on the bus project and other jobs. A fund of \$10,000 will be applied to cleaner railroad switch engines. Other modifications include electric dredges, the construction controls of which cost \$4.5 million. There is also \$525,000 available from the recently closed Red Star Yeast facility and another \$30,000 from Precision Cast Controls. PM monitors have also been installed at two sites at the Port.

Feasibility was determined by a cost-per-ton formula using such criteria as the cost of emission offsets at \$8,000/ton and a broader regulatory cost-effectiveness of \$10,000/ton. Local truck emission mitigations were not subject to these criteria but were implemented separately. Except for two shipping firms, the Port could not mandate the implementation of these measures. It therefore created a grant program with a total of 44 implementation incentives. To almost every incentive a cost-effectiveness conclusion was attached.

Technology availability is another key to assessing feasibility. The debate continues over how well PM filters work or whether oxidation catalysts should be used instead. The application of such retrofits from truck to ship engines has not yet been tested. The next EIR will address these issues.

Institutional feasibility is another issue. Until a tenant’s lease expires, no changes in operating conditions can occur. This raises questions about regulatory jurisdiction over interstate and international commerce, the authority of the California Air Resources Board (CARB), the Environmental Protection Agency (EPA), international treaties and the European Union (EU).

Economic feasibility addresses competitive trade-offs. Some might adversely affect the position of the Port viz-a-viz other ports. Others are positive and motivate owners to embrace air quality measures that improve fuel economy or performance, thereby reducing greenhouse gas emissions and operating costs. Some shipping firms are now considering a more accelerated phase-in of lower sulfur fuels. The dynamics of the various trade-offs should be better understood.

The Port will expand again in five years and will relocate the rail terminal nearer to the community. This will trigger more health risk assessments. The Port will re-examine ship emission controls at that time. CARB intends to propose emission controls on local maritime vessels at a future date.

The practice of “cold ironing”—that is, the use of an auxiliary diesel engine instead of the main engine to power a ship docked at the Port—would reduce emissions by only 4%. Until the next generation of marine engines arrives, existing diesels will have to be used. However, they must be made to run as cleanly as possible. New marine engines are available, but there is no regulatory incentive to install them. The challenge is to make their purchase fiscally attractive. The ultimate cost impacts of low sulfur diesel fuel are not yet known.

Railroad locomotives are routinely re-built about every five years. Emission reductions from these engines are an inherent feature of the successive rebuilds.

Initial Port meetings with terminal operators regarding subsidies to re-power their equipment were followed by CARB's issuance of its diesel strategy with a mandated retrofit schedule. Heightened interest in retrofits resulted at the Port. To effectively understand how subsidies work best with regulation on the horizon, the Port, the industry and regulators must work together.

In reaching agreement with the West Oakland Neighbors, the Port became part of the broader environmental solution. Re-powering transport trucks at the Port will affect only a tiny fraction of the total fleet, but the Port can help evaluate emission reduction technology. Ultimately, however, the reduction of diesel PM risk will require that all sources of diesel PM emissions be addressed.

Mr. McGrath displayed several slides of Port emission trends from 1990-2015 in Alameda County with and without the Port mitigation measures. Additional viewgraphs showed projected emission reductions for the Port baseline plus new berths for various funding increments ranging from \$7.5 to \$10-\$12-\$13.5 million. Reactive organic (ROG) emissions have been reduced below the threshold through the mitigation measures funded at \$7.5 million. But there are only diminishing returns for funds invested beyond \$7.5 million for both PM and NOx reduction strategies, and even the maximum allocation will not place these below the District's thresholds. Major NOx reduction from trucks will occur only with new engines. However, transport truck engine replacement is costly, with NOx reductions at \$74,000/ton, PM reductions at \$185,000/ton and ROG reductions at \$123,000/ton. Exhaust retrofits have little NOx benefit but reduce PM at \$95,000/ton and ROG at \$30,000/ton. Trends show that while container throughput is increasing, PM will be significantly reduced through the CARB diesel retrofit strategy that will take effect in 2006. The result will be a doubling in throughput capacity and a halving of the overall emissions.

In reply to Committee member questions, Mr. McGrath stated:

- The Port will continue to receive community input and believes it will improve as a result of it.
- The operators received newer or upgraded equipment as a result of the mitigation measures. The Longshoremen also desire to work in a cleaner environment. PM filters work best with low sulfur fuel, while oxidation catalysts achieve greater NOx benefits regardless of the fuel sulfur content. Port operators now use and will continue to use low sulfur diesel fuel.
- With the assistance of the Brookings Institute, the Port examined the use of compressed and liquid natural gas but found that neither generated enough horsepower for Port equipment. However, biodiesel has greater horsepower potential and the refuse hauling industry is now experimenting with it. When the Port is expanded, alternative fuels will be re-considered.
- There is insufficient cooperation between West Coast shipping ports and the European Union.
- Other major West Coast ports reacted unfavorably when the Port implemented its mitigation measures. However, the Port believes that proactively solving environmental problems helps to retain a competitive edge. Competition between West Coast ports is over inter-modal shipping rather than local markets, which in turn depends on rail system characteristics and capacity.
- The Port is the smallest California container port but is similar to the Seattle and Tacoma ports.
- PM and NOx emission reductions at the Port will incrementally be slowed by the mitigations.
- Some tenants at the Port own their ships, while others use them through contract.
- There is a registration service at the Port that keeps track of the age and ownership of the ships.
- Inter-modal cargo constitutes from 8-12% of the total cargo throughput at the Port.
- In November, shipping levels are only at slightly higher levels than during the rest of the year.
- Operational costs, as well as vehicular pollution, are reduced with shorter truck idling time.

- PM emissions from trucks from nearby freeways have a far greater impact on the community than do emissions from trucks at the Port. However, the \$1.5 million spent to reduce PM emissions from local trucks helped to establish and facilitate good community relations.
- New maritime engines are becoming available and may dramatically reduce emissions. In response to litigation from the Bluewater Network, EPA has issued rule making for maritime engines. However, it does not address exhaust scrubbing, perhaps because the technology is not yet available. Shipping ports in Europe are concerned about air quality. The Port will keep apprised of developments in pollution abatement technology and strategies at European ports.

5. Presentation on Truck Idling Legislation. Victor Douglas, Air Quality Specialist II, Compliance & Enforcement Division, stated that AB 2650 (Lowenthal) addresses truck idling in loading and unloading queues at three shipping ports in California (Oakland, Long Beach and Los Angeles). It requires terminals to operate in a way that limits truck idling time to 30 minutes. Appointment systems may be established to stagger arrivals and departures and reduce queues, or alternatively a terminal may opt to remain open longer. The bill will be funded through penalties issued for its circumvention or violation. The District has formed an AB 2650 work group comprised of marine terminal operators, truckers, community groups, and the Port of Oakland to develop an implementation program. It has met three times. A subgroup has been formed to develop an appointment system. Claiming that their operations are efficient enough, two terminals have opted not to use an appointment system. Staff is also participating in the AB 2650 work group in the South Coast AQMD. Through July 1, 2003 operators are exempted from penalties if an appointment system has begun to be implemented. Thereafter, an appointment system must be in place; idling time must not exceed 30 minutes; or a terminal's operating time must be extended.

Enforcement of the bill poses a challenge. If drivers telephone in complaints about queues of over 30 minutes long this could overload the District's complaint and dispatch system. Moreover, the District has only one inspector for that area in Oakland. Inspector safety is of concern given the highways with heavy truck traffic at the Port. At present there is no obvious vantage point from which to monitor transport truck queues. Also, further evaluation will be required of queues that include trucks arriving with and without an appointment. During the transition period, the District will issue Notices of Compliance rather than Notices of Violation. Estimates of the emissions reductions that will follow the bill's implementation have not yet been made. Chairperson Zamora stated that the Committee would like an update on this rule when it meets in June.

- 6. Committee Member Comments/Other Business.** Ms. Blake stated that the San Joaquin Valley AQMD will update its woodsmoke abatement regulation. New housing with fireplace features may contain only natural gas fueled fireplaces. Upon the sale of home, a wood burning stove or insert must meet current EPA regulations or be removed. Chairperson Zamora requested staff to track this rule development and provide a report when the Committee meets in June.
- 7. Time and Place of Next Meeting.** Monday, May 19th, 2003, 1:30 p.m., location to be determined.
- 8. Adjournment.** 3:00 p.m.

James N. Corazza
Deputy Clerk of the Boards