

Meeting Summary
Port of Oakland Maritime Air Quality Improvement Plan (MAQIP)
Reconvened MAQIP Task Force - Meeting #2
May 9, 2018
Port of Oakland, 530 Water Street, Oakland, CA – Exhibit Room

I. WELCOME AND INTRODUCTIONS

C. Lytle, Port of Oakland Executive Director and MAQIP Task Force Co-Chair, opened the meeting and welcomed participants. S. McCreary, Principal of CONCUR and meeting facilitator for the morning session, introduced himself and opened the floor for the other MAQIP Task Force Co-Chairs and Alternates to introduce themselves:

Andy Garcia, Chairman of the Board of GSC Logistics

Greg Nudd, Deputy Air Pollution Control Officer for Policy of the Bay Area Air Quality Management District (BAAQMD) (Alternate for Jack Broadbent, who was not present)

Ms. Margaret Gordon, Co-Chair of the West Oakland Environmental Indicators Project (WOEIP)

Brian Beveridge, Co-Chair of WOEIP

Task Force Members and Alternates in attendance introduced themselves. Members of the public in attendance then introduced themselves. A list of Task Force Members/Alternates and members of the public present is provided in Appendix A. All meeting materials (including an agenda and presentations) are available online at: <http://www.portoakland.com/community/environmental-stewardship/maritime-air-quality-improvement-plan/>

II. MEETING OBJECTIVES

S. McCreary welcomed participants and reviewed meeting objectives. He explained that today's meeting is the second of two meetings that the Port is convening to fulfill the 2018 MAQIP Update, and that this meeting will also serve as a "pivot" towards the "2020 and Beyond" goals to further improve air quality and reduce greenhouse gas (GHG) impacts at the Port. At this point in the meeting, facilitation will shift to Surlene Grant (Envirocom Communication Strategies), who will serve as facilitator for the ongoing "2020 and Beyond" Process. S. McCreary reviewed the meeting objectives:

Closing the Gap – Achieving 2020 DPM Reductions:

- Receive a briefing on the Port's proposed implementation plan of potential emissions reduction measures

Moving Forward – 2020 and Beyond:

- Receive briefings on factors affecting future air quality planning: community-based research and studies on health outcomes, relevant legislation

- Receive briefing on 2020 and Beyond “Blueprint” and solicit input on implications of community-based research and other considerations affecting the plan

R. Sinkoff (Port of Oakland) provided further history on the 2007-2009 MAQIP process. He explained that the most recent 2015 Seaport Emissions Inventory indicates that the Port has reached a -76 percent reduction in DPM over the 2005 baseline, and that the Port is working to identify future actions to reach the 2020 target of -85 percent, which C. Mukai (Port of Oakland) will address in Informational Briefing #1.

III. INFORMATIONAL BRIEFINGS

Eight briefings were provided throughout the day, covering both “Achieving 2020 DPM Reductions” and “2020 and Beyond.” All meeting materials, as well as other MAQIP-related materials, are available online at the Port’s Maritime Air Quality Improvement Plan webpage (link provided above). Brief comments and clarifying questions are noted below each presentation and responses follow the related question in *italics* (if multiple people responded to a single question, the separate responses are provided in separate bullets underneath the question).

(1) Morning session: Closing the Gap and Beyond –DPM Emissions Reductions

Briefing #1: *The Port of Oakland’s potential implementation plan*

C. Mukai presented an analysis of several potential emissions reductions measures to help the Port achieve its 2020 DPM reduction goal. This presentation is available on the Port’s website (see link above).

Questions and Comments:

- It is important not to conflate emissions reductions with health risk reductions. Proximity and exposure must also be evaluated.
 - *Health risk is much more difficult to assess, we look forward to learning more about how these impacts can also be evaluated.*
- What is the cost of zero emission switch locomotives?
 - *The cost is \$2 – 2.5 million.*
- When will the Emissions Forecasts and Proposed Measures (Starcrest Consulting Group), and the 2017 Seaport Air Emissions Inventory (Ramboll/Environ) be available?
 - *We expect Starcrest’s report to be finalized in July 2018, and Ramboll’s report to be finalized in September 2018. Both will be posted on the Port’s website (see link above).*
- The Starcrest presentation at Meeting #1 indicated that an increase in cargo volume of 2-5 percent would also lead to an increase in emissions. The growth rate presented here is 2.4 – 3 percent. Does this lead to a smaller increase in emissions?

- *The increase in emissions depend on both the growth curve and how quickly turnover to new equipment happens, which is difficult to predict.*
- When developing emissions reductions strategies, it's critical to consider how the strategies will be paid for. Many of these strategies are ultimately paid for by taxpayers, via government grants or Propositions.
- Regarding the replacement of 13 rubber-tired gantry cranes (RTGs) with hybrid electric, does that possibly preclude or prolong a transition to fully electric RTGs down the road?
 - *Hybrid electric RTGs are more affordable, and the longer-term transition advances the ability to electrify using battery power as opposed to using underground power.*
- It would be more useful to present these results in cost per tons of emissions reductions, so the cost effectiveness of technology options can be directly compared.
- At the Port of Oakland, 99 percent of the costs (around \$258 million) to meet the most recent benchmark for tractor compliance were borne by industry. In the Ports of Los Angeles and Long Beach, the Ports were able to provide funds towards grants, but that did not occur at the Port of Oakland.
- It should be stated publicly that the Port does not currently have the infrastructure available to transition to 100 percent electrification. As cargo increases at the Port, benchmarks need to be developed, and money needs to be set aside, to develop the necessary infrastructure.
 - *(C. Lytle, Port of Oakland): This is accurate. The costs of developing the needed infrastructure are very high, and it is not clear yet how we will make the full transition, but it's clear that it cannot be done "all in one go". The funding will phase over time. This is one reason that we need transitional projects at the Port, such as hybrid-electric RTGs (with the intention to fully electrify in the future).*
- Are there data on the cost benefits of electrification of hostler trucks?
 - *There are electric hostlers on the market. The state provides vouchers, and we have about 120-150 yard trucks at the Port. This is a great opportunity for electrification at the Port, although the costs are currently too high to viably transition.*
 - *The cost of electric hostlers is \$244,000 each, and a voucher covers \$175,000 of that cost. However, the state charges sales tax on the original price, which brings the cost back up to that of a new diesel hostler. We should instead have a full exemption on sales tax to provide a real incentive.*
- Those who transition to electric will take the first hit, particularly if the electric infrastructure is not fully available or reliable. The cost of electricity at the Port is higher than PG&Es electricity. What is the Port doing to incentivize electrification?

- *The Port does not make a profit on the electricity. Transitioning to reliable electric infrastructure is a priority at the Port.¹*
- Truckers should not have to bear the full costs of air quality regulations. In other places, truckers were given grants to replace their trucks.
 - *(D. Breen, Air District): In fact, the Air District replaced 624 trucks and provided \$24.5 million to help trucks meet regulations. The Air District is also currently supporting legislation to reduce income tax hits. The Air District has invested over \$100 million in the last decade at the Port of Oakland, and over six times that amount at the Ports of Los Angeles and Long Beach. We can't support every program at once, but over a period of several years we can identify and support those that will provide quick and lasting emissions reductions.*

(2) Moving Forward to 2020 and Beyond

Note: At this point in the meeting, facilitation shifted to Surlene Grant, (Principal, Envirocom Communication Strategies), assisted by Malka Kopell (Principal, Malka R. Kopell Consulting).

R. Sinkoff introduced the next set of briefings by talking about the changing planning context (“landscape”): (1) the addition of local exposure to toxic air contaminants as a major issue, and the fact that exposure can be very localized; and (2) the increased concern about climate change and the State policy changes that have arisen to address global climate change. The fact that the landscape is changing means that, moving forward, the planning process also has to change – we can’t use the same planning process, or the same plan, that we have used before.

Briefings #2-4: F. Uennatornwarangoon (EDF) and M. Harris (EDF) provided three combined briefings on multiple studies performed by EDF and other partners on air quality monitoring in West Oakland, and health outcomes due to exposure to heightened DPM levels. The combined briefing is available on the Port’s website (see link above), although Ms. Uennatornwarangoon explained that EDF cannot yet make all slides available publicly as the study findings are still in the scientific review process. F. Uennatornwarangoon and M. Harris asked that any participants interested in seeing the final scientific studies email them with that request² Each briefing is listed below, and any relevant question or comment is listed below the briefing title.:

¹ Following the meeting, Basil Wong, Manager of Utilities Administration, Port of Oakland, provided the following additional information: (1) If the tenant is located in the Oakland Army Base area, the electricity rate is higher than PG&E. Elsewhere at the Seaport, the Port’s rates are lower than PG&Es. (2) The Port’s rates are set to recover the Port’s cost of providing the electricity. The Port is in the middle of a cost of service study that will inform whether any rate adjustments are needed. The Port estimates completing this process in July.

² Since the May 9, 2018 meeting, the study described in “Briefing #4: Case Study on Health Outcomes” has since been published. The citation is as follows: Alexeeff, S.E., et al. 2018. High-resolution mapping of traffic related air pollution with Google street view cars and incidence of cardiovascular events within neighborhoods in Oakland, CA. *Environmental Health*. 17: 38. <https://doi.org/10.1186/s12940-018-0382-1>

Briefing #2: 100x100 Fixed Monitor Study

Questions and Comments:

- What is the price difference between commercial black carbon (BC) sensors and the low cost sensors used in this study?
 - *The BC sensors used for this study were custom-made at UC Berkeley, and cost \$500 each. Sensor technology is still developing, and several different kinds are commercially available.*
 - *Sensors may be inexpensive, but data analysis is very costly.*
- Why do levels of black carbon vary so greatly over such short distances (within a single block)?
 - *This could be due to very local sources, dispersion, or atmospheric chemistry. The scientific paper [not yet published] will have more specific information on this subject.*
- What is the relationship of BC to DPM?
 - *BC is a portion of DPM, there is a very strong correlation between BC and DPM, and BC is widely accepted as a proxy measure of DPM. In addition, there have been studies that show that, even though BC is not currently regulated, it can have a stronger connection to health risks. NOx is another good marker of diesel.*
- Can the Black Carbon data be correlated back to sources?
 - *Black carbon is a marker of diesel, and there are many sources of diesel in Oakland, not only those coming from the Port. More specific studies can begin to identify the specific sources (source apportionment).*
- It appears there are sources of emissions that are not Port-related (e.g., freeways).
 - *Yes, although there have been other studies that have looked at the types of trucks on the freeways, some of which are Port-related (drayage trucks).*

Briefing #3: Google Earth View/EDF/Aclima Study

Questions and Comments:

- Do the “mobile monitoring with GSV” maps show Google Street View data and 100x100 monitor data?
 - *No, they only show Google Street View data.*
- The maps seem to show elevated Black Carbon levels around the freeways (for about 3 blocks on either side) and at certain hot spots (recycling centers) and also downtown.
- Will the 100x100 data and the data from the Google Street View study be combined eventually?
 - *They cannot be combined due to differences in the studies, but we’ll do a cross-analysis. The 100x100 data will add important temporal*

resolution to the high spatial resolution of the Google Street View study.

- What is the residence time of Black Carbon? How long can it cause health impacts?
 - *Black Carbon is considered a short-lived climate pollutant, but to understand its impact on human health over time, you need to consider other factors. Black Carbon particulates are relatively large, so they may first settle on freeways or yards but get kicked up again by tires or shoes. Eventually, they will settle and become part of the soil.*
- If your windows are open, and BC gets inside, can you be exposed?
 - Yes.

Briefing #4: Case Study on Health Outcomes

Questions and Comments:

- Regarding the health outcomes study, since those who don't have access to the Kaiser Permanente health care system could not be included, is it possible that the study is missing a population that has expanded risk?
 - *That is a limitation and uncertainty of the study, which is described in the paper. However, the Kaiser patients appear to represent a diverse population.*
- Regarding the slide on health disparities among neighbors, does the 60 percent mean that 60 of 100 people within that age category in the affected areas will have associated heart attack, heart disease surgery, and death?
 - *No, this is a proportional hazard ratio. So a 60 percent higher risk means that an elderly person living in the more highly polluted area would have a 60 percent higher risk of a cardiovascular event than they would if they lived in the lower pollution area.*
- Did you compare or benchmark your epidemiological data to other in the country or globally? How do your results compare to other areas?
 - *The scientific paper³ discusses that in detail. In general, these results are broadly consistent with other studies in other areas.*
- Regarding proximity and enforcement, we want to be careful not to jump to conclusions about what this means, but rather to begin to look at this large volume of data and consider how to address it.

Briefing #5: Overview of AB617 Action Plan and View for 2030 Goals

³ Alexeeff, S.E., et al. 2018. High-resolution mapping of traffic related air pollution with Google street view cars and incidence of cardiovascular events within neighborhoods in Oakland, CA. Environmental Health. 17: 38. <https://doi.org/10.1186/s12940-018-0382-1>

B. Beveridge (WOIEP), D. Vinze (BAAQMD), and M. Gordon (WOEIP) provided an overview of AB617, and the current planning process underway in West Oakland. The presentation is available on the Port's website (see link above).

Questions and Comments:

- In your presentation you mentioned that AB617 shifts the focus from regional air quality planning to localized, community-centered efforts, which will require additional analysis and more extensive, distributed monitoring networks. Does the Air District have the bandwidth have for all that, and what help is needed from local science organizations?
 - *(Air District representative): AB617 is essentially an unfunded mandate. We were given funding for one year, which is about one third of the funding actually needed to implement the program. Whatever we can do to spread out the work is welcome.*
 - *In WOEIP's citizen science model, we look to get the community to define research priorities. But we need significant additional technical assistance to undertake that scientific analysis. Those partnerships must be collaborative and community-centered.*

Briefing #6: BAAQMD Assessment of Available Zero and Near-Zero Equipment

D. Breen (BAAQMD) provided the results of an Air District assessment of commercially available zero and near-zero equipment to help the Port meet its DPM and GHG emissions reductions goals. The presentation is available on the Port's website (see link above).

Questions and Comments:

- Are these data available to the Port and to the Task Force and general public?
 - *The Air District provided this analysis previously to the BAAQMD Mobile Sources Committee. We are happy to share the engineering analysis in spreadsheet format with the Port. There is no written technical study for publication.*
- In the original MAQIP process, it was agreed that jobs are a public health issue. As we look forward to electrification, we want to make sure we don't lose jobs in the name of air quality.
 - *The Air District's position is that we are technology-agnostic as long as the technology leads to emissions reductions. The majority of the funding that the Air District provides for community grants has the stipulation that no autonomous equipment can be purchased. Other funding doesn't have that prescription.*
 - *WOEIP has stated in our plan as a goal "no job displacement due to zero emission plans."*
- Proposed ARB regulations – are they expected to be enacted as proposed, and what emission reduction impacts would they have?
 - *We expect them to be enacted similarly to those that were proposed, though they will not all likely be exact.*

- What is the total cost of the “wish list” presented?
 - *The total cost was \$220 million, for the equipment and infrastructure up to the fence line.*
- If the concern moving forward is proximity and exposure, then why don't we rely more heavily on green buffers?
 - *Green buffers can be appropriate, but electrification is more reliable and often more cost effective.*
- (Representative from TraPac): I am not aware of electric yard hostlers able to carry the weight we deal with.
 - *There are two types that may be able to meet your needs, I'd be happy to discuss further.*
- What is the scientific evidence behind diesel particulate matter reductions from vessel speed reduction?
 - *The evidence is quite abundant that lowering vessel speed to below 12 knots reduces DPM emissions significantly as engines become more efficient. The effect is not necessarily seen on cruise ships or some newer ships.*
- What is the intersection between the local business development process (in particular the community choice aggregation solar project launching this year) and the technical capability needs at the Port?
 - *These are important co-benefits to consider, although there are technology and cost barriers that also need to be considered.*

IV. CURRENT PLANNING: THE 2020 AND BEYOND “BLUEPRINT” – BRIEFINGS AND FEEDBACK

Briefing #7: 2020 and Beyond “Blueprint” (Richard Sinkoff, Port)

R. Sinkoff provided an outline of the Port's proposed “2020 and Beyond” plan, including planning factors, elements, vision and purpose. The presentation is available on the Port's website (see link above).

Briefing #8: Report-out by the Port's Social Responsibility Division regarding public engagement

A. Tharpe and L. Arreola (Port) provided a report out on the public engagement studies contracted by the Port in 2009 and 2015, and the findings from the input from those studies will guide future community engagement. Task force members were encouraged to continue as members of the 2020 and Beyond planning group and asked to contact the Port's SRD Division if they have recommendations of others who should be invited to participate in the on-going discussion.

Soliciting Input on “2020 and Beyond”:

Following Briefings #7 and 8, S. Grant solicited input from participants on the “2020 and Beyond” outline, particularly the proposed guiding principles and strategies. Key discussion points and clarifying questions are listed below.

- As we consider 2020 and Beyond planning, we need to consider the long-term economic impacts and viability of the Port.
- In addition, we need to consider the 75,000 jobs directly dependent on the Port operations, as well as additional jobs indirectly dependent on goods movement throughout California.
- As we move forward, let’s consider that these technologies are emerging, and the process of adoption and planning is adaptive. This is a co-learning process.
- Are the diesel trucks going in and out of the Post Office regulated by CARB?
 - *(Air District representative): There are two types of trucks that deliver to the Post Office – semi-trucks and regular postal trucks. The postal trucks that are on contract (not owned by the Post Office) are subject to CARB regulations. The smaller vehicles are not, but they are subject to nationwide Corporate Average Fuel Economy (CAFE) standards.*
 - *(WOEIP representative): The contract trucks do not have CARB stickers on them, so this needs to be double-checked.*
 - *(Air District representative): This brings up a broader point – that the Port is only a piece of the larger problem, and we need to figure out how to integrate Port air quality planning with the AB617 process.*
- As the Port and stakeholders look into emissions reductions measures, I encourage you to look into revolving funds that allow for quick response to grant opportunities.
- How does PG&E plan to be engaged in electrical infrastructure planning at the Port? *(PG&E representative):*
 - *PG&E is awaiting CPUC confirmation on a \$200 million infrastructure program to electrify fleet vehicles.⁴*
- *(G. Nudd, Air District Co-Chair Alternate): This proposal provides a decent strawman, but I have feedback on all elements, so my silence does not indicate consent.*
- The proposal needs to include specific metrics for all elements. For example, regarding building partnerships – what methods, documents, agreements? Regarding meaningful participation – through what partnership, forums, etc.? Regarding the emissions inventory – will this extend beyond modeling? And what is the Port’s spending target for this year? Regarding goals, industry can’t achieve a target it doesn’t have.

⁴ Following the meeting, Basil Wong, Manager of Utilities Administration, Port of Oakland, provided the following additional information: The proposed program for PG&E’s Fleet Ready Program is for 700 sites/8,800 charging points across the entire PG&E service territory. \$10M will be allocated to disadvantaged communities through electric vehicle service equipment (charging station) rebates, based on the California Public Utilities Commission’s Proposed Decision A.17-01-020, 21, 22, filed March 30, 2018.

- Where is all of the money [for the plan implementation] coming from? The Port needs to bring everyone together to discuss what we're looking for re: investment – the business community needs to be supported too.

V. WRAP UP

C. Lytle provided closing comments. He acknowledged that one of the biggest issues for the Port is identifying funding strategies, including grants and help from other partners (including PG&E). He highlighted that plan implementation will occur over a period of time, which allows for exploration of alternative strategies and funding sources, although near-term implementation and emissions reductions is also a priority at the Port.

VI. NEXT STEPS

- The Port's Environmental Programs and Planning Division will present recommendations to the Board of Port Commissioners on measures to achieve 2020 DPM reduction goals in July 2018.
- The Port's Environmental Programs and Planning Division will provide a draft "2020 and Beyond" plan to the Board of Port Commissioners in July
- Public meetings will likely take place in late Spring 2018, and early-mid Fall 2018
- The Final MAQIP 2020 and Beyond Plan target date is the end of 2018
- The Co-Chairs will meet to discuss next meeting dates

S. Grant adjourned the meeting at 2:30. She thanked everyone for staying an extra half-hour.

Appendix A: Participants

2018 MAQIP Update Task Force Co-Chairs and Alternates in Attendance:

Brian Beveridge, Co-Chair of the West Oakland Environmental Indicators Project
Andy Garcia, Chairman of the Board of GSC Logistics
Margaret Gordon, Co-Chair of the West Oakland Environmental Indicators Project
Chris Lytle, Executive Director of the Port of Oakland
Greg Nudd, Deputy Air Pollution Control Officer for Policy of the Bay Area Air Quality Management District

2018 MAQIP Update Task Force Members and Alternates in Attendance:

Bill Aboudi, AB Trucking
Brian Bauer, TraPac, Inc.
Roman Berenshteyn, Bay Planning Coalition
Doug Bloch, Teamsters Joint Council 7 SF Bay Area
Bryan Brandes, CMA-CGM
Dr. Washington Burns, Prescott Joseph Center
John Coleman, Bay Planning Coalition
Tracy Cheung, Pacific Gas and Electric
Dr. Muntu Davis, Alameda County Public Health Dept.
Richard Grow, U.S. Environmental Protection Agency
Xavier Johnson, Office of Congresswoman Barbara Lee
Arianna Jukes, Office of Senator Nancy Skinner
Ray Kidd, West Oakland Neighbors (WON)
Paul Konzen (Member) and Joey Martins (Alternate) CVAG
Ken Larson, SSA Terminals
Capt. George Livingstone, San Francisco Bar Pilots
Anna Lee, Alameda County Public Health Dept.
Ben Machol, U.S. Environmental Protection Agency
Amanda Marruffo, BNSF Railway
John McLaurin, Pacific Merchant Shipping Association
Amy Shrago, Office of Supervisor Keith Carson
Randy Wilk, West Oakland Resident and Oak Center Neighborhood Association

Port of Oakland Staff in Attendance:

Richard Sinkoff, Director of Environmental Programs and Planning
Diane Heinze, Port Environmental Supervisor
Catherine Mukai, Port Associate Environmental Planner/Scientist
Amy Tharpe, Director of the Social Responsibility Division
Laura Arreola, Community Relations
Julina Bonilla, Workforce Development Manager
Matt Davis, Director of Governmental Affairs
Tim Leong, Maritime Project Administrator, Maritime Division
Delphine Prevost, Manager, Finance and Administration, Maritime Division
Diego Gonzalez, Government Affairs Representative
Khamly Chuop, Port Associate Environmental Planner/Scientist

Members of the Facilitation Team in Attendance:

Scott McCreary, Principal, CONCUR
Surlene Grant, Principal, Envirocom Communications Services
Malka Kopell, Principal, Malka R. Kopell Consulting
Meredith Cowart, Associate, CONCUR

Members of the Public in Attendance (including presenters and staff of Task Force member organizations):

Damian Breen, Bay Area Air Quality Management District (presenter)
Judith Cutino, Bay Area Air Quality Management District
James Dumont, Grant Farm
Maria Harris, Environmental Defense Fund (presenter)
Henry Hilken, Bay Area Air Quality Management District
Brietta Linney, CEA Consulting (representing BNSF Railway)
Boris Lukanov, PSE Healthy Energy
Colin Miller, Oakland Climate Action Coalition
Michael Murphy, Bay Area Air Quality Management District
David Ralston, Bay Area Air Quality Management District
Matt Sullivan, SSA Terminals
Fern Uennatornwarangoon, Environmental Defense Fund (presenter)
David Vintze, Bay Area Air Quality Management District (presenter)
Susanne von Rosenberg, GAIA Consulting, Inc.
David Wooley, UC Berkeley Goldman School
David Wright, Independent Consultant
Elizabeth Yura, Bay Area Air Quality Management District
Gabriela Zaya, Environmental Defense Fund