

**State of California  
AIR RESOURCES BOARD**

**Summary of Board Meeting  
April 24, 2008**

California Department of Transportation  
111 Grand Avenue  
1<sup>st</sup> Floor, Auditorium  
Oakland, California 94612

**MEMBERS PRESENT:** Mary Nichols, Chairman  
Dr. John Balmes  
Ms. Sandra Berg  
Ms. Dorene D'Adamo  
Supervisor Jerry Hill  
Ms. Lydia Kennard  
Mayor Ronald Loveridge  
Mrs. Barbara Riordan  
Supervisor Ron Roberts  
Professor Daniel Sperling  
Dr. John Telles

**Agenda Item #**

**08-4-1: Report to the Board on a Health Update: Effects on the Heart from Particulate Matter (PM) Exposure and a Possible Role of Genetics**

**SUMMARY OF AGENDA ITEM:**

The ARB staff provides the Board with regular updates on recent research findings on the health effects of air pollution. This month, staff presented the findings of a research study that investigated the linkage between fine particle-associated heart function abnormalities and a gene involved in iron metabolism.

The relationship between particulate air pollution and adverse health effects is well established. However, there is considerable variability in the sensitivity to air pollution, and little is known about the basis of this variability. One important area of research is to determine if genetic differences make individuals more vulnerable to air pollution impacts. This month's health update investigated how genetic variability may affect susceptibility to adverse impacts on the heart from PM exposure. The study found that men with the common form of an iron metabolism gene had about a 32 percent decrease in heart rate variability with a 10 $\mu\text{g}/\text{m}^3$  increase in PM

exposure. Heart rate variability can be one of the important predictors of heart disease. No effect was found among men with the variant form of the same gene. The results of this and similar studies investigating the sensitivity to air pollution health effects help to identify the most vulnerable members of the population ensuring that ambient air quality standard protects these potentially sensitive groups of people.

Chairman Nichols thanked staff for the presentation. Chairman Nichols and board member Dr. Balmes commented that ARB sets protective air quality standards and studying genetically sensitive groups can help us provide more information on sensitivity in populations, that could be used in future standard reviews. Board member D'Adamo asked if there is ongoing research on the genes that are related to asthma and other pulmonary diseases that may make individuals more at risk from air pollution impacts. Ms. Ahmed replied that there are two research studies currently being funded by ARB which are investigating the antioxidant genes that might enhance sensitivity for asthmatics. Board member Dr. Balmes added that future research should focus on as much of the whole suite of the human genome as possible. Board member D'Adamo asked about the sources of iron in PM and Dr. Croes replied that the main sources are combustion. Dr. Balmes added that both the iron from PM and other sources in the body have a role in oxidative stress. Finally, Chairman Nichols commented that this kind of research is needed to help identify the composition of particles that may be driving the toxicity of PM and could be considered in the future.

ORAL TESTIMONY: None

FORMAL BOARD ACTION: None (Informational Item)

RESPONSIBLE DIVISION: Research Division

STAFF REPORT: No

**08-4-2: Public Meeting to Consider Research Proposals**

SUMMARY OF AGENDA ITEM:

Staff described the objective and expected results for the following research proposal:

"Lifecycle Analysis of High-Global Warming Potential Greenhouse Gas Destruction," \$300,000, RFP No. 07-330.

ORAL TESTIMONY: None

FORMAL BOARD ACTION: Approved Resolution 08-25.

RESPONSIBLE DIVISION: Research Division

STAFF REPORT: No

**08-4-3: Public Meeting to Consider Research Screening Committee Appointments**

SUMMARY OF AGENDA ITEM:

Staff recommended two appointments to the Research Screening Committee. The first recommendation was for a permanent member to replace Dr. John Balmes. Dr. Irva Hertz-Picciotto of the University of California, Davis, offers expertise on human exposures to and health impacts of pollutants as well as epidemiological research methods. To fill a previous vacancy left by Dr. Barbara Finlayson-Pitts' resignation from the Research Screening Committee (RSC), staff recommended that the Board add Dr. Suzanne Paulson, University of California, Los Angeles, as an adjunct member.

ORAL TESTIMONY: None.

FORMAL BOARD ACTION: The Board approved staff's recommendation of the two new appointments.

RESPONSIBLE DIVISION: Research Division

STAFF REPORT: No

**08-4-4: Presentation on the Bay Area Air Quality Management District's Climate Protection Program**

SUMMARY OF AGENDA ITEM:

Ms. Jean Roggenkamp, Deputy Air Pollution Control Officer for the Bay Area Air Quality Management District (District), spoke about the District's climate protection efforts. The District has taken steps toward addressing the problem of climate change by providing leadership, outreach and education, data collection and analysis, and technical assistance for other climate change protection programs in the Bay Area.

In 2005, the District initiated a Climate Protection Program. On June 1, 2005, the District Board of Directors adopted a resolution establishing a Climate Protection Program and acknowledging the link between climate protection and programs to reduce air pollution in the Bay Area. The Board of Directors also formed a standing Committee on Climate Protection to provide direction on District climate protection activities.

A central element of the District's climate protection program is the integration of climate protection activities into existing District programs. The District is continually seeking ways to integrate climate protection into current District functions, including grant programs, CEQA commenting, regulations, inventory development, and outreach. In addition, the District's climate protection program emphasizes collaboration with ongoing climate protection efforts at the local and State level, public education and outreach, and technical assistance to cities and counties.

ORAL TESTIMONY:

Mr. Len Conly, Friends of Bus Rapid Transit

FORMAL BOARD ACTION: None.

RESPONSIBLE DIVISION: Planning and Technical Support Division.

STAFF REPORT: None.

**08-4-5: AB 32 Update: Electricity and Natural Gas Sectors**

SUMMARY OF AGENDA ITEM:

Staff from ARB, the California Public Utilities Commission (CPUC), and the California Energy Commission (CEC) updated the Board on AB 32 Scoping Plan development work addressing the electricity and natural gas sectors in California. The item was introduced by ARB staff who presented a brief summary of the affected sources in the sector, emission reduction strategies under consideration, and other related efforts to reduce greenhouse gases (GHG) from these sectors.

Julie Fitch from CPUC summarized the interim opinions of CPUC and CEC that recommend a number of policies and requirements for GHG reductions in these sectors. In particular, the interim opinion on the electricity and natural gas sectors recommended that ARB: (1) adopt a mix of direct mandatory, regulatory

requirements, and a cap and trade system, (2) ensure that emissions reductions from these sectors are regularly monitored and enforced, and (3) along with CPUC and CEC, continue to work with western states and provinces through the Western Climate Initiative to ensure compatibility with AB 32 requirements and a regional cap and trade system.

As summarized by Ms. Fitch, the two Commissions recommended that the electricity sector be included in a cap and trade system through a generator-based approach for in-State power generation. The two Commissions also recommended that GHG emissions from out-of-state electricity be regulated at the point that the power is first delivered to the California grid.

The two Commissions also recommended that the natural gas sector be required to provide a minimum of energy efficiency programs to their customers. However, the two Commissions recommended that inclusion of this sector in a cap and trade system be delayed while California gains more experience with a GHG emissions trading program, or a federal upstream program is implemented.

The Board members and Chairman Nichols discussed the Committee's recommendations. They expressed interest in continuing to hear from staff as they further evaluate the potential for market measures within the Scoping Plan development. There was no oral testimony, but several comment letters were submitted for the record.

One commenter urged ARB to consider emissions and control costs information for each type of energy production. Other commenters expressed their general support for measures to reduce GHG. These letters also expressed concern about regressive economic impacts that GHG control strategies may have on low income communities, including impacts from higher electricity and home heating costs.

ORAL TESTIMONY: None

FORMAL BOARD ACTION: None. (Informational Item)

RESPONSIBLE DIVISION: Office of Climate Change.

STAFF REPORT: No.

**08-4-6:**

**Report to the Board on a Health Risk Assessment for the Port of Oakland and the West Oakland Community**

**SUMMARY OF AGENDA ITEM:**

Staff presented a preliminary summary of results from a comprehensive health risk assessment for the West Oakland community. The study was undertaken to better understand the emissions impacts and the potential public health risk from exposures to diesel PM due to activities at the Port of Oakland and other significant sources of diesel exhaust in and near the West Oakland community. The study revealed that the estimated lifetime potential cancer risk for residents of West Oakland from exposure to diesel emissions is about 1,200 excess cancers per million people, about three times higher than background levels in the Bay Area. Diesel trucks accounted for the majority of the risk in the West Oakland community, followed by ships, harbor craft, and locomotives. Regional non-cancer health impacts from ships and on-road heavy-duty trucks were also evaluated and were estimated to account for about 80 percent of the regional non-cancer health impacts due to directly emitted diesel PM from goods movement activities. Over time, it is expected that these health risks will decline as regulations adopted by ARB are implemented. Nevertheless, the remaining risks in the West Oakland community are projected to be over 200 in a million and additional actions are needed to bring risk levels down more quickly and to help offset growth in future years.

**ORAL TESTIMONY:**

Senator Perata, California State Senate  
Mark Ross, Bay Area air Quality Management District  
Richard Sinkoff, Maritime Port of Oakland  
Johann Curry, Oakland Technical Hight School  
Andy Katz, Breathe California  
Ray Kidd West, Oakland Resident

**FORMAL BOARD ACTION:** None (Informational Item)

**RESPONSIBLE DIVISION:** Stationary Source Division

**STAFF REPORT:** Yes

08-4-7:

**Public Meeting to Consider an Update on Implementation of the Emission Reduction Plan for Ports and Goods Movement (Plan)**

SUMMARY OF AGENDA ITEM:

Staff summarized progress since the April 2007 update, emphasizing how the Air Resources Board's (ARB) regulatory actions to-date and two major rules under development (statewide truck and bus regulation and ocean-going vessels main engine regulation) could together achieve a 75 percent reduction in diesel PM emissions statewide from goods movement by 2015 and a corresponding 82 percent reduction in health risk from exposure to diesel PM. Staff also identified further actions that will be necessary by ARB and others to fully meet the Plan's goals for 85 percent reduction in diesel PM health risk statewide and rapid reductions in localized health risks. These actions include tough international ship fuel and engine standards, accelerated introduction of cleaner locomotives, greenhouse gas (GHG) measures that provide multi-pollutant benefits, and effective implementation of incentives.

Staff then highlighted the importance of the upcoming ARB ship fuel rule and the statewide truck and bus rule, as well as key challenges associated with those proposals. Staff described the proposals for cleaner ships and fuels under discussion at the International Maritime Organization (IMO), and the resulting need for a North American SOx Emission Control Area.

The next section covered key funding programs, highlighting actions taken or underway to allocate Proposition 1B funds by the California Transportation Commission (CTC) and by ARB. Staff concluded the presentation with updates on activities to bring cleaner trucks to the Ports of Los Angeles, Long Beach, and Oakland.

The Board heard oral testimony from five witnesses. The Business Transportation and Housing Agency representative praised the efforts of both ARB and CTC in moving forward with the allocation of Proposition 1B funds, and stated the agency's interest in pursuing more "intermodal" goods movement in the future. The National Resources Defense Council (NRDC) representative acknowledged ARB's activities related to reducing diesel PM and urged that ARB also address GHG from goods movement. The manufacturer of an emission control device highlighted the benefits of that technology to reduce emissions from stationary locomotives and ships at dock. The representative of the Rose Foundation read

from letters written by local students about the personal impacts of air pollution. A representative from the Bay Planning Coalition noted a new effort to prepare emission inventories at the five other ports in the Bay Area, similar to the effort completed for the Port of Oakland.

ORAL TESTIMONY:

Diane Bailey, National Resources Defense Council  
John Hummer, Deputy Secretary of the California Business,  
Transportation and Housing Agency  
Ellen Johnnck, Bay Planning Coalition  
Matt Stewart, Advanced Clean Up Technologies, Inc.  
Jill Ratner, Rose Foundation

FORMAL BOARD ACTION: None.

RESPONSIBLE DIVISION: Planning and Technical Support Division

STAFF REPORT: No

**08-4-8: Notice of Public Hearing to Consider Approval of Modified Transportation Conformity Budgets Contained in the 2007 Air Quality Management Plan for Attaining the Federal 8-Hour Ozone and PM2.5 Standards in the South Coast Air Basin and 8-Hour Ozone State Implementation Plan Update**

SUMMARY OF AGENDA ITEM:

The Board approved modified transportation conformity budgets for the South Coast Air Basin to be submitted to the United States Environmental Protection Agency (U.S. EPA) as a revision to the State Implementation Plan (SIP). Transportation conformity budgets associated with the 2007 Air Quality Management Plan for the 8-hour ozone and fine particulates (PM2.5) standards were originally approved by ARB on November 15, 2007. U.S. EPA staff questioned the inclusion in the budgets of emission reductions from future control measures, and signaled its support for budgets that reflect only previously adopted control measures. To respond, ARB staff in consultation with the South Coast Air Quality Management District, Southern California Association of Governments, and U.S. EPA staff developed two sets of conformity budgets for submittal to U.S. EPA. One set (SIP-based budgets) includes benefits from future committed control measures and the other set (baseline budgets) represents emissions without adjustments for future control measure benefits. These budgets will be sent to



U.S. EPA with a request that the agency approve the more protective SIP-based budgets that reflect emission reduction commitments in the 2007 SIP.

The Board heard testimony from Dr. Barry Wallerstein, Executive Officer of the South Coast Air Quality Management District, and Mr. Michael D. Fitts, Staff Attorney for the Endangered Habitats League, also representing the Natural Resources Defense Council.

Dr. Wallerstein supported the staff proposal and U.S. EPA approval of the more protective SIP-based budgets, stating that the budgets should reflect all the control measures in the adopted South Coast Plans and the adopted State Strategy. Mr. Fitts opposed the staff proposal, stating that the attainment demonstration in the adopted PM2.5 plan does not protect people who may be exposed to high levels of fine particulate in the near-highway environment.

ORAL TESTIMONY:

Barry R. Wallerstein, D. Env., Executive Officer, South Coast Air Quality Management District  
Michael D. Fitts, Staff Attorney, Endangered Habitats League and Natural Resources Defense Council

FORMAL BOARD ACTION:

The Board adopted Resolution 08-27 by unanimous vote.

RESPONSIBLE DIVISION: Planning and Technical Support

STAFF REPORT: Yes.

**08-4-9: Update the Board on the Status of the 8-Hour Ozone Plan**

SUMMARY OF AGENDA ITEM:

ARB staff provided the Board with a status report on those areas in the State that are preparing attainment demonstration plans for the federal 8-hour ozone standard of .09 ppm.

In Southern California, Ventura County expects to consider adoption of its local plan in May 2008 and the two air districts that make up the Western Mojave Desert Ozone nonattainment area—the Antelope Valley and Mojave Desert Districts—anticipate local adoption in May and early June. ARB staff expects to present these plans for Board consideration as revisions to the State

Implementation Plan in June 2008. Imperial County is preparing attainment plans for the federal particulate matter (PM10) and ozone standards for local adoption in late 2008.

In Northern California, the five air districts that make up the Sacramento Metropolitan Nonattainment Area have requested re-classification to Severe-15. They anticipate completing local adoption of the Reasonable Further Progress plan in May 2008. The San Joaquin Valley's 8-hour ozone plan has been submitted to U.S. EPA as a SIP revision, and the District will consider adoption of its PM2.5 plan on April 30.

ORAL TESTIMONY: None.

FORMAL BOARD ACTION: None.

RESPONSIBLE DIVISION: Planning and Technical Support Division

STAFF REPORT: No.

**08-4-10: Public Meeting to Consider an Update on the Implementation of ARB Railroad Statewide Agreement.**

**SUMMARY OF AGENDA ITEM:**

The staff presented to the Board an update on the implementation of the Statewide railroad pollution reduction agreement (Agreement) with Union Pacific Railroad (UP), and BNSF Railway (BNSF). The Agreement has been in effect since June 24, 2005, and all of the required milestones to date have been met.

As of April 2008, 97 percent of the intrastate fleet has idle reduction devices installed. Both railroads are currently on schedule to meet their remaining idle reduction device install requirements on greater than 99 percent of the unequipped intrastate locomotives by June 30, 2008. In addition, both railroads have continued fueling interstate locomotives with volumes of low sulfur diesel fuel (15 parts per million by weight (ppmw)) volumes greater than the minimum 80 percent requirement specified in the Agreement.

In the second half of 2007, staff completed a fourth round of enforcement inspections at the designated and covered rail yards in California. Staff inspected 1,015 locomotives to determine their compliance with the anti-idling provisions of the Agreement. 29 notices of violation for idling infractions and one notice of violation were issued for a smoking locomotive. This means about

97 percent of the locomotives observed were in compliance for the second half of 2007.

The Agreement requires that health risk assessments (HRAs or assessments) be completed for 16 major rail yards in the State. The assessments include a detailed evaluation of emissions sources at the rail yard, including locomotives, trucks, and cargo handling equipment.

In May 2007, the first group (Phase 1) of draft assessments was released for nine designated rail yards and one additional non-designated rail yard. After considering the public comments, staff finalized the first ten HRAs in November 2007. In addition, staff held initial public meetings to discuss additional mitigation for these designated rail yards.

In March and April 2008, the second group (Phase 2) of draft assessments was released for the remaining seven designated rail yards. The draft assessments for the four UP rail yards (i.e., City of Industry, Colton, ICTF/Dolores, and Oakland) were released in March 2008. The draft assessments for the three BNSF rail yards (i.e., San Diego, Barstow, and San Bernardino) were released in April 2008. The four UP rail yard assessments were finalized in April 2008 and the three BNSF rail yard assessments are scheduled to be finalized by June 2008.

The HRAs results show that the diesel PM emissions from the rail yards result in significantly higher pollution risks in nearby communities. Generally, locomotives are the major contributor to diesel PM in rail yards and trucks are a major contributor to diesel PM within one mile of the rail yard.

U.S. EPA released its proposed locomotive and marine rulemaking in April 3, 2007, with a public comment period until July 2, 2007. In July 2007, ARB staff provided comments on U.S. EPA proposed locomotive rulemaking. On March 14, 2008, U.S. EPA formally announced the final locomotive and marine rule. ARB staff is supportive of most elements in the final rulemaking, but believes that several portions of the rule should have been strengthened, expanded, and accelerated to address California's emission reduction needs. Consequently, ARB will continue to work with U.S. EPA, the railroads, and other stakeholders to identify innovative ways to accelerate the reduction of locomotive emissions in California.

Following the staff presentation, the Board received public testimony from eight individuals. Representatives from the

South Coast Air Quality Management District (SQAQMD) and the Natural Resources Defense Council (NRDC) commented on the need for accelerated risk reduction and public participation. Also, representatives from the East Yard Communities for Environmental Justice and the Center for Community Action and Environmental Justice commented on the community risks outlined in the HRAs and submitted a petition for rulemaking by ARB to adopt a regulation for rail yard sources. Four representatives from the railroad industry testified in support of the Agreement and indicated that they were committed to continuous compliance with the Agreement provisions.

To date, staff estimates that compliance with the Agreement has resulted in about a 20 percent reduction in diesel PM emissions near rail yards.

ORAL TESTIMONY:

Barry Wallerstein, SCAQMD  
Angelo Logan, East Yard Communities for Environmental Justice  
Rachel Lopez, Center for Community Action and Environmental Justice  
Diane Bailey, NRDC  
Dave Seep, BNSF Railway  
Lanny Schmid, Union Pacific Railroad  
Mike Barr, Association of American Railroads  
Kirk Marckwald, Association of American Railroads

FORMAL BOARD ACTION: None

RESPONSIBLE DIVISION: Stationary Source Division

STAFF REPORT: Yes