

State of California
AIR RESOURCES BOARD

Summary of Board Meeting
July 26 & 27, 2007

California Air Resources Board
Byron Sher Auditorium, Second Floor
1001 I Street
Sacramento, California

MEMBERS PRESENT: Mary D. Nichols, Chairman
Ms. Sandra Berg
Ms. Judith Case
Ms. Dorene D'Adamo
Supervisor Jerry Hill
Mr. Ronald O. Loveridge
Mr. Ron Roberts
Mrs. Barbara Riordan
Dr. Daniel Sperling

Agenda Item #

07-8-1: Health Update: Short-Term PM Exposure and Acute Heart Disease

SUMMARY OF AGENDA ITEM:

The staff of the Air Resources Board (ARB or Board) provides the Board with regular updates on recent research findings on the health effects of air pollution. This month, staff presented a study that examines the effects from short-term exposure to fine particulate air pollution on the incidence of cardiovascular events among patients with pre-existing heart disease.

It is well known that particles are associated with adverse health impacts. Recent epidemiologic and experimental evidence support the link between short-term exposure to ambient particle pollution and cardiovascular disease and death. In past health updates we have highlighted the association between particulate matter exposure and adverse health effects. This month's update was on a study that investigated the effect of fine PM exposure on 12,865 patients with previously diagnosed cardiovascular disease. This group of individuals was from Utah and was followed up for ten

years. Exposure to PM2.5 was determined by daily monitoring of particulate matter. The investigator found that short-term particulate exposure contributes to acute heart disease among patients with underlying coronary artery disease. The study found a 4.5% increase in the risk of cardiovascular events associated with a 10 µg/m³ increase in PM2.5. Greater risk was seen from PM2.5 exposure among patients with severe coronary disease. A major goal of ARB's regulatory program is to reduce PM2.5 pollution, including particulates from diesel engines. The information in this study supports the Board's regulatory activities and policy decisions that affect the health of Californians, and illustrates the need to continue progress in PM2.5 reductions toward attaining the national 24hour standard.

Chairperson Nichols thanked staff, and asked about the context of the study and also on how the study was funded. Dr. Barbara Weller explained that this is a study of individuals who all underwent a certain medical procedure named cardiac catheterization. The source of funding for this study was from funds from the Mary Lou Fulton Professorship and the study took place through Brigham Young University, Utah. Chairperson Nichols commented that the health effect they were investigating, heart attacks, is very serious and significant in numbers. Dr. Weller mentioned that the numbers of heart attacks are high and said that one important thing to understand about this study as opposed to a lot of studies that looked at cardiac effects is that they were able to look at the severity of disease the individuals had and were able to correlate that the people who had more severe disease had more severe effects.

ORAL TESTIMONY: None

FORMAL BOARD ACTION: None (Informational Item)

RESPONSIBLE DIVISION: Research Division

STAFF REPORT: No

07-5-6:

Continuation: Proposed Regulation for In-Use Off-Road Diesel Vehicles

SUMMARY OF AGENDA ITEM:

Existing off-road diesel vehicles are responsible for nearly a quarter of the diesel particulate matter (PM) emissions and nearly a fifth of the oxides of nitrogen (NOx) emissions from mobile diesel sources statewide. These emissions have significant adverse health impacts, and cause an estimated 1,100 premature deaths per year in California. Diesel PM is a toxic air contaminant that contributes to ambient concentrations of fine particulate matter (PM2.5), while NOx emissions are of concern because they lead to the formation of ozone and PM2.5 which can lead to increased mortality.

Diesel PM emission reductions from the existing diesel off-road fleet are needed to fulfill ARB's October 2000 Diesel Risk Reduction Plan (Diesel RRP) goal of reducing, by 2020, California's diesel PM emissions and associated cancer risk by 85 percent from 2000 baseline levels. Significant reductions of PM and NOx emissions from existing off-road vehicles are also essential for attainment of the State and national ambient air quality standards for PM2.5 and ozone in those areas of the state that currently exceed those standards.

At the May 25, 2007 Board meeting, staff proposed adoption of the in-use off-road diesel vehicle regulation (regulation), which would significantly reduce PM and NOx emissions from the nearly 180,000 existing off-road diesel vehicles by requiring fleet owners to accelerate turnover to cleaner engines and install exhaust retrofits. The regulation would apply to any person, business, or government agency that owns or operates diesel-powered off-road vehicles in California (except agriculture) with engines with maximum power of 25 horsepower (hp) or greater. Industries such as construction, mining, landscaping, airlines, retail, wholesale, equipment rental, ski, oil and gas drilling, recycling, and utilities would be subject to the regulation.

The regulation establishes declining fleet average emission rate targets for PM and NOx for all off-road diesel vehicles with engines at or greater than 25 hp operating in the state, regardless of whether or not they are California-based. The regulation requires each fleet to meet the fleet average emission rate targets for PM each year or retrofit up to 20 percent of its total fleet horsepower with the highest level verified diesel emission control system. The regulation also requires large and medium fleets to meet the fleet

average emission rate targets for NOx each year or turn over up to a certain percent of their horsepower (8 percent in early years, and 10 percent in later years). The regulation's provisions are the most stringent for the largest fleets and least stringent for the smallest fleets owned by small businesses or municipalities.

At the May meeting, to allow time to hear additional comments and consider the testimony received, the Board voted to continue the hearing to its July 26, 2007 meeting. The Board also directed staff to reconcile differences between staff's and industry's cost estimates for the proposed regulation and to meet with affected fleets regarding the expected costs of compliance.

Staff held public workgroup meetings in June and July of 2007 to present its findings regarding the statewide costs of the proposed regulation and to discuss the economic impacts of the proposed regulation on individual fleets.

At the May meeting, the South Coast and San Joaquin Valley Air Districts, the California Air Pollution Control Officers Association, and some environmental organizations asked that requirements be included in the regulation to achieve additional NOx emission reductions in areas of the state that are designated as non-attainment for the federal PM2.5 standard (South Coast and San Joaquin Valley Air Districts). After the May hearing, the South Coast and San Joaquin Valley Air Districts proposed using incentive money towards achieving their additional NOx reductions. Based on the need for additional NOx emission reductions, and the commitment to make incentive money available, staff developed the proposed Surplus Off-road Opt-in for NOx (SOON) program. Under the SOON program, large fleets in participating districts would be required to apply annually for incentive money and – if they receive the money – to take additional actions to reduce NOx emissions beyond what would be required by the regulation. As originally proposed, the SOON program would be limited to only the South Coast and San Joaquin Valley Air Districts.

At the July 26, 2007 Board meeting, 69 witnesses testified – 32 in support of the regulation, 30 opposed, and 7 neutral. Health and environmental advocates testified in support of a strong regulation, many citing concerns regarding asthma and the other health impacts from off-road diesel vehicle pollution. The South Coast and San Joaquin Valley Air Districts asked that the regulation be adopted and that the SOON program be added.

Those testifying in opposition to the regulation cited the following concerns:

- Some claimed that compliance could be so expensive that it would put some construction companies out of business and lead to losses in good-paying construction jobs;
- Some expressed concern regarding fleets' ability to pay for compliance, particularly in bad economic times;
- Some questioned fleets' ability to pass on compliance costs to their customers, especially when large fleets compete with medium or small fleets who are subject to less strict requirements;
- Some commented that there may not be an adequate supply of used vehicles to meet the requirements of the proposed regulation;
- Some suggested that ARB had underestimated the overall cost of the regulation and the cost it would impose on fleets, and others expressed concern that there was a large discrepancy between industry consultant's cost estimate and those of ARB staff;
- Some suggested clarifications regarding the sections of the Internal Revenue Code that apply to non-profit training centers;
- Some asked that transport-impacted counties, i.e., counties that are nonattainment for the federal ambient air quality standards due to transport of pollution from upwind areas, be treated similarly to attainment area counties;
- A ski industry representative questioned whether diesel retrofit systems would work at high altitude;
- One witness said that states outside California may want to adopt the regulation and that that would be facilitated if the regulation were bifurcated into separate NOx and PM sections;
- Some fleets that took early action to reduce emissions complained that the regulation does not provide enough credit;
- Some commented that the regulation may negatively impact contractors' bonding capacity, thereby reducing their ability to bid for large projects; and
- Some asked for more credit for turnover or retirement of engines toward the PM requirements of the regulation.

In addition, many affected fleets and industry trade group representatives asked that the rule be changed to allow for compliance every three years instead of every year.

Some commenter's also suggested that ARB needs to streamline its verification process so that more off-road retrofits can be verified quickly to meet the needs of the proposed regulation.

ORAL TESTIMONY:

Harvey Beigle, Reed Thomas Co. Inc.
Gregg Albright, Deputy Director, State of California Department of Transportation
Dr. Joseph Lyou, South Coast Air Quality Management District
Seyed Sadredin, San Joaquin Valley Air Pollution Control District
Sean Edgar, Clean Fleets Coalition
Kate Lefkowitz, Union of Concerned Scientists
Donna Fox, California Nurses Association
Andy Katz, Breathe California
Brittnie Hamilton, Rose Foundation for Communities and the Environment
Jackie Le, Rose Foundation for Communities and the Environment
Irfana Khan, Rose Foundation for Communities and the Environment
Christina McGee, Rose Foundation for Communities and the Environment
Tiana Pittman, Rose Foundation for Communities and the Environment
Brittney Collins, Rose Foundation for Communities and the Environment
Danyale Willingham, Rose Foundation for Communities and the Environment
Amber Bishop, Rose Foundation for Communities and the Environment
Ashley Nathaniel, Rose Foundation for Communities and the Environment
Ina Bendich, Rose Foundation for Communities and the Environment
Diane Bailey, NRDC
Jonathan Lewis, Clean Air Task Force
Katie Stevens, California State University, Fresno
Peter Bruenke, Huss LLC
Daniel Curtin
Carolina Simunovic, Fresno Metro Ministra, Central Valley Air Quality Coalition
Kathryn Phillips, Environmental Defense
Jessica Henn, RAMP and CAFA
Linda Weiner, American Lung Association
Alex Kelter, M.D., American Lung Association
Martin Lassen, Johnson Matthey Catalysts
Rafeal Aguilera, Sierra Club
Don Anair, Union of Concerned Scientists
Henry Hogo, South Coast Air Quality Management District
Shane Gara, Camarillo Engineering Inc.

Dave Porcher, Camarillo Engineering Inc.
Tim Byrne, Ritchie Bros. Auctioneers
Mary Pitto, Regional Council of Rural Counties
Steven Match, Match Construction
Bob Roberts, California Ski Industry
Wilkie Talbert, Tahama Co. CHC
David Yow, for Assemblyman Joel Anderson
Guy Prescott, Operating Engineers Local 3
Mike Self, Stockton Builders' Exchange
Gordon Downs, Downs Equipment Rental
Sue Horne, RCRC
Joshua Wood, Sacramento Builders' Exchange
Ed Walker, Robinson Enterprises, Inc.
Lowell Robinson
Robert Ikenberry, California Engineering Contractors, Inc.
Bob Berlage, Big Creek Lumber
Richard McCann, Ph.D., Construction Industry Air Quality Coalition
Gary Rohman, ECCO Equipment Corporation
John H. Williams, Jr., Williams Pipeline Contractors, Inc.
Dan Fauchier, EGCA
William Davis, Southern California Contractors Association, Inc.
Scott Molloy, BIA SD
Michael Lewis, Coalition to Build a Cleaner California
Skip Brown, Delta Construction Co.
Bruce Balala, Bruce Balala Excavation
Mike Whalen, Ferma Corporation
Gregg Oxley, Allen A. Waggoner Const., Inc.
James Thomas, Nabors Well Services Co.
Geoff Boraston, Granite Construction, Inc.
Ted Stevens, Blue Mountain Minerals
Becky Wood, Teichert
Dave Loudon, California Professional Association of Specialty Contractors
Tara Haas, Engineering and Utility Contractors Association
Doug Jeffe, Transportation California
Ted Costa, People's Advocate
James Atkins, Cobra Equipment

FORMAL BOARD ACTION:

A motion by Ms. Berg to amend the Resolution to provide for an initial triennial compliance period with a 40 percent compliance requirement in the second year failed by a vote of 6-3. The Board then unanimously adopted the proposed Resolution 07-19, approving the staff proposal with modifications distributed by staff at the hearing and several additional modifications including:

(1) Dividing the regulation into two separate sections, one covering the requirements for compliance with diesel PM limits and one for compliance with NOx limits; (2) adding a new section using incentive-based funding that would allow any air district to achieve additional NOx reductions from in-use off-road heavy-duty diesel vehicles operating within its air basin by opting to follow the requirements of the section and providing incentive funding to fleets that would be required to apply for funds and, if received, use the funds to achieve real, calculable, and enforceable surplus NOx emission reductions; (3) expanding the definition of Non-Profit Training Center; and (4) modifying the regulations to provide that, on or after March 1, 2009, a fleet that permanently retires a Tier 0 vehicle from service within California may count that vehicle in meeting both the diesel PM BACT requirements and the NOx BACT requirements to achieve equivalent emission reductions relative to the retrofit requirements.

RESPONSIBLE DIVISION: Mobile Source Control Division

STAFF REPORT: Yes

07-8-2: Climate Change Recommendations from the Market Advisory Committee

SUMMARY OF AGENDA ITEM:

The Board heard a presentation from Market Advisory Committee (MAC) Chairman Winston Hickox and Vice-Chairman Dr. Laurence Goulder. The Committee was charged by Cal/EPA Secretary Linda Adams with preparing recommendations for ARB's consideration on the design of an appropriate cap and trade program to reduce greenhouse gas emissions. The item was introduced by ARB staff who presented a brief summary of the schedule for developing a Scoping Plan by 2009 to reduce the State's contribution to greenhouse gas (GHG) formation.

Mr. Hickox and Dr. Goulder identified key design parameters that were addressed in the MAC recommendations: (1) market participation; (2) the extent to which emission allowances should be auctioned rather than freely allocated, (3) limiting the use of external offsets to provide GHG reduction certainty and verifiability, (4) why first (electricity) sellers are preferred entities in a cap and trading system over load-based electricity providers, and (5) why the transportation sector (fuel, vehicle travel, and mobile sources) should eventually be brought into a cap and trade program.

The Board discussed and heard public testimony on the Committee's recommendations. Board members expressed interest in continuing to hear from Committee members as staff evaluated the potential for market measures within the Scoping Plan development.

ORAL TESTIMONY:

Barbara Lee, California Air Pollution Control Officers Association
Barbara Baird, South Coast Air Quality Management District
Evan Edgar, California Refuse Removal Council
Kevin Fay, International Climate Change Partnership
Frank Sheets, TXI Riverside Cement
Frank Harris, Southern California Edison
Chris Busch, Union of Concerned Scientists
Rick deGolia, Environmental Entrepreneurs
J. Andrew Hoerner, Redefining Progress
Mark Hite, California Council for Environmental and Economic Balance
Devra Wang, Natural Resources Defense Council
Mujahid M. Abdullah, Sustainable Capital
Nicholas W. van Aelstyn, Beveridge & Diamond, PC
Todd Campbell, Clean Energy

FORMAL BOARD ACTION: None (Informational Item)

RESPONSIBLE DIVISION: Office of Climate Change

STAFF REPORT: No

07-8-3: Update on the 2005 ARB/Railroad Statewide Agreement

SUMMARY OF AGENDA ITEM:

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

Both railroads have exceeded the requirement to install idle reduction devices on 70 percent of the unequipped intrastate locomotives by June 30, 2007. In addition, the railroads are ahead of schedule to meet the requirement to complete the installation of

idle reduction devices on 99 percent of the unequipped intrastate locomotives by June 30, 2008. Both railroads continued to comply with the CARB diesel fuel regulation for intrastate locomotives which became effective January 1, 2007. In addition, both railroads continued fueling interstate locomotives with low sulfur diesel fuel (15 ppmw) volumes greater than the minimum 80 percent requirement specified in the Agreement.

In the first half of 2007, staff completed a third round of enforcement inspections at the designated and covered rail yards in California. Staff observed about 960 locomotives to determine their compliance with the anti-idling provisions of the Agreement with 40 locomotives cited for excessive idling and none for excessive smoke. About 96 percent of the locomotives observed were in compliance for the first half of 2007.

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

Staff completed draft assessments for nine designated rail yards and one additional non-designated rail yard. These assessments were released in May and June at public meetings held by staff and railroads in the affected communities. Each initial meeting was followed about one month later by a second meeting to allow for questions and public comments and to begin discussion of possible mitigation.

The draft health risk assessments show that the diesel particulate matter emissions from the rail yards result in significantly higher pollution risks in nearby communities. The largest impacts are associated with the four rail yards in the City of Commerce. The draft assessments for the other yards have lower potential cancer risk and expose fewer people, but are still significant and need to be reduced.

After considering the public comments, staff will complete the assessments. In addition, the staff will begin a public process to more fully address the noncancer impacts around the rail yards and to identify and evaluate potential mitigation options needed to reduce the risk.

The U.S. Environmental Protection Agency released its proposed draft Tier 4 locomotive and marine rulemaking in April 2007 with a

public comment period until July 2, 2007. Staff provided comments on the proposed rulemaking. Staff is supportive of most elements included in the April 3, 2007 proposal. However, staff believes that several portions of the proposal should be strengthened, expanded, or accelerated.

Following the staff presentation, the Board received public testimony from six individuals. Two representatives from the South Coast Air Quality Management District (SCAQMD) commented on issues related to ARB's enforcement of the Agreement, current litigation status between the railroads and SCAQMD, health risk assessments and the need to push for more stringent locomotive emission controls. 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 particulate matter emissions near rail yards.

ORAL TESTIMONY:

Barry Wallerstein, SCAQMD
Barbara Baird, SCAQMD
Mark Stehly, BNSF Railway
Lupe Valdez, Union Pacific Railroad
Kirk Marckwald, Association of American Railroads
Mike Barr, Representing Association of American Railroads

FORMAL BOARD ACTION: Informational Item

RESPONSIBLE DIVISION: Stationary Source Division

STAFF REPORT: Yes