

**State of California  
AIR RESOURCES BOARD**

Summary of Board Meeting  
March 23, 2006

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

MEMBERS PRESENT: Robert F. Sawyer, Ph.D., Chairman  
Ms. Doreen D'Adamo  
Supervisor Mark J. DeSaulnier  
Henry Gong Jr., M.D.  
Ms. Lydia H. Kennard  
Mr. Ronald O. Loveridge  
Ms. Patricia Salas Pineda  
Mrs. Barbara Riordan

AGENDA ITEM #

**06-3-1: Health Update: Stronger Relationship Between Particulate Matter (PM) and Premature Death**

SUMMARY OF AGENDA ITEM:

ARB staff provides the Board with regular updates on research findings on the health effects from air pollution. This month's health update presented the results of a study completed by Professor Michael Jerrett at the University of Southern California on the associations between exposure to particulate matter and premature death in Los Angeles County. Staff discussed the results of this important new study and also explained its relevance to ARB's programs.

Staff briefly summarized how the results of previous PM exposure studies were being used to support ARB's programs, including air quality standards-setting and diesel PM control regulations. The long-term PM exposure studies have recently been reanalyzed based on further follow-up with study subjects. The new Jerrett study, using Los Angeles residents from the national American Cancer Society (ACS) study, demonstrates that within-city gradients

in PM 2.5 exposure result in premature death risks two and one-half times greater than previous national across-city studies. Even though the risk was higher for this new study, the uncertainty range was wider than that in the National ACS study, since a much smaller number of participants were considered in Jerrett's Los Angeles ACS study. The Los Angeles ACS study also found a strong effect from PM2.5 on death from ischemic heart disease. Staff also compared the Jerrett study results to the results from the Pope et al. National ACS 2002 study.

In summary, staff explained that the more focused study by Jerrett in the Los Angeles area is useful in furthering ARB's understanding of PM pollution and associated premature deaths in California. Because of the significance for regulation support, further studies like the Jerrett study (with improved exposure methods) in other large cities would validate the Jerrett study findings. In the next several months, staff plans to seek advice from national experts on how to best blend the strengths of the Los Angeles ACS study with the greater certainty offered by the larger national ACS study. With new PM mortality studies coming out later this year, staff explained that the timing will be right for ARB to review all relevant studies in order to decide how to include the Jerrett results into future PM health impacts assessments. Staff explained that a peer-review committee will be created to review any new PM concentration/response factor and health impacts assessments methodology resulting from further evaluation of the studies.

At the conclusion of the health update, several Board members congratulated staff on a clear and well-delivered presentation, and expressed their support for staff's recommendation to take into consideration all of the new studies and create a peer-review of staff's proposed methodology and studies for future calculations for California. In addition, the Board in general would like to see other investigations like the Jerrett study conducted for other cities within California.

ORAL TESTIMONY: None

FORMAL BOARD ACTION: None (Informational Item)

RESPONSIBLE DIVISION: Research Division

STAFF REPORT: No

**06-3-2: Public Hearing to Consider Amendments to the Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines**

SUMMARY OF AGENDA ITEM:

In May 2002, the Board adopted a procedure to verify emissions reductions achieved by diesel emission control systems (Procedure) that are applied to in-use diesel vehicles and equipment. The Procedure includes a limit on emissions of nitrogen dioxide (NO<sub>2</sub>) to prevent adverse public health impacts. Most catalyzed diesel particulate filters, though extremely effective at reducing emissions of diesel particulate matter (PM), form NO<sub>2</sub> as a byproduct of their operation. Effective January 1, 2007, the limit in the Procedure for NO<sub>2</sub> emissions is 20 percent of an engine's baseline oxides of nitrogen (NO<sub>x</sub>) emission level.

To date, manufacturers of the most commonly used diesel particulate filters have not been able to comply with the NO<sub>2</sub> emission limit. If no change were made to the limit, nearly all of the approved diesel particulate filters would lose their verifications on January 1, 2007, taking away a vital element of ARB's diesel PM control plan. The relative health trade-offs between reductions of diesel PM and increased NO<sub>2</sub> emissions do not justify that result.

Diesel PM is directly linked to elevated cancer risk, a host of respiratory diseases, and premature death. Elevated NO<sub>2</sub> emissions can lead to higher exposure to secondary nitrate PM, ozone, and NO<sub>2</sub>. Compared to the potential adverse impacts of these pollutants, the benefits of reduced diesel PM emissions are still far larger. In the South Coast Air Basin, staff estimates that about 240 premature deaths will be avoided in 2010 alone as a result of the proposal, as opposed to one to two additional premature deaths from slight increases in exposure to ozone.

Staff's proposal calls for a new two-stage NO<sub>2</sub> limit. Beginning January 1, 2007, staff proposed that the maximum increase in NO<sub>2</sub> emissions be limited to 30 percent

of the engine's baseline NOx emissions. Two years later in 2009, staff proposed that the maximum increase be reduced to 20 percent. Most of the currently verified filters should be able to meet the proposed 2007 limit.

In addition to a new limit for NO<sub>2</sub> emissions, staff also proposed the creation of three "Plus" levels by which to classify verified systems. Systems that meet the 2009 NO<sub>2</sub> limit ahead of schedule would be designated by a Plus. The Plus system could be used to encourage use of the lowest NO<sub>2</sub> systems in incentive based programs. It would not change the definition of Best Available Control Technology used in existing diesel clean-up regulations.

Staff proposed two additional amendments that would enable more accurate and representative NO<sub>2</sub> measurements. The presence of soot and ash in an emission control system during an emissions test has been shown to influence NO<sub>2</sub> emissions. Staff therefore proposed specific pre-conditioning requirements for systems that may have this characteristic. To help ensure the test engine is representative, staff proposed that the engine-out NO<sub>2</sub> emissions level not exceed 15 percent of the total NOx.

The proposed amendments do not alter the purely voluntary nature of the Procedure. Only companies that find it financially advantageous to participate in the verification process will do so.

#### ORAL TESTIMONY:

Dr. Joseph Kubsh, Manufacturers of Emission Controls Association

Bonnie Holmes Gen, American Lung Association of California

Julian Imes, Donaldson Company, Inc.

#### FORMAL BOARD ACTION:

The Board adopted the proposed amendments.

RESPONSIBLE DIVISION: Mobile Source Control Division

STAFF REPORT: Yes

**06-3-3: Public Meeting to Update the Board on the Governor's Greenhouse Gas Reduction Targets and Related Activities**

**SUMMARY OF AGENDA ITEM:**

On June 1, 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established greenhouse gas (GHG) emission reduction targets for California. Staff provided a presentation on the Governor's reduction targets and the ARB activities that are being undertaken in support of the Governor's Executive Order. The Governor's targets are as follows:

- By 2010, reduce GHG emissions to year 2000 levels (11 percent below business as usual).
- By 2020, reduce GHG emissions to year 1990 levels (25 percent below business as usual).
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

These are extremely aggressive goals that demonstrate California's international leadership on climate change. Achievement of these goals, however, will require concerted effort by a variety of State agencies. ARB is the State agency responsible for control of air pollution. The Board's 2004 regulation to control greenhouse gas emissions from new motor vehicles is a major component of the State's overall reduction efforts. In addition to its motor vehicle controls, the Board must undertake a number of new tasks in order to achieve the necessary reductions in its area of jurisdiction and provide scientific and analytic support to the overall effort.

In order to complete, monitor, and update its assigned strategies on an ongoing basis, the 2006-2007 proposed Governor's Budget for ARB requests additional staff to accomplish work in the following major areas:

- Biofuel Blends (2 positions)
- Semiconductor Industry Targets – Perfluorocarbon Emissions (1 position)
- Manure Management (1 position)
- Transport Refrigeration Units – Electric Standby (1 position)
- Port Electrification (2 positions)

- HFC Reduction (3 positions)
- Other New Light-Duty Vehicle Technology Improvements (1 position)
- Heavy-Duty Vehicle Greenhouse Gas Reduction Measures (2 positions)
- Economic Analysis of Proposed Climate Change Strategies (1.5 positions)
- Climate Change and Air Quality Interaction (1 position)

The GHG reduction measures will be implemented through a variety of approaches, including ARB regulations, model rules for consideration by local air pollution control districts, cooperative agreements, and incentive measures. The requested staff will evaluate each measure and undertake implementation actions as appropriate.

ARB also is requesting \$3.275 million in one-time contract resources to conduct a number of studies to better define the linkage between climate change and air quality, to evaluate various technology-based control options, and to support the economic analysis of the state’s greenhouse gas reduction strategies.

ORAL TESTIMONY: Nick DeLuca, Cogen Works

FORMAL BOARD ACTION: None (Informational Item)

RESPONSIBLE DIVISION: Executive Office

STAFF REPORT: No

**06-3-4: Staff Presentation on ARB’s Tools for Public Access to Air Quality Information**

SUMMARY OF AGENDA ITEM:

Staff presented the Board with an overview of ARB’s Tools for Public Access to Air Quality Information.

The staff presentation provided an overview of the Air Quality and Meteorological Information System (AQMIS) and the Community Health Air Pollution Information System (CHAPIS). These user-friendly internet-based mapping and data query tools allow the public to view air quality and emission data on a community level. In addition, staff

presented the Board with ARB's resource webpage for links to health-related information.

AQMIS provides real time and historical air quality monitoring data. AQMIS includes web-based query and mapping tools that are used for evaluating current air quality, smoke management decisions, and emergency response modeling, as well as for other air quality tracking and analysis.

CHAPIS is a web-based mapping tool that allows users to view a map of sources of air pollution emissions within a community. CHAPIS includes emission data for stationary sources, mobile sources and area-wide sources.

ARB staff believes it is important to provide broad access to air pollution information to the public. ARB has committed extensive resources to develop these data query tools and internet-based mapping tools that are capable of visualizing spatial relationships between air quality and emission sources within communities. These community-based tools help promote community involvement, and are key tools that support ARB's Environmental Justice Program.

ORAL TESTIMONY: None

FORMAL BOARD ACTION: None

RESPONSIBLE DIVISION: Planning, Technical & Support Division

STAFF REPORT: No