

State of California
AIR RESOURCES BOARD

Summary of Board Meeting
September 26, 2002

California Environmental Protection Agency
Air Resources Board
Coastal Hearing Room, Second Floor
1001 I Street
Sacramento, California

MEMBERS PRESENT: Hons. Alan C. Lloyd, Ph.D., Chairman
Joseph C. Calhoun, P.E.
Doreen D'Adamo
Mark DeSaulnier
C. Hugh Friedman
Matthew R. McKinnon
Barbara Patrick
Barbara Riordan

AGENDA ITEM #

02-7-1 Public Meeting to Consider a Health Update

SUMMARY OF AGENDA ITEM:

The Children's Health Study performed by the University of Southern California was initiated in 1991 to determine whether the long-term exposure of children to southern California's community air pollution during their "growing" years leads to effects on lung growth and breathing problems. Nearly 5500 schoolchildren from 12 southern California communities have participated. Each child's lung growth and changes in their respiratory health are measured annually. They also report on their activities affecting exposure, especially outdoor sports.

Results published in 2001 show that children in the communities with the highest levels of air pollution, as compared to those in the communities with the lowest levels, had lower rates of lung function growth. The study investigators have published an analysis in July 2002 on a second cohort of children, which replicates the results found in the first study. This analysis found that higher exposures to acid vapor, ozone, nitrogen dioxide, PM2.5, and elemental carbon in PM2.5 significantly decreased measures of lung growth and

functioning. Confirmation of slower growth in a second group significantly strengthens the evidence supporting the adverse lung growth effects of higher pollution exposures and shows that these adverse effects are still occurring at more recent lower pollution levels. In contrast to the previous study, children in this analysis with higher ozone exposures had reduced growth of peak flow rates. The slower lung growth associated with higher exposures to elemental carbon may indicate a specific respiratory effect of diesel exhaust; diesel engines are a major source of elemental carbon in very small particles in Southern California.

Slower lung growth over a period of several years, now confirmed in two different groups of children, is the strongest evidence of a chronic effect of air pollution on children's respiratory health. Lung function reaches a maximum in young adults; children whose lungs have grown more slowly may have lower maximum lung function, a question of intense interest to respiratory researchers. Adults with lower maximum function may be more susceptible to respiratory diseases and chronic problems as they age.

The presentation was well received by the Board. Barbara Riordan asked if the study area was changed and was assured that while some specific locations had changed slightly, the study was still located in the Los Angeles Basin area. Staff also assured the Board that monitoring will continue for the Children's Health Study beyond 2003, when the ARB's involvement with the health assessment portion of the study will end.

ORAL TESTIMONY: None

FORMAL BOARD ACTION: None

RESPONSIBLE DIVISION: Research Division

STAFF REPORT: None

02-7-2 Public Meeting to Update the Board on an Air Resources Board (ARB) Air Monitoring Study in San Diego (Barrio Logan)

SUMMARY OF AGENDA ITEM:

Staff of the Air Resources Board presented the Board with a detailed overview of ambient air sampling for hexavalent chromium conducted from December 2001 through May 2002, in Barrio Logan, a community in San Diego.

The December monitoring results indicated unusually high levels of hexavalent chromium in the vicinity of two chrome plating facilities.

The Air Resources Board, in conjunction with the San Diego County Air Quality Control District, immediately notified local public officials and the community about the results of this monitoring effort.

The ambient air monitoring resumed in February and continued through May 2002. The monitoring results indicated a strong relationship between the emissions at Master Plating and the high outdoor concentrations at one of the residences. The levels of hexavalent chromium continued until a temporary restraining order was issued against Master Plating. After the business stopped its chrome plating activities, the levels of hexavalent chromium dropped significantly, although occasional high concentrations did occur as a result of fugitive dust laden with hexavalent chromium that was released from the facility.

A local County Supervisor established a working group, consisting of ARB staff, local elected officials, community groups and the residents of Barrio Logan. This group met periodically to inform the community on the findings and issues regarding hexavalent chromium in Barrio Logan.

The San Diego Superior Court has now issued a preliminary injunction to cease chrome plating activities at Master Plating. The owner of the plating facility has agreed to permanently close the facility.

ORAL TESTIMONY:

Ms. Arely Moreno Citizen
Ms. Paula Forbis Environmental Health Coalition

FORMAL BOARD ACTION: None

RESPONSIBLE DIVISION: Planning and Technical Support
Division

STAFF REPORT: None

02-7-3 Public Meeting to Update the Board on Assembly Bill 1493

SUMMARY OF AGENDA ITEM:

Staff from the Research Division and the Mobile Source Control Division briefed the Board on greenhouse gases and global warming from the California perspective, and provided an overview of staff's plans to implement Assembly Bill 1493, the greenhouse gas bill signed by Governor Davis on July 22.

The staff presentation indicated that concerns about global warming must be taken very seriously. Emissions resulting from human activities are substantially increasing the atmospheric levels of the greenhouse gases carbon dioxide, methane, chloro-fluorocarbons, and nitrous oxide. Carbon dioxide (CO₂) emissions have increased 30 percent during the past century and fossil fuel combustion produces the largest amount of CO₂ emissions. In California, approximately 43 percent of the CO₂ emissions come from cars and trucks. Methane emissions have doubled in the past 100 years. Over the same period, nitrous oxide levels have risen about 15 percent. Agriculture is a major source of both methane and nitrous oxide, with additional methane coming primarily from landfills. Catalytic converters on automobiles also contribute to the levels of nitrous oxide. Nitrous oxide is a significant contributor to atmospheric warming because of its high global warming potential. Aerosols can also influence the atmosphere's energy balance.

Both regional and global climate changes are occurring in response to intensified human activities. The 20th century has seen both a decrease in spring runoff from the Sierra snow pack and an increase of about 7 inches in the sea level along California's coast. A continued increase in greenhouse gases and the associated temperature rise could have serious impacts on California's public health, economy, and ecology.

In response to these concerns, the Legislature passed and the Governor signed AB 1493. The bill directs the ARB to adopt regulations that achieve the maximum feasible and cost-effective reduction of greenhouse gas emission from motor vehicles. The regulations are to be adopted by January 1, 2005 but may not take effect prior to January 1, 2006. The regulations shall apply only to model year 2009 and later motor vehicles.

In developing the regulations, the Board must consider their technical feasibility and the impact of the regulations on the economy of the state. The regulations must provide flexibility as to means of compliance, and grant credit to automakers for early reductions. The regulations cannot require fees or taxes on vehicles, fuel or vehicle miles traveled; a ban on the sale of any vehicle category; a reduction in vehicle weight; or a reduction in the speed limit or vehicle travel.

In implementing the requirements of the bill, the staff will follow its standard regulatory model, which calls for a sound technical evaluation and an open public process. The project has been assigned a high priority within the staff.

The work will be broken into three phases. For roughly the first year, staff will conduct detailed technical work on a number of tasks, with workshops and opportunities for public input. The results of this technical work will be summarized in a workshop in October 2004, and presented to the Board in November 2004. Following the Board update the staff will integrate the various technical findings into a draft staff proposal, which will include staff recommendations and draft regulatory language. The draft staff proposal is scheduled to be released in May 2005 and will be the subject of a June 2005 public workshop. Finally, in July 2005 staff will prepare the final staff report and recommendations for consideration by the Board at a September 2005 hearing.

The specific tasks to be undertaken by staff include public and stakeholder outreach; the development of a baseline greenhouse gas inventory; an assessment of available vehicle technology; consideration of environmental, social and economic impacts; development of mechanisms for granting early reduction credits and considering alternative compliance measures; and the development of the staff proposal.

ORAL TESTIMONY:

Dr. Andy Frank, University of California at Davis.

FORMAL BOARD ACTION: None

RESPONSIBLE DIVISIONS: Research Division and Mobile Source Control Division

STAFF REPORT: None

02-7-4

Public Hearing to Update the Board on the 2002 Smog Season

SUMMARY OF AGENDA ITEM:

Staff updated the Board on the 2002 ozone season. The presentation began with a summary of long-term ozone air quality trends for the South Coast, San Joaquin Valley, Sacramento, and Bay Area regions, and then focused on how the 2002 ozone season compared to previous years. The presentation also highlighted the influence of weather on 2002 ozone air quality in several areas of the State.

California has achieved considerable progress over the last twenty years toward attaining the federal 1-hour ozone standard. This progress is most notable in the number of days exceeding the standard. In addition, several areas have recently qualified for

attainment of the national 1-hour ozone standard. This progress is a result of long-term planning efforts and the success of California's air quality programs.

While air quality control programs have resulted in impressive improvements in ozone air quality throughout California, weather does influence ozone concentrations. Weather can cause significant year-to-year variations in maximum ozone concentrations and the number of exceedance days. During 2002, ozone air quality and weather were similar to 2001 for the San Joaquin Valley and San Francisco Bay Area Air Basins. However, the South Coast Air Basin and Sacramento metropolitan region experienced a worse ozone season in 2002 as compared to the previous several years.

The Sacramento region had higher maximum 1-hour ozone concentrations and three times as many national 1-hour ozone exceedance days during 2002 as compared with 2001. Temperature is a critical influence on ambient ozone in the region, and 2002 ranks among the five hottest years in Sacramento's history. The South Coast Air Basin also had worse ozone air quality during 2002, as measured by the number of days exceeding both the 1-hour and 8-hour national ozone standards. Analysis by the South Coast Air Quality Management District staff suggests that stronger and more persistent inversions during 2002 partly account for the increase in exceedance days.

ORAL TESTIMONY: None

FORMAL BOARD ACTION: None

RESPONSIBLE DIVISION: Planning and Technical Support
Division

STAFF REPORT: None