

State of California  
AIR RESOURCES BOARD

Summary of Board Meeting  
**February 22, 2007**

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

**MEMBERS PRESENT:** Robert F. Sawyer, Ph.D., Chairman  
Sandra Berg  
Dorene D'Adamo  
Henry Gong, Jr., M.D.  
Jerry Hill  
Lydia Kennard  
Ronald O. Loveridge  
Barbara Riordan  
Daniel Sperling

**Agenda Item #**

**07-2-1: Public Hearing to Consider Amendments to the Ambient Air Quality Standard for Nitrogen Dioxide**

**SUMMARY OF AGENDA ITEM:**

Staff presented recommendations for amending the Ambient Air Quality Standard for nitrogen dioxide based on a review of the existing standard. The health-based standard review was a requirement of The Children's Environmental Health Protection Act (Senate Bill 25, Escutia, 1999).

On January 5, 2007, staff released a report to the public containing the proposed amendments to the nitrogen dioxide standard. Staff recommended that the Board adopt amendments to reduce the one-hour average standard from 0.25 parts per million (ppm) to 0.18 ppm, not to be exceeded, and adopt a new annual average standard of 0.030 ppm, not to be exceeded. Staff also proposed retention of the currently used chemiluminescent monitoring method to determine ambient concentrations, and incorporate by reference all federally approved methods (i.e. samplers) for nitrogen dioxide as "California approved samplers."

The recommendations were based on an extensive review of the scientific literature by staff from the Air Resources Board (ARB or the Board) and from the Office of Environmental Health Hazard Assessment, as well as university or government health department contractors. A draft staff report and technical support document were released to the public for comment on April 14, 2006. The draft report and document were peer-reviewed by the Air Quality Advisory Committee (the Committee), an external scientific review committee that was appointed by the Office of the President of the University of California.

The proposed one-hour standard is based on results from controlled human exposure studies, which indicate that exposure to nitrogen dioxide causes a number of adverse health effects, including increased airway hyperactivity, increased airway inflammation, and enhanced response to allergen in asthmatics after exposure to nitrogen dioxide. Also, in selecting the level of the standard, a margin of safety was incorporated.

The proposed annual average standard is based on results from epidemiological studies which found associations between nitrogen dioxide exposure and adverse health effects, including emergency room visits and hospital admissions for asthma, reduced lung function and lung growth in children.

Dr. Michael Kleinman, Chairman of the Committee, summarized the Committee's findings. It found that the review was very comprehensive and supported the overall conclusions used to develop the standards. The Committee endorsed the proposed one-hour and annual standards and indicated that the nitrogen dioxide monitoring network should include spatial variation and monitoring of "hot spots."

The Board heard testimony from one witness, who was in support of the adoption of the new standards.

The Board inquired about the number of digits provided in the summary slide of nitrogen dioxide standards and guidelines. Staff responded that the guidelines were originally reported in micrograms per cubic meter, and that staff reported the parts per million equivalent to three decimal places. The current and proposed California standards are presented in two significant figures. The Board also inquired if lowering the standard would have the effect of lowering other pollutants. Staff noted that there would be a projected decrease in the ozone and particulate matter

concentrations, since oxides of nitrogen are precursors of these pollutants as well. The Board also inquired how the new one hour standard was derived with its margin of safety. Staff responded that there were effects observed at 0.25 ppm to 0.26 ppm and possibly at 0.1 ppm. Staff indicated that 0.18 ppm was between these values with an added margin of safety. The Board also emphasized the importance of new health effects research to fill information gaps to help support the standards.

ORAL TESTIMONY:

Bonnie Holmes-Gen, American Lung Association

FORMAL BOARD ACTION: The Board approved Resolution Number 07-8 by a unanimous vote, adopting the proposed amendments.

RESPONSIBLE DIVISION: Research Division

STAFF REPORT: Yes

**07-2-2: Status Report on California's Fuel Programs**

SUMMARY OF AGENDA ITEM:

Staff updated the Board on the status of California's motor vehicle fuels program, including information about gasoline, diesel, alternative fuels and the Governor's recently announced low carbon fuels initiative.

Staff gave a brief history and overview of California's reformulated gasoline program and its diesel fuel program before previewing the upcoming changes to California's gasoline regulations and providing a status update on the successful implementation of California's low sulfur diesel regulation. The biggest change to California's reformulated gasoline program will be the update to the California Phase 3 reformulated gasoline Predictive Model, which will require the mitigation of excess emissions from ethanol permeation.

The staff then updated the Board on activities related to alternative fuels. This included updates on the E85 demonstration program, biodiesel and other research activities, and the development of alternative fuel specifications. In addition, the staff updated the

Board on the status of efforts to develop the State's Alternative Fuels Plan pursuant to AB 1007.

In 2006, Governor Schwarzenegger signed into law the Global Warming Solutions Act of 2006. This landmark legislation is designed to reduce greenhouse gas emissions. In January 2007, Governor Schwarzenegger signed Executive Order S-01-07, establishing a goal for reducing greenhouse gas emissions and petroleum dependency through the use of low carbon fuels. By 2020, the goal is to reduce the carbon intensity of California's transportation fuels by at least 10 percent. Staff presented the status of activities to implement the low carbon fuel standard.

The two biggest issues on the horizon are upcoming changes to California's gasoline regulations to mitigate excess emissions from ethanol permeation, and the gradual decarbonization of vehicular fuels to reduce greenhouse gases and increase the State's fuel diversity. The former will come before the Board in June 2007 and the latter is tentatively scheduled for Board consideration in December 2008.

The purpose of this informational briefing was to give the Board a common foundation on the history of California's motor vehicle fuels regulations.

ORAL TESTIMONY:

Bonnie Holmes-Gen, American Lung Association  
Doug Korthof, PV-EV

FORMAL BOARD ACTION: None (Informational Item)

RESPONSIBLE DIVISION: Stationary Source Division

STAFF REPORT: No