

State of California  
**Air Resources Board**

**BOARD ITEM SUMMARY**

**ITEM 07-2-1: California Ambient Air Quality Standards for Nitrogen Dioxide**

**STAFF RECOMMENDATION:**

Adopt a more stringent 1-hour standard for nitrogen dioxide and adopt a new annual standard for the same pollutant.

**DISCUSSION:**

Ambient air quality standards define the maximum amount of a pollutant that can be present in outdoor air without harming the public's health. Per California law, ambient standards are based solely on health and welfare considerations. State standards are periodically reviewed and revised based on the most current health effects data.

After an extensive review of scientific literature, staff has concluded that the existing California standards for nitrogen dioxide (NO<sub>2</sub>) are not sufficiently protective. Staff is recommending that the Board reduce the current 1-hour average standard from 0.25 ppm to 0.18 ppm. Staff is also recommending a new annual average standard of 0.030 ppm. The proposed 1-hour standard will protect against short-term, peak exposures, while the annual average will protect against longer-term exposures. Staff also proposes retention of the currently used chemiluminescent monitoring method to determine ambient concentrations, and incorporate by reference all federally approved methods (i.e., sampler) for NO<sub>2</sub> as "California approved samplers."

The proposed 1-hour standard is based on controlled human exposure studies which indicate that NO<sub>2</sub> causes a number of adverse health effects including increased airway hyperactivity, increased airway inflammation, and enhanced response to allergen in asthmatics. It also includes a margin of safety. The proposed annual average standard is based on epidemiological studies which found associations between NO<sub>2</sub> exposure and adverse health effects, including increased emergency room visits and hospital admissions for asthma, reduced lung function, and reduced lung growth in children.

**SUMMARY AND IMPACTS:**

The proposed standards more accurately describe the ambient level NO<sub>2</sub> at which adverse health effects occur. However, they are not expected to result in any additional emission controls because the entire State appears to be in attainment with the new 1-hour standard. The South Coast Air Basin is marginally above the proposed annual average standard, but has a steady downward trend in emissions that will assure attainment in the very near future. Staff intends to conduct additional monitoring by potential NO<sub>2</sub> hotspots to ensure that no other unhealthy concentrations exist.

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**BOARD ITEM SUMMARY**

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

**STAFF RECOMMENDATION:**

None. Informational item.

**DISCUSSION:**

Staff will update 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. California has the cleanest fuels in the world, resulting in substantial emission reductions over a conventional fuel baseline. The superb quality of State fuels also enables California to use state-of-the-art vehicular emission controls, which are contaminated and rendered ineffective by dirtier blends.

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 April 2007 and the latter is tentatively scheduled for Board consideration in December 2008.

The purpose of this informational briefing is to give the Board a common foundation on the history of California's vehicle fuels regulations, the chronology of and rationale for major changes to date, and the series of events that brought us to where we stand today. No action is requested at this time.

**SUMMARY AND IMPACTS:**

None.