

State of California
Air Resources Board

BOARD ITEM SUMMARY

ITEM #07-1-1: ARB Action Plan for 2007

STAFF RECOMMENDATION:

Informational only.

DISCUSSION:

Executive Officer Catherine Witherspoon will brief the Board on major initiatives, rulemakings and other activities scheduled for 2007, including the Administration's proposals on climate change, freight movement and bond expenditures as they affect the Air Resources Board.

SUMMARY AND IMPACTS:

Not applicable.

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ITEM # 07-1-2: State of the State's Air Quality

STAFF RECOMMENDATION:

Informational item

DISCUSSION:

Staff will describe current air quality and long term trends. The presentation will focus on ozone and particulate matter which pose significant health risks to Californians. Staff will also discuss how weather and geography impact air quality trends and identify how the magnitude and severity of air quality problems varies in different regions. Finally, staff will provide an assessment of the most recent year's air quality data.

SUMMARY AND IMPACTS:

Air quality is steadily improving due to California's comprehensive emission control program. However, the public is still exposed to unhealthful levels of air pollution, indicating that even more efforts are required to attain state and national standards.

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ITEM # 07-1-3: Health Update: The Health Impacts of Coarse Particulate Matter

STAFF RECOMMENDATION:

Informational Item.

DISCUSSION:

The ARB staff provides the Board with regular updates on recent research findings on the health effects of air pollution. This month, staff will present the findings of research recently published on the effects of coarse particulate matter on heart rate variability in older adults in the Coachella Valley.

SUMMARY OF AGENDA ITEM:

The connection between fine particulate air pollution and adverse health effects is well established; however, much less is known about the health effects of coarse particulate air pollution. Previous studies indicate coarse particulate matter may be associated with increased mortality and morbidity. This current study among older adults with coronary heart disease residing in the Coachella Valley provides further evidence of a coarse particulate matter effect on health. Lipsett et al. found that exposure to coarse particulate matter was associated with significant changes in the heart's ability to modify its rhythm (heart rate variability). Heart rate variability changes are a known risk factor for death from cardiovascular disease. The findings from this study indicate the importance of considering coarse particulate matter in future research, public health and regulatory efforts.

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ITEM # 07-1-5: Proposed Amendments to the Airborne Toxic Control Measure (ATCM) for Dry Cleaning Operations and Requirements for Manufacturers and Distributors of Perchloroethylene

STAFF RECOMMENDATION:

Approve the proposed amendments for dry cleaners and new requirements for manufacturers and distributors of perchloroethylene.

DISCUSSION:

In 1993, the Air Resources Board adopted the initial ATCM for dry cleaning operations. The regulation sets forth the equipment, operations and maintenance, recordkeeping, and reporting requirements. In 2003, staff evaluated the effectiveness of the dry cleaning ATCM and concluded that emissions decreased by about 70 percent, but also that more can be done. Accordingly, the staff developed proposed amendments to the dry cleaning ATCM which the Board considered on May 25, 2006. The nature of that proposal was to regulate emissions more stringently but not to ban any particular dry cleaning substance.

At the May 2006 hearing, the Board considered staff's proposal and took public comment. A number of witnesses opposed staff's recommendation and proposed instead that perchloroethylene be phased out completely. The Board agreed and directed staff to return with an amended proposal and schedule for eliminating perchloroethylene from dry cleaning operations.

The revised staff proposal prohibits the use of perchloroethylene cleaning machines at new dry cleaning facilities and phases out perc machines at existing facilities. The revised proposal also includes requirements for perc manufacturers and distributors.

SUMMARY AND IMPACTS:

The revised staff proposal will reduce the toxic risk from perchloroethylene dry cleaning operations to zero. The economic impact on dry cleaners will vary depending on facility type, machine age, and the alternative technology they choose to purchase. To cover those costs within a five year payback period, staff estimates dry cleaners would have to charge an additional \$0.41 to \$1.80 per garment cleaned.

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ITEM #07-1-6: **Appointment of the Environmental Justice Advisory Committee and the Economic & Technology Advancement Advisory Committee under AB 32, the Global Warming Solutions Act of 2006**

STAFF RECOMMENDATION:

Appoint the recommended committee members.

DISCUSSION:

The Global Warming Solutions Act of 2006 directs ARB to appoint two advisory committees. The first committee is to be known as the Environmental Justice Advisory Committee, and will advise the Board in developing the scoping plan of emission reduction measures and any other pertinent matter. The second committee is the Economic and Technology Advancement Advisory Committee, which will advise the Board on activities that facilitate technological research and development opportunities.

The Environmental Justice Advisory Committee must include at least three members and represent areas of California with the most significant exposure to air pollution. The members must be selected from nominations provided by environmental justice organizations and other community groups. The Board shall provide reasonable per diem for attendance and provide staff support as needed.

State law is less specific about the Economic and Technology Advancement Advisory Committee members. Staff has drawn from representatives of business, environmental and clean energy groups and other appropriate fields and will provide staff support as needed.

SUMMARY AND IMPACTS:

The two advisory committees will bring a wide variety of experience and expertise to the table and will assist ARB in the successful implementation of the Global Warming Solutions Act.

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ITEM #07-1-7: Recent Scientific Findings from Climate Change Studies

STAFF RECOMMENDATION:

Informational item, no action needed.

DISCUSSION:

This is the first of a series of semiannual updates of the Board on recent, significant findings from climate change research.

SUMMARY AND IMPACTS:

Findings of recent climate change studies support the fact that the man-made emissions of the heat-trapping gases are responsible for recent drastic climate change trends. A recently-published study significantly strengthens earlier work linking recent ocean warming to human activities. It focuses on the complex vertical structure of ocean warming, and shows that computer models capture this structure if they include changes in man-made climate forcings and natural variability. A number of papers highlighted the unexpectedly severe loss of ice throughout the world. Two recent satellite studies show warming air and water are causing both Arctic and Antarctica to lose ice faster than it can be replenished by interior snow fall and are contributing to rising sea levels.

Atmospheric scientists have warned that carbon dioxide emissions are increasing more rapidly, despite international efforts to curb the use of fossil fuels. An economic analysis by Lord Stern found that climate change will have very serious economic impacts which are best addressed by beginning mitigation efforts immediately.

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ITEM # 07-1-8: Status of Harbor Communities Monitoring Studies

STAFF RECOMMENDATION:

Informational item.

DISCUSSION:

Several monitoring studies are underway in the Los Angeles ports area investigating new methods to evaluate localized pollution impacts. These include low-cost, pump-free "passive" samplers; a network of ultrafine particle counters; a mobile platform for real-time instruments; and enhanced meteorological monitoring to support the analysis of results. Fixed site monitors are good for monitoring regional trends, but are not effective for analyzing localized impacts. Staff will present preliminary results from pilot studies. The main studies will begin next month. The pilot studies were designed to detect compounds of highest health concern. Preliminary results suggest that the passive samplers performed as expected, with adequate sensitivity for many pollutants but less precision for the difficult-to-measure compounds. The mobile platform was effective at measuring pollutant concentrations and gradients over a large area. Large diesel emission impacts were sometimes detected downwind of freeways, arterial truck routes and some rail facilities. Early morning stagnant conditions also showed relatively high levels of diesel PM indicators throughout the region.

SUMMARY AND IMPACTS:

Preliminary findings suggest that ambient pollutant concentrations in harbor communities are similar to the Los Angeles urban area, but localized impacts due to diesel emissions are elevated under some conditions. The main studies are designed to verify these impacts and the effectiveness of low-cost, easy-to-use samplers. The latter could empower local communities to monitor the impacts of local sources of air pollution.

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ITEM #07-1-9: Update on the Implementation of the 2005 ARB/Railroad Statewide Agreement

STAFF RECOMMENDATION:

No action required.

DISCUSSION:

On June 24, 2005, the Executive Officer of the Air Resources Board (ARB or Board) entered into a statewide railroad pollution reduction agreement (Agreement) with Union Pacific Railroad and BNSF Railway.

As part of this effort, the staff presents routine updates to the Board on the implementation of the Agreement. At the January meeting, staff will update the Board on activities completed since July 2006. Staff has prepared a status report in support of this item.

Both railroads are ahead of schedule to meet the requirement to install idle reduction devices on 70 percent of the unequipped intrastate locomotives by June 30, 2007. Including the installations made prior to the agreement, idle reduction devices have now been installed in over 66 percent of the nearly 440 intrastate locomotives operating in California, more than twice the rate for the rest of country. Both railroads have complied with the CARB diesel fuel regulation for intrastate locomotives by January 1, 2007. In addition, both railroads are fueling interstate locomotives at volumes greater than the minimum 80 percent requirement specified in the agreement.

In the Fall of 2006, staff completed a second round of enforcement inspections at the designated and covered rail yards in California. Staff observed about 650 locomotives to determine their compliance with the anti-idling provisions of the agreement and nine locomotives were cited for excessive idling and none for excessive smoke. This means about 98 percent of the locomotives observed were in compliance. We believe that the high compliance rate is largely due to the extensive training done by the railroads to ensure that yard personnel understand and apply the new requirements. To support this enforcement effort, over 70 ARB and local air district enforcement staff were trained in 2006.

Finally, in support of the upcoming rail yard health risk assessments, staff developed and held two public workshops on the guidelines for preparing emission inventories and conducting health risk assessments. Both railroads were on schedule to deliver the first nine draft health risk assessments by the agreed upon accelerated schedule of December 31, 2006. However, ARB staff made a significant request last August for a

change in emission inventory methodology to ensure that the best and most current data were included in the rail yard health risk assessments. Because of these adjustments, more time was needed to develop emission inventories and air dispersion modeling. With these changes, ARB staff now anticipates the completion of the first nine draft health risk assessments by about March 2007. The second group of draft risk assessments is still scheduled to be completed by the end of 2007.

SUMMARY AND IMPACTS:

To date, staff estimates that compliance with the Agreement has resulted in better than a 15 percent reduction in diesel particulate matter emissions near rail yards.

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ITEM # 07-1-10: Carl Moyer Program Status Report

STAFF RECOMMENDATION:

Informational item.

DISCUSSION:

The Carl Moyer Program was created in 1998 to subsidize the incremental cost of cleaning up diesel engines to reduce oxides of nitrogen (NOx). The Program is implemented through a partnership between the Air Resources Board and local air quality districts. ARB provides oversight and minimum performance criteria; air districts select, fund, and monitor projects. Legislative changes in 2004 and 2005 and the substantial funding increase through 2015 expanded the Carl Moyer Program to include new project categories and two additional pollutants –diesel particulate matter (PM) and reactive organic gases (ROG).

This report covers the first six years of the Program, including expenditures, project types, number of engines replaced or retrofitted and aggregate emission benefits. This report also discusses recent audits conducted by ARB, the Department of Finance (DOF), and the Bureau of State Audit's. Finally, the report discusses implementation challenges and opportunities for program enhancements.

The Carl Moyer Program is critical to California's attainment strategy. In addition, since 50 percent of funds are spent in environmental justice areas, the program steers benefits to communities that need them most. To date, available technology, pending regulations, and upcoming emission standards have impacted the types of projects funded. In general, the number of on-road vehicle projects has declined, while offroad vehicle projects have increased (particularly in the construction arena). Emerging categories include new locomotive purchases and installation of PM retrofit devices.

SUMMARY AND IMPACTS:

The Carl Moyer program provided \$140 million over its first six years to help clean up over 6,300 heavy-duty engines. These projects reduced NOx emissions by over 18 tons per day (tpd) at an average cost-effectiveness of \$2,600 per ton. The Program achieved significant health and welfare benefits as well by reducing lost work days by 17,000 and preventing 2,800 asthma attacks and 100 premature deaths. Emission reductions achieved by the program will continue to benefit California for up to 20 years depending on the expected life of funded projects.