

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

APPROVED MINUTES

Advisory Council Regular Meeting
10:00 a.m., Wednesday, July 12, 2006

CALL TO ORDER

Opening Comments: Chairperson Kurucz called the meeting to order at 10:15 a.m.

Roll Call: Present: Kraig Kurucz, Chair, Sam Altshuler, P.E., Louise Bedsworth, Ph.D., Ken Blonski, Robert Bornstein, Ph.D., Jeffrey Bramlett, Harold Brazil, Irvin Dawid, Fred Glueck, William Hanna, Stan Hayes, Steven Kmucha, M.D., Karen Licavoli-Farnkopf, MPA, Ed Proctor, Linda Weiner, Brian Zamora.

Absent: Cassandra Adams, Emily Drennen, William Hanna, John Holtzclaw, Ph.D., Janice Kim, M.D.

PUBLIC COMMENT PERIOD:

Peter Holoyda
Senior Advisor, Market Research Lab
Hydrogen First - International Business Incubator of Silicon Valley

urging the District acquire a larger fleet of hydrogen fuel-cell vehicles and to participate in the fuel cell vehicle pilot program that is currently underway in the South Coast AQMD.

CONSENT CALENDAR:

1. Approval of Minutes of May 10, 2006. Mr. Glueck moved approval of the minutes; seconded by Mr. Dawid; carried unanimously.

COMMITTEE REPORTS

- 2. Public Health Committee Meeting of May 10, 2006.** Mr. Bramlett stated that the Committee received presentations from John Crouch of the Hearth, Patio and Barbeque Association, and Kathy Hayes of the North Bay Association of Realtors.
- 3. Air Quality Planning Committee Meeting of June 14, 2006.** Mr. Hayes stated that the Committee discussed incorporation of climate change concerns into local general plans, and received a presentation from Dawn Weisz of Marin County on that topic. The Committee also discussed developing a preliminary “carbon footprint” for the Committee.

4. **Technical Committee Meeting of June 14, 2006.** Dr. Bornstein stated that Committee member Altshuler gave a presentation on information presented at a recent conference held in the South Coast AQMD on ultrafine particulate matter (PM). Mr. Altshuler suggested that the Committee receive a presentation from Dr. Bart Ostro on individual chemistry and mortality. Dr. Bornstein added that he is available to give a presentation at the next Committee meeting on the decreasing temperature trends over the last 80 years in coastal areas. Dr. Bornstein stated that large-scale models are insufficient to discern local or regional effects. Dr. Bedsworth replied that climate change as a global phenomenon is a subject on which the scientific community has reached widespread consensus, and that the observation of varying local effects should not have any impacts that would modify policy that endeavors to mitigate global warming. Mr. Dawid noted that a recent article cited one meteorologist as asserting there is no consensus on global warming. Dr. Bornstein replied that this author is ultimately in a small minority compared with the majority of scientists who opine otherwise.
5. **Executive Committee Meeting of July 12, 2006.** Chairperson Kurucz stated that the Committee met earlier this morning and discussed the Advisory Council's May 30, 2006 report to the Board Executive Committee. The Board members expressed their approval of the Council Committee and Regular minutes submitted to them for review, and it was clear that they had all read the minutes carefully and had come prepared with questions. At this morning's meeting, the Council Executive Committee also discussed the District's outreach program and what types of public outreach activities Council members might engage in.

PRESENTATION

6. **From Science to Regulation—Air Quality Successes and Challenges in California.** Robert F. Sawyer, P.E., Ph.D., Chairperson, California Air Resources Board (CARB), stated that he would review the history of air quality regulation in California and assess the major air quality successes and challenges facing the state. Dr. Sawyer stated that with regard to diesel emissions, the central issue concerns the heavy-duty truck rule that by 2007 would require installation of particulate traps on all new heavy-duty diesels sold in California. This will soon impact the off-road engine sector. In 2010, another regulatory step mandating a 90% reduction in emissions of nitrogen oxide (NO_x) will take place. To date, the PM reduction has occurred by a factor of 10 in in-use vehicles. NO_x reductions have not been as successful. California has an aggressive PM trap retrofit program that aims to retrofit every heavy-duty vehicle. This technology is attractive and even takes care of the nanoparticle problem.

Given manufacturing trends, the state will see an increase in the number of light-duty diesel vehicles: these are high-performance, high-powered vehicles that meet stringent emission standards and have superior fuel economy to gasoline-powered vehicles. However, there are a few on-board diagnostic issues pending with these vehicles. The emission reduction issues awaiting resolution for these vehicles concern ultrafine PM and nitrogen dioxide (NO₂).

Regarding the history of air quality in California, during the 1950s, Professor Haagen-Smit identified the phenomenon of photochemical smog. At that time, there were 4.5 million vehicles on the road in California. In this millennium, notwithstanding the significant increase in vehicles traveling on the roadways, extreme levels of air pollution have been reduced such that there are no longer any Stage I smog alerts in the South Coast AQMD.

There are a number of emission reduction activities at the state level, such as the regulation of the movement of goods throughout the state. The state's shipping ports are particularly at issue in the context of these initiatives. The Governor is also committed to decreasing the state's dependence on petroleum and on increasing the use of renewable fuels. The major issue on the immediate horizon is climate change. AB 1493 (Pavley) is now being subjected to litigation. The Supreme Court will hear whether the Environmental Protection Agency has the authority and responsibility to control CO₂, and whether or not CO₂ is an air pollutant. CARB intends to move ahead with its regulatory program, notwithstanding such litigation.

The major challenges in California concern ozone and PM_{2.5}. The San Joaquin Valley has achieved compliance with the PM₁₀ standard, but it is at the PM_{2.5} level that the health effects are found. The observable trends for PM_{2.5} in the San Joaquin Valley have reached a plateau, and require further examination of the science in order to understand why this is the case. Attainment of the eight-hour ozone standard also remains a major challenge in the state. This is largely a motor vehicle issue that concerns emissions from the in-use fleet.

Emission reductions have been achieved for lead, nitrogen dioxide, sulfur dioxide and carbon monoxide. In the South Coast AQMD, ozone levels are decreasing. In the San Joaquin Valley, growth and geography have stalled improvements in air quality. The debate continues over whether reducing emissions of hydrocarbons or NO_x is the most effective ozone reduction strategy. The weekend ozone effect is real and well documented, and inter- and intra-basin pollutant transport remains a problem as well. The background levels of ozone coming off the Pacific Ocean are increasing, thereby adding to the ozone problem.

Another challenge in California concerns growth. The number of vehicles has increased fourfold. Vehicle miles traveled (VMT) and population are also increasing. Yet, at the same time, air quality is improving, and progress is being made in the face of growth. Regulation and education will constitute a two-pronged approach to dealing with these dynamics.

The new light-duty vehicle fleet is a success story. The auto industry deserves credit for developing the technology to achieve more stringent emission standards, although much prodding has had to take place in order for this to occur. California has focused on in-use exhaust and evaporative emissions, and is increasingly using on-board diagnostics.

Another major issue is land-use planning and the proximity of residential areas to freeways. In the nearest 100 meters to a freeway, there are high concentrations of ultrafine PM. Those who drive vehicles on freeways are also exposed to large amounts of ultrafine PM. A great deal of planning guidance strongly urges that schools not be located near freeways.

The Zero Emission Vehicle (ZEV) program has been very successful, not so much because of battery and fuel cell vehicles *per se*, but because these have enabled the manufacture of hybrid vehicles. Another review of the ZEV program will be conducted at the state level early next year. Hydrogen fuel cells are longer-term solutions. The dominance of the petroleum refining system will not be displaced in a short period of time.

Another challenge facing California is to reduce petroleum use by 15% by 2020. Given the growth that is expected, use of alternative fuel use will need to increase by 20% by 2020, and

an increased focus on renewable and bio-fuels, ethanol and hydrogen. The debate over E10 and E85 ethanol continues, and the economics of ethanol will continue to be influential. Reduction of risk from diesel PM is a major goal in California, which in 2000 set the goal to reduce such risk by 75% by 2010 and 85% by 2020. New engine standards, engine retrofit programs, such clean diesel fuels as ultra low sulfur diesel, and in-use compliance standards for heavy-duty diesel engines, will contribute significantly toward achieving this goal.

In reply to questions, Dr. Sawyer stated:

- The regulatory landscape has changed since CARB originally petitioned the EPA to grant the use of E10 ethanol. It is a complicated issue due to the subsidy to farmers.
- Implementation of AB 32 in the Governor's view begins with establishing a climate change board comprised of staff from key agencies to provide top-down coordination.
- Experts will report to CARB on the status of battery electric cars and the extent to which improvements in battery technology have been made.
- The increase in gasoline prices would be very positive if the revenues were going to the taxpayers rather than to the oil refiners.
- Nuclear power could be a sound source of energy but the inability to store the waste it generates renders its implementation problematic.
- Regarding the nexus between climate change and traditional air quality programs, it is desirable to seek to reduce urban high temperatures which are adverse both to air quality and daily life, and to strive to attain to efficiency wherever and whenever possible.
- Optical on-board diagnostics will be crucial to integrating on-board diagnostics with the state's Smog Check program.
- Eucalyptus forest waste and chips could be used to combust and generate electricity.
- In a CO₂ emission trading program, whoever can show reduction in carbon emissions should be allowed to enter the market, but the emission inventory must be correct.

AIR DISTRICT OVERVIEW

- 7. Report of the Executive Officer/APCO.** Mr. Broadbent stated that this summer the District recorded four excesses of the national ozone standard, seven excesses of the state standard and one excess of the state one-hour standard. Temperatures were very high on three of the four days on which excesses occurred. The impact of these excesses on attainment in the region is an entirely different statistical matter. On those days the District called a Spare the Air day, transit ridership increased by 10%. Funding for free transit on three additional Spare the Air days during this year's ozone season has just been allocated by MTC.

Mr. Dawid suggested focusing primarily on reducing vehicle miles traveled (VMT) on Spare the Air days and referencing toll bridge plaza data. Mr. Broadbent replied that the District has hired a firm to conduct the necessary marketing and survey work. From an air quality standpoint, VMT is utilized in analyses of longer-term issues. The Spare the Air program serves also as an educational tool to modify individual behavior and provide for a focused, episodic control that gives incentives to use public transit. Dr. Bornstein noted that recent

research in the cities of Portland and Houston reveals that thermal heat stress is an additional reason to avoid travel on very hot days.

Chairperson Kurucz inquired as to a recent report that the District is facilitating marine diesel emission reductions by helping to negotiate an agreement between the City of San Francisco and a local cruise ship port. Mr. Broadbent replied that the District is assisting in that capacity and will also provide grant incentive funding to bring electric power to that ship port, thereby avoiding the need for the docked ship to be powered by its own diesel engines.

Mr. Broadbent added that the District is financially healthy this fiscal year and increased its fee schedule an average of 8.5% over last year to allow for the continuance of key programs, including the CARE, wood smoke outreach, and climate change programs.

OTHER BUSINESS

8. Report of the Advisory Council Chair. There was no report.

9. Council Member Comments/Other Business. Chairperson Kurucz called for reports from attendees at the 99th Air & Waste Management Association Conference in New Orleans:

- Mr. Hayes stated that, from a scientific standpoint, the conference was outstanding, particularly concerning information presented on PM and climate change.
- Mr. Altshuler observed that the sessions were well organized. In discussions on the weekend ozone effect, diverse views expressing preferences for strategies that would emphasize either NOx or hydrocarbon reductions were expressed.
- Mr. Brazil stated that the transportation courses emphasized PM reductions and mobile source emission inventory work.
- Dr. Bornstein stated that in classes on the weekend ozone effect, the diverse presentations expressed consensus on the effect as a phenomenon in the western United States. The weekend ozone effect is not observed east of the Mississippi River.
- Mr. Blonski stated that the conference is an excellent mix of industry, regulators and academics, and gave a clear indication of the District's air quality leadership.
- Chairperson Kurucz expressed his appreciation to the attendees for their active participation in the conference and noted that several of them also presented papers. He added that his course attendance focused on the weekend ozone effect and PM.
- Mr. Hess added that the conference was attended by 1,900 people from over 50 countries.

10. Time and Place of Next Meeting. 10:00 a.m., Wednesday, September 13, 2006, 939 Ellis Street, San Francisco, CA 94109.

11. Adjournment. The meeting was adjourned at 12:31 a.m.

/s/ Neel Advani
For James N. Corazza
Deputy Clerk of the Boards

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