

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

APPROVED MINUTES

Air Quality Planning Committee
9:30 a.m., Wednesday, August 9, 2006

- 1. Call to Order – Roll Call.** Chairperson Hayes called the meeting to order at 9:35 a.m. Present: Stan R. Hayes, Chairperson, Ken Blonski, Harold Brazil, Emily Drennen, Fred Glueck, John Holtzclaw, Ph.D., Kraig Kurucz, Ed Proctor.
- 2. Public Comment Period.** There were no public comments.
- 3. Approval of June 14, 2006 Minutes.** Fred Glueck moved approval of the minutes; seconded by Emily Drennen; carried unanimously.
- 4. Update on Development of Air Quality Guidelines for Local Jurisdictions.** David Vintze, Air Quality Planning Manager, stated that the District is developing general plan guidance and updating the existing California Environmental Quality Act (CEQA) guidelines. The air quality guidance will include background information on health effects, sources of air pollutants, reducing air quality impacts from land use, along with a sample air quality element and a method for evaluating a jurisdiction's general plan. The CEQA guidelines update will identify new analytical methods and significance thresholds and new strategies to mitigate emissions from indirect sources.

The background information section will include an executive summary; identify the air quality standards that are in force and the implementation plans that have been adopted in response to the federal and state Clean Air Acts. It will describe the state of Bay Area air quality, the interrelationships between the federal, state, district and local jurisdictions, and how air quality fits into the other seven mandatory elements of a local general plan.

The health effects section will address those issues associated with exposure to ozone, particulate matter (PM), toxic air contaminants, other criteria pollutants, naturally occurring asbestos, and odors and nuisances.

The guidance document will address stationary, on- and off-road mobile, area, indirect, construction and indoor sources of air pollution. It will review land-use policies and cross-reference the 19 transportation control measures in the District's 2005 Ozone Strategy. It will identify mobile source control measures, green building designs, sample ordinances for vehicle idling, green procurements and contracting. A public outreach section will highlight the District's Outreach & Incentives division, and address indoor air quality issues.

The sample air quality element will include background information, current monitoring data and links to obtain newer data, the attainment status of the region, land-use compatibility issues, sample goals and policies, implementation measures and performance standards.

In evaluating the air quality element, the guidance will include a checklist for a jurisdiction to ensure that consistency is achieved with other elements and policies in the general plan, and to evaluate the inclusion of transportation control measures in the general plan for CEQA review. The District is also developing a system by which to rate an air quality element.

Since the last update of the District's CEQA guidelines in 1999, diesel particulates have been designated as a toxic air contaminant, and this will be included as a category for evaluating project development. New analytical methodologies to assess impacts of sources of air pollution from a given project will also be included. Since 1999, new mitigation strategies have been used and tested in the field, such as green building design and the promotion of mixed-use development to reduce vehicle trips and emissions from various scenarios of landscaping maintenance. Significance thresholds for project emission reduction evaluation have not yet been adopted. The state's CEQA guidelines require that any new significance thresholds that will be adopted by an agency must demonstrate "substantial evidence" that a measure will, in fact, achieve a projected emission reduction.

In assessing air quality impacts, construction equipment emissions are under review along with the development of a methodology for significance thresholds for this emissions source. Methodologies will be further developed for assessing emissions from mobile sources, roadway congestion, area sources such as paint, fireplaces, and lawn equipment, as well as industrial processes.

The guidance document will also include Best Available Mitigation Measures (BAMM). These address a broad range of categories for dust stabilization, low energy use options, alternative travel mode options, alternative fuel/power construction equipment, low emissions product/material options, idling restrictions, re-power equipment and operational modifications.

In response to questions, Mr. Vintze noted that the guidance document will include greenhouse gas emissions and climate change categories. A significance threshold will have to be developed for greenhouse gases based on substantial evidence. This poses a considerable challenge especially in attempting to develop one that would withstand a legal challenge.

In terms of the indirect source issues, a lawsuit has been filed against the San Joaquin Valley air district, which requires that development projects must endeavor to reduce vehicular traffic associated with them or pay a residual fee for what cannot be mitigated. Funds from this fee bank funds incentive programs and emission reduction programs in that District. Regarding the menu of options for BAMM and the development of a cost/benefit assessment for each, emission reduction quantification can be achieved more easily for some projects than for others. Vehicular idling restriction and the re-powering of equipment offers an opportunity for quantifying emission reductions by referencing emission profiles for engines at particular loads and speeds, as well as manufacturer engine test data.

Local jurisdictions will likely track differently how their air quality elements are made consistent with other elements in their general plan. Chairperson Hayes suggested that an air quality element could be incorporated into a general plan when it is updated.

- 5. Update on Methane Capture at Landfills.** Carol Allen, Senior Air Quality Engineer, stated that there are more than 140 landfills in the Bay Area: 19 are active and permitted by the District; 16 are inactive; and 109 are old and small, closed landfills. The total waste capacity amounts to 360 million tons: 309 million tons are at active sites and constitute 65% of total capacity. Inactive/closed sites contain 52 million tons of waste. Proposed expansions of existing landfill facilities will be able to contain 65 million additional tons.

Landfills emit PM, particularly from vehicular traffic associated with them, and from wind erosion. Landfills generate methane gas and carbon dioxide, and organic compound emissions that can contribute to ozone formation, along with some toxic air contaminants. Waste is broken down first in an aerobic environment, and after about two years in an anaerobic environment. As waste decomposes, gas pressures build up below the surface and seep upward toward the surface. The waste type, moisture and temperature in the landfill affect the speed of decomposition. Over the lifetime of a landfill, methane generation occurs at the greatest rate in the first third of the decomposition process. Methane from Bay Area landfills is generated in the amount of 525 tons per day, and precursor organic compounds at 3.1 tons per day. After the application of emission reduction strategies, methane is reduced to 137 tons per day and precursor organic compounds to 0.8 tons per day.

Regulatory requirements from the District and the federal government require landfills to reduce precursor organic compound emissions to mitigate ozone formation. State and solid waste regulations require landfill gas controls to mitigate odor nuisance and fire hazard. When a landfill has accumulated 1 million tons, the District regulations take effect. Due to District regulations, the collection of 24,000 cubic feet of gas is achieved from landfills on a daily basis, which is the equivalent of 720 BTU/hour or 74 MW of electricity on a daily basis.

Landfills collect gases to prevent off-site migration of landfill gases which can create underground fires. There are three elements of landfill gas control in use: landfill covers and caps—such as soil and other materials on top of the waste; landfill gas collection systems—with pipes that have perforated sections buried in the waste; and landfill gas control devices—which are typically flares, or internal combustion engines or turbines.

The District requires that at larger landfills the covers and caps be inspected monthly in order to mitigate seepage of landfill gases. Surface sweeps are required on a quarterly basis to assess methane seepage. District regulations require continuous operation of the gas collection systems. Combustion devices include 70% of gases to be combusted by enclosure flares and 30% by energy recovery devices, such as internal combustion engines, turbines, micro-turbines and boilers. There are some non-combustion methods for dealing with landfill gases, but none of these are in operation currently in the Bay Area: (1) carbon adsorption, (2) purification and separation into products—for which there are two proposed systems in the Bay Area; and (3) fuel cells, which is presently at the theoretical stage.

District regulations require annual source testing of landfill gas control devices. These are subject to Best Available Control Technology (BACT) or Reasonably Available Control Technology (RACT).

In reply to questions, Ms. Allen noted that the economics of converting methane into fuel, as opposed to flaring it, are unattractive. Selling back electricity generated from methane gases

in engines at a landfill does not offer major economic benefits and is subject to the variation in the electricity market. Offsets for emissions of nitric oxide are also costly. Moreover, the wear and tear on the engines fueled by gases from the landfill creates a disincentive for approaching the use of landfill gases with an energy recovery emphasis.

Composting operations greatly speed up the rate of waste decomposition. Emissions of methane are higher from composting operations than from a landfill facility. Methane can be collected and vented through biological filters, and this is the preferred method of control for composting operations. The District has not yet looked at an energy recovery approach to emissions from composting operations. Peter Hess, Deputy Air Pollution Control Officer, observed that recycling requirements are increasing for the Bay Area and minimizing the total quantity of waste going to a landfill, and this has a positive impact by reducing emissions of greenhouse gases from landfills.

- 6. Discussion of Planning Committee Carbon Footprint.** Chairperson Hayes distributed “Carbon Footprint Analysis: BAAQMD Advisory Council Air Quality Planning Committee,” which contains a calculation—based on the World Resources Institute methodology—of emissions based on member travel to and from meetings by Committee members, the use of electricity for meetings of the Committee at the District facility, and air travel to and from the Air & Waste Management Annual Exhibition & Meeting. The vast majority of emissions derive from the attendance of Council members at the latter. If an offset fee were tacked on to the 12,970 pounds of carbon generated annually by the Committee, a fee of \$5.50 per tons per year of CO₂ would amount to \$35.67. Chairperson Hayes noted that the company for which he works is striving to become carbon neutral in all of its planning activities globally, and has calculated that it can do so at a total cost of approximately \$5,000. These funds could be donated to organizations that are also reducing carbon emissions.

Mr. Proctor moved that the Committee recommend that a carbon footprint be developed for the Advisory Council; seconded by Dr. Holtzclaw; carried unanimously. Mr. Kurucz stated that further refinements to footprint calculations and the policy on the allocation of funds to emission mitigation in the District may be made as the discussion process moves forward.

- 7. Committee Member Comments/Other Business.** Mr. Glueck inquired as to the negative publicity on the “Spare the Air” program that was recently heard during a heat spell last month in the Bay Area. Dr. Holtzclaw stated that during those “Spare the Air” days there was also press coverage of how people in San Francisco were walking and shopping, showing that neither vehicles nor increased parking are essential to a thriving economic activity in this sector. Ms. Drennen concurred with Mr. Glueck, and added that broader application of free transit in the Bay Area would be worth considering.
- 8. Time and Place of Next Meeting.** At the call of the Chair.
- 9. Adjournment.** 11:41 a.m.

/s/ Mary Romaidis, for
James N. Corazza
Deputy Clerk of the Boards