

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

APPROVED MINUTES

Advisory Council Technical Committee  
9:30 a.m., Tuesday, February 24, 2004

- 1. Call to Order – Roll Call.** 9:37 a.m. Quorum present: Louise Bedsworth, Ph.D., Chairperson, William Hanna, Stan Hayes, John Holtzclaw, Ph.D. Absent: Sam Altshuler, P.E., Robert Bornstein, Ph.D., Norman A. Lopera, Jr.
- 2. Public Comment Period.** There were no public comments.
- 3. Approval of Minutes of December 9, 2003.** Mr. Hanna moved approval of the minutes; seconded by Dr. Holtzclaw; carried unanimously.
- 4. Control Measure Review.** Dan Belik, Rule Development Manager, stated the District is updating its Ozone Attainment Plan (OAP) and has received suggestions on control measures from the Ozone Working Group, California Air Resources Board (CARB), Advisory Council, Board of Directors, community members and downwind air districts. The plans and draft plans of other air districts have also been reviewed. The applicability to the Bay Area Air Quality Management District (BAAQMD) of control measures contained in the plans of the South Coast Air Quality Management District (SCAQMD) and San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is the subject of today's presentation.

Federal evaluation criteria require an air district to adopt all reasonably available control measures in light of local circumstances, except if an attainment date is not advanced, adverse economic or environmental impacts would ensue, or only minor emission reductions would be achieved at a major administrative cost. For measures to be eligible to receive emission credit in the State Implementation Plan (SIP) they must be real, quantifiable, permanent, enforceable and surplus.

The California Clean Air Act (CCAA) requires an air district to achieve either a 5% reduction in ozone precursors annually or to adopt "all feasible measures." No region in California has been able to meet the 5% goal. Therefore, all feasible measures must be adopted. In defining feasibility, transport mitigation regulations and aspects of the state law provide some guidance in taking into account economic, environmental and energy factors, as well as the emission reduction rate.

The BAAQMD considers a control measure feasible if it is reasonable and necessary; capable of being successfully implemented in a reasonable time period, taking into account legal, economic, environmental, social and technological factors; and is approved or approvable by CARB. Evaluation criteria include the pollutant controlled (i.e., volatile organic compounds (VOC) or nitrogen oxide (NOx)), amount and rate of emission reduction, technical feasibility, public acceptability, enforceability, cost effectiveness, socioeconomic impacts, environmental impacts, and whether the reductions are real, quantifiable, permanent, enforceable and surplus.

Mr. Belik noted that the federal Environmental Protection Agency (US EPA) has not adopted rules or guidelines regarding reactivity among VOC compounds. Perhaps as the emission reductions decrease and costs per ton of emissions reduced increase, reactivity may play a greater role in rule feasibility assessment. With regard to the role reactivity plays in influencing ozone formation and transport downwind, Mr. Belik stated that greater weight is given to the total ozone produced rather than to specific rates of production. However, reaction rates have been measured against the one-hour ozone standard in reactivity studies, and this issue is under discussion in some scientific circles. Reactivity would have less impact under the eight-hour ozone standard.

Saffet Tanrikulu, Research & Modeling Manager, stated that while VOC species can be differentiated according to reactivity, the process that converts nitrogen oxide (NOx) to nitrogen dioxide (NO2) in the atmosphere takes approximately 20 minutes. Varying levels of VOC reactivity will therefore not likely affect pollution transport. Gary Kendall, Technical Division Director, added that the most modern models allow an emissions inventory, when compiled and disaggregated in space and time, to be queried according to VOC species reactivity profiles for a specific source category at a given point in time. Mr. Hayes noted that the consideration of the time at which a VOC emission would be reduced would be of importance in review of ozone formation.

Mr. Belik stated that staff has reviewed over 370 control measures in its update to the 2004 OAP, and has placed these measures into categories as follows:

- 5 – not enforceable
- 6 – not technically feasible
- 9 – need legislation
- 14 – are not cost effective
- 17 – have potential transport mitigation
- 29 – require funding
- 29 – require further study
- 31 – potentially viable
- 53 – area already implemented in the District
- 82 – offer only negligible reductions
- 95 – are under other jurisdictions.

There are control measures in these plans for which the BAAQMD has no, or very few, sources, or which are already more stringently controlled by it. The BAAQMD has already implemented many of the measures proposed in the SJVUAPCD. It appears that the SCAQMD is adopting measures to force CARB to be more aggressive in adopting regulations. The SCAQMD rule on miscellaneous industrial coatings required add-on controls for the largest paint booths that emit more than 25 tons of VOCs. If applied on an operation-by-operation basis in the Bay Area, this approach may cost-effectively reduce emissions in the BAAQMD. The SJVUAPCD measure on sumps, pits and wastewater processing equipment may also entail notable VOC emission reductions if applied in the Bay Area. It would result in the installation at refineries of water traps in wastewater drain systems and seals after the oil-water separation phase to reduce emissions from wastewater treatment processes.

The potentially viable measures in the SJVUAPCD that, if adopted in the Bay Area, would reduce NOx transport include controls on agricultural irrigation engines, water heaters and boilers, stationary gas turbines, steam generators and process heaters.

Measures in the SCAQMD that would require further study by the BAAQMD include a federal source mitigation fee program, and an architectural coatings and solvents rule. Further study measures from the SJVUAPCD plan would include an indirect source mitigation program, a measure on NOx emissions from stationary internal combustion engines, glass melting furnaces, livestock waste, commercial and industrial composting and commercial char broilers.

SCAQMD control measures that require legislation include off-road vehicles and equipment, an emission fee program for port-related mobile sources, a program imposing a VOC emission fee of \$5,000 per ton for facilities emitting more than 10 tons per year and a federally mandated ozone non-attainment fee. In reply to Mr. Hayes, Ms. Roggenkamp stated that, for port-related mobile sources, the District will not adopt regulations to implement cold ironing but has recommended that the City of Oakland investigate this through the environmental review process. CARB is also reviewing cold ironing for possible application statewide. Mr. Belik added that the addition of a new port facility or cruise terminal provides an ideal opportunity to implement cold ironing, and it might be considered as a mitigation measure in the permit review process. Mr. Hanna observed that a federal mandate to require cold ironing at all ports in California would minimize adverse the impacts on commerce and industry that would occur if it were applied in a piecemeal manner.

Mr. Belik stated that measures in the SCAQMD plan that are considered by staff to be technically infeasible include further emission reductions from large VOC sources, industrial process operations and residential water heaters. There may be conflict between energy efficiency mandates and existing regulations regarding residential water in the SCAQMD.

Measures in the SCAQMD with negligible emission reductions or for which there are no comparable Bay Area sources include truck stop electrification, urban heat island mitigation, economic incentive programs and additional NOx reductions under the emissions trading RECLAIM project. Similar measures in the SJVUAPCD include asphalt batch plant dryer and heaters, bakery ovens, and can and coil coatings, natural gas fuel specifications, among other rules.

Many of the control measures considered by the SCAQMD are already under CARB jurisdiction. The SCAQMD also wants to improve vehicle Inspection & Maintenance (I&M) beyond its most stringent form. Ms. Roggenkamp added that CARB has recently reviewed areas with further emission reduction potential and is considering a pilot program to replace or upgrade the emission control systems on passenger vehicles. The District is interested in sponsoring such a program.

Chairperson Bedsworth and Mr. Hayes notes that the air quality dynamics in the SJVUAPCD and BAAQMD differ, and ozone control measures implemented in one region may have different impacts on the other. Mr. Belik added that there is a high VOC to NOx ratio in the SJVUAPCD. NOx measures would likely be more effective there than in the SCAQMD.

Chairperson Bedsworth noted that revenue generation for control measures and the need to reduce mobile source emission are key concerns. She inquired as to what authority the District has to generate revenue for emission reduction programs and the extent to which remote sensing of vehicle emissions and vehicle scrappage programs will figure into the update to the OAP. Ms. Roggenkamp replied that vehicle license registration fees at \$20 million fund the Transportation Fund for Clean Air (TFCA) annually. The District also received funds from the Carl Moyer Program for reducing heavy-duty engine emissions. The future of this program is uncertain, and the District recently received what may be the final installment of Moyer program funds.

Mr. Kendall noted that neither CARB nor the Bureau of Automotive Repair (BAR) is enamored of remote sensing technology in the evaluation of vehicular emissions. CARB has a greater interest in vehicle scrappage programs. Ms. Roggenkamp added that the District sponsors a scrappage program for vehicles manufactured prior to 1981. This program has worked well to date.

Mr. Belik stated that there are additional measures in the SCAQMD plan that are regulated by CARB, such as new hand-held and non-hand-held small engines, new off-road gas engines, enhanced vapor recovery at aboveground storage tanks, portable internal combustion engines, the recovery of fuel vapors at marinas, and fuel permeation through gasoline dispensing hoses and promulgates low sulfur fuel standards for diesel. The Federal Aviation Administration regulates aircraft fuel transfer. The Department of Pesticides adopts strategies on pesticide emissions.

There was discussion of the aggregate emissions reductions from measures considered potentially viable, and whether the inclusion of a criterion regarding toxics reductions affects the ranking of control measures. Ms. Roggenkamp responded that staff does not have an aggregate emission reduction estimate for all of the measures it considered. Mr. Belik added that some of the measures are more promising for toxics reductions. While reducing diesel PM is not a part of ozone control strategy development, it may still offer guidance on giving priority to certain control measures.

Mr. Belik added that the SCAQMD's goal is to inspire CARB to require further reinforcement synthetic rubber fuel line hoses to reduce emissions that occur through permeation. Mr. Kendall added that gasoline dispensing nozzles are tested for disconnect spills, leaks and drips. Recently, staff discovered that some metal nozzles retain liquid prior to being returned to its position on the tank and that fuel evaporates into the atmosphere. Standards have since been adopted regarding this design problem, which affects many, though not all, of the gasoline dispensing nozzles in the Bay Area. Eight million gallons of gasoline are dispensed daily in the Bay Area. Therefore the total emission reduction achieved by such a measure is potentially significant.

In reply to questions on the schedule for implementing these measures in the context of updating the OAP, Ms. Roggenkamp stated staff is now in the process of drafting detailed control measure descriptions. Some measures may fall out of consideration and others may become further study measures. This list will be presented to the Ozone Working Group at the end of March. The next step is to issue the draft OAP in May or June for public discussion. While the deadline to submit the District's plan to attain the state one-hour ozone standard was the end of last year, CARB has informed the air districts that are also working on federal plans that they may submit the updated state plan with their SIP submittal. The District was also to have made an attainment demonstration for the one-hour federal standard in April of this year. However, the last three years of ozone monitoring indicate that the District has an attainment record. If the EPA declares this record to constitute attainment, the District will instead submit an Ozone Maintenance Plan for which there is no deadline. EPA Region IX has expressed its intention to review this matter quickly. However, there is no deadline by which it must render its decision.

- 5. Committee Member Comments/Other Business.** There was discussion regarding holding a one-hour meeting of the Technical Committee following the Advisory Council Regular meeting on March 10, 2004. Chairperson Bedsworth stated the Committee had decided at the January 14, 2004 Retreat that it would devote its April meeting to the District's SIP submittal and possibly continue that discussion into June, and then take up issues regarding mobile source emission modeling in the summer and fall, with the winter to be devoted to discussing the connection between local air quality actions and global climate change.

Ms. Roggenkamp observed that in April staff could provide an update to the Air Quality Planning and Technical Committees on the ozone planning process, along with comments on mobile source emission modeling since this category figures into the planning process. Staff could also present which of the potentially viable control measures were included in the update to the OAP.

The Deputy Clerk noted that Chairperson Blake has scheduled Advisory Council member Robert Bornstein, Ph.D., to make a presentation at the March 10 Regular Meeting on real-time emissions monitoring in New York City which is part of an environment and security effort. Mr. Kendall added that for the last year District air monitoring staff has conducted biowatch air monitoring. This is distinct from incident management and accidental releases, for which staff has a number of measures available for field collection data. These include hand-held equipment that collects data on various compounds including sulfur, organics, carbon monoxide, among others, and now the capability has been developed to use this equipment for PM data collection as well.

County and city hazardous materials staff are the first-line responders for these types of emergencies. The District is charged with making measurements and collecting samples from a measurement and air monitoring perspective. However, at the request of a facility, District staff have reviewed Risk Management Prevention Plans. Chairperson Bedsworth inquired if the topics raised by Mr. Kendall could be discussed with Dr. Bornstein's presentation. Mr. Kendall indicated that he and a staff member from the Enforcement Division could attend the meeting and provide input.

6. **Time and Place of Next Meeting.** Tentatively, following the Advisory Council Regular Meeting of March 10, 2004, and as per the Committee schedule developed at the Retreat, 1:30 p.m., Tuesday, April 6, 2004, 939 Ellis Street, San Francisco, California 94109.
7. **Adjournment.** 11:27 a.m.

James N. Corazza  
Deputy Clerk of the Boards