

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

APPROVED MINUTES

Advisory Council Regular Meeting & Retreat
and
Meeting of the Public Health Committee
Meeting of the Air Quality Planning Committee
Meeting of the Technical Committee
10:00 a.m., Wednesday, January 14, 2004
Bayside Conference Room – Port of San Francisco
Pier 1, San Francisco, California 94111

CALL TO ORDER: 10:06 a.m.

Opening Comments: Chairperson Blake thanked newly appointed Council member Jeffrey Bramlett for arranging the for Council’s use of the Bayside Conference Room with the Port of San Francisco.

Roll Call: **Present:** Elinor Blake, Chairperson, Sam Altshuler, P.E., Louise Bedsworth, Ph.D., Jeffrey Bramlett, Harold Brazil, Pamela Chang, Irvin Dawid, Emily Drennen, Fred Glueck, William Hanna, Stan Hayes, John Holtzclaw, Ph.D., Kraig Kurucz, Kevin Shanahan, Victor Torreano, Linda Weiner, Brian Zamora.
Absent: Robert Bornstein, Ph.D., Norman A. Lopera, Jr.

Introductions of New Advisory Council Members: Chairperson Blake welcomed Diane Bailey and Emily Drennen in the “Conservation Organization” category and Jeffrey Bramlett in the “Park & Recreation” category.

Role of the Advisory Council: Chairperson Blake noted that the Advisory Council receives referrals from District staff and the Board, and also develops its own issues for review and recommendation. She announced that the Chairs of the Standing Committees for 2004 would be: Harold Brazil – Air Quality Planning; Linda Weiner – Public Health; Louise Bedsworth, Ph.D. – Technical.

COMMENDATION/PROCLAMATION: Chairperson Blake commended outgoing Chairperson Hanna for his leadership of the Council during 2003. He oversaw the development of recommendations regarding intermittent control strategies, particulate matter (PM) abatement, improvements to the state’s vehicle Inspection & Maintenance (I&M) program, refinery flaring, and the optical remote sensing of emissions at refinery fence lines. Mr. Hanna represented the Council at Board of Directors Executive Committee meetings and several Regular meetings, and continued to serve on the Technical Committee and the Applicant Selection Working Group. His leadership was both practical and affable.

PUBLIC COMMENT PERIOD: There were no public comments.

CONSENT CALENDAR:

- 1. Approval of Minutes of November 12, 2003.** Mr. Zamora moved approval of the minutes; seconded by Dr. Holtzclaw; carried unanimously.

COMMITTEE REPORTS:

- 2. Report of the Air Quality Planning Committee (AQPC).** Mr. Kurucz stated there was no report.
- 3. Report of the Technical Committee Meeting of December 9, 2003.** Dr. Bedsworth stated the Committee received presentations from District staff on Bay Area trends in ambient concentrations of ozone precursors and the status of the photochemical modeling for the California Central Ozone Study (CCOS) and the District's 2004 Ozone Attainment Plan.
- 4. Report of the Public Health Committee (PHC) Meeting of December 8, 2003.** Mr. Zamora stated that preliminary recommendations were discussed on refinery fence line optical monitoring.

PRESENTATION: "Cumulative Impact Assessments and the Precautionary Principle."

Brian Bateman, Director of Engineering, stated that Cumulative Impact (or Risk) Assessment and the Precautionary Principle have become part of the Environmental Justice (EJ) movement, which concerns disproportionate health impacts in low income and minority communities. The California Environmental Protection Agency (Cal-EPA) EJ Advisory Committee recently recommended that Cumulative Risk Assessment and the Precautionary Principle be included in the state's regulatory programs. According to Cal-EPA, cumulative risk assessment concerns the "total burden of all emissions and discharges in a geographic area" and the federal EPA indicates it is "an analysis, characterization and possible quantification of the combined risks to the human health or the environment from multiple agents or stressors." This leads to the determination of health impacts through considering cumulative impacts.

Cumulative Impact Assessment may be divided into categories of scope and scale. The complexity of the analysis increases with its scope. EPA categorizes the scope of analysis in the following fields:

- Stressors (chemical; biological (pathogens, allergens); physical (temperature, radiation); psychological; socio-economic (availability of health care))
- Routes of Exposure into human physiology (inhalation, ingestion, absorption)
- Pathways and media (indoor or outdoor air, surface water, ground water, soil)
- Sources (activities that create or release stressors; sources can be stationary, such as industry; area-wide sources such as fireplaces; and mobile sources, both on and off-road)
- Receptors and subpopulations (workers, sensitive individuals, ecosystem)
- Exposure conditions (frequency, duration, often distinguished as acute effects which occur in the short-term or chronic effects which are measured over the long-term)
- Endpoints (measures of effects of stressors, such as cancer or asthma, or various irritants)
- Metrics (manner in which health risks are expressed). Maximum risk is deterministically assessed based on a single endpoint, or through stochastic analysis with distributions of risk, or through population exposure analysis to assess cancer burden.

Risk Assessment may be conducted on a range of spatial scales: macro scale (national), meso scale (regional) or micro scale (individual neighborhood or microclimate). The complexity of an analysis does not necessarily increase with scale.

Air Quality Risk Assessment requires data on ambient concentrations in specific locations and/or deposition rates, and these are determined either through monitoring or modeling. Monitoring is considered the most definitive method, but it is limited by costs, pollutant-specific approaches, and the number of monitors. Modeling is more flexible but more uncertain as it is a representation of reality. Most risk assessments are model-based but rely on monitoring to validate the modeling. Prominent risk assessments include the EPA National-Scale Air Toxics Assessment (NATA), the Air Resources Board (ARB) Community Health Program that will assess statewide cancer risk and conduct pilot neighborhood-scale assessment programs in the Barrio Logan (San Diego) and Wilmington (Los Angeles) neighborhoods. The latter two studies are comprehensive air emission risk assessments and will include mobile, area-wide and stationary sources. The Multiple Air Toxics Exposure Study (MATES) in the South Coast AQMD contained strong monitoring and modeling components and found that cancer risk was dominated by mobile sources. The regional scale analysis of this study was considered adequate to estimate spatial impacts. A forthcoming update to this program is in the planning stage and will include some additional micro scale components. The Air Toxics Hot Spots program in California is an incremental, facility-wide risk assessment program. The Bay Area AQMD conducted a limited scope Risk Assessment in 1993 that focused on 54 industrial sources, with three to five facilities between each sub-area. The study focused on individual cancer risk and found that the cumulative concentrations did not significantly increase maximum risk.

Gaps in emissions data pose the greatest methodological challenges. Mobile and area-wide sources are the most uncertain, and their spatial and temporal patterns require further evaluation. While stationary source emissions are better understood, uncertainties arise when evaluating a combination of multiple sources and distinguishing among synergisms and antagonisms. There are different levels of uncertainty in health effects data for different pollutants. The mix of occupational and animal studies also presents some challenges in terms of developing a baseline.

The District's Air Toxics New Source Review (NSR) Program is a pre-construction permitting program that applies to new and modified stationary sources. NSR programs exist for criteria pollutants that are addressed in the Prevention of Significant Deterioration program. This program addresses pollutant-specific cumulative air quality impacts for a project. If the incremental project risk for a given pollutant is below a "significant air quality impact level" a full Cumulative Impact Assessment is not required.

The District's Air Toxics NSR program conducts Health Risk Assessment based on incremental risk at a project level and considers combined effects from multiple pollutants within a project. Staff conducts the health risk screening analysis of a facility. The Health Risk Assessment guidelines from the Cal-EPA Office of Environmental Health Hazard Assessment (OEHHA) are used to estimate health risks. Staff starts with dispersion modeling to focus on micro scale impacts. Land-use features regarding proximate residential neighborhoods, along with specific population exposure categories are evaluated. Toxicity values are applied to calculate health risks both for cancer and non-cancer risks. Staff uses an additive approach to estimate risk due to exposure to different toxic compounds. A permit applicant may provide its own analysis, and if a consultant is hired to perform the analysis, staff will conduct a separate analysis to evaluate the consultant's results. Statewide public noticing requirements for this program require public review for sources located within 1,000 feet of a school site.

The District's Air Pollution Control Officer (APCO) is responsible for risk management at the District and establishes the criteria for permit approval. Projects in which all sources do not use Best Available Control Technology for Toxics (TBACT) will be approved if maximum lifetime cancer risk does not exceed 1 in a million and maximum chronic non-cancer hazard index does not exceed 1.0. Projects in which all sources use TBACT will be approved if maximum lifetime cancer risk does not exceed 10 in a million and maximum chronic non-cancer hazard index does not exceed 1.0. Criteria for perchloroethylene (perc) dry cleaners allow project approval if the facility uses TBACT and all reasonable risk reduction measures such that lifetime cancer risk does not exceed 100 in a million.

The District adopted a risk management policy for diesel stand-by engines during the recent California energy crisis that provided an exemption for emissions that occur during their emergency use. The District intends to modify its Air Toxics NSR program by reducing the trigger level for TBACT for non-cancer risk from 0.2 to 1.0 and also to eliminate the increased risk provision for perc dry cleaners. A review of available technology shows that substitutes for perc, such as high flash-point hydrocarbons (HCs), are entirely sufficient.

The District's Air Toxics NSR program began in 1987. Routine higher risk sources include diesel back-up generators, gasoline dispensing facilities, dry cleaners, crematories, furniture strippers, and gas-fired combustion sources with short stacks. Until 2000, the District averaged 15 risk screens per month. In 2002, the average rose to 50 per month following the removal of the exemption for stand-by diesel engines. Recent advances in risk evaluation preparation include improvements to modeling software and digital data in maps and land feature terrain that are available on the web at little cost.

The comments received to date from community and environmental groups on the District's Toxics NSR program request inclusion of Cumulative Impact Assessment for all permitted sources and the creation of a community risk cap. The above-mentioned project risk levels would be used in this approach. Sophisticated software and database capability would be required to conduct dispersion modeling, source attribution, building structural layout and land-use patterns for facility boundary lines, risk assessment calculation, database management, as well as reporting and mapping functions for micro scale analysis. A computer system that could handle the data for all of the approximately 22,500 sources of toxics in the Bay Area at 12,000 facilities would cost an estimated \$1.2 million.

In making policy judgments, acceptable levels of risk are based on ARB and EPA guidelines. These are based on incremental risk analysis at a project or facility level rather than cumulative risk analysis, for which there are no guidelines at this time. The Cal-EPA EJ Advisory Committee recently urged that such recommendations should be developed. However, it is unclear whether such permitted facilities, which must have BACT, contribute significantly to health impacts cumulatively or individually. Maximum risks tend to be geographically localized from individual facilities, and so cumulative risks may not emerge in a given region. Moreover, data on lifetime cancer risk due to inhalation of average ambient levels of toxic contaminants in the Bay Area indicate that the toxics of greatest concern—formaldehyde, benzene, 1,3-Butadiene and diesel particulate matter—come primarily from mobile sources.

The Precautionary Principle emphasizes "how little harm is possible" rather than "how much harm is allowable." It originated in Germany in the 1970s and was subsequently discussed at several international conferences. The United Nations Conference on Environment and Development has adopted a statement on the Precautionary Principle. In 2000, the European Commission Communication on the Use of the Precautionary Principle linked the Principal to the risk management process, suggesting that

measures that derive from the Precautionary Principle should be proportionate to the risk and the accepted level of health protection. The “Wingspread Statement” that derived from a 1998 science and environmental health conference in Wisconsin characterized the Precautionary Principle as (1) emphasizing precautionary assumptions where causality is not fully established scientifically, (2) shifting the burden from the public to the proponent of the permit activity in question, and (3) requiring the evaluation process to be informed and democratic, involving the affected parties and including a proposed range of alternatives that could include no action. If this approach were applied to a Toxics NSR program, it could have major consequences. The Precautionary Principle has not been used very much in the United States, but the City and County of San Francisco adopted an ordinance last year that covers City actions and requires implementation of principles with criteria regarding anticipatory action, right to know, alternatives assessment, full cost accounting and a participatory decision-making process.

The Cal-EPA EJ Advisory Committee has urged that an alternatives assessment be conducted for new and modified source permitting in areas with a disproportionately high cumulative impact. This would include a “top-down” selection of alternative materials beginning with non-toxics and working to toxics, a justification for using any material other than the least toxic, and other alternatives analyses. The opposition opinion of the California Council on Environmental and Economic Balance (CCEEB) contends that regulators should not mandate chemical and process substitutes because they are not responsible for product performance, safety, warranties or liability. CCEEB further contended that regulators should be limited to setting emission limits and establishing risk levels.

Ms. Weiner noted that some public health department data reveal a high incidence of lung cancer and asthma in neighborhoods without multiple pollution sources. The purchasing department of the City and County of San Francisco is working to implement the Precautionary Principle. The Bay Area Clean Air Task Force is working with the District and EJ Air Quality Coalition to define percentage risk and to evaluate possible sponsorship of a pilot study in a specific community of concern. The Cal-EPA EJ Advisory Committee is also working to develop guidelines on these same matters.

Council members posed additional questions, and Chairperson Blake directed the Standing Committees to discuss them under Agenda Item No. 7. These questions were as follows:

- a) Why are lifetime cancer risks the highest in San Jose, and were wood smoke, dioxins and polycyclic aromatic hydrocarbons included in the analysis?
- b) Does the District use data from on-site workers and the Occupational Safety & Health Administration data for hazard analysis?
- c) Does the Precautionary Principle include such risks as hormone disruptors or mercury content?
- d) Is there any discussion around the concept of financial risk assessment in trying to develop solutions that allow the Precautionary Principle to become manifest, given that the technological solution must be available? Does the process take into account costs relative to the availability, or unavailability, of technology in the initial phase of implementing the Precautionary Principle?
- e) How can this broad concept that covers cumulative impacts and data assessment fit into workable guidelines that will not lead to endless redefinition, and how are the value decisions made by a regulator with regard to criteria concerning product development and environment?
- f) How much of the estimated annual cancer cases, which are estimated to occur in one out of every three persons, are due to air pollution, and what is the percentage of cancer cases that derive from sources other than mobile sources?

- g) To what extent has the District conferred with water quality application of the Precautionary Principle and what can be learned from these other experiences?
- h) Is there synergy between irritants from PM and other cancer causing agents: are effects primarily between or within classes of stresses? Is cancer risk considered additive to an additional irritant?
- i) Can “highly susceptible groups” be included in the discussion of sub-populations, and can maps be developed showing areas of cumulative exposure, even if very generalized, including smoking?
- j) How can the Precautionary Principle be used to address mobile sources?
- k) When was the largest change in risk since the District has started monitoring for ambient air toxics in 1986, and what was the reason attributed to that major change?

RETREAT FORMAT:

6. Round Table Discussion with District’s Management on Key Issues Facing the District, Candidate Assignments Proposed by District Staff and Topics Suggested by Advisory Council Members. Prior to reviewing the Candidate Assignments suggested by staff, the Council members suggested the following topics for review, to which any topics continued from last year would be added, and these were assigned to the Standing Committees for consideration as follows:

- a) Update on Smog Check II: recent program modifications and the outcome of Council recommendations made last year to improve the program. Include forthcoming CARB evaluation of the program and associated vehicle scrappage programs. Include staff topic on reviewing vehicle power through liquid and compressed natural gas. *(AQPC and Technical)*
- b) Land-use/air quality nexus, with reference to the work of other air districts in this area. Include reference to adoption of air quality elements in general plans in the District. *(AQPC)*
- c) Develop a list of disproportionately impacted communities. *(PHC)*
- d) Assess air quality impacts of construction sites on residential neighborhoods, hospitals, schools and include staff regulation through District rules regarding fugitive and visible emissions, as well as California Environmental Quality Act (CEQA) mitigation. *(PHC and Technical)*
- e) Review the regional transportation planning process, and the MTC 2030 plan. *(AQPC)*
- f) Review the Association of Bay Area Government’s Smart Growth planning document and consider how the District might be involved in implementing the recommendations. *(AQPC)*
- g) Continue to review the development of emission inventories of greenhouse gases. *(Technical)*

The Council agreed on the following assignments, including the staff’s Candidate Assignments list:

- 1) Review the control measures for volatile organic compounds (VOCs), nitrogen oxides (NOx) and particulate matter (PM) in the South Coast AQMD attainment plan recently approved by the Air Resources Board (ARB) and make recommendations to the Air Pollution Control Officer (APCO) for implementing them in the Bay Area. *Assigned jointly to the Air Quality Planning and Technical Committees. Comments due in the spring.*
- 2) Review and provide comments to the APCO on the draft Bay Area AQMD State and Federal Air Quality Attainment and Maintenance Plans. Continue participation on the Modeling Advisory Committee and the Ozone Working Group. *Assigned to the Air Quality Planning and Technical Committees. Comments due in the Spring.*

- 3) Review and provide comments to the APCO on the ARB mobile source emission calculation model and its impact on the development of Bay Area attainment plans for ozone. *In addition to hydrocarbons (HC) and nitrogen oxide (NOx), nitrogen dioxide (NO2) and other reactive organics such as formaldehyde may be evaluated to better assess relative reactivity. Assigned to the Technical Committee with a long-range time frame for study and use in future plan development.*
- 4) Review studies and provide comments to the APCO on the impact of further NOx emission reductions on the attainment of the National and State ozone standards in the Bay Area. *Assigned to the Technical Committee with a long-range time frame for use in air quality management planning.*
- 5) Review and provide comments to the APCO on the Toxic New Source Review (NSR) Rule amendments. *Assigned to the Public Health Committee. Recommendations to the full Council due in May.*
- 6) Review and provide comments to the APCO on the draft California Environmental Protection Agency (Cal-EPA)/ARB Environmental Justice implementation protocols. *Assigned to the Public Health Committee. Comments due during the first half of 2004.*
- 7) Review the role of fuel cells, hydrogen, liquid natural gas (LNG) and compressed natural gas (CNG) in fueling the transportation sector of California and the Bay Area. Make recommendations pertaining to the benefits and disadvantages of each technology. *Assigned to the Air Quality Planning and Technical Committees for longer-term analysis.*
- 8) Consider the role of the District in evaluating indoor air quality. What does regulatory authority provide, or is the District's role advisory? *Assigned to the Public Health Committee for long-term review.*
- 9) Complete the review of whether the optical fence line monitoring technology in operation at the ConocoPhillips Refinery in Rodeo should be applied to other refineries and chemical plants in the Bay Area. *Public Health Committee assignment continued from 2003, due mid-year or during the second half of 2004.*
- 10) Identify communities disproportionately impacted by air pollution, and evaluate the air pollution impacts of construction site activities on communities. *Assigned to the Public Health Committee for review in the second half of 2004.*
- 11) Receive an update on Smog Check II and on the implementation of Advisory Council recommendations adopted in 2003 to improve the state's vehicle inspection and maintenance program. *Assigned to the Air Quality Planning Committee for review at mid-year or thereafter.*
- 12) Review Smart Growth implementation and its connection with transit mode shift and regional transportation planning. *Assigned to the Air Quality Planning Committee for review at or after mid-2004.*
- 13) Review and provide comments to the APCO on the impact of daylight savings time on peak ozone concentrations with respect to the one hour and eight hour ozone standards. This topic will be deferred to later in the year pending completion of other topics.

Mr. Dawid urged that topic No. 3 include PM generated from road dust and tire wear, and Mr. Altshuler suggested adding lube oil to the evaluation, as it is relevant to PM_{2.5} analysis. Mr. Kendall replied that this could be included in topic No. 1 under PM control measures. The extent to which the South Coast AQMD might have looked at this issue may be of special note.

7. Convene to Working Lunch for Meetings and Discussion Sessions of the Public Health Committee, Air Quality Planning Committee and Technical Committee. The Advisory Council convened to Standing Committee format at 12:30 p.m.

8. Reconvene to Full Council Format for Follow-up on Committee Discussion Sessions. The Advisory Council reconvened at 1:38 p.m. The Committee Chairs reported out as follows:

Public Health Committee. Ms. Weiner reported that during the first half of 2004, the Committee will comment on the District's NSR program and the Cal-EPA EJ recommendations, and review the update of the Ozone Attainment Plan if time permits. Thereafter, the Committee will complete its recommendations on optical fence line monitoring at refineries. It will then take up the issues of indoor air quality, communities disproportionately impacted by air pollution and construction site activities. The Committee meeting schedule for 2004 is as follows:

- 1:30 p.m., Monday, February 23
- March 10 after the Advisory Council Regular Meeting
- 1:30 p.m., Monday, April 19
- May 12 after the Advisory Council Regular Meeting
- 1:30 p.m. Monday, July 19
- September 8 after the Advisory Council Regular Meeting
- 1:30 p.m., Monday, October 25

Air Quality Planning Committee. Mr. Brazil reported that topic Nos. 1 and 2 would be the Committee's first priority, given the more immediate deadlines. The Committee anticipates involvement with topic No. 5 and may schedule review of that issue based on the minutes of other Committees within the first half of 2004. For the June 1 meeting, the Committee will continue with its review of Smog Check II. Thereafter it will focus on Smart Growth implementation issues, transit mode shift and its connection with Smart Growth, fuel cell technology and regional transportation planning. The Committee meeting schedule for 2004 is as follows:

- 9:00 a.m., Tuesday, February 3
- 9:30 a.m., Tuesday, April 6 (Joint Meeting with the Technical Committee)
- 9:30 a.m., Tuesday, June 1
- 9:30 a.m., Tuesday, August 3
- 9:30 a.m., Tuesday, October 5
- 9:30 a.m., Tuesday, December 7

Technical Committee. Dr. Bedsworth reported that the Committee will first meet on February 13 at 9:30 a.m. to discuss topic No. 1. In April, the Committee will meet jointly with the AQPC on the Ozone Attainment Plan. The Committee will meet again in June to further address that issue. Other meeting dates will be scheduled at a future meeting of the Committee. The next priority will be topic No. 3 on mobile source emission factor modeling. Thereafter the Committee will focus on alternative fuels and combine the analysis with climate change issues.

8. Committee Member Comments/Other Business. Mr. Hess indicated that the state budget was published this week. Advisory Council budget requests for fiscal year 2004/05 should be submitted to the Clerk's Office.

Chairperson Blake requested the Applicant Selection Working Group members contact Stan Hayes regarding convening a meeting to review the applications for the Architect category.

9. Time and Place of Next Meeting. 10:00 a.m., Wednesday, March 10, 2004, 939 Ellis Street, San Francisco, CA 94109.

10. Adjournment. The meeting was adjourned at 2:00 p.m.

James N. Corazza
Deputy Clerk of the Boards