



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT



## ADVISORY COUNCIL REGULAR MEETING

WEDNESDAY  
NOVEMBER 9, 2005  
10:00 A.M.

SEVENTH FLOOR  
BOARD ROOM

### AGENDA

#### CALL TO ORDER

Opening Comments

Brian Zamora, Chair

Roll Call

Clerk

Introduction of New Advisory Council Member

Brian Zamora, Chair

#### PUBLIC COMMENT PERIOD

**Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3.** *The public has the opportunity to speak on any agenda item. All agendas for Advisory Council meetings are posted at the District, 939 Ellis Street, San Francisco, at least 72 hours before a meeting. At the beginning of the meeting, an opportunity is also provided for the public to speak on any subject within the Council's purview. Speakers are limited to five minutes each.*

#### CONSENT CALENDAR

1. Approval of Minutes of September 14, 2005

#### ADOPTION OF CODE OF CONDUCT FOR ADVISORY COUNCIL

2. Code of Conduct

*The Council will consider adoption of a Code of Conduct as prepared by the Council Executive Committee on July 13, 2005.*

#### AIR DISTRICT OVERVIEW

3. Report of the Executive Officer/APCO

Jack Broadbent

*Mr. Broadbent will provide an update on pending and planned District activities, policies and initiatives.*

## **COMMITTEE REPORTS AND RECOMMENDATIONS**

4. Joint Technical & Air Quality Planning Committee Meeting of October 12, 2005 Chairs Hayes & Holtzclaw
5. Public Health Committee Meeting of October 24, 2005 Chair Torreano
6. Executive Committee Meeting of November 11, 2005 Chair Zamora

*The Council will vote on the Committee's recommendations for a slate of Officers for 2006.*

## **OTHER BUSINESS**

7. Report of Advisory Council Chair Brian Zamora
8. Council Member Comments/Other Business

*Council or staff members on their own initiative, or in response to questions posed by the public, may: ask a question for clarification, make a brief announcement or report on their own activities, provide a reference to staff about factual information, request staff to report back at a subsequent meeting concerning any matter or take action to direct staff to place a matter of business on a future agenda.*

9. Time and Place of Next Meeting – 10:00 a.m., Wednesday, January 11, 2006, 939 Ellis Street, San Francisco, CA 94109.
10. Adjournment

BZ:jc

**CONTACT CLERK OF THE BOARDS - 939 ELLIS STREET SF, CA 94109**

**(415) 749-4965**

**FAX: (415) 928-8560**

**BAAQMD homepage:**

**[www.baaqmd.gov](http://www.baaqmd.gov)**

- To submit written comments on an agenda item in advance of the meeting.
- To request, in advance of the meeting, to be placed on the list to testify on an agenda item.
- To request special accommodations for those persons with disabilities notification to the Clerk's Office should be given in a timely manner so that arrangements can be made accordingly.

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
939 ELLIS STREET, SAN FRANCISCO, CALIFORNIA 94109  
(415) 771-6000**

**CLERK OF THE BOARDS OFFICE:  
MONTHLY CALENDAR OF DISTRICT MEETINGS**

**NOVEMBER 2005**

<b><u>TYPE OF MEETING</u></b>	<b><u>DAY</u></b>	<b><u>DATE</u></b>	<b><u>TIME</u></b>	<b><u>ROOM</u></b>
<b>Board of Directors Regular Meeting</b> ( <i>Meets 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month</i> )	Wednesday	2	9:45 a.m.	Board Room
<b>Advisory Council Executive Committee</b>	Wednesday	9	9:00 a.m.	Room 716
<b>Board of Directors Mobile Source Committee</b> ( <i>Meets 2<sup>nd</sup> Thursday each Month</i> ) - CANCELLED	Wednesday	9	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
<b>Advisory Council Regular Meeting</b>	Wednesday	9	10:00 a.m.	Board Room
<b>Board of Directors Regular Meeting</b> ( <i>Meets 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month</i> )	Wednesday	16	9:45 a.m.	Board Room
<b>Board of Directors Budget &amp; Finance Committee</b> ( <i>Meets 4<sup>th</sup> Wednesday each Month</i> )	Monday	21	9:45 a.m.	4 <sup>th</sup> Floor Conf. Room
<b>Joint Policy Committee</b>	Wednesday	23	10:00 a.m. – Noon	MetroCenter Auditorium 101 8 <sup>th</sup> Street Oakland, CA 94607
<b>Board of Directors Stationary Source Committee</b> ( <i>Meets 4<sup>th</sup> Monday every other Month</i> )	Monday	28	9:30 a.m.	Board Room
<b>Board of Directors Executive Committee</b> ( <i>Meets at the Call of the Chair</i> )	Wednesday	30	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room

**DECEMBER 2005**

<b><u>TYPE OF MEETING</u></b>	<b><u>DAY</u></b>	<b><u>DATE</u></b>	<b><u>TIME</u></b>	<b><u>ROOM</u></b>
<b>Board of Directors Regular Meeting</b> ( <i>Meets 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month</i> )	Wednesday	7	9:45 a.m.	Board Room
<b>Board of Directors Mobile Source Committee</b> ( <i>Meets 2<sup>nd</sup> Thursday each Month</i> )	Thursday	8	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
<b>Advisory Council Joint Air Quality Planning &amp; Technical Committees</b>	Wednesday	14	9:30 a.m.	Board Room
<b>Board of Directors Ad Hoc Committee on Climate Change</b> ( <i>At the Call of the Chair</i> )	Wednesday	14	9:45 a.m.	4 <sup>th</sup> Floor Conf. Room

**December 2005 Calendar continued on next page**

## DECEMBER 2005

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Joint Policy Committee	Friday	16	10:00 a.m. – Noon	MetroCenter Auditorium 101 8 <sup>th</sup> Street Oakland, CA 94607
Advisory Council Public Health Committee - CANCELLED	Monday	19	1:30 p.m.	Room 716
Board of Directors Regular Meeting <i>(Meets 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month)</i>	Wednesday	21	9:45 a.m.	Board Room
Board of Directors Budget & Finance Committee <i>(Meets 4th Wednesday each Month )</i>	Wednesday	28	9:45 a.m.	4th Floor Conf. Room

## JANUARY 2006

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Regular Meeting <i>(Meets 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month)</i>	Wednesday	4	9:45 a.m.	Board Room
Advisory Council Regular Meeting and Retreat	Wednesday	11	10:00 a.m.	Board Room
Board of Directors Mobile Source Committee <i>(Meets 2<sup>nd</sup> Thursday each Month)</i>	Thursday	12	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
Board of Directors Regular Meeting <i>(Meets 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month)</i>	Wednesday	18	9:45 a.m.	Board Room
Board of Directors Stationary Source Committee <i>(Meets 4<sup>th</sup> Monday every other Month)</i>	Monday	23	9:30 a.m.	Board Room
Board of Directors Budget & Finance Committee <i>(Meets 4th Wednesday each Month )</i>	Wednesday	25	9:45 a.m.	4th Floor Conf. Room

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**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

939 ELLIS STREET - SAN FRANCISCO, CALIFORNIA 94109

Draft Minutes: Advisory Council Regular Meeting – September 14, 2005

**CALL TO ORDER**

Opening Comments: Chairperson Zamora called the meeting to order at 10:00 a.m.

Roll Call: Present: Brian Zamora, Chair, Cassandra Adams, Sam Altshuler, P.E., Diane Bailey, Louise Bedsworth, Ph.D., Elinor Blake, Bob Bornstein, Ph.D., Jeffrey Bramlett, Harold M. Brazil, Irvin Dawid, Emily Drennen, William Hanna, Stan Hayes, John Holtzclaw, Ph.D., Kraig Kurucz, Victor Torreano, Linda Weiner.

Absent: Fred Glueck, Kevin Shanahan.

**PUBLIC COMMENT PERIOD:** There were no public comments.

**CONSENT CALENDAR:**

1. **Approval of Minutes of July 13, 2005.** Mr. Dawid requested “and” replace the dash mark on page five, Item No. 9, line two, and moved approval of the minutes as corrected; seconded by Dr. Holtzclaw; carried unanimously.

Chairperson Zamora called Item No. 9 out of order.

**COMMENDATION/PROCLAMATION**

9. **Resolution in Honor of Outgoing Advisory Council “Public Health Agency” category member Elinor Blake.** Chairperson Zamora presented Ms. Blake with Resolution No. 90, in the Matter of Expressing Esteem and Appreciation to Elinor Blake for her Outstanding Service on the Advisory Council from April 1996 to October 2005. Council members proffered their congratulations on her year of service to the District. Ms. Blake expressed her appreciation for the opportunity to serve.

**PRESENTATION:**

2. **Public Health and Land-use Patterns.** Dr. Richard Jackson, former California State Health officer, presented “Urban Sprawl and Public Health.” Dr. Jackson opined that the purpose of public health is to fulfill society’s interest in assuring the conditions in which people live can be healthy. After having observed an elderly woman in Atlanta carrying a heavy shopping bag on a hot day without access to public transportation, he concluded that had she died of heat stroke, the official cause of death would have been heat stroke without any reference to the lack of public transportation or other references to the environment in which one lives.

He noted that as a former member of the Center for Disease Control in the 1990's, he reviewed public health issues for the current millennium. The diseases of the 21<sup>st</sup> century include the costs of care for aging populations, excess weight, diabetes, heart disease, mental disorders such as depression, anxiety, developmental problems and substance abuse. From a systemic perspective, the management of wealth is a key problem, since Americans “supersize” and over-consume everything and create threat to their health. During Saturday morning cartoons, there are 200 food advertisements in first four hours. California children are in desperate physical shape, such that only one quarter of the state's ninth graders can run a 12-minute mile. The supersizing of homes creates a tremendous burden on electric utilities. This over burdening also occurs with larger cars and the creation of sound walls to mitigate the additional noise. Sound walls cost \$1.5 million per mile to construct.

There is a similar supersizing of capital investments in roadways and highways now occurring, along with a corresponding increased consumption of land (equivalent in size to the State of Georgia) that has been rendered impervious due to paving and other covering. In 1946, Los Angeles was the leading agricultural county in California. The pressure to develop primary agricultural land has not abated. This may lead to the scenario in which California will become an importer of fruits and vegetables one day.

Rapid development in the Central Valley in California will increase that region's population beyond the City of New York by 2040. This will create even greater bottlenecks on California highways entering into the Bay Area. Four of the ten most polluted cities in the United States are in the Central Valley in California. The large building developments in these areas without corresponding health and government services shows a lack of a long-term view, and this adversely influences air quality simultaneously. As to considerations of causal analysis, in Atlanta in 1996 people were asked not to drive, and traffic volume decreased by 30% while air pollution improved by the same amount. A dramatic drop off occurred in hospital visits during this same time period.

With regard to the issue of asthma prevalence in California, one person in six has asthma. The rapid paving over of the United States and California has also had a major impact on temperature increases. If this trend continues, temperatures will be six to eight degrees higher in the summer and three to four degrees higher in the winter within the next generation. Similarly, reductions are forecasted in the Sierra Snowpack under such circumstances will mean the loss of this natural reservoir and the need to rebuild the entire water system in the state. This will have extremely significant economic impacts.

Mothers now drive their cars twice as much as in the past, and children do not walk or bike to school but instead are driven under current land-use patterns. The removal of such physical exercise bodes ill for health considerations, and entails the questionable spending of more money on sound walls than on sidewalks. Supersized schools are replacing the smaller schools. Dr. Jackson added that in his view the consumption of Ritalin—which reduces hyperactivity—by today's youth may be related to the withdrawal of a regular physical activity regiment from schools.

The most prevalent disease among Americans is depression. Exercise works as well as chemical treatment for this condition, and creating environments in which walking and biking is discouraged is self-defeating. Obesity is also epidemic in America. In 1990, less than 10% of residents in California were obese. In 1993, that figure rose to 10-14%, and by 2001 that figure rose further to 20-25%. This is a high risk factor for high blood pressure, gall bladder disease, cancer, and many other adverse health conditions. Obesity puts strain on hospitals, which have had to purchase heavier, more sturdy and more costly gurneys, given the increased average weight that Americans have in the last ten years.

An indirect effect of increased 10 pounds of weight in Americans has increased consumption of jet fuel by 350,000 million gallons, and the emissions from this increase may be easily estimated. The most rapidly growing surgery is stomach stapling, including in children. Insurance will pay for this surgery, but a doctor's prescription of health club regimen would not be covered. The distinction between disease response versus prevention cannot be sufficiently emphasized. The epidemic of obesity is linked with diabetes, in which a major increase has been observed. Risks of Type II diabetes increase in particular. In 1993-94, 6-8% of Californians had Type II diabetes, and by 2001, over 10% of the state's population has been diagnosed with this disease. Most instances of adult onset diabetes in children are obesity related. One third to one half of all Type II diabetes in children comes from obesity, and there are children in significant numbers diagnosed with liver disease. Increasing physical activity within the population is as important as reducing obesity.

On the positive side, speculations on the epidemic of heart disease in the 1960's were proven wrong, by changes in diet, reduced smoking and improved medical care. Cigarette consumption in the state has also decreased from 1980 in 130 million packs a year of cigarettes to 44 million. The change has been due to environmental factors, such as taxes on cigarettes, and anti-tobacco advertising and no-smoking regulations in buildings. Lung cancer has decreased 19.5% in 25 years.

Americans need to change the general pattern of diet and reduce their consumption of high fructose corn sugar. High fructose corn sugar should be taxed, just like cigarettes are taxed. This would generate significant funds that could be applied to programs consonant with the themes developed in this presentation. A strong program of in-fill development should be aggressively sought for the development of healthy living environments.

Increases in incidental exercise need to be achieved in American life. Europeans walk or bike in almost half of their routine errands. Average weight differs by six pounds in sprawl and non-sprawl areas. The Fruitvale model in California, with its emphasis on designing transit oriented development, should be carefully studied and advocated. There are excellent air quality reasons, even as there are sound mental and physical reasons, to create healthy living environments.

### **AIR DISTRICT OVERVIEW:**

#### **3. Report of the Executive Officer/APCO.** Jack P. Broadbent, Executive Officer/Air Pollution Control Officer (APCO), stated:

- a) This year's smog season registered one federal and seven state ozone exceedances. One Spare the Air Day was called, and no ozone exceedances were registered.
- b) In July the Board adopted a flare control rule, which is the first of its kind in the country. Four additional regulations are scheduled to be heard in a public hearing before the Board. These concern pressure relief valves, wastewater systems, tanks and marine vessels.
- c) The District has completed its update of the Ozone Control strategy and will bring this document before the Board for adoption later this year.
- d) The District recently issued a report on potential control measures for particulate matter, in conformity with SB 656.
- e) Public Information & Outreach Director Teresa Lee has announced her retirement at the end of this month after 31 years of service at the Air District.

- f) Information on toxic emission inventories for the Community Air Risk Evaluation (CARE) program will be presented at the next joint meeting of the Advisory Council Air Quality Planning and Technical Committees.

### **COMMITTEE REPORTS AND RECOMMENDATIONS**

4. **Joint Technical & Air Quality Planning Committee Meeting of August 16, 2005.** Dr. Holtzclaw stated the Joint Committee received a presentation from Diane Wittenberg of the California Climate Action Registry on the Registry's purpose and work. The Joint Committee will next review the CARE program and the environmental review documentation for the District's Ozone Strategy.
5. **Public Health Committee Meeting of August 15, 2005.** Mr. Torreano presented the Committee's recommendations on Indoor Air Quality (IAQ), stating the Committee re-affirmed its previous recommendations and has added several new ones. MR. Bramlett moved the Council adopt the Committee's recommendations for forwarding to the Board Executive Committee; seconded by Dr. Holtzclaw; carried unanimously.
6. **Executive Committee Meeting of July 13, 2005.** Chairperson Zamora stated the Standing Committees provided reports on their current work plans and future agenda items.

### **OTHER BUSINESS**

7. **Report of Advisory Council Chair.** Chairperson Zamora stated application period for the "Regional Park District" and "Public Health Agency" categories on the Council will close today.
8. **Council Member Comments/Other Business.** Ms. Drennen recommended that the categories of gender and racial diversity be looked to in selecting new Council members. Mr. Dawid expressed interest in receiving a report on the proliferation of hybrid and diesel cars, as well as on remote sensing emissions monitoring the South Coast AQMD. Chairperson Zamora suggested that become a part of the Council's work plan for the next year, starting at the Air Quality Planning Committee level.
10. **Time and Place of Next Meeting.** 10:00 a.m., Wednesday, November 14, 2005, 939 Ellis Street, San Francisco, CA 94109.
11. **Adjournment.** The meeting was adjourned at 11:52 a.m.

James N. Corazza  
Deputy Clerk of the Boards



## Code of Conduct for the Advisory Council

Interpretation and application

### *Article 1*

1. This Code applies to all Advisory Council members.
2. For the purpose of this Code "members" means a person appointed to the Advisory Council (Council), Bay Area Air Quality Management District (District)

### *Article 2*

1. On the coming into effect of this Code, the District Executive Officer or his designee shall inform members about its provisions.
2. This Code shall form part of the provisions governing the appointment of members from the moment they certify that they have been informed about it.
3. Every member has the duty to take all necessary action to comply with the provisions of this Code.

### *Article 3 – Object of the Code*

The purpose of this Code is to specify the standards of integrity and conduct to be observed by members, to help them meet those standards and to inform the public of the conduct it is entitled to expect of public officials.

General principles

### *Article 4*

1. The member shall carry out his or her duties in accordance with the law, and with those lawful instructions and ethical standards which relate to his or her functions.
2. The member shall act in a politically appropriate manner and shall not attempt to frustrate the lawful policies, decisions or actions of the Council.

### *Article 5*

1. The member has the duty to serve the Council loyally.

2. The member is expected to be honest, appropriate, courteous and efficient and to perform his or her duties to the best of his or her ability with skill, fairness and understanding, having regard for the District's mission and the relevant circumstances of the case.

#### *Article 6*

In the performance of his or her duties, the member shall not act arbitrarily to the detriment of any person, group or body and shall have due regard for the rights, duties and proper interests of all others.

#### *Article 8*

1. The member shall not allow his or her private interest to conflict with his or her public position. It is his or her responsibility to avoid such conflicts of interest.
2. The member shall never take undue advantage of his or her position for his or her private interest.

#### *Article 9*

The member has a duty to conduct himself or herself in a way that the public's confidence and trust in the integrity, impartiality and effectiveness of the public service are preserved and enhanced.

#### *Article 10*

The member is accountable to the Council Chairperson. A member shall not represent or speak for the Council without the authorization of the Chairperson on behalf of the Council.

#### *Article 13 – Conflict of interest*

1. Conflict of interest arises from a situation in which the member has a private interest which is such as to influence, or appear to influence, the impartial and objective performance of his or her official duties.
2. The member's private interest includes any advantage to himself or herself, to his or her family, close relatives, friends and persons or organizations with whom he or she has or has had business or political relations. It includes also any liability, whether financial or civil, relating thereto.
3. Since the member is usually the only person who knows whether he or she is in that situation, the member has a personal responsibility to:
  - be alert to any actual or potential conflict of interest;

- take steps to avoid such conflict, including but not necessarily limited to recusal;
  - disclose to the Council Chairperson any such conflict as soon as he or she becomes aware of it;
  - comply with any final decision to withdraw from the situation or to divest himself or herself of the advantage causing the conflict.
4. Whenever required to do so, the member shall declare whether or not he or she has a conflict of interest.
  5. Any conflict of interest declared by a candidate for Council membership shall be resolved before appointment.

*Article 17 – Protection of the member’s privacy*

All necessary steps shall be taken to ensure that the member's privacy is appropriately respected; accordingly, declarations provided for in this Code are to be kept confidential unless otherwise provided for by law.

*Article 21 – Misuse of official position*

1. The member shall not offer or give any advantage in any way connected with his or her position as a public official, unless lawfully authorized to do so.
2. The member shall not seek to influence for private purposes any person or body, including other public officials, by using his or her official position or by offering them personal advantages.

*Article 23 – Public and official resources*

The member shall ensure that the public property, facilities, services and financial resources with which he or she is entrusted are managed and used effectively, efficiently and economically. They shall not be used for private purposes except when permission is lawfully given.

*Article 28 – Observance of this Code and sanctions*

1. This Code is issued under the authority of the Executive Officer of the District. The member has a duty to conduct himself or herself in accordance with this Code and therefore to keep himself or herself informed of its provisions and any amendments. He or she shall seek advice from an appropriate source when he or she is unsure of how to proceed.
2. Subject to Article 2, paragraph 2, the provisions of this Code form part of the terms of appointment to the Council of the member. Breach of them may result in removal from the Council by the Board.

**AGENDA NO. 4**

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

**DRAFT MINUTES**

Joint Air Quality Planning & Technical Committees  
9:30 a.m., Wednesday, October 12, 2005

1. **Call to Order – Roll Call.** Chairperson Holtzclaw called the meeting to order at 9:42 a.m. Air Quality Planning Committee (AQPC) Members Present: John Holtzclaw, Ph.D., Harold Brazil, Irvin Dawid, Emily Drennen, Kraig Kurucz, Fred Glueck. AQPC Members Absent: Emily Drennen, Kevin Shanahan. Technical Committee Members Present: Sam Altshuler, P.E., Louise Bedsworth, Ph.D., Robert Bornstein, Ph.D., William, Hanna, John Holtzclaw, Ph.D. Technical Committee Members Absent: Diane Bailey, Stan Hayes, Chairperson.
2. **Public Comment Period.** There were no public comments.
3. **Approval of Joint Committee Meeting Minutes of August 16, 2005.** Chairperson Holtzclaw deferred this item until the latter part of the meeting.
4. **Update on the District’s Community Air Risk Evaluation (CARE) Program.** Janet Stromberg, CARE Program Manager, stated that the CARE program objectives are to investigate exposure to air toxics emissions in the Bay Area from outdoor emissions and to reduce the risk associated with them. The focus will be on exposure to toxic air contaminants (TAC) throughout the Bay Area by evaluating the TAC inventory and evaluating supplementary particulate matter (PM) air monitoring analysis. The cumulative risk analysis for a small sub-area that was originally planned will be deferred in order to partner with the California Air Resources Board (CARB) to develop a comprehensive study of the region for all source types. Emission inventory grids will be overlaid on demographic maps in order to assess exposure.

Ms. Stromberg introduced Steven Reid of Sonoma Technologies, Inc. Mr. Reid indicated that the first-draft of the TAC emission inventory uses readily available information for a screening-level assessment of population exposures and the subsequent selection of a study community. A “top down” method will be used that examines activities on a regional scale rather than evaluating individual emitters. The approach begins by using existing criteria pollutant emission inventories, and then applies available chemical speciation profiles along with available cancer and non-cancer unit risk factors to a spatial allocation of emissions on gridded maps.

The study area includes the nine Bay Area counties. Various inventories will be used: the 2000 area- and non-road Total Organic (TOG) compound and PM10 emissions at a county level and an annualized level (in tons per year in a given county). On-road TOG emissions for 2000 were gridded to a 2 km x 2 km grid cell domain from a different data base that contained a summer and winter averaged inventory. These were averaged in turn to obtain an annualized total. Another inventory for point sources contained TAC emissions by individual facility, including benzene from such point sources as petroleum processing operations and auto body shops.

For area-, on- and off-road sources, the study will extrapolate from criteria to toxic emissions using chemical speciation profiles for given source types. These were obtained from CARB, the US Environmental Protection Agency (EPA) and Desert Research Institute (DRI). Once these are applied, a TAC emission inventory for all source types is created. The next step is to perform a risk weighting procedure for purposes of conducting modeling. Risk factors are used for cancer risk estimation involving a dose-response type of dynamic with a linear relationship. For non-cancer risks, reference concentrations are used: these identify a level below which no health effects are expected. There are two safety margins employed in this context: one for ranges of uncertainty, and another for expert judgment on the part of toxicologists.

The sources of information used to assemble risk factors and reference concentrations include CARB-approved risk assessment health values, EPA Office of Environmental Health Hazard Assessment (OEHHA), EPA integrated risk information system (IRIS) and risk assessment information system. Concentrations were selected, risk-weighted emissions were calculated and uncertainty ranges were identified. A database of risk-weighted emissions by TAC and source category was prepared.

The method of calculating risk-weighted emissions for a variety of compounds and variety of risks attempts to normalize the risk for modeling purposes. The calculation began with a mass-based emission for a given compound, to which a unit risk factor was applied for calculating cancer risk, or a reference concentration for calculating non-cancer risk. This method allows for weighting emissions to assess the greatest risk. Subsequently, exposure to population densities is evaluated in the context of the spatial allocation of emissions over a given area.

Each inventory is handled differently. Spatial allocation factors are used for area and non-road sources. For on-road mobile sources, a gridded emissions inventory was already available, and for point sources the geographic coordinates of facilities were also readily available. For the spatial allocation factors, geographic information systems (GIS) databases were used, including demographic data/population density, land-use/land-cover data sets to distinguish residential from agricultural use, line length (railroad tracks), facility locations and other GIS information. All of these were assembled and overlaid on a gridded domain. With each polygon in the grid, it is then possible to assign emissions to a grid cell based on an appropriate spatial surrogate.

The next step involved the application of the risk-weighted inventory on the gridded map for all source types. For cancer risk weighted emissions in the entire study domain, an estimated 16 pounds per day for all TAC species is emitted, 90% of which is chromium and diesel PM. However, there is a large uncertainty associated with this estimate of chromium insofar as the data assumes it is entirely the more toxic (VI) rather than more benign (III) type. Primary sources of chromium include fugitive dust from construction as chromium is a constituent in cement. Ambient measurements suggest that the allocation of chromium VI and III is approximately 30/70%, respectively. Mr. Reid added that aircraft are also a large source of chromium.

In discussion, Dr. Bornstein cautioned that taking a conservative approach for chromium may produce overly-dramatic data. Mr. Kurucz urged that chemical speciation profiles be accurate, taking into account regulatory work in this region. Peter Hess, Deputy Air Pollution Control Officer, noted that these will be accounted for in the Quality Assurance-Quality Control (QA/QC) phase. Mr. Reid displayed a map showing where hot spots are for diesel PM emissions from heavy-duty truck traffic near shipping lanes and primary road networks.

For the estimated 25 tons per day of chronic risk-weight emissions, acrolein (which derives mainly from aircraft, on-road sources and combustion processes), phosphorous and formaldehyde constituted approximately 2/3 of the risk-weighted emissions. Source types include on-road mobile sources, construction and demolition, construction equipment, aircraft, livestock waste, fugitive windblown dust, paved road dust and farm equipment.

The strength of the TAC inventory for on-road mobile sources are that estimates were made with EPA-recommended methods and California-specific chemical speciations. Emissions from point sources were directly reported and spatial allocations applied to the modeling grid at a 2km x 2km resolution. Potential weaknesses of the TAC inventories include omission of some TACs, the extent to which uncertainty emerges from the application of chemical speciation profiles which themselves contain uncertainties, and the application of conservative assumptions about chromium emissions as being exclusively the more toxic VI than the benign III type.

Recommendations from these preliminary results include the prioritization of TACs, continued emission inventory development, adding emissions for any omitted TACs, and further investigation of emissions of chromium VI and IV from sources of fugitive dust.

Other geographic analyses can be conducted, such as emission inventory-based site evaluation in which diesel PM is selected and assessed in terms of specific population in a grid. The location of roadways and schools can be plotted for an initial analysis of a sub-region.

Dr. Saffet Tanrikulu, Modeling & Planning Section Manager, stated that staff will investigate the completeness of the data to ensure that all sources and source categories are included. Staff will perform QA/QC of the data, and will look at seasonal variations, annual averages and data variations. Staff will also evaluate uncertainty in the upper and lower bounds in the emission inventory and thereby improve the emission inventory.

Cuong Tran, Atmospheric Modeler, member of the staff's emission inventory evaluation group, provided examples of QA/QC for the distribution of wood burning fireplace emissions, and on-road exhaust PM<sub>2.5</sub> in the Bay Area. He compared a plot of PM<sub>2.5</sub> emissions from fireplaces in the nine Bay Area counties using survey data and CARB methodology with a second plot based on 2000 Census data concerning homes where the primary heating fuel is wood. The two plots are at rather considerable variance. A separate illustration of different plots of exhaust PM<sub>2.5</sub> emissions from on-road sources leads to the conclusion that the use of the same vehicle miles traveled (VMT) fleet mix for all roadway links is suspect. It is necessary to improve VMT analysis of roadway types. Ms. Stromberg added that six months have been allocated to staff for QA/QC.

Mr. Tran displayed maps plotting population groups most sensitive to poor air quality (over age 64 and under age 18, and homes with incomes less than 185% of the federal poverty level) based on 2000 Census data. The areas with the greatest concentration of sensitive receptors are San Francisco, San Jose and a few areas in the East Bay. When income is included, some parts of East Bay are prominent, and again in the Chinatown and Tenderloin areas of San Francisco. Emission density data for various TACs will be superimposed on these demographic maps in order to study the impact of TACs on public health in the Bay Area.

Mr. Altshuler suggested that the modeling in the study be compared with ambient measurements. Ms. Stromberg replied that this will occur when further analysis is conducted of the District's PM filters by DRI, which is in the process of obtaining new equipment that can read filters for their hydrocarbon content. Gary Kendall, Technical Division Director, stated that the map plotted for San Francisco on PM<sub>2.5</sub> emissions from woodsmoke, based on survey data and the CARB methodology with its assumptions on the amount of wood burned, showed San Francisco with the highest concentration, whereas PM filter samples show San Francisco contributing little to filter mass from wood combustion. The observations do not corroborate estimates on the emission density map. A more extensive survey will be conducted this winter on wood burning in the Bay Area. Mr. Altshuler inquired about whether the program will address asthma, and Mr. Hess replied that the data will be submitted to county health officers.

In reply to questions, Amir Fanai, Senior Atmospheric Modeler, stated that the fleet mix for the motor vehicle emission inventory is not the same for every link in the Bay Area. According to available data, San Francisco has the highest truck level activity in the Bay Area. When areas of secondary concentration are opened up in further detail on the maps, additional areas of interest emerge, and provide a clearer idea of vehicle activity.

Chairperson Holtzclaw noted that elected officials from San Francisco and Oakland ought to take particular note of these preliminary results, as it suggests diesel bus emissions may be of greater importance than hitherto known. Mr. Altshuler replied that the installation of particulate traps, which reduce soot emissions, may also create an acute health problem with nitric oxide emissions on streets. Recent literature published in "Atmospheric Environment" has addressed this issue. This may be a subject for future Advisory Council discussion.

3. **Approval of Joint Committee Meeting Minutes of August 16, 2005.** Mr. Dawid requested that "clean diesel and hybrids" replace "diesel hybrids" in paragraph two on page five. Dr. Bedsworth requested that "severity" be replaced with "potency" in line eight of paragraph four on page two, with the sentence to end at "measured." Chairperson Holtzclaw requested that "Dr. Wittenberg stated that" be inserted after "Registry" on line two of paragraph six on page three. Mr. Dawid moved adoption of the minutes, as corrected; seconded by Dr. Bedsworth; carried; with Mr. Altshuler abstaining.
5. **Committee Member Comments/Other Business.** Mr. Dawid noted that AB 694 was passed by the Legislature. It allows the District's Transportation Fund for Clean Air (TFCA) funds to be allocated to private fleets. He added that Council member Drennen has asked the Council to look into how the TFCA process could better support walking and non-motorized transportation. Mr. Kurucz stated that this month the 2006 Dow Jones Sustainability Index Review identified Intel as a leader for semi-conductors in the field of environmentalism and pollution prevention.
6. **Time and Place of Next Meeting.** Air Quality Planning & Technical Committees Joint Meeting, 9:30 a.m., Wednesday, December 14, 2005, 939 Ellis Street, San Francisco, CA 94109.
7. **Adjournment.** The meeting was adjourned at 11:46 a.m.

James N. Corazza  
Deputy Clerk of the Boards

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

**DRAFT MINUTES**

Advisory Council Public Health Committee Meeting  
1:30 p.m., Monday, October 24, 2005

- 1. Call to Order – Roll Call.** Chairperson Torreano called the meeting to order at 1:50 p.m.  
Present: Victor Torreano, Chairperson, Cassandra Adams, Jeffrey Bramlett Linda Weiner.
  - 2. Public Comment Period.** There were no public comments.
  - 3. Approval of Minutes of August 15, 2005.** Chairperson Torreano moved approval of the minutes; seconded by Ms. Weiner; carried unanimously.
  - 4. Discussion of Work Plan Topics for 2006.** The Committee conducted a preliminary discussion of topics for consideration by the Council and the Public Health Committee for calendar year 2006. The Committee will recommend the following issues to the Council:
    - Construction equipment and their impact on health.
    - Heating, air-conditioning and refrigeration – evacuation of chloro-fluoro carbons (CFCs). It was suggested that Steven Moss, one of the 2005 Clean Air Champions, who founded the San Francisco Community Power Cooperative, make a presentation to the Committee since he is very knowledgeable on this subject.
    - Aspects of Particulate Matter.
    - Have a joint meeting with the other Committees to receive updates on the CARE Program.
    - Receive updates on the status of the District’s role on Indoor Air Quality (IAQ).
- The Committee will also discuss Work Plan Topics for 2006 at the Council’s Retreat in January, 2006, to receive additional ideas from other Council members.
- 5. Committee Member Comments/Other Business.** Ms. Adams and Ms. Weiner stated that they will not be able to attend the Advisory Council Regular Meeting on November 9, 2005.



- 6. Time and Place of Next Meeting.** The meeting for Monday, December 19, 2005 was cancelled. The Committee will meet next in January, 2006 at the Council's Retreat.
  
- 7. Adjournment.** 2:35 p.m.

Neel Advani  
Deputy Clerk of the Boards