



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

BOARD OF DIRECTORS' REGULAR MEETING

September 19, 2007

A meeting of the Bay Area Air Quality Management District Board of Directors will be held at 9:45 a.m. in the 7th floor Board Room at the Air District headquarters, 939 Ellis Street, San Francisco, California.

Questions About an Agenda Item

The name, telephone number and e-mail of the appropriate staff person to contact for additional information or to resolve concerns is listed for each agenda item.

Meeting Procedures

The public meeting of the Air District Board of Directors begins at 9:45 a.m. The Board of Directors generally will consider items in the order listed on the agenda. However, any item may be considered in any order.

After action on any agenda item not requiring a public hearing, the Board may reconsider or amend the item at any time during the meeting.

BOARD OF DIRECTORS' REGULAR MEETING A G E N D A

WEDNESDAY
SEPTEMBER 19, 2007
9:45 A.M.

BOARD ROOM
7TH FLOOR

CALL TO ORDER

Opening Comments
Roll Call
Pledge of Allegiance
Commendation/Proclamation

Chairperson, Mark Ross
Clerk of the Boards

PUBLIC COMMENT PERIOD

Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3
Members of the public are afforded the opportunity to speak on any agenda item. All agendas for regular meetings are posted at District headquarters, 939 Ellis Street, San Francisco, CA, at least 72 hours in advance of a regular meeting. At the beginning of the regular meeting agenda, an opportunity is also provided for the public to speak on any subject within the Board's subject matter jurisdiction. Speakers will be limited to three (3) minutes each.

CONSENT CALENDAR (ITEMS 1 – 4)

Staff/Phone (415) 749-

1. Minutes of September 5, 2007

M. Romaidis/4965
mromaidis@baaqmd.gov

2. Communications

J. Broadbent/5052
jbroadbent@baaqmd.gov

Information only.

3. District Personnel on Out of State Business Travel

J. Broadbent/5052
jbroadbent@baaqmd.gov

In accordance with Section 5.4 (b) of the District's Administrative Code, Fiscal Policies and Procedures Section, the Board is hereby notified that the attached memoranda lists District personnel who traveled on out-of-state business.

4. Approval of a Contract to Study and Define the Essential Job Functions for District Classification Specifications

J. Broadbent/5052
jbroadbent@baaqmd.gov

The Board of Directors will consider approval to enter into a contract with Medtox for the purpose of developing essential physical job functions for all District positions and coordinating the results with the Air District's occupational health and physical testing programs; and authorize the Executive Officer/APCO to execute a contract with Medtox in an amount not to exceed \$100,000.

COMMITTEE REPORTS AND RECOMMENDATIONS

5. Report of the **Executive Committee** Meeting of September 13, 2007
CHAIR: M. ROSS
J. Broadbent/5052
jbroadbent@baaqmd.gov

6. Report of the **Climate Protection Committee** Meeting of September 13, 2007
CHAIR: P. TORLIATT
J. Broadbent/5052
jbroadbent@baaqmd.gov

Action(s): The Committee may recommend Board of Directors' approval of the following:

A) Approve the Climate Protection Grant Program Guidelines (Attachment A to the Committee staff report)

7. Report of the **Stationary Source Committee** Meeting of September 17, 2007
CHAIR: S. HAGGERTY
J.
Broadbent/5052
jbroadbent@baaqmd.gov

DISCUSSION ITEM

8. Consideration of Change to Board Policy Regarding Reimbursement for Expenses Related to Upcoming Travel to China

The Board of Directors will consider changing its policy regarding reimbursement for Board of Directors' attendance at the Air and Waste Management's People to People Program 2007 Delegation to China

CLOSED SESSION

9. Report of Executive Committee Meeting of September 13, 2007 and Closed Session to Conduct Public Employee Performance Evaluations

Pursuant to Government Code Sections 54957 and 54957.6 a performance evaluations will be conducted of the Executive Officer/APCO and the District Counsel.

OPEN SESSION

OTHER BUSINESS

10. Report of the Executive Officer/APCO
11. Chairperson's Report
12. Board Members' Comments

Any member of the Board, or its staff, on his or her own initiative or in response to questions posed by the public, may: ask a question for clarification, make a brief announcement or report on his or her own activities, provide a reference to staff regarding 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. (Gov't Code § 54954.2)

13. Time and Place of Next Meeting - 9:45 a.m., Wednesday, October 3, 2007- 939 Ellis Street, San Francisco, CA 94109
14. Adjournment

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

(415) 749-4965
FAX: (415) 928-8560
BAAQMD homepage:
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 Executive Office should be given at least 3 working days prior to the date of the meeting so that arrangements can be made accordingly.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Mark Ross and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 11, 2007

Re: Board of Directors' Draft Meeting Minutes

RECOMMENDED ACTION:

Approve attached draft minutes of the Board of Directors meeting of September 5, 2007.

DISCUSSION

Attached for your review and approval are the draft minutes of the September 5, 2007 Board of Directors' meeting.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET – SAN FRANCISCO, CA 94109

Draft Minutes: Board of Directors' Regular Meeting – September 5, 2007

Call To Order

Opening Comments: Chair Mark Ross called the meeting to order at 9:57 a.m.

Roll Call: Present: Mark Ross, Chair, Tom Bates, Harold Brown, Erin Garner (10:08 a.m.), Scott Haggerty (10:07 a.m.), Jerry Hill, Yoriko Kishimoto, Liz Kniss (10:08 a.m.), Patrick Kwok, Janet Lockhart, Jake McGoldrick, Nate Miley (10:07 a.m.), Michael Shimansky, Pamela Torliatt (10:23 a.m.), Gayle B. Uilkema, Brad Wagenknecht.

Absent: Chris Daly, Dan Dunnigan, John Gioia, Carol Klatt, John Silva, Tim Smith.

Pledge of Allegiance: The Board of Directors recited the Pledge of Allegiance.

Commendation/Proclamation: There were none.

Public Comment Period: There were none.

Consent Calendar (Items 1 – 5) – Approval of the Consent Calendar was deferred until a quorum was present.

Presentation

6. Presentation from the San Francisco Bay Conservation and Development Commission (BCDC) on the agency's role in dealing with climate change

Will Travis, Executive Director of BCDC, gave a presentation regarding BCDC's role in dealing with climate change.

Will Travis, Executive Director of BCDC, presented information on the following:

- San Francisco Bay and the history of how and why its levels have changed over the years.
- The Bay Conservation and Development Commission was created by the California Legislature in 1965 to provide regional oversight for all development in the Bay, or within 100 feet inland of the Bay shoreline.
- The sea level in San Francisco Bay from 1900 to 2000 has risen over seven inches and it is projected that the sea level could rise another five to seven inches over the next century.

- Effects of global warming include increased storm activity, extended droughts and wild fires.
- The challenges posed by climate change and how, working together, the regional agencies can help each other.
- A new San Francisco Bay Plan needs to be prepared that anticipates the impacts of climate change and would help the Bay Area adapt to the impacts when they occur.
- Greenhouse gas emissions need to be reduced; the biggest single source is transportation.
- The Bay Area is a leader in the challenge to reduce global warming.

The following Board members arrived during the presentation: Directors Scott Haggerty and Nate Miley arrived at 10:07 a.m. Directors Erin Garner and Liz Kniss arrived at 10:08 a.m. Director Pamela Torliatt arrived at 10:23 a.m.

Board Action: The Board received and filed the report.

Consent Calendar (Items 1 – 5)

Director Uilkema requested item 5 be removed from the Consent Calendar and Chair Ross so ordered.

1. Minutes of July 25, 2007 Regular Meeting
2. Communications. Correspondence addressed to the Board of Directors. For information only.
3. Quarterly Report of Air District Activities for the Months of April 2007 – June 2007
4. Approval of Resolution Authorizing Use of an Optional Benefit with the California Public Employees' Retirement System Pursuant to Government Code Section 20903

The Board of Directors considered approval of a Resolution authorizing use of an optional benefit with the California Public Employees' Retirement System pursuant to Government Code Section 20903.

Board Action: Director Wagenknecht moved approval of Consent Calendar items 1 through 4; seconded by Director Hill; carried unanimously with the following Board members voting:

AYES: Bates, Garner, Haggerty, Hill, Kishimoto, Kniss, Kwok, Lockhart, McGoldrick, Miley, Shimansky, Torliatt, Uilkema, Wagenknecht, Ross.

NOES: None.

ABSENT: Brown, Daly, Dunnigan, Gioia, Klatt, Silva, Smith.

Adopted Resolution No. 2007-10: A Resolution of the Board of Directors of the Bay Area Air Quality Management District Granting Another Designated Period for Two Years of Additional Service Credit

5. Approval of Resolution Establishing a Budgetary Revenue Line Item to accept Green House Gas Mitigation Funds and Establishing a Program Within the Grants Section to Expend Such Funds

The Board of Directors considered approval of a Resolution establishing the addition of a budgetary revenue line item to accept green house gas mitigation funds and establish Grants Program 309: Climate Impact Mitigation to expend such funds.

Director Uilkema inquired if this fund is being established in anticipation of any potential mitigation or offsets that may be offered in the future for refinery development. Brian Bunger, Counsel, responded that the funds could be used for that purpose and others and that it is designed to be as broad as possible.

Board Action: Director Uilkema moved approval of Consent Calendar item 5; seconded by Director Torliatt; carried unanimously with the following Board members voting:

AYES: Bates, Garner, Haggerty, Hill, Kishimoto, Kniss, Kwok, Lockhart, McGoldrick, Miley, Shimansky, Torliatt, Uilkema, Wagenknecht, Ross.

NOES: None.

ABSENT: Brown, Daly, Dunnigan, Gioia, Klatt, Silva, Smith.

Adopted Resolution No. 2007-11: A Resolution of the Board of Directors of the Bay Area Air Quality Management District Establishing a Budgetary Revenue Line Item to Accept Green House Gas Mitigation Funds and Establishing a Program Within the Grants Office to Expend such Funds

Closed Session

7. Conference with Legal Counsel – *Existing Litigation*

Pursuant to Government Code Section 54956.9(a), a need existed to meet in closed session with legal counsel to consider the following case:

Hornblower Cruises and Events v. California Air Resources Board, Bay Area Air Quality Management District, David Burch, et al., Superior Court of the County of San Francisco, Case No. CGC-07-464286

The Board convened to closed session at 10:49 a.m.

Open Session: The Board reconvened to open session at 10:52 a.m.

Director Kwok announced that he has accepted a position on the Santa Clara Valley Water District Board of Directors effective August 9, 2007 and that he has resigned his position on the City Council as of August 8, 2007. The Santa Clara County Board of Supervisors will determine if he is to remain on the Air District Board.

Brian Bunger, Counsel, reported that the Board of Directors met in closed session on agenda item 7 and received a report from Counsel on the item.

Other Business

8. Report of the Executive Officer/APCO – Mr. Bunger reported on the following:
 - A) There were two Spare the Air days on Wednesday and Thursday of last week.
 - B) The 2007 ozone exceedances through September 4th.
 - C) The media packet at each Board member’s place.
9. Chairperson’s Report – Chair Ross had no report.
10. Board Members’ Comments – Director Pamela Torliatt reported on her attendance at the Air & Waste Management Annual Conference and Exhibition in Pittsburgh, PA from June 26 through June 29th. Director Torliatt also reported on her post hurricane Katrina tour of the New Orleans, LA area from June 29th through June 30th.
11. Time and Place of Next Meeting –9:45 a.m., Wednesday, September 19, 2007 – 939 Ellis Street, San Francisco, CA 94109
12. Adjournment – The meeting adjourned at 11:08 a.m.

Mary Romaidis
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Mark Ross and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 11, 2007

Re: Board Communications Received from September 5, 2007 through September 18, 2007

RECOMMENDED ACTION:

Receive and file.

DISCUSSION

A list of Communications received by the Air District from September 5, 2007 through September 18, 2007, if any, will be at each Board member's place at the September 19, 2007 Regular Board meeting.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

BAY AREA AIR QUALITY MANGEMENT DISTRICT

Memorandum

To: Chair Mark Ross and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 4, 2007

Re: District Personnel on Out-of-State Business Travel

RECOMMENDED ACTION:

Receive and file.

BACKGROUND

In accordance with Section 5.4 (b) of the District's Administrative Code, Fiscal Policies and Procedures Section, the Board is hereby notified that the following District personnel have traveled on out-of-state business.

DISCUSSION

Saffet Tanrikulu, Research & Modeling Manager, attended U.S.EPA's Model Evaluation Workshop in Research Triangle Park, NC August 6 – 9, 2007

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Linda Serdahl

Reviewed by: Jeff McKay

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Mark Ross and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 13, 2007

Re: Consider Approval of a Contract to Study and Define the Essential Job
Functions for District Classification Specifications

RECOMMENDED ACTIONS:

Board of Directors' approval of Medtox as the Contractor to (1) perform a study of the essential physical job functions of the Air District's classifications and define the physical needs required to accomplish those functions; and (2) review the Air District's current occupational health processes and make recommendations related to the findings of the study. Authorize the Executive Officer/APCO to execute a contract with Medtox in an amount not to exceed \$100,000.

BACKGROUND

To ensure that the Air District's occupational health actions are in legal compliance with the Americans with Disabilities Act, the Uniform Guidelines on Employee Selection Procedures, and occupational health standards it is necessary to define the physical needs and requirements for the Air District's positions. This information is used to determine the appropriate protocol for pre and post-employment physical testing, return-to-work physical examinations administered to employees who have had a major injury or illness, and to ensure that there is no adverse impact to members of protected groups.

The process of physical needs analysis is highly specialized, and requires a credentialed, experienced specialist to provide the appropriate statistical analysis and test validation. Additionally, the expertise of the contractor will ensure the legal defensibility of the Air District's physical needs definitions and testing programs.

DISCUSSION

The Air District prepared a Request for Proposal for an Essential Job Functions study and received three bids in return. The bids were reviewed and scored by a panel of subject matter experts. The winning bidder's quote exceeds \$70,000. Therefore, staff is requesting Board of Directors' approval to enter into a contract for this highly specialized study. The study is necessary for effective management of the selection, safety and occupational health programs at the Air District.

BUDGET CONSIDERATION/FINANCIAL IMPACT

The financial impact will be no greater than \$100,000 over a nine-month period. There are sufficient funds in the Human Resources Office Professional Services budget to cover this contract.

Respectfully Submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Michael Rich

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Mark Ross and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 11, 2007

Re: Report of the Executive Committee Meeting of September 13, 2007

RECOMMENDED ACTION

Receive and file.

BACKGROUND

The Executive Committee will meet on Thursday, September 13, 2007.

The Committee will receive the following presentations:

Thomas M. Dailey, M.D., Chairperson of the Hearing Board, will present the Hearing Board Quarterly Report for the second quarter of 2007.

The Committee will receive a report from Harold Brazil, Secretary of the Advisory Council on activities of the Advisory Council from April 2007 through August 2007.

Staff will present reports and updates on the following items:

- A) Production System Update;
- B) Status Report on the Air District's 2007 Initiatives;
- C) Facilities Update and Review;
- D) Status Report on the Joint Policy Committee ; and a
- E) Closed Session to Conduct Public Employee Performance Evaluations.

A report of the closed session discussion is scheduled for the Board of Directors' September 19, 2007 meeting.

Attached are the staff reports presented in the Executive Committee packet.

Chairperson Mark Ross will give an oral report of the meeting.

BUDGET CONSIDERATION/FINANCIAL IMPACT

No budgetary impacts.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Mary Romaidis
Reviewed by: Mary Ann Goodley

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

TO: Chairperson Mark Ross and Members
of the Executive Committee

FROM: Chairperson Thomas M. Dailey, M.D., and Members of the Hearing Board

DATE: August 20, 2007

RE: Hearing Board Quarterly Report – APRIL 2007 – JUNE 2007

RECOMMENDED ACTION:

This report is provided for information only.

DISCUSSION:

<u>COUNTY/CITY</u>	<u>PARTY/PROCEEDING</u>	<u>REGULATION(S)</u>	<u>STATUS</u>	<u>PERIOD OF VARIANCE</u>	<u>ESTIMATED EXCESS EMISSIONS</u>
Contra Costa/Martinez	TESORO REFINING & MARKETING (Variance – Docket No. 3529) <i>– Variance from regulation limiting emissions of organic compounds and methane from leaking equipment at petroleum refineries, chemical plants, bulk plants and bulk terminals including but not limited to valves, connectors, pumps, compressors, pressure relief devices, diaphragms, hatches, sight-glasses, fittings, sampling ports, meters, pipes and vessels (APCO not opposed.)</i>	8-18-304	Granted	3/26/07 to 4/12/07	43.20# (VOC)
Contra Costa/Richmond	CHEVRON PRODUCTS COMPANY (Emergency Variance – Docket No. 3534) – <i>Emergency Variance from regulation requiring compliance with permit conditions and from regulation implementing the operating permit requirements of Title V of the federal Clean Air Act as amended in 1990 (APCO not opposed.)</i>	2-1-307 2-6-307 (Condition # 469, Sec.6.B. of Facility’s Major Facility Review Permit; Standard Condition 1.B.2. of Facility’s Major Facility Review)	Granted	5/2/07 to 5/31/07	1.82 # (NOx)
Santa Clara/San Jose	APCO vs. HIEP VO, individually AND d/b/a McKEE BEACON SERVICE, SITE NO. C9809 (Accusation – Docket No. 3535) – <i>Accusation and Request for Order for Abatement from regulation requiring to provide an orderly procedure for the review of new sources of air pollution and of the modification and operation of existing sources, and of associated air pollution control devices, through the issuance of authorities to construct and permits to operate</i>	2-1-302	Further hearing scheduled on 8/16/07	===	===

<u>COUNTY/CITY</u>	<u>PARTY/PROCEEDING</u>	<u>REGULATION(S)</u>	<u>STATUS</u>	<u>PERIOD OF VARIANCE</u>	<u>ESTIMATED EXCESS EMISSIONS</u>
Santa Clara/San Jose	LOS ESTEROS CRITICAL ENERGY FACILITY (Emergency Variance – Docket No. 3536) <i>Emergency Variance from regulation requiring compliance with permit conditions (APCO not opposed.)</i>	2-1-307, Cond. # 19610, Parts 12, 17, 19b	Denied. Applicant not in violation of District Rules or Regulations	===	===
Sonoma/Sonoma	SONOMA SUPER GAS (Variance – Docket No. 3530) <i>Variance from regulation limiting emissions of organic compounds from gasoline dispensing facilities (APCO not opposed.)</i>	8-7-302.1, 302.2 & 302.3	Granted	3/28/07 to 5/26/07	===
Sonoma/Santa Rosa	KENWOOD GAS (Variance – Docket No. 3533) <i>Variance from regulation limiting emissions of organic compounds from gasoline dispensing facilities (APCO not opposed.)</i>	8-7-302.1 & 302.2	Granted	4/9/07 to 7/13/07	231# (VOC)

**NOTE: During the second quarter of 2007, the Hearing Board dealt with four Dockets on three hearing days.
A total of \$398.47 was collected as excess emission fees during this quarter.**

EXCESS EMISSION DETAILS

<u>COMPANY NAME</u>	<u>DOCKET NO.</u>	<u>TOTAL EMISSIONS</u>	<u>TYPES OF EMISSIONS</u>	<u>PER UNIT COST</u>	<u>TOTAL AMT COLLECTED</u>
TESORO REFINING & MARKETING	3529	43.20 lbs	VOC	\$ 1.44/lb	\$ 63.21
KENWOOD GAS	3533	231.00 lbs	VOC	\$ 1.44/lb	\$ 332.64
CHEVRON PRODUCTS COMPANY	3534	1.82 lbs	NOx	\$ 1.44/lb	\$ 2.62
TOTAL COLLECTED:					<u>\$ 398.47</u>

Respectfully submitted,

Thomas M. Dailey, M.D.
Chair, Hearing Board

Prepared by: Neel Advani
Reviewed by: Mary Romaidis

FORWARDED: _____
NA:na (7/6/07)HBEXQURT

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
 Memorandum

To: Chairperson, Mark Ross and Members
 of the Executive Committee

From: Fred Glueck, Chairperson
 Advisory Council

Date: September 7, 2007

Re: Report of the Advisory Council: April 11 – August 9, 2007

RECOMMENDED ACTIONS:

Receive and file the attached minutes.

DISCUSSION:

Presented below are summaries of the key issues discussed at meetings of the Advisory Council’s Standing Committees during the above reporting period.

- A) Air Quality Planning Committee Meeting of April 11, 2007: The Air Quality Planning Committee received a presentation from Mr. Ted Droettboom on Focused Growth.
- B) Technical Committee Meeting of April 16, 2007: The Technical Committee received a presentation from Bart Ostro, Ph.D., Chief Air Pollution Epidemiology Unit, Office of Environmental Health Hazard Assessment, on Health Effect of Fine PM Species in Daily Mortality and Morbidity in California.
- C) Technical Committee Meeting of June 11, 2007: The Technical Committee received a presentation from Tom Cahill, Professor of Physics and Atmospheric Sciences, University of California Davis, on New Data on Heavily Traveled Secondary Roadways and their Mitigation.
- D) Air Quality Planning Committee Meeting of June 13, 2007: The Air Quality Planning Committee discussed “Still Toxic After all These Years- Air Quality and Environmental Justice in San Francisco Bay Area” from a Planning perspective.
- E) Public Health Committee Meeting of June 13, 2007: The Public Health Committee continued discussions on Indoor Air Quality (IAQ), and Asthma.
- F) Executive Committee Meeting of July 11, 2007: The Executive Committee discussed the advantages and disadvantages of restructuring Advisory Council standing Committees. The item was agendized for the August 9, 2007 meeting for further discussion.
- G) Advisory Council Regular Meeting of July 11, 2007: The Advisory Council received an overview from staff on Mobile Source Programs from the State perspective.
- H) Technical Committee Meeting of August 6, 2007: The Technical Committee received a presentation from Mark Jacobson, Professor of Civil Environmental Engineering at Stanford University on Evaluating the use of ethanol and its impact on ozone and public health, and update on carbon and climate change.

- I) Executive Committee Meeting of August 9, 2007: The Executive Committee met to consider possible Advisory Council Committee Restructuring with recommendations to the Council for approval prior to submittal to the Air District Board of Directors.

The minutes of the above-referenced meetings are attached for your review.

Respectfully submitted,

Fred Glueck
Advisory Council Chairperson

Prepared by: Chioma Dimude
Reviewed by: Mary Ann Goodley

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

APPROVED MINUTES

Air Quality Planning Committee
9:30 a.m., Wednesday, April 11, 2007

1. **Call to Order:** Chairperson Ken Blonski called the meeting to order at 9:31 a.m.

Roll Call: Ken Blonski, Chairperson, Harold Brazil, Irvin Dawid, Emily Drennen, William Hanna, John Holtzclaw, Ph.D.; Robert Huang

Absent: Kraig Kurucz, Ed Proctor.

Also Present: Mr. Fred Glueck

2. **Public Comment Period.** There were no public comments.
3. **Approval of Minutes of February 14, 2007:** Mr. Dawid provided a number of minor revisions to the minutes that will be incorporated into the final version. Mr. Hanna moved approval of the minutes; seconded by Dr. Holtzclaw. Upon conclusion of the revisions of the minutes Chair Blonski called for approval and the draft minutes were approved unanimously.
4. **Discussion of Focused Growth for the Bay Area:** *Mr. Ted Droettboom presented information to the Committee on Focused Growth.*

Mr. Droettboom provided the Committee a brief overview of his background and his affiliation with the District, ABAG (Association of Bay Area Governments), and other organizations.

It was brought to the attention of the Committee that many individuals also refer to Focused Growth as Smart Growth. It is now being called Focused because many think the term Focused is a little less value-laden than the term Smart, which implies that somebody else's growth is dumb.

Why Focused Growth? It is driven by the high housing prices in the region. The median housing prices in the Bay Area by County a few months ago have gone down slightly. High housing prices are driving phenomena and described as "drive until you qualify." Residents are moving further and further out into the region and indeed beyond the region to find homes that they can afford.

Sprawl eats up our land resources. Greenbelt Alliance had identified about nine percent of our precious open space resources at risk of sprawl. Three percent of those at high risk of being developed. Finally, in present context, Focused Growth can help us reduce greenhouse gas emissions. That is because principally 50% of the greenhouse emissions in this region are due to transportation sources. We drive an awful lot and in fact 85% of our transportation greenhouse gases are due to on road vehicles, which include each of us and a few truck drivers on the roads. Aircrafts contribute about 7%, other mobile sources like locomotives and ships at sea contribute about 8%. A big part of reducing greenhouse gas emissions in this region will in fact involve driving less or driving more efficiently.

The region is growing at about 1%, per year; which means in any one year 99% of the development is already here. To give you some indication of what we need to do in this region in the transportation sector to meet the 2020 targets, an analysis prepared by the Metropolitan Transportation Commission (MTC) was shown. The growth in percentage terms with 1990 as the base is called Vehicle Miles Traveled (VMT) on a daily basis. That is the number of miles that each driver collectively drives on a daily basis. By 2020 VMT is projected in a moderate focused growth scenario, to grow by almost 60%. If we turn over the current fleet, CO₂ associated with VMT will not grow quite as fast, maybe about 45% beyond the base.

Chairperson Blonski requested clarification on the term “turnover the fleet” does that mean newer vehicles? Mr. Droettboom’s response was yes, and that it also includes more efficient vehicles even under the current standards, due to the fact people keep their vehicles for a fairly long time in this climate. As vehicles turnover and as we drive more, we will still be able to reduce CO₂. The Pavley standards take us down to a lower level. Pavley is currently in court and is being challenged by all the major automobile manufacturers including the major manufacturer of hybrid vehicles. However, to meet the State standards for 2020 which is back to 1990 levels, we need to go down to a lower amount.

The State has identified a number of strategies to meet its 2020 target, the principle and most powerful standard is vehicle standards. Their second most powerful strategy is smart land use and intelligent transportation, which is driving smarter and riding smarter.

Mr. Dawid mentioned that the Climate Action Team indicated on their charts that Land Use and Transportation was noted as its number one strategy in 2010.

Mr. Dawid added that the 2010-2020 standards, noting that the afforestation/reforestation was referred as number two strategy and that vehicle standards start in 2009, therefore, there would not be much savings by 2010, he also noted that probably by 2020 that there still would not be much change. Mr. Dawid did point out that the focus should be on bio-mass plants, where they actually burn wood chips to a great extent, although this method is very controversial.

The vision of focused growth for the Bay Area was produced by a consortium of Bay Area agencies; and voluntary sector agency groups, which ended up being the Smart Growth Strategy Regional Livability Footprint Project. The vision at that time was a network of neighborhoods, which would be a much more compact development. The environmental benefits include, much less green field development, significant reduction in water consumption per household, gasoline consumption and of course CO₂ emissions relative to the trend. The significant problem was that consortium of folks that got together to produce the vision did not spend enough time with the individuals that control land use at the region, which include local governments and many of the local governments felt excluded from the process.

The group has since spoken to local governments and is getting voluntarily agreements to something called priority development areas. Those are designated with relatively simple criteria and are in existing communities, near fixed transit or comparable levels of bus service and near job concentrations.

Mr. Dawid recalled the meetings that Mr. Droettboom referenced and concurred with the conference and noted that he was able to attend two meetings in Santa Clara County and noted that while at the meeting in Mountain View, ABAG staff members were not aware that Palo Alto was in one county and Menlo Park in the other. Mr. Dawid was interested in knowing if Mr. Droettboom will be bringing in the CMA's and Mr. Droettboom noted that they are planning to bring them in and Mr. Dawid noted that the CMA's would be rather instrumental, especially since they control so much of the local transportation funding.

Mr. Glueck questioned if the intent is to focus on housing and jobs together, to reduce transportation.

Mr. Droettboom referred to the CARB guidelines about locating residential development near freeways.

Dr. Holtzclaw noted that in reference to the Livability Footprint, prior to that time, individuals in all three regional agencies were concerned with regional growth and the continued expansion of freeways. He mentioned that ABAG took the leadership role as the land use agency in addressing this issue, and noted that if individuals from all regions participated in putting things together and MTC analyzed the trends, perhaps there would be attention by the City and County Governments to this need for implementation.

Chairperson Blonski questioned the quality of life. Mr. Droettboom responded that it has come up with regard to Marin City. In addition, Chairperson Blonski questioned the infrastructure with regard to costs and Mr. Droettboom noted that San Francisco could not escape the infrastructure costs which would eventually have to replace the urban structure truck synergy.

Chairperson Blonski raised issues with regard to peak use of the commute and Mr. Droettboom mentioned that perhaps the Bay Area could adopt a toll system that is currently being used in Southern California that in fact may play a part in mitigating global warming.

Ms. Drennen noted that she was a facilitator for Smart Growth projects and underscored that nothing happens at the regional level and that issues/ideas need to come from each of the counties.

Chairperson Blonski questioned if conservation areas played a role to help focused growth. Mr. Droettboom's response was that it does serve as a priority with the Open Space Council and East Bay Park Districts.

Mr. Hanna mentioned Marin County's concern with carrying capacity, global warming and water use per housing, and the water problems that currently exist. Mr. Droettboom's response was that it speaks to the Bay Area being a special region and its huge amount for growth with water resources.

Mr. Huang questioned the reference that environmentalists make when it come to the focused growth program. Mr. Droettboom mentioned that there are many discussions about CO₂ and climate change. Mr. Droettboom also noted that he is in the process of developing a Joint Climate Protection Strategy with four agencies, to be consistent with their messages. The regional transportation plan over its 25 year life is over \$100 billion, if the allocation criteria were changed, it may make a difference in supporting growth in more desirable areas. The various regions decided where the monies would be spent, as incentives were provided.

Mr. Glueck mentioned behavioral modification, and that the District is approaching that with respect to the Spare the Air Program, making it more individualized and a 24/7 issue. In terms of getting all the local communities to buy into a regional approach or policy, other than just the financial incentives are there any other discussions in regionalizing the planning process overlaying the local cities, counties and government? How does the overall Bay Area buy into the regional programs and participate? Mr. Droettboom noted that about every decade in this region, there are discussions about regional governance, where bills are proposed in Sacramento and nothing happens.

Ms. Drennen questioned the infill conception of Smart Growth vs. Traditional model. Mr. Droettboom's responded by noting that MTC has put in place a transit oriented development policy. This policy only applies only to new extensions of the system, with most of the extensions are going to places where there is not a lot of present development, for example E-Bart System to East Contra Costa County. The policy affects 13% of the development over the next 30 years.

Ms. Drennen continued with the question of Warm Springs Bart extension and the political nature of funding some of these less than stellar transportation projects that are investments on a regional scale. Lastly, one of the benefits by doing infield development is having less community upset due to moderate changes being made to the neighborhood portion of it and how is it being dealt with. Mr. Droettboom noted that the principle land use at Warm Springs is the NUMMI plant, with NUMMI not wanting additional residential development, due to the fact NUMMI is a polluter. Mr. Droettboom believes that Warm Springs makes sense in the long term and it may be okay, but over time.

Mr. Hess, Deputy Air Pollution Control Officer, congratulated Mr. Droettboom on his presentation and asked that the Committee carry this information forward to the next full council meeting.

Chairperson Blonski requested the Committee take a three minute break. The meeting reconvened at 11:05 a.m.

5. How Does Smart Growth Impact Climate Change Emissions?: *Dr. John Holtzclaw presented information to the Committee on Climate Change Emissions.*

Four communities were used as an example during this presentation. Three from the Bay Area, and one out of state, each was similar with the exception of density and transit. Dr. Holtzclaw provided an overview of the density of residences per household. Sprawl normally consists of three households per residential acre, with the sprawl increasing to about five households per residential acre.

The comparison of four neighborhoods and one thing is when you increase density, we looked at the variables and density was the most important. Dr. Holtzclaw showed various comparisons with the use a detailed comparison slide showing Urban vs. Sprawl Auto Use in the following four areas, San Ramon, CA; Rockridge, Oakland, CA; North Beach, San Francisco; and Manhattan.

The summary of slides covered the following items:

- Community Transformation – San Pablo Ave. in El Cerrito, CA; 60 households per residential acre; with no parking, 30 households per residential acre; with surface parking;
- North Beach in San Francisco – 90 households per residential acre; with a backyard and no parking;
- Urban vs. Sprawl Auto Use - provides information on the autos per capita ranging from 0.79 in San Ramon, CA to a low of 0.12 in Manhattan;
- Larger households have the tendency to drive more than the smaller household;
- Costs of Urban Infill versus Suburban Sprawl – 5 times more pipe and wiring to build Village Homes in Davis versus an apartment house, located in Nob Hill, twice as much building materials, etc. with the homes being energy efficient houses and took as much as 5 times as much heating and cooling, since Davis is harsher climate.

What is being done about the financial impact? Dr. Holtzclaw suggested that in the more convenient areas there should be building.

Ms. Drennen noted by making relatively small changes in the urban areas that you can impact driving and auto ownership and wondered are there other strategies that are more effective? Dr. Holtzclaw feels the development that we have in the next 50 years at low density, will indeed help the people that live there now and will help the people who live nearby and can shop there.

- 6. Committee Member Comments/Other Business.** Council members shared information regarding reports and emails with the Committee. Chairperson Blonski reminded individuals that Dr. Pastor or a representative will make a presentation at the next full Council meeting, regarding the study he co-authored “Still Toxic After All These Years – Air Quality and Environmental Justice in the San Francisco Bay Area.” Chairperson Blonski will not be able to attend the June 13, 2007 meeting and Ms. Drennen will chair in his absence.
- 7. Time and Place of Next Meeting.** 9:30 a.m., Wednesday, June 13, 2007 – 939 Ellis Street, San Francisco, CA 94109.
- 8. Adjournment.** 11:50 a.m.

/s/ Vanessa Johnson
Vanessa Johnson
Executive Secretary

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

APPROVED MINUTES

Advisory Council Technical Committee
 9:00 a.m., Monday, April 16, 2007

1. **Call to Order – Roll Call.** Chairperson Sam Altshuler called the meeting to order at 9:05 a.m. Present: Sam Altshuler, P.E., Chairperson, Louise Bedsworth, Ph.D, John Holtzclaw, Ph.D., Kraig Kurucz, William Hanna, (9:10 a.m.), Robert Bornstein Ph.D., (9:20 a.m.).
2. **Public Comment Period.** There were no public comments.
3. **Approval of February 28, 2007 Minutes.** The minutes carried unanimously.
4. **Overview of the South Coast Air Quality Management District’s (SCAQMD) MATES III Program and the Air District’s CARE program:** The Committee Members compared and contrasted the MATES III program and the CARE program. The following Matrix was developed. A draft of the matrix was sent to the SCAQMD for review.

COMPARISON OF PROGRAMS

MATES	CARE
General Information	
MATES I 1987	CARE Phase I: Sp 2004 – F 2006
MATES II 1988-1999	CARE Phase II: F 2006 – Sp 2008
MATES III 2004 - 2006	CARE Phase III: Sp 2008 – F 2009
District Population: 16 Million	District Population: 7 million
Program Cost: \$2 million per year	Program Cost: \$1 million per year
Focus: Marine Ports, Airports, Freeways, Freeways, Regional	Focus: Marine Ports, Construction, Freeways, Regional
20 Member Technical Advisory Group	15 Member Technical/Community Task Force
Compounds Monitored	
Metals (e.g. CrVI, Ni, Cd), PAHs, VOCs, (e.g. benzene, 1,3-butadiene, perc), carbonyls (e.g., Formaldehyde), elemental carbon, acrolein being considered	Metals (3 sites only), PAHs, VOCs, carbonyls, elemental carbon, acrolein-begun
PM sizing	No PM sizing

Wood smoke from wildfires	Special study markers for wood smoke – residential wood-burning, carbon dating
No lube oil measurements	No lube oil measurements
10 fixed sites; 6 microscale sites	23 fixed sites: metals @ 4 sites; VOC @ 22 sites; PAHs, carbonyls @ 3 Sites; elemental carbon @ 6 sites
3 temporary sites	No temporary sites
No mobile sampling	No mobile sampling
Estimated Risks**	
Results: 1998/1999 cancer risk – 1,400 per million from air toxics	Results: 2000 cancer risk – 700 per million from air toxics
Diesel PM cause 71% of cancer, 8% from 1,3-butadiene, 7% from benzene 3% from carbonyls	Diesel PM cause 81% of cancer risks, 6% from 1,3-butadiene, 7% from benzene, 1% from formaldehyde
No estimates of non-cancer risks	Chronic and acute non-cancer risks: acrolein represents 48% of chronic and 94% of acute non-cancer risk. Important sources are mobile and aircraft.
Toxics Trends	
Benzene is decreasing in South Coast Area	Benzene is decreasing in Bay Area
Perc is decreasing in South Coast Area	Perc is decreasing in Bay Area
Formaldehyde and acetaldehyde show no trend	Formaldehyde and acetaldehyde are decreasing slowly (2-4% per year)
Insufficient data to establish acrolein trend	Insufficient data to establish acrolein trend
Modeling	
Modeling: Some regional and local scale modeling, plans to update	Modeling: Plans to conduct regional and local scale modeling
Grid: 4/2 km	Grid: 2 km

* Note: This comparison is based on our current understanding of the MATES program. As we continue to gather information, there may be future updates to this table.

** CARE risks are based on the ARB's California Almanac of Emissions and Air Quality (2006 Edition) and CARE toxicity-weighted emissions estimates. These estimates may change as the CARE program progresses.

The Committee held discussions regarding chronic and acute health effects as it relates to the MATES/CARE programs. The MATES/CARE programs focus on chronic long term health effects; AQS focuses on acute effects. PM, NO₃ has very low impact to health while Zinc (from lube oil?) has a relatively high impact on public health, pound for pound. The Committee recommends staff consider adding sizing of PM as well as include measurements of lube oil within CARE in as much as possible.

Topics for future discussion: Lube oil, PM sizing, Acrolein trend.

5. Presentation on “Health Effects of Fine PM Species in Daily Mortality and Morbidity in California”: Dr. Bart Ostro Ph.D., Chief Air Pollution Epidemiology Unit, Office of Environmental Health Hazard Assessment (OEHHA), California Environmental Protection Agency (Cal EPA); delivered to the Committee a presentation on the “Health Effect of Fine PM Species on Daily Mortality and Morbidity in California” which he co-authored. Dr. Ostro’s presentation included the following topics:

- Introduction – Background on PM2.5
- Previous Epidemiologic results on PM2.5 and its components
- Mortality Study
- Findings on Susceptible Subgroups (preliminary)
- Findings on Morbidity (preliminary)
- Biologic Mechanisms
- Summary
- Future Work

Dr. Ostro stated he is with the California Office of Environmental Health Hazard Assessment (Cal OEHHA) which is part of Cal EPA. His official responsibility is to recommend state air quality status to the Air Resource Board (ARB). Dr. Ostro did a great deal of research with regards to issues relating to Criteria Air Quality; his presentation focused on the issues published a month or two ago on Mortality. The Committee heard the first public presentation on Morbidity. Dr. Ostro states that he has worked on sensitive populations to see which population is particularly sensitive to some of the elements of the study that will be enumerated later. Most of the morbidity epidemiology discussion is based on the conditions, respirations and data. Bio-monitoring is a medium with which to see chemical analysis in the body; it captures chemicals that people have in their bodies that are higher than the official standard helped achieve result in this study. At this point, Mr. Altshuler noted that Richard Jackson from CDC gave a presentation of the subject to the Advisory Council about a year ago. Dr. Ostro added that findings show that people have much chemical in their body; about 100 times the normal amount.

Dr. Ostro explained the components of PM2.5 as a heterogeneous mixture of solid and liquid from multiple sources, which can be gas to particle conversion or directly emitted particles. He added that to identify the components and sources of PM2.5 could help target its control and strategy. Several epidemiology studies link PM2.5 with mortality and these include:

1. Short Term exposure and daily mortality
 - Six United State cities (Schwartz et al. 1996, 2003)
 - Eight Canadian cities (Burnett et al. 2003)
 - Nine counties (Ostro et al. 2006)
2. Long term exposure and mortality
 - Dockery et al. 1993; Laden et al. 2006
 - Pope et al. 2006
 - Krewski et al. 2000

Dr. Ostro noted a crucial question “what is the relative toxicity of PM_{2.5} components?” He also stated that one criticism is of control strategy, we think about high cost and things that are toxic. With all PM_{2.5} components, be it toxic or diesel, factory, restaurant, or from dwellings, the most important question are its health effects and its source. NAS and WHO recommended that determining the toxicity of different particle characteristics and sources is a research priority because: (1) very few epidemiologic studies have examined components or sources; (2) it could help target pollution control efforts and reduce overall abatement costs; (3) it could improve health impact assessments; and (4) it may help explain heterogeneity in multi-city studies.

Dr. Dave Fairley asked if any research has taken these multi-city studies and estimated the range of vaults to see the difference? In his response, Dr. Ostro said that John Hopkins and his group are looking into the variations. Dr. Ostro also added that in some hypotheses, there are some generic responses due to generic particles and generic depositors in different counties and countries. The one for California is different due to the toxicity. The results and studies of components or sources on mortality include: (a) Mar et al. 2000 showed that EC/OC generated from motor vehicle exhaust is related to mortality in Phoenix; (b) Laden et al. did studies in six US cities and showed markers for motor vehicles and residual oil sulfates, but not from crusty materials relate to death; (c) Burnett et al. 2000 also did a study in Canada and found that sulfates, zinc, nickel and iron relate to death. However, NO₃, EC, and OC in relation to mortality were not measured.

In California, PM_{2.5} studies are different from that typically studied; the source mix and chemistry are quite different with regards to PM_{2.5} in California and Southern California in particular. The study shows that Nitrate is a greater share of PM_{2.5}, but different in the east and many other parts of the world. Dr. Ostro also added that the winter concentration is higher than in summer. At this point, Dr. Bornstein asked the reason why the winter is higher. Dr. Ostro further explained that many pollutants come into play in different ways; the biomass, nature of gas constituent, adequate chemistry and other combination theory that change all the time. Dr. Ostro added that the data collected will depend on the country. Dr. Bornstein further clarified that ozone produces a lot of Nitrate particles in the summer and Nitrate is higher because it does not pull until it is colder and thus wood burning in winter along with the higher concentration of PM_{2.5}. Other reasons why PM_{2.5} in California is typically different according to Dr. Ostro’s study is greater indoor penetration and people spending more time outdoors.

Methodologies in this study included:

Methodology I, Time-series regression analysis used follows that of Ostro et al. (2006) and many others (HEI 2003) linking PM_{2.5} to mortality. Daily counts of mortality that involve hospital admits modeled as a Poisson distribution, conditional on time-varying covariates of time, weather, and day of week, were also used. The use of smoothing splines to control for time, temperature and humidity was also part of the methodology used. (Splines are non-linear data-driven functions that smooth the relation of mortality and time).

Dr. Ostro pointed out the All-cause mortality in Sacramento County for 2000-2003 and emphasized the differences between the Mortality and Time without Smooth versus the

Mortality and Time with Smooth on the presentation. He noted that the Smoothing made the control variation for seasonality more effective.

Methodology II comprised formulae for $\text{Log}(\text{Mt})$, as well as examining single-day pollutant lags of 0 to 4 confounders like Smoking, Occupational exposure, and Indoor pollution that were taken into consideration.

Methodology III involved the random effects meta-analysis used to combine individual county results. Sensitive analysis like varying degree of freedom for time and weather, penalized spline, treatment of missing data and seasonal-specifics of cool season (October to March), were also used.

Results of the findings are as follows:

PM2.5 in the California Study of 2000-2003 showed that some counties have higher concentrations than others. The highest concentration is found in Riverside County (27.1 units), followed by Orange County (21.5) mean daily PM2.5 per microgram. Los Angeles came third (20.8), Kern (19.5), Fresno (17.5), Santa Clara (13.9) while Contra Costa and Sacramento had 12.8 and 12.6 respectively and San Diego came with the least amount of concentration of 15.3 mean daily PM2.5.

The components of PM2.5 studied in six California Counties where mean PM2.5 = 19.3 $\mu\text{g}/\text{m}^3$; resulted in OC having the highest of 7.1 mass ($\mu\text{g}/\text{m}^3$) followed by NO3 with 5.5 mass ($\mu\text{g}/\text{m}^3$); SO4 came out with 1.9; EC resulted in 1.00; S was .5 while CU+Fe+Zn, K, Si and Cl were at the barest minimum i.e., a little above zero. However, some components noted as Other on the graph had the PM2.5 components of approximately 2.7 mass ($\mu\text{g}/\text{m}^3$).

With regards to the Temporal Correlations of PM2.5 and Components, the presentation table showed the moderation of the chemicals overtime; with NO3 being the highest with 0.65 correlation. Also sulfate is seen to be higher in the summer.

The selective summary of meta-analytic associations for alternative lags is color-coded (red = $p < 0.05$; green = $p < 0.10$). Red denotes the most significant chemicals with health related problems. The chemicals that are most prominent with cardiovascular health issues are PM2.5 (3), NO3 (3); denoted in green, SO4 (3), Zn (3), EC (2), Fe (2), K (2) also denoted in green. These chemicals; PM2.5, EC, OC, NO3, SO4, Cu, Fe, K, according to the findings do not show mortality caused by respiratory problem except for Zn that rate at 1 ($p < 0.10$). Mortality at ages above 65 is seen in PM2.5 (3), Zn (3), and EC (2) all denoted with green is (equivalent to $p < 0.5$) while NO3 is (0) denoted in red. At this point, Phil Martien commented that it is surprising that not much respiratory death existed in the findings.

The Cardiovascular Mortality 3 knots/year and 4 knots/year graph show the range of distribution possibilities of Excess Risk per Inter Quartile Range (IQR) and Species and Lag Days of 75th to 25th concentration risk of pollution per year differential. Knots were used to default the smoothing to see which is smoother. The graph shows which chemicals are at significant 5 point level; these are PM2.5, SO4, and Zn while NO3 is at 10 point level whereas above zero percent is the normal range.

Selective summary of meta-analytic associations for Winter showed the cardiovascular related mortality traced the following chemicals; PM2.5 (3), NO3 (3), SO4 (3), Zn (3), all denoted in red (p<0.05) and EC (2), Fe (2), K (2), Zn (2), denoted in green (P<0.10). Respiratory related mortality was SO4 (3). Chemicals related to death at age above 65 that were significant included PM2.5, Fe, K and Zn.

Excess risks per microgram (ug/m3) for Cardiovascular Mortality of pollutants were tabularized with corresponding lags and percent change per microgram. The pollutants (PM2.5, EC, OC, NO3, SO4, K, Fe, Zn,) all have lags of three (3). Fe has the highest percent per microgram of 8.38 followed by K with 7.51, EC has 2.38, SO4 has 1.22 while PM2.5, OC, NO3, have 0.18, 0.34 and 0.36 respectively. However, Zn has overwhelmingly 194.9 and Sam Altshuler commented if Zn lined very well; that is if Zn is actually 194.6 or 1.946. Dr. Ostro responded that these numbers are not to be taken seriously and that 2.2% is the low estimate considering difference in measurement error and problems of measurement.

The Effect Modification and Mortality was examined with regards to gender, race and education. Cardiovascular mortality by education showed that non-high school graduates have about 10% while high school graduates is 46% of mortality related to EC, OC, Nitrate , Zn and Iron. Dr Ostro added that education is a proxy for a whole bunch of lag but possibility includes exposure study shows that lower income, lack of medical care and lack of exercise and smoking may be prime factors.

Future Work for the study will be based on the following areas:

- 1) Repeat study with larger data set
- 2) Develop Chemical Mass Balance models to estimate effect of sources
- 3) Estimate independent effects of temperature on mortality and morbidity and determine susceptible subgroups
- 4) GIS-based analysis to examine exposure misclassification.

6. Committee Member Comments/Other Business: Chairperson Altshuler stated that Tom Cahill, Professor Emeritus, University of California Davis will be at the next meeting. The Committee thanked Dr. Ostro for his presentation and presented him with a token of appreciation from the Air District.

7. Time and Place of Next Meeting. The next meeting will be at 9:00 a.m., June 11, 2007, 939 Ellis Street, San Francisco CA 94109.

8. Adjournment. 12:11p.m.

/s/ Chioma Dimude
Chioma Dimude
Acting Executive Secretary

Advisory Council Technical Committee

April 16, 2007

Comparison of SCAQMD MATES and BAAQMD CARE Programs*

MATES	CARE
General Information	
MATES I 1987	CARE Phase I: Sp 2004 – F 2006
MATES II 1988-1999	CARE Phase II: F 2006 – Sp 2008
MATES III 2004 - 2006	CARE Phase III: Sp 2008 – F 2009
District Population: 16 Million	District Population: 7 million
Program Cost: \$2 million per year	Program Cost: \$1 million per year
Focus: Marine Ports, Airports, Freeways, Freeways, Regional	Focus: Marine Ports, Construction, Freeways, Regional
20 Member Technical Advisory Group	15 Member Technical/Community Task Force
Compounds Monitored	
Metals (e.g. CrVI, Ni, Cd), PAHs, VOCs, (e.g. benzene, 1,3-butadiene, perc), carbonyls (e.g., Formaldehyde) , elemental carbon, acrolein being considered	Metals (3 sites only), PAHs, VOCs, carbonyls, elemental carbon, acrolein-begun
PM sizing	No PM sizing
Wood smoke from wildfires	Special study markers for wood smoke – residential wood-burning, carbon dating
No lube oil measurements	No lube oil measurements
10 fixed sites; 6 microscale sites	23 fixed sites: metals @ 4 sites; VOC @ 22 sites; PAHs, carbonyls @ 3 Sites; elemental carbon @ 6 sites
3 temporary sites	No temporary sites
No mobile sampling	No mobile sampling

Estimated Risks**	
Results: 1998/1999 cancer risk – 1,400 per million from air toxics	Results: 2000 cancer risk – 700 per million from air toxics
Diesel PM cause 71% of cancer, 8% from 1,3-butadiene, 7% from benzene 3% from carbonyls	Diesel PM cause 81% of cancer risks, 6% from 1,3-butadiene, 7% from benzene, 1% from formaldehyde
No estimates of non-cancer risks	Chronic and acute non-cancer risks: acrolein represents 48% of chronic and 94% of acute non-cancer risk. Important sources are mobile and aircraft.
Toxics Trends	
Benzene is decreasing in South Coast Area	Benzene is decreasing in Bay Area
Perc is decreasing in South Coast Area	Perc is decreasing in Bay Area
Formaldehyde and acetaldehyde show no trend	Formaldehyde and acetaldehyde are decreasing slowly (2-4% per year)
Insufficient data to establish acrolein trend	Insufficient data to establish acrolein trend
Modeling	
Modeling: Some regional and local scale modeling, plans to update	Modeling: Plans to conduct regional and local scale modeling
Grid: 4/2 km	Grid: 2 km

* Note: This comparison is based on our current understanding of the MATES program. As we continue to gather information, there may be future updates to this table.

** CARE risks are based on the ARB's California Almanac of Emissions and Air Quality (2006 Edition) and CARE toxicity-weighted emissions estimates. These estimates may change as the CARE program progresses.

Topics for future discussion: Lube oil, PM sizing, Acrolein trend.

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

APPROVED MINUTES

Advisory Council Technical Committee
9:00 a.m., Monday, June 11, 2007

- 1. Call to Order- Roll Call.** Chairperson Altshuler called the meeting to order at 9:08 a.m. Present: Sam Altshuler, P.E., Chairperson, Louise Bedsworth, Ph.D, John Holtzclaw, Ph.D, Robert Bornstein, Ph.D, Mr. Kraig Kurucz, (9:13 a.m.), Mr. William Hanna, (9:15 a.m.).
- 2. Public Comment Period:** There were no public comments.
- 3. Approval of Minutes of April 16, 2007.** Approval of minutes was deferred pending the Committee members input with regards to Dr. Bart Ostro's presentation on "The Effects of Fine Particle Species on Daily Mortality and Morbidity in California" that were not captured on the cassette tape on the day of the meeting.

Also the Committee requested that staff make changes on the comparison grid for the MATES and CARE programs. Changes and clarification requested regarding: A) Lube Oil Measurement; B) PM sizing; C) Acrolein trend. Clarify Grid: 4/2km and Grid: 2km as well as the term temporary vs. mobile sites.

- 4. Presentation on "New Data on Heavily Traveled Secondary Roadways and their Mitigation":** Dr. Tom Cahill, Professor of Physics and Atmospheric Sciences, University of California Davis delivered to the Committee a presentation on "New Data on Heavily Traveled Secondary Roadways and their Mitigation." Dr. Cahill worked off of a 70 slide presentation. Key topics discussed included:
 - Information on health impacts of aerosols; the role of very fine and ultra fine particles.
 - Information on vehicular emissions; the increasing dominance of spark emission pollutants by mass; the higher toxicity of gasoline automobile car exhaust due to the presence of PAHs.
 - New information on air quality near freeways and secondary roadways

Dr. Cahill noted that his presentation was relatively new and was comprised of data gathered from different sources. Dr. Cahill's project in the Sacramento area is supported by the Sacramento Metropolitan Air Quality Management District. Dr. Cahill stated that the results of the Roseville study were not available, but would be soon. The Air District will receive the results when finalized.

Dr. Cahill started the discussion with current information about the inhalation of particulate matters, slides 4 and 5. Dr. Cahill directed the committees' attention to

the health impact of ultrafine PM and how various sizes of PM are deposited in the lung and airways. Further, the ultrafine PM is laced with PAHs attributable to engine lube oil. Dr. Cahill pointed that with data on stroke ischemia heart disease result of 60% rise in the Central Valley, increasing from north to south, Shasta to Kern, slide 9. Dr. Cahill also added that according to the Health Effects Tasks Force Group meeting of January 2007, the health impacts include; short term trigger of asthmatic attacks, lung damage seen in children and increased mortality in the elderly. The Health Effect Task Force is an early warning group that meets every two months.

Interest in the study of PM air pollution near secondary roadways emerged from observing two lane streets in rural areas in Sacramento that accommodate about 65,000 vehicles a day that affected school and residents nearby. The roadways had expanded to about nine lanes and three rail lines. Dr. Cahill stated that new information was derived for vehicular emissions through several recent research projects for on-road diesel and gas emission rates. 75% of PM 2.5 is attributable to organic emissions from diesel and gasoline vehicles, Slide 13. Dr. Cahill directed the committees' attention to research results reported by Desert Research Institute, (DRI) linking toxicity to emissions associated with engine lube oil. Dr. Cahill promised to update the existing presentation after the meeting and email a copy to the committee. Chairperson Altshuler asked about DRI's opinion on the toxicity in lube oil. In response, Dr. Cahill stated that lube oil from cars is 10 to 20 times more toxic than emission from lube oil from diesels. In response to Dr. Bedsworth's questions of whether burning too much lube oil indicates that a vehicle is not running well? Dr. Cahill stated that lubricating oil should not burn at all.

Dr. Cahill spoke about another study of zinc aerosol at Fresno during the Fresno Asthmatic Children's Environmental Studies (FACES). There were sparks of zinc from pesticides being applied to fields many miles away; as well as from fireworks in Fresno and the Bay Area. The zinc was measured along with other elements (phosphorous, sulfur, potassium, zinc) also found in the exhaust of diesel and gasoline engines.

New information on the toxicity of car exhaust showed that spark ignition car exhaust is more toxic than diesel truck or busses. Cars have more PAHs in their oil than diesels. Benzo-a-pyrene is the worst per mass. In response to Mr. Altshuler's question on why the Benzo-a-pyrene is the worst per mass, Dr. Cahill responded that Eric Fujiti's (DRI) theory is that the oil in small spark ignition vehicles exposes oil to conditions favorable for creating PAHs. Another point is that higher temperature in diesel combustion destroys the PAHs. Also Dr. Cahill reported CNG busses in Davis have about four times the ultra fine particles as normal diesel busses. When questioned by the committee, these busses were found to be old and not typical of state-of-the-art CNG engines sold today.

Dr. Cahill stated that the Roseville Railyard trains are the most toxic and rich in PAH, this study revealed that the trains buy cheap Nevada fuels that is rich in sulfur and travel into California; and the oils also never get changed.

In slide 56, Dr. Cahill showed how very fine and ultrafine PM have relatively high removal rates via diffusion if a surface is close; vegetation can provide such a surface. Dr. Cahill stated that Redwood vegetation was used in an experiment to show how they capture fine particles and ultra fine particles. As wind speed increase above 1 mile per hour, the vegetation increased its effectiveness in capturing PM.

Dr. Bornstein asked a question regarding the fraction penetrating vegetation on the graph because Dr. Cahill related the experiment to his previous results on thermal plume study. However, Dr. Bornstein clarified that the vegetation experiment is horizontal advection through the trees and thermal plume is vertical transport; therefore for real highway and low speed, with thermal affect, the material will not move horizontally to be filtered by the trees hence; the result cannot be combined. Dr. Cahill stated that his data was derived from sampling derived from Lake Tahoe. During the sampling, at night, the wind comes down the mountain. This bubble of air rises up about 100 meters every night and diffuses laterally outward and both sides of the highway. However Dr. Bornstein cautioned that the data should be used with care when relating it with thermal plume result because the physics are different.

Data of eight drum samplers, Slide 57 were taken from Arden Middle School and compared to the sample from Roseville Railyard; Dr. Cahill noted that the data showed that at a period of time, transport from the Bay Area caused pollution. Also with the result, the EPA region IX felt that the Roseville Railyard was as bad as Arden Middle School in Sacramento area. When the particles were measured, mass in coarser fractions showed Arden Middle School with less aerosol but when the mass finer fractions was measured, Arden Middle School rose in proportion to Roseville Railyard. The comparison also showed that for nickel, copper and zinc, there is more zinc at Arden Middle School than there is at Roseville Railyard, Slide 66.

In summary, Dr. Cahill stated that roadways in residential areas are the overwhelming contributor to all California Toxic Air Contaminants (TAC) impacts statewide, Slide 66. Most vehicular aerosols are from cars; car exhaust is more toxic than diesel exhaust per unit mass. Also freeways are less of an impact because there are fewer freeways than secondary roadways; they are generally better buffered from residences; the high traffic velocities induce better mixing and lofting of emissions, and the vehicles tend to be cleaner.

Dr. Cahill noted that since roadways, traffic, and toxic emissions cannot be eradicated; mitigation will be the line of action. The most important is mitigating from the source which include: 1) Roadway source improvement; cleaner engines, fuel, and new synthetic lubricating oils; also removal of gross emitting vehicles from roadways; reduce traffic via transportation alternative; 2) Roadway design options – “Complete streets”; highway design; cut section, tunnel cleaned, pollution barriers- use waste heat and vegetation to loft and trap ultra fine particles; 3) Reduce transportation efficiency to residences; distance, pollution barriers.

Mr. Kurucz asked how the three measurement factors impact the measurement of particulate sizes, if there was any cascading factor. In response, Dr. Cahill noted that the measurement method called Multiple Orifice Uniform Deposit Impact (MOUDI) was developed by the University of Minnesota; a non rotating single stage factor that has ultra fine capabilities used mostly for chemistry though very hard to work with. The Drum sampler was used also as well as the Cad point factor and Advanced light source in Berkeley. Altogether, 81,000 analyses were done in the last six months. Particle counters was also used in the measurement.

Mr. Altshuler commented on his concern regarding lube oil, he stated, there should not be a generalization about natural gas having more oil emissions. The issue is that converted diesel engines to natural gas can be sucking oil down the valve guides but recent model Honda natural gas passenger car engine shows cleaner engines. He also added that when oil is being used it is evaporating not burning. Mr. Altshuler stated that oil is a big issue that relates to zinc, phosphorous, and should be added to the Air District's CARE program study.

Dr. Holtzclaw added that one of the major issues is the impact of certain urban design; high density areas of buses and cars using the road, there are also more lungs breathing those particles. Thus "Complete Streets" as mentioned in the presentation seems to be a good solution and will make people walk more and drive less.

Dr. Bornstein pointed that circulation should be clarified regarding the thermal effect of low wind speed at night and high wind effect, stating that the meteorology should be clearly stated.

Mr. Kurucz requested the full data of the critical graph that Dr. Cahill showed briefly on Roseville Railyard data be sent to the Technical Committee when completed. Mr. Kurucz also asked how reliable is the higher level model, in terms of validating recommendations? Dr. Cahill responded that using a better model will be helpful but the team does not have a better model at the moment. Dr. Bornstein added that the Monte Carlo model involves particles and sophisticated meteorology but the model that Dr. Cahill used had one wind thus particle model is usually driven by meteorological feel that has variation in space and time; this made the meteorology and dispersion transport captured in a more sophisticated way.

Mr. Altshuler presented to Dr. Cahill a token of appreciation for his trip and presentation to the Committee.

- 5. Committee Member Comments/Other Business:** Mr. Hanna raised the issue he heard concerning Honda hybrid vehicles which should be serviced after 100,000 miles at the cost of \$1,500 but it actually cost \$5000 to recharge. The desirability of this model will be decreased by the cost for battery service replacement.

Mark Jacobson of Stanford will be presenting to the Committee; the topic of ethanol/ozone/public health as well as an update on black carbon and climate change.

Mr. Altshuler asked Mr. Hess if there is anything staff wants the Technical Committee to look into. Mr. Hess responded that after the summer recess, the staff will look into what the Council has completed with regards to assignment and look at what direction to take.

Staff member, Mr. Saffet Tanrikulu relayed to the Committee the following topics that might be of interest, 1) ammonia emission inventory; the Air District has a contract with STI who is developing ammonia emissions inventory for the Air District, the results may be in by October; 2) Trend Analysis for Ozone; two groups are working on this issue; Charles Blanchard (Consultant) and UC Davis; 3) Particulate Matter and episodes in the winter time and meteorology. The District is working with UC Davis on characterizing the meteorology; the result may be available by next year, 2008.

Dr. Bornstein stated that Mr. Bart Croes liked the work they did on the Cooling in the Coastal Area, however, Mr. Croes commented that the models cannot reproduce the downward trend in ozone observations solely by emission and reduction, thus he thought that perhaps the cooling that was observed in the Los Angeles area and the Bay Area might also be a factor in lowering ozone. Dr. Bornstein asked if the work that the staff is doing involved modeling and does the modeling fail to capture the magnitude of downward trend.

Dr. Bornstein promised to give the staff the results of the work that was done on 'The Cooling in the Coastal Area'.

Dr. Bornstein inquired if staff would be interested in the Committee focusing on shipping and aircraft emissions if there is someone specialized in that area.

Mr. Tanrikulu responded that staff has been looking into those emission issues.

Chairperson Altshuler thanked Mr. Hess for his leadership and support all these years, Mr. Hess will be retiring from the Air District in July.

6. **Time and Place of next meeting:** 9:00 a.m., Monday, August 6, 2007, 939 Ellis Street, San Francisco, CA 94109.
7. **Adjournment:** The meeting adjourned at 12: 08 p.m.

/s/ Chioma Dimude
Chioma Dimude
Acting Executive Secretary

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

DRAFT MINUTES

Air Quality Planning Committee
9:30 a.m., Wednesday, June 13, 2007

1. Call to Order: Acting Chairperson Emily Drennen called the meeting to order at 9:38 a.m.

Roll Call: Emily Drennen, Acting Chairperson, Harold Brazil, Irvin Dawid, John Holtzclaw, Ph.D.; and Robert Huang, Ph.D.

Absent: William Hanna, Kraig Kurucz, Ed Proctor, Ken Blonski.

Also Present: Chairperson, Fred Glueck

2. Public Comment Period. There were no public comments.

3. Approval of Minutes of April 11, 2007: Ms. Drennen provided revisions to the minutes that will be incorporated into the final version. Chairperson Glueck moved approval of the minutes; seconded by Dr. Holtzclaw. Upon conclusion of the revisions of the minutes Acting Chairperson, Drennen called for approval, minutes were approved unanimously.

4. 2007-2008 Wintertime Outreach: *Mr. Richard Lew, Community Outreach Manager, Outreach and Incentives presented information to the Committee on Wintertime outreach.*

Mr. Lew provided the Committee a brief presentation on the following:

Spare the Air Tonight:

- Health advisories issued on nights when PM concentrations are forecast to be unhealthy for “sensitive groups”
- Voluntary program to encourage clean air choices
- Elements:
 1. Advertising
 2. Media and Employer Relations
 3. Website/AirAlerts

Mr. Lew provided the following update on Particulate Matter (PM).

- Particles 2.5 microns in size (1/20th size of a human hair)
- Can remain airborne for hours, days or weeks
- Potential to travel deep into the lungs
- Health effects may include:
 1. Coughing
 2. Eye irritation
 3. Asthma trigger

There are a number of sources where PM derives, some of which include:

- Wood-Burning Stoves
- Power Plants
- Heavy Duty Diesel Engines
- Cars and Trucks
- Industrial Sources

The Outreach Strategy for 2007-2008 will consist of the following:

- Media relations (press advisories which will include the Spare the Air Kickoff; press releases announcing major events and stories)
- Employer and community events (over 90-100 employer/community events per year; some of which include festivals, state fairs with bi-lingual speakers present)
- Asthma clinics (worked with over 70 clinics to spread the word about spare the air)
- Radio and television advertising (commercials with Executive Officer)
- Wintertime surveys (will conduct phone surveys about the public's attitude and behavior)
- Expansion of the Woodstove change out program (currently in place in Santa Clara, with a proposal to expand it throughout the nine counties)
- Wintertime sparetheair.org web site
- Collateral materials include:
 - Video commercials
 - Bookmark about particulate matter
 - Tip card about wood burning
 - Handbook about wood burning and particulate matter

In conclusion, Mr. Lew provided an overview of the Air District's Wood Smoke Strategy for the upcoming season. This information included:

- **Regulatory:**
 - Rule development public workshop July 2007
 - Mandatory wood burning curtailment (on Spare the Air Tonight)
 - Visible emission limitation

- **Outreach:**
 - Inform public of new requirements and clean air choices they can make
 - Improve awareness of PM/wood smoke health impacts
- **Incentives:**
 - Expected to kickoff in mid January 2008, plans are in place to go district-wide with a wood stove/fireplace change out program; which will subsidize purchases of new cleaner EPA certified wood stoves.

Ms. Drennen thanked Mr. Lew for his presentation and asked the Committee if they had any questions.

Chairperson Glueck suggested that fliers be distributed at stores such as Osh Hardware, Home Depot, Safeway, etc. in locations that sell bulk wood with permission from the vendors advising of the Spare the Air Program.

Mr. Dawid commented on the Spare the Air Tonight advisory notifications that were issued last season, referring to the frequency of the advisories.

Ms. Drennen expressed her excitement with regard to the wood stove change out program, extending to the 9 counties. Ms. Drennen wanted to know the cost of the subsidy that each family would receive, as well as the total budget for the subsidies. Mr. Lew indicated that the projected budget is between \$100-\$600 depending if the individual decides to use natural gas change out, EPA certified, wood stove with the total budget still being worked on at this time.

Ms. Drennen thanked Mr. Lew again for such a great presentation.

5. Committee Discussion on the Study “Still Toxic After All These Years – Air Quality and Environmental Justice in the San Francisco Bay Area” from a Planning Perspective: *The Committee discussed the study co-authored by Dr. Manuel Pastor of the University of California Santa Cruz.*

Ms. Drennen provided the Committee with a brief background of “Still Toxic After All These Years” noting that both she and Chairperson, Ken Blonski thought it would be a great idea to have the Committee digest the presentation. Staff was requested to prepare a brief summary regarding any particular thoughts and ways that the Air District could respond with regard to changes to programs and policies as a result of this presentation.

Henry Hilken, Director of Planning, Rules and Research noted that the Air District appreciates Dr. Pastor for coming to the Air District on numerous occasions, and presenting the study he co-authored. Mr. Hilken noted that there are some overlaps and similarities between that study and the things that are being done under the C.A.R.E. Program. Mr. Hilken noted that Mr. Phil Martien, Project Manager of the C.A.R.E. Program would make a couple of remarks regarding the extent that the Air District was involved in the study, which was limited, as well as the thought of the Air District moving forward.

Mr. Martien, provided background information to the Committee on the Air District’s involvement in the report as well as a summary about the findings. Mr. Martien noted that

Dr. Pastor had several community meetings to discuss the issue, which various Air District staff members attended and were in communication with the group when developing the document.

In summary, Dr. Pastor looked at the correlation between race, ethnicity and toxic air contaminants in the Bay Area. The type of work that has been done in the South Coast region uses two different kinds of data sets, the toxic release inventory data set and the national air toxics assessment data set to conduct their study. Both data sets have been released by the U.S. Environmental Protection Agency, which are considered national data sets. The study noted the correlation and tried to test the assumption that land use and income was not the only driving factor, but that race and ethnicity was also an important consideration.

Mr. Martien noted that suggestions were made based on looking at cumulative impacts when doing health risk assessment type work, looking at social vulnerability, as some people are less able to see a doctor and have less access to healthcare, so individuals should be aware that population moving forward in trying to reduce toxic air contaminants and that we should encourage meaningful community participation and meaningful actions, as these are the 4 principles that were laid out at the end of their report.

The Air District is willing to work with Dr. Pastor, so that local emissions data and repeat their analysis can be used. Due to complications with the national data sets that were used, as there has not been as much attention put specifically on the bay area, therefore, the Air District was interested in having Dr. Pastor redo his work using CARE emissions data as the Air District is currently working with Dr. Pastor now.

Mr. Martien noted that the studies preliminary findings are similar to that of the CARE program. The principles that were laid out are principles that the CARE program can move on, as it was not real specific as to what needs to be done, but noted that the Air District does want to endorse and embrace those principles, as the Air District moves forward.

One thing to point out is that when the CARE program talks about cumulative impacts, were are not just looking at cumulative impacts for toxic air contaminants, but the CARE program does look at all 189 contaminants that the Air Resources Board had defined in doing their analysis. The CARE program does not look at PM in general, so there are health impacts from PM in general beyond just the toxic components of PM or the things that have been recognized as toxics such as diesel PM.

Ms. Drennen thanked Mr. Martien for the presentation to the Committee.

Ms. Drennen referenced the discussion guide that she prepared with regard to Dr. Pastor's study, "Still Toxic After All These Years." Ms. Drennen noted that the discussion would be based on the Guiding Principles, and the questions in relation to each one. The purpose of doing this is to see if the Committee agrees, disagrees or have further questions to pass along to the full Advisory Council and the Board.

Chairperson Glueck suggested the Committee be careful when interrupting the study by Dr. Pastor and to keep strong emphasis on a big factor that he identified, which was the language barriers and the one that Dr. Pastor did not mention was education. Chairperson Glueck

stated that the economic constraints that put people in certain situations versus their educational constraints should be weighed carefully in terms of how the Committee addresses recommendations as well as the findings as they were presented.

Dr. Huang questioned staff about the priority of this issue with regard to the Air District's Board of Directors. Mr. Hilken's response to Dr. Huang noting that this is a very high priority and that the CARE program was created 3 years ago and the Board of Directors have been very strong supporters of the program, allotting resources in the budget. The idea behind the CARE program is to have a very robust regulatory program for criteria pollutants, a number of programs to reduce toxic emissions, but felt that there is more to do to try and identify the communities that are most affected by toxic air contaminants, those communities where the most vulnerable members of society live and really target mitigation strategies in those areas. This was the purpose of creating the CARE program, receiving strong support from both the Executive Officer and the Board of Directors.

The Committee discussed the following:

Guiding Principle #1: Cumulative Impacts – Does BAAQMD accept the bottom-line conclusions that “environmental inequity is alive and well in the Bay Area” and that there is a “separate and independent effect of race on estimated pollution burdens”?

The Committee agreed with the conclusion.

Guiding Principle #2: Social Vulnerability – How Does BAAQMD already take into account factors of social vulnerability? How could we do better?

Mr. Hilken noted the Air District has resource teams that work in the various communities which include East Palo Alto and Richmond that meet bi-monthly to talk about issues as well as a facilitator that works with the communities. Mr. Hilken also noted the risk assessments as part of the permitting process, and there are very conservative assumptions about exposures that conform to state guidelines.

Past information reported earlier is that with some of the CARE findings, is that the Air District has targeted the Carl Moyer Grants in communities that are most impacted by all toxic emissions, particularly diesel. In the past rounds of the Moyer process, the Air District has targeted 50% of the funds in communities most impacted by toxic air contaminants using the CARE data.

Members questions one which included the concerns of communities that do not have monitors in place at this time. Mr. Lew responded that there are a series of monitors and quality assurances currently in place. Mr. Lew also noted that monitors are specifically located at the request of the community members. Mr. Hilken interjected, noting that there are mobile monitors that can be moved but are limited in quantity.

Dr. Holtzclaw asked what type of speciation is conducted to determine the location/source of the pollutants. Mr. Martien responded that there are 20 plus stations throughout the Bay Area where samples are placed for toxic air contaminants. The ARB has 2 or 3 where they sample for a fuller sweep of contaminants. Some of the information obtained can be used to determine the source, but air contaminants have multiple sources and look very similar.

Mr. Dawid questioned staff about the areas that have the worst air quality in the Bay Area and that he does not feel that it is associated with race or ethnicity including Livermore and San Martien, asking staff explain the aspect of air quality and environmental justice.

Mr. Hilken's response was that it is a matter of the pollutant. As ozone levels tend to be highest in the hot inland valleys and Livermore, Santa Clara Valley and eastern Contra Costa are where the highest ozone levels are noted. This past winter, the most exceedances were in Vallejo and San Jose. Mr. Hilken noted that air toxics from some of the CARE maps that were shown indicate the highest concentrations included northeast San Francisco, western Alameda and Contra Costa Counties, and some in the Santa Clara Valley, as it depends on the pollutant.

Ms. Drennen asked if the Air District has a plan in place for having more air quality monitoring and actually determining the proactive prevention of pollution. Mr. Hilken responded to Ms. Drennen, informing her that this is the intent of the CARE Program. Mr. Martien also informed Ms. Drennen that the Air District has compiled an emission inventory in the first phase of the CARE program to look at where the toxic air contaminants are high and it has identified that West Oakland and part of San Francisco as being high. The focus at this time is West Oakland for numerous reasons, partly because there is a health risk assessment going on associated with the port and also because of the CARE program having identified that as a region that should be looked at carefully for additional monitoring in the Air District's budget, apart from the Environmental Protection Agency (EPA) grant.

Mr. Martien also informed Ms. Drennen that the idea is to use the data, to screen and find where the Air District should be focusing its efforts and then to really dig in to understand what is happening within that neighborhood. Lastly, Mr. Martien noted that the CARE program should also come up with mitigation strategies for example, the Green Ports Initiative that the Air District is currently working on.

Mr. Huang expressed concerns about the Air District having enough data to have measures in place instead of continuous monitoring. Mr. Hilken replied that the CARE program's technical analysis and the mitigation strategies go parallel and that the Air District not wait for years before anything is done. The use of Moyer funds have been targeted in communities impacted the most, and each year it has been revised and the past call for projects where the CARE data was used to target those Moyer funds in those impacted communities. The Green Ports Initiative is intended to reduce emissions from the Bay Area Ports, the Port of Oakland being the largest because there are serious air pollution impacts from port activities.

Mr. Martien noted that the purpose of the additional studies as we know that diesel PM is bad and it is bad in West Oakland, but for example there is high diesel PM from ships and there is also high diesel PM from trucks.

Dr. Holtzclaw questioned if the Moyer funds could be used for putting in facilities for cold-ironing? Mr. Hilken's response was that it could potentially be used for that, but the Moyer requirements from ARB have very specific cost effectiveness thresholds that have to be met. Therefore, typically the cold-ironing may be more costly.

Guiding Principle #3: Meaningful Community Participation – How effective are our current outreach strategies for reaching communities of color and other communities affected by environmental injustice? How can we do better?

Ms. Drennen noted that it was mentioned earlier that the Air District has a responsibility to reach the entire region, and wanted to know how effective is the Air District reaching these particular populations and how do we know that we are effective?

Mr. Lew indicated that the Air District has translation services at all public meetings and works with community groups to identify and send out multiple notices in the various languages.

Mr. Dawid suggested if the Air District is going to target specific areas, not necessarily targeting areas that are associated with traditional environmental justice, there is a preference of targeting areas that are associated with some kind of pollution geographic, which would encompass the affluent pollution areas, which include areas that are associated with criteria pollutants, for instance areas with woodsmoke.

Mr. Lew informed Mr. Dawid that there is currently 6 other resource teams that meet every other month and the group takes on several issues with the communities in San Francisco, Tri-Valley and Napa. The group is aggressive in outreach, not only to the impacted “environmental justice” communities, but to all 9 counties.

Dr. Holtzclaw suggested that the Air District fund or provide grants to help communities in low income, low English language and neighborhoods, without any reporting requirements, etc. Mr. Lew responded by informing Dr. Holtzclaw that the Air District has provided many innovative grants, in particular the communities have asked for training on how to better participate in the environmental process, and how to better participate in community meetings with regulatory agencies.

Mr. Huang recommended the Air District seek out champions. The champions would consist of individuals who have an interest and has dedication to the community, but does not have the means to advocate.

Mr. Hilken also noted that as part of the CARE program, there is a CARE Task Force that advises staff and provides input and draft materials as part of the CARE program, which is comprised of community members, environmentalists, business, government, academics, health professionals and a variety of representatives and several community representatives that are on the task force that are very active in their communities and that participate regularly in the CARE Task Force.

Ms. Drennen commented that one of the proposals noted by Dr. Pastor was that the CARE program should be revised to provide more detail for neighborhood level analysis, and thought there was not enough detail according to the author.

Mr. Martien responded that the Air District is attempting to do additional monitoring, because in other communities where they have done health risk assessments, and Mr. Martien noted that the reporting can be difficult as there are many communities and to really make fine scale measurements. For a finer level of detail, one would need to go out to the

neighborhoods and make measurements, and the EPA grant that the Air District proposed would address that.

“Develop real community-based participatory research projects.”

Ms. Drennen acknowledged that this was touched upon earlier, with regard to the innovative grants that have been distributed and was wondering if there was a permanent structure of how to fund some of these projects. Also, if there was a particular grant program that was specifically for doing that type of work, that might spark community interest in doing some of these projects that the Air District might not otherwise get if it was just an open project.

Mr. Martien’s comment to Ms. Drennen’s statement noted that one of the things that the Air District is planning to do in West Oakland is a traffic survey of trucks and part of that is planning to work with the community to help the Air District do surveying of traffic in the area, stating that this is something that the community people has done in the past and the Air District is hoping to get community participation along with the survey.

Guiding Principle #4: Meaningful Action

Ms. Drennen mentioned that a lot of the issues that were brought up relate to data sets and the effectiveness of the data sets and access to the data sets. Ms. Drennen asked if there are data sets that the Air District is not sharing with individuals and Mr. Hilken replied no, unless it is trade secret, as everything is available. Mr. Martien noted that the CARE emissions data are available as well.

Ms. Drennen asked about the proposal of collaborating more with stakeholders to expand inventories of unregulated resources and requested a response from staff. Mr. Martien replied informing Ms. Drennen that the Air District does have sources that are unregulated and that the Air District does make estimates for in the CARE inventory and that if there are things that the Air District is not aware of then, obviously there is no inventory.

Dr. Huang noted that in terms of collaboration, if the Air District is collaborating with the other 2 regional agencies, MTC and ABAG in some of the issues that the Air District is dealing with and if so, to what extent. Mr. Hilken noted that the Air District has worked with ABAG and MTC for many years, and more recently the Joint Policy Committee (JPC) was created a few years ago by state legislation and its 7 representatives from the Air District Board, the MTC Commission, ABAG Board, and the Bay Conservation and Development Commission (BCDC). They meet regularly, specifically to promote better coordination between the agencies. A lot of the work that they have looked at recently, has been on some of the Smart Growth visioning process which is going on around the bay area. They have also looked at climate change. They have also discussed issues related to exposure to air pollutants and that last year they had individuals from ARB and spoke about the Land Use Guidance Handbook that was published last year. There have been discussions on a number of occasions about the tension between all of our interests in promoting smart growth, infill, and compact development.

Ms. Drennen noted that the thing she found most interesting in the report was the idea of a cumulative impact approach versus the more generalized site specific approach regulatory wise. She asked how does this approach sit with the Air District and if it is different than

what is currently in place. Mr. Hilken responded by saying that Mr. Martien noted that this is the purpose of the CARE program. It is not done as a part of the permitting when a risk assessment or risk screens for a permit, it is just for the impacts from that facility and that is based on state guidelines Office of Environmental Health, Hazard Assessment (OEHHA), but as part of the CARE program that is the intent of it to get a more comprehensive cumulative view.

Ms. Drennen asked if the Committee members had any particular proposals or ideas after reading the report and hearing the presentation about how the Air District could respond to some of these ideas.

Mr. Dawid asked if the air quality will be better in 10 to 15 years than it is today. Mr. Hilken said that it is hard to say, because one has to factor in traffic volumes increasing, but it is certainly true that the vehicle fleet is much cleaner than it use to be and we are all aware, every year the ozone precursor emissions go down, although vehicle miles traveled increase, just because the fleet turns over, there are more newer clean vehicles on the road. The same is true for diesel vehicles, but they are further behind the curve. In the future, yes, there is more stringent State and Federal regulations for diesel vehicles and that fleet will turn over also but there is also more activity. How will this balance out; the Port of Oakland is projecting to double the amount of cargo that they handle, so the fleet will get cleaner, they are going to be moving more boxes the cumulative affect is complicated.

In reference to ARB's Land Use Guidance, Mr. Brazil asked Mr. Hilken if he sensed that other communities are actually using this. Mr. Hilken stated that San Francisco is using the guidelines. The Department of Public Health has been following this closely. The Air District has worked with them in 2005 the year the handbook was published, and the Air District co-sponsored a workshop at U.C. Berkeley on ARB's handbook. Rajiv Bhatia, M.D, the official at S.F. Department of Public Health has been very proactive and Mr. Hilken suggested that the Committee consider inviting him to a future meeting.

Mr. Brazil also asked about the guidance component of the CARE program, would there be anything from the ARB guidance included the CARE program? Mr. Hilken noted that one of the mitigation efforts the Air District plans to undertake as part of the CARE program is exactly the Land Use Guidance.

Ms. Drennen thanked staff for being responsive to this issue.

- 6. Committee Member Comments/Other Business.** There was none.
- 7. Time and Place of Next Meeting.** 9:30 a.m., Wednesday, August 8, 2007 – 939 Ellis Street, San Francisco, CA 94109.
- 8. Adjournment.** 11:24 a.m.

Vanessa Johnson
Executive Secretary

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

DRAFT MINUTES

Advisory Council Public Health Committee
1:30 p.m., Wednesday, June 13, 2007

- 1. Call to Order – Roll Call.** Chairperson Bramlett called the meeting to order at 1:35 p.m. **Present:** Chairperson Jeffery Bramlett, Janice Kim, Ph.D., Steven Kmucha, MD., Ms. Linda Weiner, and Mr. Brian Zamora. **Absent:** Ms. Cassandra Adams, and Ms. Licavoli-Farnkkoph.
- 2. Public Comment Period:** Correspondence was sent to the members of the Public Health Committee from Ms. Gross of Hayward regarding two power plants in Hayward. Chairperson Bramlett will find out more information regarding the content of the letter and follow up with a response on behalf of the Public Health Committee.
- 3. Approval of Minutes of February 14, 2007:** Dr. Kmucha moved approval of the minutes, seconded by Mr. Zamora, carried unanimously.
- 4. Continued Discussion on Indoor Air Quality (IAQ) and Asthma:** Chairperson Bramlett indicated doing two things at the meeting which included: 1) Report from Mr. Zamora on contact with the Association of Bay Area Health Officers; 2) Summary of discussions to begin preparation of a report to Chairperson Glueck and the Council.

Mr. Zamora reported that members of Association of Bay Area Health Officers expressed interest in Indoor Air Pollution and Asthma; however, they would like to focus their limited resources and attention on Particulate Matter. The Association offered the services of Dr. Tony Iton, Health Officer in Alameda County as a delegate to the Committee. Mr. Bramlett requested staff coordinate with Dr. Tony Iton for a presentation at its next meeting.

Ms. Weiner reported that the list of all Bay Area Asthma coalitions and current information she collected was given to Mr. Peter Hess, Deputy Air Pollution Control Officer. Mr. Bramlett requested staff provide the committee members with a copy.

Dr. Kmucha stated that coordinating with the County Medical Associations of Sonoma, Santa Clara, San Mateo, Alameda, and Contra Costa will be ideal because many of the Associations have Environmental or Public Health Committees and have shown informal interest in working with the Air District's Public Health Committee. Dr. Kmucha also noted that the new Chairperson of the Environmental and Public Health Committee for the San Mateo County Medical Association, Michelle

Caughey, with her Committee have identified six potential topics out of numerous lists with asthma as a priority. Dr. Kmucha is on that Committee and will act as a liaison. He also stated that San Mateo County Supervisors have set up a panel to decide what to do with the uninsured and under-insured. The panel will deliver their recommendation of extending coverage to about 400% of poverty and work on preventive care and the treatment of chronic illnesses.

Mr. Bramlett suggested that before the next meeting, a list of county medical associations with contact information and addresses be created and attached to the recommendations that will be submitted to Chairperson Glueck. Dr. Kmucha will draft a list and bring to the next meeting.

Dr. Kim echoed that she spoke recently at the Santa Clara County Medical Association, which has a very active environmental health group. She commented that one of the priorities of the medical association is to address indoor air quality. Dr. Kim also noted that with regards to the state, there are potential resources for funding opportunities because there are various agencies in the state system that are very involved in environmental issues related to asthma. Dr. Kim stated that there are websites that have fact sheets in different languages that talk about asthma.

Mr. Bramlett reminded those present that request the Committee on Indoor Air Quality and Asthma was refined in February 14, 2007 meeting. The changes include the Air District request for recommendations regarding its role on interfacing with the public, county health officers, and non governmental agencies on asthma as it relates to air quality (indoor and outdoor). Mr. Bramlett also stated that the next step will be to come up with a written draft to guide the project.

Dr. Kmucha questioned if the Committee had met the request of Air District staff with regards to indoor air quality and the role that the Air District will play in controlling indoor air quality.

Mr. Bramlett responded that the concern expressed by the Air District was that of the public calling for assistance from the Air District. Also, the staff would like both short and long term advice in order to respond to this issue accordingly. Mr. Bramlett requested staff be present at the next meeting to confirm this request or to clarify for the Committee what is wanted.

Dr. Kim suggested that some long term plans the Air District may consider would be acknowledging tobacco smoke as a problem in our communities, the state is planning to put emission standards on some products that are sold in California, the Air District can develop policies on the use of products with low emission as an example.

Ms. Weiner added that the comprehensive list of regional resources and internal audits of toxicity and emissions within the Air District is a good project. She also commented that the state level is coming up with lots of regulations on emissions that will fall upon local agencies.

Mr. Bramlett then reviewed past discussions of the committee as they related to the standard report format (i.e. importance and or implications, key issues, recommendations). With respect to importance and or implications, particular attention was given to asthma triggers and review of those most related to the Air District's area of influence – environmental irritants. General environmental exposures like allergens, animals, plants, protein, irritants, weather changes, viral signs infections, exercise, reflux disease, medication, food and anxiety have been linked to the exacerbation of asthma.

Irritants, triggers most related to the Air District's area of influence, discussed included air pollutants like tobacco smoke, wood smoke, chemicals, ozone, occupational exposures to dust, gasses, fumes, strong odors like perfumes, household cleaners, cooking fumes, particulates from frying, paints and furniture, coal, chalk, talcum powder, changing weather conditions. Some of these issues, the Air District is working on and some are beyond its boundary.

Mr. Bramlett also reviewed possible corrective actions the committee has discussed previously. This included the following items for consideration:

1. Continue current efforts in controlling chemicals in the air including industrial/occupational vapors, dust, gasses and fumes. This also includes existing efforts to address ozone, industrial and restaurant cooking fumes, paints and vanishes, and many other types of airborne particulates.
2. Continue work to reduce the impacts of wood smoke on the general population and for the benefit of asthma sufferers.
3. Develop and distribute a pamphlet for the District's own use that supports existing agency and non-governmental organization's work in this area. One way this might be done is by preparing information similar to that of the California Air Resources Board.
4. Encourage callers to work with a health care provider to obtain an accurate diagnosis, identify triggers, remove or control triggers.
5. Train District staff on the background, science, relative to the relationship between indoor and outdoor air quality and asthma.
6. Increase the coordination with County Health Officers and organizations that results in:
 - a. More collaborative effort in which air quality facts (i.e., sample results) may aid health officer/agency work to reduce asthma triggers and cases.
 - b. More efficient response to callers by referring them more accurately to the correct resource at the caller's local (county) level.
 - c. Work with schools, and through public health nurses where available, to disseminate the District's information.
 - d. Provide callers with a list of references that are sensitive to people of different language preferences and who may not have internet access (physical or ability).

- e. Include in appropriate media releases, in addition to the other information, consistent educational message that when the air quality is poor, a person can have an exacerbation of respiratory and cardiac problems. Also that there are many triggers that exacerbate asthma and, that on any day when a person has an exacerbation, it is due to days or even weeks of accumulating effects that result in the episode.
7. Develop program measures to track volume of calls, type of referral made, number of inspections made, classification of inspection conclusion as to if trigger is thought to be primarily due to an indoor or outdoor source.
8. Keep the Advisory Council informed as the program reaches significant milestones in its development and implementation.

Dr. Kim commented on the relationship between indoor and outdoor air quality. She stated that ozone is a reactive molecule and ambient levels can react with certain cleaning products and furnishings in the house but relatively low. The outdoor air pollution gets indoors especially with living close to the freeways.

5. Committee Member Comments/Other Business:

- Ms. Weiner suggested that the Committee can meet in the smaller room if there are no public speakers or presentations.
- Mr. Bramlett related that Mr. Hess is retiring and members are welcome to make donations for a gift for Mr. Hess.
- Dr. Kmucha made a suggestion to the Committee of inviting someone to talk on the health effect of traffic exposure on people sitting for a long period of time with regards to outdoor pollutants and indoor due to lack of availability of fresh air.
- Dr. Kim stated that she would be happy to make a presentation on the “health impact of residential proximity to busy roads”; there are epidemiologic studies and the mechanics involved with it.
- The Committee agreed that Dr. Kim will make a presentation on “residential proximity and indoor exposure to pollutants.” This presentation is tentative and Chairperson Bramlett will inform other sub committees to see if they are interested in the presentation.
- Dr. Kim also mentioned work she and her colleagues are doing on the health impacts of climate change and suggested this may be of interest. The Committee agreed and Mr. Bramlett will look into inviting members of the other committees.
- Mr. Bramlett surveyed members present to determine if enough would be able to attend the August meeting. As not enough were able to attend, the meeting was canceled.

6. Time and place of next meeting: Wednesday, October 10, 2007, 939 Ellis Street, San Francisco, CA 94109.

7. Adjournment: The meeting adjourned at 2:35 p.m.

Chioma Dimude
Acting Executive Secretary

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109
(415) 749-5000

APPROVED MINUTES

Advisory Council Executive Committee
9:00 a.m., Wednesday, July 11, 2007

- 1. Call to Order – Roll Call.** Chairperson Glueck called the meeting to order at 9:05 a.m.

Present: Fred Glueck, Chairperson, Sam Altshuler, Ken Blonski, Jeffery Bramlett, Kraig Kurucz, Emily Drennen, and Louise Bedsworth, Ph.D., (9.11 a.m.).

Absent: Harold Brazil.

- 2. Public Comment Period:** There were no public comments.

- 3. Approval of Minutes of May 9, 2007:** Mr. Altshuler provided edits to the minutes that will be incorporated into the final version. Mr. Bramlett moved approval of the minutes; seconded by Mr. Kurucz. Upon conclusion of the revisions of the minutes, Chairperson Glueck called for approval of the minutes. The minutes carried unanimously.

- 4. Committee Reports:**

A) Technical Committee Meeting of June 11, 2007: Mr. Altshuler reported that Dr. Tom Cahill, Professor of Atmospheric Science, University of California Davis delivered a presentation to the Committee on “New data on heavily traveled secondary roadways and their mitigations.” Key measurements include PAH levels comparable around possible situations, lube oil used in studies and inhalation of PM. Dr. Cahill talked about the differences between cut section freeways and elevated freeways; how these freeways attract PM. Dr. Cahill also stated how certain wind speed cause vegetation to act as filters especially redwood trees. Mr. Kurucz added that Dr. Cahill also talked about the data collected from other parts of the world such as the impact from emissions in China. Mr. Altshuler announced that the next Technical Committee meeting will be on August 6, 2007. Dr. Mark Jacobson will present to the Committee; his work on “Health Effects of Ethanol and Black Carbon, as it relates to Greenhouse Gases.”

B) Planning Committee Meeting of June 13, 2007: Mr. Blonski asked Ms. Drennen to report out on the Committee meeting that she chaired. The Committee received a report from Air District staff on the Spare the Air program. A discussion regarding Dr. Manuel Pastor’s presentation ensued. Staff reported on its perspective on the

presentation with regards to the Air District's CARE program. The Committee also discussed four guiding principles of Social Vulnerability, including Technical analysis, mitigation, outreach strategies and translation services.

C) Public Health Committee Meeting of June 13, 2007: Mr. Bramlett reported that every member of the Committee received a letter from a concerned citizen with regard to two power plants being built in Hayward. Mr. Bramlett requested guidance on response to the letter. Chairperson Glueck advised that Mr. Bramlett write a letter to acknowledge the individual's concern as well as receipt of the letter.

Mr. Brian Zamora reported on Indoor Air Quality (IAQ) and Asthma and his meeting with county health officers. Dr. Tony Iton will be contacted for a presentation to the Committee. There was a suggestion to look into "Health Effects of Traffic Exposure to Heat." Dr. Kim will make a presentation to the Committee at its next meeting and other Committees are invited to attend.

Dr. Bedsworth requested that agenda packets for each committee be distributed to the entire Council.

Mr. Bramlett announced that the next Public Health Committee meeting will be on October 10, 2007.

5. **Overview of Chairperson Glueck's report to the Board of Director's Executive Committee Meeting of May 30, 2007:** Chairperson Glueck reported that his report was brief; the Executive Committee appreciated the Council's effort and the Technical Committee for comparing the MATES and CARE programs.
6. **Discussion of Possible Advisory Council Committee Re-Designations:** Mr. Kurucz proposed possibly renaming committees to better reflect Air District initiatives (example; Transportation Committee, Climate Protection Committee, Alternative Energy Committee and Monitoring/Planning Committee.)

Chairperson Glueck advised the Committee to pursue Mr. Kurucz's comments as objectives for their next meeting on how to better define the committees. Mr. Glueck suggested that Dr. Bedsworth, as the incoming Chairperson, organize an executive committee meeting for August to discuss the issue of redefining the committees.

Chairperson Glueck also requested that staff brief the Council on key initiatives from the Board prior to the Advisory Council retreat.

Mr. Peter Hess, Deputy APCO commended the Council on its duties and stated that the design and structure of the council was developed years ago and was directed towards issues at that time. He noted that the committee structure change was long overdue. He advised that the Committee should make restructuring recommendations to Jack Broadbent, Executive Officer /APCO.

Chairperson Glueck asked Dr. Bedsworth to arrange for an Executive Committee meeting in August prior to the September 12, 2007 meeting. He stated that guidelines should be developed prior to its presentation to the Council. Council members should

respond to their committee Chair and the Chair will report to the Executive Committee.

7. **Committee Member Comments/Other Business:** There was a report on A&WMA attendance.
8. **Time and Place of Next Meeting:** 9:00 a.m., Wednesday, September 12, 2007, 939 Ellis Street San Francisco, CA 94109.
9. **Adjournment:** The meeting adjourned at 10:02 a.m.

/s/ Chioma Dimude
Chioma Dimude
Acting Executive Secretary

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109
(415) 749-5000

DRAFT MINUTES

Advisory Council Regular Meeting
10:00 a.m., Wednesday, July 11, 2007

CALL TO ORDER

Opening Comment: Chairperson Glueck called the meeting to order at 10:05 a.m.

Roll Call: Present: Fred Glueck, Chairperson, Cassandra Adams, Louise Bedsworth, Ph.D., Ken Blonski, Jeffrey Bramlett, Sam Altshuler, Harold Brazil (10:17a.m.), Irvin Dawid, Emily Drennen, MPA, John Holtzclaw, Ph.D., Janice Kim, MD, Ph.D. (10:07a.m.), Steven Kmucha, MD, Kraig Kurucz, Linda Weiner, MPH, and Brian Zamora.

Absent: Robert Bornstein, Ph.D., William Hanna, Robert T.P. Huang, Ph.D., Karen Licavoli-Farnkopf, MPH, and Ed Proctor.

PUBLIC COMMENT PERIOD: There was none.

CONSENT CALENDAR:

1. Approval of May 9, 2007 Minutes: Dr. Holtzclaw moved for approval of the minutes. Mr. Zamora provided a correction to the spelling of his name. Mr. Altshuler also provided revisions to the minutes that will be incorporated in the final version of the minutes. Mr. Bramlett second approval of the minutes, carried unanimously.

COMMITTEE REPORTS:

2. Technical Committee Meeting of June 11, 2007: Mr. Altshuler reported that Dr. Tom Cahill, Professor of Atmospheric Science, University of California Davis delivered a presentation to the Committee on “New data on heavily traveled secondary roadways and their mitigations.” Key measurements included: PAH levels comparable around possible situations, lube oil used in studies and inhalation of PM. Dr. Cahill talked about the differences between cut section freeways and elevated freeways; how these freeways attract PM. Dr. Cahill also stated that certain wind speeds cause vegetation to act as filters especially redwood trees. Mr. Kurucz added that Dr. Cahill also talked about the data collected from other parts of the world such as the impact from emissions in China. Mr. Altshuler announced that the next Technical Committee meeting will be on August 6, 2007. Dr. Mark Jacobson will present to the Committee his work on health effects of “Ethanol and Black Carbon as it relates to Greenhouse Gases.”

3. Air Quality Planning Committee Meeting of June 13, 2007: Mr. Blonski asked Ms. Drennen to report out on the Committee meeting that she chaired. Ms. Drennen stated that the Committee received a report from Air District staff on the Spare the Air program. A discussion with regards to Dr. Manuel Pastor's presentation took place and District staff reported out on its perspective with regards to the presentation as it relates to the Air District's CARE program. The Committee also discussed four guiding principles of Social Vulnerability; including Technical analysis, Mitigation, Outreach Strategies and Translation Services.

4. Public Health Committee Meeting of June 13, 2007: Mr. Bramlett reported that every member of the Committee received a letter from a concerned citizen with regard to two power plants being built in Hayward. Mr. Bramlett requested guidance in response to the letter. Chairperson Glueck advised that Mr. Bramlett write a letter to acknowledge the individual's concern as well as receipt of the letter.

Mr. Brian Zamora reported on Indoor Air Quality (IAQ) and Asthma and his meeting with county health officers. Dr. Tony Iton will be contacted for a presentation to the Committee. There was a suggestion to look into "health effects of traffic exposure and heat." Dr. Kim will make a presentation to the Committee at its next meeting and other Committees are invited to attend. Dr. Bedsworth requested that agenda packets for each committee be distributed to the entire Council.

Mr. Bramlett announced that the next Public Health Committee meeting will be on October 10, 2007.

Ms. Weiner referenced the public comments on the power plant construction in Hayward; organizations are opposing the construction because it is out of compliance due to offsetting its emission credit; in addition, the site is within one mile of schools and residences.

5. Overview of Chairperson, Glueck's Report to the Board of Directors' Executive Committee Meeting of May 30, 2007: Chairperson Glueck reported on his report to the Executive Committee. Mr. Glueck gave a synopsis of each of the Committee meetings held in April.

PRESENTATION

6. Overview of ARB Mobile Source Programs from the State Perspective: Mr. Michael Murphy, Advanced Project Advisor gave a presentation on Air Resources Board (ARB) Mobile Source Program. The presentation focused on some of the recent endeavors by the ARB as well as some from the Energy Commission. The context of the presentation included:

- Emissions from Mobile Sources in the San Francisco Bay Area
- State Programs to reduce emissions

Mr. Murphy reviewed ARB's regulatory efforts which included:

- **Progressively lower emission limits on new engines/vehicles**
 - Review of Zero Emission Vehicle Regulations
 - Renewed prospects for battery electrics; role of plug-in hybrids
 - On Board Diagnostics for heavy duty engines
 - Remote Sensing Equipment to improve SmogCheck

- **Specifications for Clean Fuels**
 - Reformulated Gasoline – Phase 3
 - Ultra Low Sulfur Diesel (15 ppm)
 - Low Carbon Fuel Standards

- **Diesel Risk Reduction Program**
 - Adopted Regulations
 - Transit Buses
 - Garbage Trucks
 - Public Fleet Vehicles
 - Idling limits for School Buses and Trucks
 - Stricter controls on stationary engines
 - Low-sulfur fuel for auxiliary engines on Ocean going vessels
 - Cargo Handling Equipment
 - Statewide Locomotive MOU

- **Diesel Risk Reduction Program**
 - Pending Regulations: 2007 – 2008
 - Construction and other off-road equipment
 - Commercial trucking
 - Port/Inter-modal Trucking
 - Harbor Craft
 - Shore power for ocean going vessels
 - Low-sulfur fuels for propulsion engines in ocean going vessels
 - Ocean going vessel speed reduction
 - Allocation of \$1 billion in bond revenue

Mr. Murphy added that Goods Movement Emissions Reduction Plan adopted a year and a half ago focused on international trade corridors. This will be a guiding document in prioritizing the allocation of \$1 billion in bond revenue.

AIR DISTRICT OVERVIEW

7. Report of the Executive Officer/APCO: Brian Bunger, the District Counsel reported on the following on behalf of the Executive Officer.

1. Announcing that the Air District has adopted its fiscal year 2007/2008 budget.
2. The first exceedance of the 8-hour national ozone standard for the 2007 ozone season occurred on Thursday, July 5th, at Livermore – 91 ppb (116 AQI). There were also exceedances of the State 8-hour and 1-hour ozone standards on July 4th and 5th. The 4th and 5th of July had high temperatures. The highest temperatures occurred at Livermore, reaching 102° on Wednesday and 106° on Thursday.
3. The woodsmoke rule is in the development phases with a kick off workshop in the next several weeks. On the green port initiative which is a major rule making; the Air District will convene

a working group of interested parties in late August, afterwards; the rule will be taken to the Board of Directors next year.

OTHER BUSINESS

- 9. Report of the Chair:** Chairperson Glueck stated that the Executive Committee discussed the basic item of review of the committee structure within the Advisory Council. Each Committee will discuss for input on modernization and current status for descriptions of committees and issues. This will help assist the Air District better so that discussion topics for the preceding/upcoming year will be more in tune with the current issues. Mr. Glueck noted that there will be updates later.
- 8. Recognition of Peter F. Hess, Deputy Air Pollution Control Officer:** Chairperson Glueck gave a brief review of Mr. Hess' achievement. He noted that Mr. Hess has been with the Air District since 1974 and had served as Deputy Air Pollution Control Officer since 1979. Mr. Glueck also mentioned Mr. Hess' positions held and his work to help attain better air quality in the San Francisco Bay Area. Mr. Glueck presented to Mr. Hess a plaque and a gift from the Advisory Council.

In response, Mr. Hess thanked the Council and expressed his appreciation for their work and urged them to keep up their efforts towards maintaining cleaner air quality in the Bay Area.

- 10. Committee Member Comments/Other Business:** Mr. Dawid informed Council members and staff that California progress report can now be viewed on the public website. The website currently has letter from a former council member; Bob Sawyer to the Governor. Comments can be posted on the website.

Mr. Glueck thanked the Council members that attended A&WMA.

Mr. Kurucz and Mr. Altshuler expressed their appreciation for working with Mr. Hess.

- 11. Time and Place of Next Meeting:** 10:00 a.m., Wednesday, September 12, 2007, 939 Ellis Street, San Francisco, CA 94109.

- 12. Adjournment:** The meeting adjourned at 12:05 p.m.

Chioma Dimude
Acting Executive Secretary

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

DRAFT MINUTES

Advisory Council Technical Committee
9:00 a.m., Monday, August 6, 2007

1. **Call to Order:** Chairperson Sam Altshuler, P.E., called the meeting to order at 9:05 a.m.

Roll Call: Sam Altshuler, P.E., Chairperson, Louise Bedsworth, Ph.D., Robert Bornstein, Ph.D., John Holtzclaw, Ph.D., and Kraig Kurucz.

Absent: William Hanna.

2. **Public Comment Period.** There were no public comments.

3. **Approval of Minutes of April 16, 2007.** The Committee provided a number of minor revisions to the minutes that will be incorporated into the final version. Dr. Holtzclaw moved approval of the minutes; seconded by Dr. Bedsworth. Upon conclusion of the revisions of the minutes Chair Altshuler called for approval and the draft minutes were approved unanimously.

Approval of Minutes June 11, 2007. The Committee provided a number of revisions to the minutes that will be incorporated into the final version. Mr. Kurucz moved approval of the minutes; seconded by Dr. Holtzclaw. Upon conclusion of the revisions of the minutes Chair Altshuler called for approval and the draft minutes were approved unanimously.

4. **Presentation on “Evaluating the use of Ethanol and its Impact on Ozone and Public Health as well as an Update on Carbon and Climate Change”:** *Dr. Mark Jacobson, Professor of Civil Environmental Engineering at Stanford University, will present to the Committee his recent work on evaluating the use of ethanol and its impact on ozone and public health as well as an update on carbon and climate change.*

Chairperson Altshuler introduced Mark Jacobson of Stanford University stating that Mr. Jacobson met with the Committee 4-5 years ago with a presentation on Black Carbon. Dr. Jacobson recently published an article about “Ethanol and Implications in Public Health,” that was highly publicized. Mr. Altshuler thanked Mr. Jacobson for joining the Committee.

Mr. Jacobson talked about 2 different studies one being the ethanol study and the other, the latest research on black carbon. In addition, Mr. Jacobson reviewed the various energy sources, to look at solutions for energy, climate and air pollution issues in California in general.

Mr. Jacobson spoke on a larger scale of global warming and the causes of global warming. Various chemical contributions included:

- Greenhouse Gases;
- Fossil-Fuel Soot Particles;
- Urban Heat Island;
- Cooling Practice; and
- Net Observed Global Warming

The net observed global warming in 1750 is about .7 degrees to .85 degrees kelvin. Numerical simulations of greenhouse gas causes, versus particle causes. Greenhouse gas cause about 1.5 to 1.6 degrees kelvin warming and soot particles from fossil fuel sources including diesel tractors, off-road equipment and jet fuel is also included and is about .3 degrees kelvin, as well as urban heat island effect. This is done by numerical simulations that run on a global scale coming from the sub-grid urban surfaces. These are less than about .1 kelvin from the simulation and the total warming components are about 1.9 kelvin from the simulations and then offsetting that are these particles that are causing cooling, which are non-sent particles primarily, sulfates, nitrates, ammonia and organic carbon that doesn't warm, as these offset enough warming to cause the net observed change, so the implication of this is profound because as air pollution particles in particular, which you would want to do from the health ground, so that you can unmask a lot of this hidden warming that has occurred due to greenhouse gases.

Mr. Jacobson noted that in no way, do not want to control the particles, as you definitely do because the health implications are so significant. It really means that we have to control the greenhouse gases quickly as well. Dr. Holtzclaw asked what is the difference between the particle size and character. Mr. Jacobson's response referred to the slide entitled Fractal Soot Agglomerates (Arrows) Coated by Ammonium Sulfate, that shows numerical modeling. This slide depicts the size distribution of particles on a global scale and accounts for discrete size resolution from 1 nanometer up to 50 micron size particles. From diesel, that size distribution includes the lubricant oil for example, the soot mode and also the larger soot for other components. The evolution of these particles with size over time, accounts for coagulation, condensation and other types of internal mixing of chemistry on the particles, interaction of the particles with clouds and with gases and the removal through rain out and wash out through cloud processing.

It accounts for the composition of the particles as well. In each particle size there are several size distributions. There is an emitted soot size distribution if they treat the emissions of the soot. Then there is emission of other things and other size distributions and each size distributions interact with each other as well and they exchange proponents and the soot itself is broken down into black carbon, primary organic carbon and secondary organic carbon and then there is sulfate and nitrates, as sulfate is part of the emissions as well and ammonium and sodium chloride, potassium, calcium magnesium, etc.

Mr. Altshuler asked if this study has been published and Mr. Jacobson's response was that the fossil fuel soot component had been published in 2003.

Dr. Bornstein asked if the numbers are comparable to IBCC's numbers, since it is not per 100 years, the numbers reflect over 160+ years or so. Mr. Jacobson's response was that IBCC's

bar graph is a regular forcing bar graph, and what is displayed is the temperature change bar graph so IBCC does not actually have the same bar graph but their bar graph is comparable.

The controlling emissions include a time dependence of the effects of different greenhouse gases versus particles. When comparing fossil fuel soot, which is causing warming and CO₂, CO₂ has a much longer lifetime in the air. Its lifetime is from anywhere from 30 to 60 years (lifetime is the time that something would decay to one over E its initial value); not the total time that it will stay in the atmosphere, but will decay to about 1/3 its initial value. Soot only has a lifetime of only a few weeks in the atmosphere. If you control soot, then its effects will start to occur immediately.

Temperature responses will take many years because you will have feedback to the oceans, which do not equilibrate for a long time. This shows that if you reduce emissions or eliminate emissions from anthropogenic sources of CO₂ the change of temperature will respond for different lifetimes of CO₂, which individuals should focus on the 30-50 year as it is more realistic. You will see the full response of CO₂ over 100 years, but not right away. The controlled fossil fuel soot shows a much quicker response and you can get a greater reduction in temperatures over a shorter period. Over the longer period obviously, the CO₂ is going to have the greater affect.

Methane which has a 10 year lifetime, and the closest magnitude overall as soot in controlling, but with controlling soot would have the fastest effect in slowing global warming and would be good for human health reductions. Overall, CO₂ needs to be controlled.

Mr. Jacobson noted that there was a Supreme Court decision that came down a few months ago, about the U.S. Environmental Protection Agency (U.S. EPA) being required to consider CO₂ as a health hazard. If you look at the supreme court decision, it was based on the effect of CO₂ but through its feedback to the change in extreme heats that would effect peoples health through heat exposure, disease, sea level rise, and all sorts of effects of CO₂ ocean citification, but no where in the decision did it discuss the actual health effects of CO₂ and how to cut back the air pollution.

Mr. Jacobson informed the Committee that he decided to conduct a study that looked at the effects of carbon dioxide on human health through its effect on air pollution, through its feedback to air pollution, through the changes in temperature and through the changes of water vapor. Others have looked at what are the effects of ozone through temperature changes, but no one has actually looked at what is the effect on health or actually isolating CO₂, as oppose to other the greenhouse gases and also looking at the mortality and also through its effect on water vapor.

Through a numerical solution, Mr. Jacobson proves that carbon dioxide when it increases water vapor it will increase ozone in urban areas, but will decrease in rural areas. Mr. Jacobson refers to urban areas as an area with high NO_x as in the presence of high NO_x or water vapor, due to any type of warming that will occur will increase ozone. If you travel to a rural area where the NO_x is low, you get the opposite affect that ozone with the higher water vapor. The ozone decrease and the temperature have very little influence, causing a slight decrease. That by cause and effect that carbon dioxide damages people's health through its affects on temperature and water vapor.

Dr. Bedsworth asked about the current U.S. death rate of for PM2.5. Mr. Jacobson's response was that the estimate is about 50,000 to 100,000 people die of air pollution each year. Ozone death from vehicles is about 6,000 to 10,000 people.

Dr. Bornstein asked what affect is the dominant one that tends lower the ozone in rural areas. Dr. Jacobson replied that by indicating that higher temperatures actually get more emissions of organics from vegetation, which intends to increase ozone in most rural areas. The temperature increase in rural areas is not decreasing ozone it just is not changing. The only thing to decrease the ozone with higher temperatures in rural areas is with higher water vapors.

Mr. Altshuler asked how does water vapor affect the ozone? Mr. Jacobson responded that this is done through the chemistry in the air feeding back to channeling NO_x. It catalyzes NO_x production of ozone in urban areas and catalyzes removal of NO_x in urban areas. There is an increase of NO_x in urban areas and a decrease in the rural areas.

Mr. Altshuler asked a question directed to staff if staff included water vapor or humidity in the ozone models? Gary Kendall, Division Director, Technical Services indicated that he did not have the answer, and would provide the Committee with an answer at a future meeting.

Kelly Wee, Division Director, Compliance & Enforcement requested clarification of the CO₂ affect on increasing the water vapor mechanism. Mr. Jacobson's responded that is done through evaporation through oceans, lakes and soil water. Mr. Wee asked if it had a significant effect in the urban areas and Mr. Jacobson stated that it does.

Mr. Kurucz asked about the magnitude of people affected negatively, as the averages in appearing in the study does not make sense. Mr. Jacobson's response was to put it in perspective the calculations are based on 2020, where gasoline will kill at least 10,000 people per year. Therefore, the E85 would then be 10,200 people per year. Dr. Bornstein agreed that it would be better to show the number of people who die, that would not have died and also the number of people who did not die.

In 2020, gasoline diesel killed 10,000 – 20,000 compared to different technologies including battery electric vehicles powered by wind and solar. Hydrogen fuel cell vehicles had zero deaths per year.

The most recent and updated study looking at the lifecycle assessment of ethanol emissions in terms of carbon effect is by Mark Delucci at U.C. Davis. Mr. Jacobson stated that Mr. Delucci has accounted for things that were never accounted for including land use change, and the carbon store to the land. Mr. Delucci looked at pollutants that were not included in previous studies, for example, soot.

When ethanol is produced from corn, tractors run a lot. Since ethanol can not be stored in a pipeline to get it to its destination, you need to run it through trains, diesels and barges. Not only is there a huge amount carbon, there is also soot, which has a climate impact and a health impact. This was never accounted for in any of the previous carbon balance studies. The net result that Mr. Delucci found was that there is just a 2% difference in the net carbon from corn ethanol versus gasoline. Cars only produce in the U.S. as a whole, about 25.8% of the carbon and California has a higher percent of about 35%. So there is a 2% benefit from

corn ethanol and if you multiple that by 26%, you are down to about .62% which is the benefit of corn ethanol, with 100% conversion to E85.

Wind electricity is 98% carbon free, so if we use the wind for battery electric vehicles, then 26% of the carbon is from cars and multiple it by 98%, then there is a 25.5% benefit and the same applies for hydrogen fuel cell vehicles. Solar is about 90% carbon free, so there is a little less carbon benefit. This is another area where climate is so much more efficient to use than other technologies.

The land area needed to run the vehicles on corn ethanol is an average of 15% of the entire U.S., including Alaska. Cellulosic ethanol is an average of about between 5% and 16% depending on the estimate. To run all the vehicles in the U.S. you would need about 70,000 to 120,000 mega watts wind turbine, as long as they are in the location where there is wind, which is about 8 meters per second or faster to get the efficiency. To power all the vehicles in the U.S., we need 120,005 mega watts wind turbine, but if there are plans to replace all the other carbon in the U.S. for coal and electricity with winds just alone, it would be 120,000 to 160,000 turbines, natural gas 45,000 to 60,000.

In order to address global warming, there would be a need to reduce carbon emissions by 80%. Fifty percent of on-shore and off-shore wind, 15% solar and solar for hot water and 10% efficiency improvements and then you have existing bio-fuels and fossil fuels.

Birds tend to play a significant factor when it comes to wind. This information includes:

- U.S. bird deaths from current wind turbines – 10,000-40,000/yr. (!)
- U.S. bird deaths from communication towers – 50 million/yr. (!)
- Worldwide bird deaths from avian flu – 200 million/yr. (%)
- Est. bird deaths with 2,500,000 turbines worldwide – 2.5-10 million/yr.
- Outdoor human deaths reduced by these turbines – 800,000/yr. (*)

Also noted is that the effect of wind turbines on birds will be small relative to the benefit of reducing fossil-biofuels on human and animal illness.

(!) Bird Conservancy (April 2006)

(%) San Jose Mercury News (April 2006)

(*) World Health Organization (2002)

Overall summary of the presentation included:

- Global warming will hasten as aerosol pollution decreases.
- CO₂ increases air pollution mortality due to its effect on temperature, water vapor, and atmospheric stability, which increase ozone and particulate matter in urban areas.
- 80% reductions in current emissions are needed to stabilize CO₂. Corn ethanol cannot practically reduce CO₂ in the U.S. by more than 0.07-0.2%; cellulosic ethanol cannot reduce CO₂ by more than 1.3-4%, based on current understanding.
- Wind-battery electric vehicles can reduce U.S. CO₂ by 25.5%; solar-battery electric vehicles can reduce it by 23.4%. Wind turbines require 30 times less land than corn ethanol and 20 times less land than cellulosic ethanol for the same power.

- Sufficient wind and solar are available worldwide to supply all electric and non-electric energy needs simultaneously several times over.
- Converting all U.S. gasoline vehicles to ethanol (E85) vehicles will not improve air quality. At 100% penetration, it may enhance air pollution mortality from 0 to 200/yr deaths above the 10,000/yr. due to gasoline in 2020. At 10-30% penetration, deaths may still be 0 to 20-60/yr. above 10,000/yr.
- The long lifetime of unburned ethanol may result in a global source of acetaldehyde and ozone.
- Each ethanol or gasoline vehicle developed from now on will enhance air pollution and climate problems significantly compared with each renewable-powered battery-electric or hydrogen fuel cell vehicle produced.
- More info: www.stanford.edu/group/efmh/jacobson/E85vWindSol

Mr. Jacobson concluded the presentation. Mr. Altshuler asked Mr. Jacobson about plug in hybrids, and wanted to know the next step in the analysis while looking at the vehicle to grid concepts of plug in vehicles, as well as the use of vehicles, as a storage mechanism for electricity. Mr. Jacobson replied to Mr. Altshuler, informing him that Mr. Willit Kempton, University of Delaware is looking at the vehicle to grid and that Mr. Kempton recently met with P. G. & .E. who currently working on the same vehicle to grid program.

Dr. Bedsworth, noted that there are 2 issues with ethanol that are somewhat separate; one is the energy balance question which is how much energy do you put in and how much do get out, which is a separate question from the carbon question because the source of energy.

Dr. Bedsworth also commented that there is a lot of debate like the Alex Ferrell study, which summarizes a lot of those and there is study at Environmental Plant and Technology that summarizes a lot on the energy balance question as well as the carbon question. Of course, the 2 are obviously related, but there still seems to be a debate on both of them with regard to the benefits. The Pimentel and Pasic work shows a huge and very negative energy balance for ethanol because of the certain assumptions that are made in the analysis, where other studies show a break even on the energy balance question.

Mr. Altshuler thanked the speaker for his time and efforts.

5. Presentation on Ambient Methane Trends: *Sam Altshuler will present information on ambient methane trends for discussion.*

Mr. Altshuler noted that he took measurements for methane in the 1970s and looked at the machines to see if they were operating properly and if it read 1.4 to 1.6 parts per million, as that looked good for a baseline. He noted that recently he looked at the current data on the Air District website, and it showed 1.8 parts per million.

Mr. Altshuler contacted David Fairley, Statistician, Research and Modeling Division to assist with trending data for methane within the Bay Area. Mr. Altshuler requested the lower methane values the 10% methane averages, which Mr. Fairley provided data that covered a span from 1981 to 2005. Mr. Altshuler generated a graph showing methane is indeed increasing, at a rate of 12.5% over the 24-25 years. Normalizing this to 100 years that would show an increase of 50% in methane for a century, which agrees very closely with a data

point that was retrieved from the internet; which was an article by T.J. Blazeen and Carmen Smith. The report was published in July 2006, which showed a methane increase of 43% per century for the time period from 1750 to present.

To put things into perspective, the CO₂ increase from 1750 to current is estimated at 12% a year. This information is based on the data that was presented by Mr. Altshuler. Mr. Altshuler also noted that methane levels in the ambient seem to be rising at a greater rate than CO₂. Methane is 23 times more potent than CO₂, and even though it is at a much lower concentration than CO₂, Mr. Altshuler felt a need to shine light on this issue. Also noted, is that N₂O has risen to 7% and tropospheric ozone to 13%.

Mr. Altshuler asked the Committee how should they proceed and if they validate the simple trending that was conducted by Mr. Altshuler and not focus 100% of the Committee's efforts on CO₂, and that maybe there is something with methane that the Committee should be aware of and potentially handle.

Mr. Kurucz asked about the percentage of the problem that it represents now; to see if it is growing from something insignificant, or is it already fairly significant and then growing at a faster rate. Mr. Altshuler indicated that if you normalize the methane to CO₂ (i.e. multiple the concentration by 23), that gives a CO₂ equivalent of 42 parts per million. The carbon dioxide is 377 parts per million, so the methane is about a little more than 10% of the CO₂.

Dr. Bedsworth felt it would be interesting to know how this compares to other basins, particularly San Joaquin Valley, where there might be a different type of a trend, an urban versus rural. Mr. Altshuler reiterated that this study was based on the lower limit of the methane, which is the background and that perhaps the background in San Joaquin Valley would differ than the coast line in the Bay Area.

Mr. Kurucz also suggested that staff indicate the other sources of methane, to show that this is not just a local problem. Mr. Kurucz noted that the Air Districts' actions may only be limited to local, but perhaps the general methane levels are driven more by the kind of activities that are here at the Air District.

Mr. Altshuler asked Mr. Jacobson if he agreed with the trending, and what has been observed with regard to the 50% increase in emissions in the next century. Mr. Jacobson agreed with Mr. Altshuler's findings, but would not be certain about the last three years.

Action: Mr. Altshuler asked staff to look at the methane data a bit closer, as well as look at other metrics and conduct research to see if it catches the attention of staff. Mr. Wee noted that since the initial request went to staff informally, that he would have staff look at the information from Mr. Fairley and provide the Committee with more thorough research and look at other sources of methane data and to put things in perspective.

6. **Committee Member Comments/Other Business.** Mr. Altshuler spoke briefly about the upcoming Advisory Council Executive Committee and Mr. Kurucz followed up with information on a book that he recently read about running an Advisory Council and one of the suggestions was not to organize your self along the lines of the organization itself. That one could perhaps prove better insight by not being organized the way the organization itself is, although there seems like there is some natural ties. Also noted, was the way the Council

is presently organized, each year at the retreat, once a decision is made on how issues are going to be resolved, virtually every issue is given to either 2 or 3 of the existing Committees, as there tends to be an overlap on virtually every topic.

Dr. Bornstein suggested that the preparation of the minutes to be more logical and suggested the following:

- Encourage speakers to include more descriptions in their technical discussions;
- Point out to the speakers that minutes have to be taken, so that their summary could be very complete of all their main points, as that is the most important thing is what the speaker considers is the summary of what was said;
- Perhaps send minutes to the speaker and have the speaker look at it to see that the technical terms are captured and that the ideas are captured; and
- Handouts from the speaker should be submitted in color, because without the color all the information is lost.

Mr. Altshuler suggested this issue also be presented at a future Advisory Council Executive Committee meeting and have them weigh in on this as well.

7. Time and Place of Next Meeting. 10:00 a.m., Monday, October 1, 2007, 939 Ellis Street, San Francisco, CA 94109.

8. Adjournment. 11:50 a.m.

Vanessa Johnson
Executive Secretary

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109
(415) 749-5000

DRAFT MINUTES

Advisory Council Executive Committee
9:00 a.m., Thursday, August 9, 2007

1. **Call to Order – Roll Call:** 9:06 a.m. Present: Fred Glueck, Chairperson, Sam Altshuler, Kraig Kurucz, Louise Bedsworth, Ph.D., Absent: Ken Blonski, Jeffrey Bramlett, Also Present: Emily Drennen, MPA, Robert Bornstein, Ph. D., and Linda Weiner, MPH
2. **Public Comment Period:** There were no public comments.
3. **Approval of July 11, 2007 Minutes:** Chairperson Glueck called for approval of minutes, 2 minor revisions were requested. Mr. Altshuler moved approval of the July 11, 2007 minutes to include revisions; second by Mr. Kurucz; carried unanimously.
4. **Discussion of Possible Advisory Council Committee Restructuring:** Chairperson Glueck called for discussion of possible Advisory Council Committee restructuring, bearing in mind the goals of the Executive Committee to: 1) Efficiently provide recommendations and guidance to the Board of Director; and 2) Design a structure that is proactive and responsive to issues. A possible restructuring of committees could include organizing discussions and recommendations based on topics/subjects versus the committee approach.

Chairperson Glueck requested that Dr. Bedsworth prepare a presentation to review the recommendations based on Executive Committee discussions of the Proposed Advisory Council Committee Restructuring to review and discuss at the Wednesday, September 12, 2007 meeting of the Advisory Council and for subsequent review by the Board of Directors and the Executive Officer.

The discussion that ensued focused on a number of proposals and ideas that were suggested by the members present at the meeting. A brief description follows.

Chairperson Glueck suggested an alternative structure similar to the Air District's Board of Directors and possibly creating a public outreach committee for the Advisory Council. He also added that the Council could possibly be more effective identifying some of the major issues facing the region over the next several years. Major topics include: climate protection, particulate matter, indoor air quality, alternate fuels or energy production opportunities, and port initiatives; focusing subcommittees around those topics.

Chairperson Glueck requested input from District Counsel, Brian C. Bunger with regard to legal ramifications of the restructuring of Advisory Council Committees. District Counsel gave an overview of the Board of Director's Committee structure which includes utilization of Ad Hoc Committees as needed. District Counsel advised that the Advisory Council Committee structure is designed and approved by the Advisory Council and that the Advisory Council is not prohibited from restructuring its Committees.

Chairperson Glueck requested Air District input prior to Advisory Council retreats in order for the Council to be more prepared and make better use of its time.

Discussion ensued with regard to possible restructuring scenarios and definition of committees. Dr. Bornstein suggested a possible structure to include committees designed to address issues. He stated that people have issues regarding Source Control (e.g., types, inventories, land use planning), Atmospheric Processes (e.g., ambient concentrations, meteorology, chemistry, removal), and Impact and Regulation (e.g., health and welfare); these committees could be arranged according to expertise and would deal with issues related to Ozone, PM and Wood Smoke, Toxics, and Climate Change.

Mr. Kurucz gave an overview and background data with regard to the current Committee structure, the overlap in topic discussions and Committee schedule over the past years. He stated that each group meets approximately six times a year; but, if there is a joint meeting where people with common expertise are dealing with a particular issue, there is a tendency for quick resolution and recommendations. He added that the recommendation thus reached will be brought to the Council for further input from members.

Chairperson Glueck confirmed that Mr. Jack Broadbent, Executive Officer, APCO, will provide the Council with the Air District's main topics for discussion prior to the Council's January retreat.

Chairperson Glueck presented another option for the Council meetings that would eliminate the role of standing committees. He suggested the full Council meet once a month; the Council could select three or more topics for the year as its initiative. At each meeting, potentially one or two presenters can be scheduled and the meetings take on the form of a seminar/convention since the entire presentation will be agendized. Members of the Advisory Council would go between parallel presentations and discussions. Alternatively, the day's activities could be scheduled where the presenter would be allowed a certain amount of time so members of the committee could attend either session. For instance, if it is a three hour meeting, a presenter could be allowed to present from 9:00 a.m. to 10:00 a.m., another presenter will present from 10:00 a.m., to 11:00 a.m., and from 11:00 a.m., to 12:00 noon, the Council will convene for discussions. The remaining time of the day's activities could be the Council convening for discussions and/or recommendations. In the event that there are members who would want to take the discussions even further, an Ad Hoc

Committee could be created to meet in between Council monthly meetings to further the research and eventually make a presentation to the full Council at its next meeting.

Ms. Drennen suggested the formation of a transportation committee.

Mr. Bunger advised that the Council Chair has the authority to designate an Ad Hoc Committee. He also stated that creating more Ad Hoc Committees might be overwhelming for the Committee and strain staff availability.

The Committee recessed for 10 minutes. The Committee reconvened at 10: 45 a.m.

Chairperson Glueck summarized discussions prior to the break which included:

- 1) Maintain current structure of committees and preempt assignments and scheduling;
- 2) Utilize Ad Hoc Committees as needed to assist standing committees;
- 3) Utilize Topics/Issues approach;
- 4) Limit topics to include discussion by the full Council;
- 5) Possible Transportation Committee implementation.

The Committee acknowledged the following structure and definition/scope of the Committees as an alternative.

Committees

	Executive Committee	Planning, Transportation and Energy Committee	Atmospheric Sciences and Source Emissions Committee	Public Health & Outreach Committee
Definition/ Scope of Committee		1.) Source Control 2.) Transportation 3.) Land Use Planning 4.) Energy/Fuels	1.) Inventories 2.) Measurement of Ambient Concentrations 3.) Meteorology 4.) Modeling 5.) Chemistry Removal for Model Evaluation	1.) Health Impacts 2.) Regulation 3.) Education/ Outreach 4.) Odor 5.) Spare the Air/ Spare the Air Tonight

Chairperson Glueck explained that the purpose of defining the Committees based on topics; hopefully would be more efficient and directed use of committee time. Also the Council will decide when a topic requires more time and attention and requires the benefit of an ad hoc committee. When topics are selected, they can be prioritized and emphasized according to the request of the Board of Directors or the staff.

The meeting discussion concluded with a consensus that the Advisory Council should maintain a system of standing committees organized according to expertise. The committees were renamed to provide a more explicit definition of what each committee will consider and a short scope description was provided for each committee. The table above outlines the proposed committee structure.

In addition, it was agreed that there should be an effort by future Advisory Council officers and Committee Chairs to ensure good communication and coordination between the committees. The January retreat will be used to explicitly define what aspect of different topics each committee will consider. In the event that a topic is assigned to more than one committee, a full Council meeting will be used as a means to provide common background presentations that can be useful for both committees as well as final recommendations on a topic.

Chairperson Glueck reemphasized that the result of restructuring the Committee will be taken to the Advisory Council meeting in September. Chairperson Glueck requested Dr. Bedsworth formalize the issues discussed so far, and be made as a formal presentation to the Council. Also between the November and January Council meeting, the Executive Committee will understand what issue they will be considering for the 2008 year.

Chairperson Glueck requested that the title “Review and Approval of restructuring by the Council” be included on the September agenda.

5. **Committee Members Comments/Other Business:** Dr. Bornstein inquired whether potential speakers could be asked to provide summaries of their presentation as the information provided is very technical in nature. Chairperson Glueck noted other agenda items for the September meeting to include: “Suggested Topics for Future Meetings” and “Suggested Guidelines for Speakers.”
6. **Time and Place of Next Meeting:** 9:00 a.m., September 12, 2007, Conference Room 716, 939 Ellis Street, San Francisco, CA 94109.
7. **Adjournment:** The meeting adjourned at 11:55 a.m.

Chioma Dimude
Acting Executive Secretary

BAY AREA AIR QUALITY MANGEMENT DISTRICT

Memorandum

To: Chairperson Ross and Members
of the Executive Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 7, 2007

Re: Production System Project Update

RECOMMENDED ACTION:

Receive and File.

DISCUSSION:

Staff will present the current status for this multi-year project, and a brief description of the next milestones. In December of 2006 staff presented a plan for implementation of the new production system and replacement of IRIS and Databank. At that time, staff indicated that execution of the plan would be accompanied by detailed reports on the status of actual costs as compared to projected costs, and by detailed reports on the status of actual accomplishments as compared to projected accomplishments. The last update was presented in May of this year.

BUDGET CONSIDERATION/FINANCIAL IMPACT

No impact.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Jeffrey McKay

BAY AREA AIR QUALITY MANGEMENT DISTRICT

Memorandum

To: Chairperson, Mark Ross and Members
of the Executive Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 7, 2007

Re: Status Report on the Air District's 2007 Initiatives

RECOMMENDED ACTION:

Receive and File.

BACKGROUND

At the Board of Directors' annual meeting/retreat on Wednesday, January 17, 2007, the Air District's 2007 Initiatives were established and direction provided to staff. As a follow up to the Board of Directors' meeting/retreat, the Executive Committee met on February 9, 2007 to review with staff the policy direction received from the Board of Directors at its January 17th retreat.

DISCUSSION

The Executive Committee will receive a status report from staff on the following Air District 2007 Initiatives to reduce toxic air contaminants:

- Enhanced Wood Smoke Strategy
- Climate Protection Program
- Green Ports Initiative
- Community Air Risk Evaluation (CARE) Program

BUDGET CONSIDERATION/FINANCIAL IMPACT

No budgetary impacts.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Mary Ann Goodley

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Mark Ross and Members
of the Executive Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 6, 2007

Re: Facilities Update and Review

RECOMMENDED ACTION:

Receive and File.

DISCUSSION:

Staff will provide information on efforts to maximize use of the Air District's existing facilities and on the challenges associated with District growth. The presentation will include a status update with regard to ongoing facilities work previously approved by the Board of Directors. Staff will also discuss the Air Districts' existing rented facilities in Richmond, and their possible use in accommodating growth.

BUDGET CONSIDERATION/FINANCIAL IMPACT

No Budget Impact.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Jeffrey McKay

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Mark Ross and Members
of the Executive Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 10, 2007

Re: Joint Policy Committee Update

RECOMMENDED ACTION:

Receive and file.

DISCUSSION

At the September 13, 2007, meeting of the Executive Committee, Chairperson Mark Ross will provide an update on the activities of the Joint Policy Committee.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson, Mark Ross and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 11, 2007

Re: Report of the Climate Protection Committee Meeting of September 13, 2007

RECOMMENDED ACTION

The Committee may recommend Board of Directors' approval of the Climate Protection Grant Program Guidelines presented in Attachment A of the Committee staff report.

DISCUSSION

The Climate Protection Committee will meet on Thursday, September 13, 2007. The Committee will receive the following reports and presentations:

- 1) Status Report on AB 32 Implementation;
- 2) Status Report on Air District Climate Protection Activities; and
- 3) Consideration of Climate Protection Grant Program Guidelines.

Attached are the staff reports presented in the Climate Protection Committee packet.

Chairperson, Pamela Torliatt will provide an oral report of the meeting.

BUDGET CONSIDERATION/FINANCIAL IMPACTS

A \$3,000,000 transfer from Reserve for Radio Replacement to fund the Climate Protection Grant Program was approved by the Board of Directors on November 1, 2006.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Mary Romaidis
Reviewed by: Mary Ann Goodley

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Torliatt and Members
of the Climate Protection Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 10, 2007

Re: Status Report on AB 32 Implementation

RECOMMENDED ACTION:

None. For information only.

BACKGROUND

Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, aggressive greenhouse gas emission reduction targets for California. In September 2006 the California State Legislature adopted and the Governor signed AB 32, the California Global Warming Solutions Act of 2006. Since these significant actions, many statewide agencies and organizations have been significantly ramping up programs to address climate change.

DISCUSSION

Staff will provide a summary of statewide climate protection activities, including the following agencies and organizations:

- California Air Resources Board
- California Energy Commission
- California Air Pollution Control Officers Association

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Greg Tholen
Reviewed by: Henry Hilken

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Torliatt and Members
of the Climate Protection Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 10, 2007

Re: Status Report on Air District Climate Protection Activities

RECOMMENDED ACTION

None. For information only.

BACKGROUND

The Air District initiated its Climate Protection Program on June 1, 2005. On November 10, 2006 the Air District hosted a successful regional summit on climate protection. Through ongoing staff efforts, as well as collaboration with summit participants, the Air District has established valuable regional climate protection partnerships and continues to be a leader in climate protection activity in the Bay Area. The Air District has continued to build its climate protection program, with focus on regional partnerships, technical assistance to cities and counties, outreach and education, incentive funding and stationary source technology evaluation.

DISCUSSION

Staff will present to the Committee an overview of the Air District's Climate Protection activities.

BUDGET CONSIDERATION / FINANCIAL IMPACT

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Greg Tholen
Reviewed by: Henry Hilken

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Torliatt and Members
of the Climate Protection Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 4, 2007

Re: Consideration of Climate Protection Grant Program Guidelines

RECOMMENDED ACTION:

Recommend Board of Directors' approval of the Climate Protection Grant Program Guidelines presented in the Attachment.

BACKGROUND

On November 1, 2006, the Air District Board of Directors approved the establishment of a \$3,000,000 climate protection incentive program to fund greenhouse gas emission reduction activities in the Bay Area. On July 19, 2007, staff presented to the Climate Protection Committee concepts for a grant program utilizing a portion of these funds.

DISCUSSION

Based on discussion at the July 19, 2007 Climate Protection Committee meeting, staff proposes to allocate the \$3,000,000 set aside for climate protection as follows:

\$1.5 million for the Climate Protection Grant Program
\$0.5 million for a regional climate protection outreach campaign
\$1.0 million as seed money for the foundation

The proposed Climate Protection Grant Program Guidelines (Attached) include the goals and objectives, application procedures, eligibility requirements and evaluation criteria for the grant program. Staff will describe the implementation and timing for the proposed Climate Protection Grant Program at the Climate Protection Committee meeting.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

A \$3,000,000 transfer from Reserve for Radio Replacement to fund this incentive program was approved by the Board of Directors on November 1, 2006.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Abby Young
Reviewed by: Henry Hilken

Attachment

Bay Area Air Quality Management District
Climate Protection Grant Program Guidelines
(Attachment A)
September 4, 2007

SECTION I GENERAL INFORMATION

Background

The Bay Area Air Quality Management District (District) is committed to achieving clean air to protect the public's health and the environment. The District adopts and enforces regulations and implements programs to achieve healthy air quality.

In June of 2005, the District established a *Climate Protection Program* to reduce pollutants that contribute to global climate change and affect air quality in the Bay Area. Temperature increases due to global warming may impact the region's air quality. Many of the actions that can be taken to reduce the greenhouse gas emissions that contribute to global warming also reduce harmful local air pollutants. The District seeks to support and complement current climate protection programs in the region, stimulate additional emission reduction efforts through public education, outreach, and technical assistance to local governments and other interested parties, and promote collaboration among stakeholders.

Also in June of 2005, Governor Schwarzenegger signed [Executive Order # S-3-05](#), establishing greenhouse gas reduction targets for the State:

- By 2010, Reduce to 2000 Emission Levels
- By 2020, Reduce to 1990 Emission Levels
- By 2050, Reduce to 80 percent Below 1990 Levels

The Governor formed the multi-departmental Climate Action Team to implement global warming emission reduction programs and report on the progress made toward meeting the statewide greenhouse gas targets that were established in the executive order. In September of 2006, the State Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), codifying the Governor's goal by requiring that the State's global warming emissions be reduced to 1990 levels by 2020. This law represents the first mandatory reduction target for greenhouse gas emissions in the nation.

State strategies to address these new greenhouse gas emission reduction targets, including the *2006 Climate Action Team Report to the Governor and Legislature*, and the state Air Resources Board's *Proposed Early Actions to Mitigate Climate Change in California*, recommend many actions to be taken to begin reducing greenhouse gas emissions. These efforts, however, do not fully address actions that are best initiated at the local level, such as land use and transportation planning, and public outreach and education.

Achieving greenhouse gas emission reductions on the scale called for by the State of California will require significant action on the parts of governments, businesses, institutions and communities throughout the Bay Area. In order to achieve this, a major refocusing of resources and support for climate activities must occur. Existing grant programs will not be enough to facilitate the scale of activity required. On November 10, 2006, the District led a Summit of 500 Bay Area business, community, and government leaders to seek and implement local solutions to climate change. At the Summit, the District announced its plans to create a new grant program to support climate protection activities in the Bay Area.

In developing this new grant program, the District conferred with numerous stakeholders, funders and public agencies in the Bay Area. These guidelines reflect the outcomes of those communications as well as the strategic objectives of the District.

Geographic region

Grants will be made to eligible applicants that provide services within the District's 9-county jurisdiction. This encompasses all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara counties, and the southern parts of Solano and Sonoma counties.

Grant range

A total of \$1.5 million is available for climate protection grants. Grants will range from \$10,000 - \$75,000, depending on program area.

Duration

Grant periods may range from 12-24 months, depending on program area.

Who Can Apply

Eligible applicants include public agencies, non-profit 501c3 organizations, K-12 schools and small businesses¹ located in the 9-county jurisdiction of the District. Eligible grant recipients must be responsible for the implementation of the project and have the authority and capability to complete the project.

Available Funds

The District is focusing its climate protection grant funding on areas where there is a demonstrated need for resources, where there is a synergy with the District's own mission and approach, and where resources can be utilized to achieve long-term impact on reducing greenhouse gas emissions. The District's Climate Protection Grant Program will fund activities in the areas of outreach, city and county planning, and strategies that have a regional impact in reducing greenhouse gas emissions.

¹ In order to be eligible for grants, business applicants must fall within the size limits defined by the Small Business Administration see http://www.sba.gov/idc/groups/public/documents/sba_homepage/serv_sstd_tablepdf.pdf.

Program Area	Amount Available
<i>Outreach</i>	
Youth Climate Grants	grant range: \$10,000 - \$25,000
<i>Climate Planning</i>	
Climate Protection Planning Grants	grant range: \$25,000 - \$75,000
Capacity-building Grants	grant range: \$50,000 - \$75,000
<i>Regional Strategies</i>	
Regionalizing Best Practices Grants	grant range: \$25,000 - \$75,000
Fostering Innovation Grants	grant range: \$25,000 - \$75,000

Ineligible activities

The Grant Program will not fund:

- cost of preparing or submitting grant application
- deficit budgets
- lobbying
- endowment campaigns
- fundraising activities
- grants/scholarships to individuals
- primary academic research
- marketing of products or technologies
- R&D for new technologies or products

District funds may only be used for project costs that are incurred after the date that the funding agreement is fully executed.

Important dates

September 21, 2007	Release of solicitation
October 2007	Public workshops
November 9, 2007	All proposals are due
December 2007	Proposed grant awards reviewed by Air District Board of Directors (tentative)
December 2007	Awards are announced
January / February 2008	Prepare and execute funding award agreements

Contact Information

Grant applicants are encouraged to discuss their grant applications with District staff prior to submittal. The primary District contact person for the Climate Protection Grant Program is:

Abby Young
Principal Environmental Planner
ayoung@baaqmd.gov
415-749-4754

SECTION II GOALS AND OBJECTIVES

The over-arching goal of the Bay Area Climate Protection Grant Program is to ***achieve meaningful reductions in greenhouse gas emissions through implementation of long-term solutions throughout the region.***

The District will achieve this goal by funding activities that support the following objectives. These objectives represent cross-cutting principles that apply to all grant program areas.

Objective 1: Expand tested approaches to achieve regional reductions in greenhouse gas emissions

There are many “best practices” for reducing greenhouse gas emissions. The District seeks to identify those best practices with the biggest potential for reducing emissions and that are ripe for widespread replication, and facilitate implementation of those practices across the region.

Objective 2: Implement innovative new approaches with regional potential

There are a lot of great ideas that may never come to fruition simply because there are no resources to “think them out”. Grant funds may be used for scoping and incubating innovative new projects or policy approaches, followed by a regional implementation phase.

Objective 3: Institutionalize long-term climate protection through the planning process

The District encourages local planning processes to integrate greenhouse gas reduction in the best manner to ensure long-term reductions. This may be through the land use planning process, the environmental review process, or through integration into development guidelines.

Objective 4: Achieve market transformation favoring “climate friendly” goods and services

Large-scale demand changes can drive the market for environmentally responsible goods and services. Grant funds may be used to facilitate widespread regional implementation of model practices that promote “climate friendly” goods and services.

Objective 5: Implement activities that achieve other co-benefits and reduce criteria air pollutants and toxic air contaminants

Many, but not all, actions that reduce greenhouse gas emissions also reduce criteria air pollutants (ozone, carbon monoxide, particulate matter, sulfur dioxide, lead, and nitrogen oxide) and toxic air contaminants². Other economic and quality of life co-benefits from reducing greenhouse gas emissions can include job creation, financial savings, reductions in energy and fuel use, improvements to community livability, reduced traffic congestion, etc. The District seeks to fund projects that demonstrate benefits in addition to greenhouse gas reduction.

² For a list of toxic air contaminants, see http://www.oehha.ca.gov/air/toxic_contaminants/pdf_zip/Appendix%20A.pdf

Objective 6: Engage impacted communities³ in projects and planning processes

High levels of harmful emissions – toxic air contaminants, particulate matter and emissions that lead to smog formation – often occur near communities where, due to age (youth or seniors), high rates of asthma or other medical conditions, lack of medical services, and other socio-economic factors, residents may be particularly sensitive to the effects of these emissions. These “impacted communities” are often also those most at risk from the perils of climate change (extreme weather impacts, increased health risks, etc.), while at the same time potentially benefiting from the promise of climate protection solutions (financial savings, job creation, improved air quality, etc.). The District seeks to fund projects that engage impacted communities in the planning process, and by ensuring their ability to enjoy the many co-benefits of climate protection activities.

All proposals will be evaluated in part according to how well they address one or more of these objectives.

SECTION III APPLICATION PROCEDURES

Application Process

Applications are due no later than 5:00pm on Friday, November 9, 2007. Applications submitted after 5:00pm on Friday, November 9, 2007, or incomplete applications, will not be accepted.

Electronic Submittal Process

In support of its internal policy of being a carbon neutral agency, the District is conducting a paperless application process for this grant program. All proposals must be submitted electronically to Abby Young at ayoung@baaqmd.gov. Failure to do so may result in your application not being reviewed. Faxed, mailed or couriered proposals will not be accepted. ***If you have not received a confirmation of receipt from the District within 3 days of the application deadline, please contact Abby Young at 415-749-4754.*** Applicants that foresee a problem meeting this requirement should contact Abby Young at 415-749-4754.

Formatting

Proposals must be single-spaced, with a minimum of 1 inch margins and 12 point font. The District’s Climate Protection Grant Cover Sheet (Appendix A) will serve as the proposal’s cover sheet / title page. Proposals should have the name of the applying organization and page number on each page. Proposals must be submitted as either PDF or Word documents.

³ See http://www.baaqmd.gov/pln/grants_and_incentives/carl_moyer/PM%20Exposure%20Map.pdf for a map of areas within the Bay Area region that are considered “impacted communities” by the District.

Application Requirements

Any items submitted other than those specified in these application requirements will not be reviewed.

Cover page

Use the District's Climate Protection Grant Program Cover Page located in Appendix A as the first page of your application packet. The cover page must be signed by a person with authority to legally bind your organization (in electronic applications, a typed in name is legally equivalent to a signature⁴).

Proposal Narrative – Maximum 8 pages

Requirements vary by grant program area – see Section IV below. Please use required elements as headings in your narrative to facilitate evaluation of your proposal.

Organizational Capacity – Maximum 3 pages

Provide a brief description of the applying organization and its demonstrated ability to achieve success with the proposed activity. Include a bio (1 paragraph) for each key staff person.

Project Budget – Maximum 2 pages

Provide a full budget for the proposed activity, broken out by year (if applicable). Identify budget line items funded by the District's Climate Protection Grant Program. List all other funders, their total contribution (including in-kind), and indicate whether or not that contribution has been secured (in-hand), committed, requested or not yet requested. *In evaluation scoring, in-kind resources will count 50% as much as cash contributions.*

Include, at a minimum, the following line items:

- Salary – list project team members, hours for each and hourly rates for each
- Fringe/benefits – list fringe rate
- Consultants/sub-contractors – list estimated hours and rates
- Meetings (convening of) – any public meetings, workshops, trainings, etc. required as part of your project (NOT internal project team meetings)
- Materials design & production (including web)
- Indirect expenses / overhead – list your indirect/overhead rate

In addition, provide a brief budget narrative of 1-2 sentences on each line item to add clarity and specificity.

Required Attachments

For local governments and public agencies:

- list of 3 most recent grantors with contact information
- letters of commitment from any significant project partners itemizing what they are providing (technical support, matching funds, etc.)
- authorizing letter of commitment approving the submittal of the proposal and identifying the individual authorized to submit and carry out the proposal.

⁴ See the Electronic Signatures in Global and National Commerce Act, <http://www.ftc.gov/os/2001/06/esign7.htm>

For non-profit organizations:

- list of Board of Directors with affiliations
- 501c3 IRS designation letter
- 2006 audit
- organizational budgets for 2007 (or FY 07/08) and 2008 (or FY 08/09)
- letters of commitment from any significant project partners itemizing what they are providing (technical support, matching funds, etc.)
- authorizing letter of commitment approving the submittal of the proposal and identifying the individual authorized to submit and carry out the proposal.

For K-12 schools:

- list of 3 most recent grantors with contact information
- letters of commitment from any significant partners itemizing what they are providing (technical support, matching funds, etc.)
- authorizing letter of commitment approving the submittal of the proposal and identifying the individual authorized to submit and carry out the proposal.

For small businesses:

- proof of fiscal solvency (balance sheet, etc.)
- letters of commitment from any significant project partners itemizing what they are providing (technical support, matching funds, etc.)
- authorizing letter of commitment approving the submittal of the proposal and identifying the individual authorized to submit and carry out the proposal.

Demonstration of Climate Achievement

Applicants demonstrating achievement in climate protection by completing a greenhouse gas emissions inventory, adopting a greenhouse gas emission reduction target, or developing a greenhouse gas reduction strategy, will receive points in the evaluation criteria. *Documentation of climate achievement (e.g. copy of or web link to inventory/plan/target) must be included in application as an attachment.*

Evaluation Criteria and Scoring

Specific evaluation criteria and their relative weights in scoring applications are listed in each of the grant program areas in Section IV below.

SECTION IV GRANT PROGRAM AREAS

The District is offering grants in three program areas: Outreach, Climate Planning, and Regional Strategies. Under each program area, specific proposal requirements and evaluation criteria (scoring) are listed, as well as examples of potentially fundable projects. The sample projects listed are given to provide general guidance, and are neither intended to limit the range of projects submitted for funding nor to assure funding for any particular project.

1) Outreach

Through its outreach grants, the District seeks to promote personal behavior alternatives to carbon-intense consumption and lifestyle patterns, and empower youth to play a significant role in developing the region's climate solutions.

⇒ *Youth Climate Grants*

Grant range: \$10,000 – 25,000

Duration: 12 months

Eligible applicants: youth/community organizations, K-12 schools

The young people of today will be the decision-makers of tomorrow. The District seeks to empower young people to begin developing solutions to climate change. Grants will support activities that have a strong impact beyond the borders of an individual school (i.e. to homes, other campuses, the community at large).

Eligible projects could include (but are not limited to):

- campus-based education and greenhouse gas reduction activities;
- school-to-home education that encourages actions at home or in the community;
- reduction in school-related vehicle travel (field trips, sports “away games”, etc.);
- projects that get kids to walk, ride bikes/scooters/skateboards, take transit or carpool to school instead of driving or being driven;
- innovative peer-to-peer education approaches (multi-media, arts, web-based, etc.);
- school-to-school best practice exchanges and presentations.

The District discourages proposals for curriculum development (which the District is addressing outside of this grant program).

Proposal Narrative Requirements for Outreach Grants

Proposal narratives must not exceed 8 pages. Proposals should be concise, and adequately and clearly address the following elements. Proposal narratives must include ALL of the following:

- Description of the project – Provide a concise description of what you will undertake and the amount requested.
- Need(s) being addressed – Succinctly explain the need for the proposed activity and why funding from the District is critical in meeting that need.
- Goals and objectives of the proposed activity – List all goals and objectives for the proposed activity. Goals are broad aspirations, such as “increasing energy efficiency in low income households,” whereas objectives are means to achieving a goal, such as “improving weatherization in homes,” which helps achieve the goal of increasing energy efficiency.
- Strategic approach – The strategic approach describes how objectives (improving weatherization in homes) will be achieved (through neighborhood workshops, etc.). Include a detailed description of what you will do, how you will do it, any partners you

will collaborate with, and why this particular approach is proposed. Make sure your strategic approach relates to the goals and objectives you have listed.

- Connection with District’s goal and objectives – State specifically how your project and approach will support the District’s goal and objectives; be clear as to which objective(s) your project will support.
- Potential for GHG reduction – Provide a qualitative discussion of how your proposed activity will ultimately result in the reduction of greenhouse gas emissions. What are the nature of the emission reductions: upstream/downstream, direct/indirect, short-term/long-term? Support your assertions with realistic estimates of the impact your project will have, in terms such as the size of your target audience, number of people reached (directly and indirectly), events held, etc. Explain how you arrived at your estimations. Use the emissions quantification guidelines in Appendix B to make your estimations.
- Achievement of co-benefits – Discuss benefits above and beyond reduction of greenhouse gas emissions that will accrue as a result of your proposed activity, focusing on reduction in criteria air pollutants and toxic air contaminants (improving air quality), reduction in energy and fuel (gasoline, diesel) use, and benefits to impacted communities. Use quantitative descriptions of co-benefits as much as possible, clearly explaining the assumptions and methodologies you used for making your estimations.
- Measuring success – Clearly state the metrics by which you will evaluate success – how will you know that you have achieved your goals and objectives? You may use both qualitative and quantitative metrics.
- Timeline / Deliverables – Create an easy-to-read table listing major deliverables and estimated months in which each deliverable will be completed.

Evaluation Criteria and Scoring for Outreach grants

Potential for GHG reduction	25
Connection with Grant Program’s objectives	20
Strength and feasibility of strategic approach	20
Organizational capacity (including fiscal soundness)	10
Matching funds	10
Demonstration of climate achievement	10
<u>Strength of proposal (adheres to instructions, well-written)</u>	<u>5</u>
Total possible points	100

2) Climate Planning

Local governments directly control or strongly influence many of the activities that produce greenhouse gas emissions in communities. They do this through their authority over land use, zoning, permitting, building codes, development standards, design guidelines and waste management, and through their influence over energy use, transportation choices and economic development. The District views the local planning process as a central mechanism to reduce energy use and greenhouse gas emissions. The District will offer two types of climate planning grants.

⇒ *Climate Protection Planning Grants*

Grant range: \$25,000 – 75,000

Duration: 1-2 years

Eligible applicants: local governments

These grants may be used for integrating climate protection into local general plans by developing goals, policies, implementation measures and evaluation metrics. Grants may also be used for developing stand-alone climate protection plans. Applicants are encouraged to reach out to impacted communities and actively engage them in the planning process.

Eligible projects could include (but are not limited to):

- expansion of technical capacity (by fully funding existing part-time staff, adding temporary staff, or hiring consultants) to integrate climate planning into general plan processes;
- developing and implementing public input process for integrating climate protection planning into existing planning processes or for a stand-alone climate action plan;
- active engagement of impacted communities in the climate planning process.

The District discourages proposals to assist with planning processes that do not specifically address climate protection, or that only address climate change preparation/adaptation and not the reduction of greenhouse gas emissions.

⇒ *Capacity-building Grants*

Grant range: \$50,000 - 75,000

Duration: 12-18 months

Eligible applicants: local governments

History has demonstrated that local governments most successful at climate protection are those that have energy officers dedicated to monitoring energy use and coordinating the implementation of the local government's adopted climate protection program. Through the Capacity-building grants, seed funding is available for local governments to establish internal staffing positions to manage and coordinate energy and climate protection programs. In almost all cases, municipal energy officers pay for their own positions through energy savings and grant writing (i.e., securing new funds). The purpose of these grants is to build the capacity within local governments to sustain a full-time position responsible for reducing the local government's energy use and coordinate climate protection activities.

Examples of the type of work energy officers might do:

- perform audits of municipal buildings and facilities to identify potential energy savings;
- conduct surveys of employee behavior to identify potential energy savings;
- review energy bills to check for accuracy/find over-payments;
- serve as point of contact for new energy information, opportunities;
- develop energy plan for municipality;
- identify sources of new (grant) funding or assistance and apply for it.

The District will provide funding for this position for a period of 12-18 months, after which the position must be self-sustaining. Applicants must demonstrate clearly in their proposals a financing strategy for supporting the position for a minimum of two years after the period of seed funding ends.

Proposal Narrative Requirements for Climate Planning Grants

Proposal narratives must not exceed 8 pages. Proposals should be concise, and adequately and clearly address the following elements. Proposal narratives must include ALL of the following:

- Description of the project – Provide a concise description of what you will undertake and the amount requested.
- Need(s) being addressed – Succinctly explain the need for the proposed activity, including any mandates from your local government, and why funding from the District is critical in meeting that need.
- Strategic approach – Include a detailed description of what you will do, how you will do it, any partners you will collaborate with, and why this particular approach is proposed.
- Connection with District's goal and objectives – State specifically how your project and approach will support the District's goal and objectives; be clear as to which objectives your project will support.

- Potential for GHG reduction –

FOR CLIMATE PROTECTION PLANNING GRANTS: Describe how climate protection planning principles would be integrated into the planning documents (including which elements), or how stand-alone climate action plans would be implemented to reduce greenhouse gas emissions. Discuss the degree of influence your proposed planning activity has over emission-producing activities in your community (e.g. will targets and implementation actions be mandatory versus voluntary). Use the emissions quantification guidelines in Appendix B to make your estimations.

FOR CAPACITY-BUILDING GRANTS: Discuss the potential opportunities that exist within your local government to reduce energy use and therefore greenhouse gas emissions. Use the emissions quantification guidelines in Appendix B to make your estimations.

- Achievement of co-benefits – Discuss benefits above and beyond reduction of greenhouse gas emissions that will accrue as a result of your proposed activity, focusing on reduction in criteria air pollutants and toxic air contaminants (improving air quality), reduction in energy and fuel (gasoline, diesel) use, and benefits to impacted communities. Use quantitative descriptions of co-benefits as much as possible, clearly explaining the assumptions and methodologies you used for making your estimations.

FOR CLIMATE PROTECTION PLANNING GRANTS: Specifically include discussion of how stakeholders from impacted communities will be included in your planning process.

- Measuring success – Clearly state the metrics by which you will evaluate success – how will you know that you have achieved your goals and objectives? You may use both qualitative and quantitative metrics.
- Timeline / Deliverables – Create an easy-to-read table listing major deliverables and estimated months in which each deliverable will be completed.

FOR CAPACITY-BUILDING GRANTS: Include a strategy for how you will sustain this position for a minimum of two years after grant funds are expended – this strategy could include creating a new budget item, funding the position out of energy savings (need to explain assumptions on how much energy savings can be expected) or new grants (include what types of grants, size, etc.). Extra points will be granted in the evaluation process for strategies that demonstrate funding for the position for up to five years after grant funding is expended.

Evaluation Criteria and Scoring for Climate Planning grants

	Climate Protection Planning Grants	Capacity-building Grants
Potential for GHG reduction	20	20
Connection with Grant Program's objectives	20	20
Strength and feasibility of strategic approach	20	20
Organizational capacity (including fiscal soundness)	10	10
Matching funds	10	10
Demonstration of climate achievement	10	5
Finance strategy for sustaining position	0	10
Engagement of impacted communities	5	0
Strength of proposal (adheres to instructions, well-written)	5	5
Total possible points	100	100

3) Regional Strategy Grants

Grant range: \$25,000 – 75,000

Duration: 1-2 years

Eligible applicants: public agencies, community organizations, small businesses, K-12 schools

Grants will be awarded to projects with the greatest regional application and long-term reduction of greenhouse gas emissions. The District will maximize the impact of its grant funding by focusing on projects that scale up implementation of proven best practices region-wide, or that foster the development and implementation of ground-breaking approaches to reduction greenhouse gas emissions.

“Regionalizing” Best Practices

There are many “best practices” for reducing greenhouse gas emissions. The District seeks to identify those best practices with the biggest potential for reducing emissions that are ripe for widespread replication, and facilitate broader implementation of those practices across the region.

For example, a simple roof-lightening project (e.g. painting a city hall’s roof white) would probably not be a competitive proposal. However, if that project included a change in municipal building code requiring roof lightening for all new construction and major retrofits, that would be considered as having a long-term impact (through codification). If it further included a component for creating boiler plate code language, how-to documents, group training and individual follow-up for other local governments with specific targets for replication, then there is a potential regional application.

Eligible projects could include (but are not limited to):

- developing permitting incentives or new standards for green building into user-friendly implementation packages with targets/commitments to get an additional X# of local governments to adopt the practices;
- developing energy efficient procurement policies for carbon-intense products (e.g. cement) and services (e.g. construction) with targets/commitments to get an additional X# of local governments to adopt the policies;
- developing implementation strategies for cost-effective private sector approaches to bundle energy efficiency and/or renewable energy investments with targets/commitments to get an additional X# of businesses to adopt the practices.

The District encourages proposals that include targets/commitments for replicating best practices.

Proposals should focus most of the grant funds on the replication piece of this approach (i.e. details on how replication will be ensured – through workshops, training programs, enlisting commitments, etc.) in order to maximize the impact of any given best practice. These are most likely one-year grants.

Fostering Innovation

There are a lot of great ideas that may never come to fruition simply because there are no resources to “think them out”. Meeting California’s aggressive targets for reducing greenhouse gas emissions will require the development and implementation of new approaches and new ways of conducting business, by all sectors of the community. Grant funds may be used for scoping and incubating innovative new projects or policy approaches, followed by a regional implementation phase.

Eligible projects could include (but are not limited to):

- development of a lifecycle cost analysis method for policy-making: research and development of the mathematical approach, development of any kind of tool, beta testing with a target group, pilot phase and then widespread training and implementation regionally;
- development of a carbon tax or other revenue shift: research and recommendations, developing the tax and seeing it through to implementation, training for other entities to implement a similar tax/revenue shift;

- changing of “price signals” to influence transportation behavior, such as implementation of congestion pricing (e.g. New York City’s proposed \$8 fee for driving in Manhattan during peak commute hours);
- creation of a small business purchasing collective for energy efficient lighting/equipment/solar/clean vehicles/etc.

The District discourages proposals in this category that do not propose an activity that is innovative and new.

These would most likely be two-year grants, with the first year being devoted to scoping and incubating (pilot testing), and the second year devoted to spreading success across the region.

Proposal Requirements for Regional Strategy Grants

Proposal narratives must not exceed 8 pages. Proposals should be concise, and adequately and clearly address the following elements. Proposal narratives must include ALL of the following:

- Description of the project – Provide a concise description of what you will undertake and the amount requested.
- Need(s) being addressed – Succinctly explain the need for the proposed activity and why funding from the District is critical in meeting that need.
- Goals and objectives of the proposed activity – List all goals and objectives for the proposed activity. Goals are broad aspirations, such as “reducing emissions from cement production”, whereas objectives are means to achieving a goal, such as creating a market for “climate friendly cement”.
- Strategic approach – The strategic approach describes how objectives (creating a market) will be achieved (through development of boilerplate purchasing guidelines and bid specifications, support materials, training programs, etc.). Include a detailed description of what you will do, how you will do it, any partners you will collaborate with, and why this particular approach is proposed. Make sure your strategic approach relates to the goals and objectives you have listed.
- Connection with District’s goal and objectives – State specifically how your project and approach will support the District’s goal and objectives; be clear as to which objectives your project will support.
- Reduction of GHG emissions – Estimate the annual amount of greenhouse gas emissions expected to be reduced by your project. If appropriate, state these reductions as short-term (e.g. pilot phase) and long-term (e.g. regional ramp-up). Use the emissions quantification guidelines in Appendix B to make your estimations.
- Achievement of co-benefits – Discuss benefits above and beyond reduction of greenhouse gas emissions that will accrue as a result of your proposed activity, focusing on reduction in criteria air pollutants and toxic air contaminants (improving air quality), reduction in energy and fuel (gasoline, diesel) use, and benefits to impacted communities. Use quantitative descriptions of co-benefits as much as

possible, clearly explaining the assumptions and methodologies you used for making your estimations.

- Measuring success – Clearly state the metrics by which you will evaluate success – how will you know that you have achieved your goals and objectives? You may use both qualitative and quantitative metrics.
- Timeline / Deliverables – Create an easy-to-read table listing major deliverables and estimated months in which each deliverable will be completed.

Evaluation Criteria and Scoring for GHG Reduction Project grants

Potential for GHG reduction	20
Connection with Grant Program’s objectives	20
Strength and feasibility of strategic approach	20
Cost-effectiveness of emission reductions	10
Organizational capacity (including fiscal soundness)	10
Demonstration of climate achievement	10
Matching funds	5
<u>Strength of proposal (adheres to instructions, well-written)</u>	<u>5</u>
Total possible points	100

SECTION V AFTER RECEIVING A GRANT

Award Process

Notification of awards will be made by December 31, 2007. Applicants will be notified electronically after projects are preliminarily approved for funding by the District Board of Directors. However, final approval for funding occurs only when a signed funding agreement has been executed by both the project sponsor and the District. District staff will prepare funding agreements that set forth the terms, conditions, and monitoring and reporting requirements of each Climate Protection Grant. **Via funding agreements, project sponsors are legally bound to meet certain requirements**, including notifying the District of any change in operation, making periodic reports, and providing certificates of insurance. If a project sponsor does not comply with all the terms and conditions of a funding agreement, it may have to repay a portion or all of the funds granted, and the sponsor may be barred from future District grants. In the event that the District awards an amount that differs from the amount requested, District staff will work with the awardee to align deliverables, outcomes and timelines appropriately. Upon execution of the grant contract, the awardee can commence work on its funded activities.

Payment of Grant Funds

The payment schedule will be established in the funding agreement for each project. No funds will be released until the funding agreement has been signed by the project sponsor and the District (i.e. fully executed). In general, payment will be made on a reimbursement basis, after project costs are incurred and documented. The final payment will be made upon adequate completion of all deliverables and submittal of a complete final report (including narrative and financial reporting).

Reporting

Grantees are required to report on the progress of their grant activities every six months. Interim reports (for the first six-month period) include narrative descriptions of progress and financial accounting of the grant program to date. Annual reports include narrative descriptions of the second half of the year's activities and final fiscal accounting for the whole year. For one-year grants, the annual report is considered the final report. Interim reports are used by the District to identify potential problems with grant implementation, in order to intervene with grantees and modify approaches to ensure successful outcomes. Final reports are used to analyze the impact of the District's investments and assist in shaping future grant programs. All reports will be used to share information and promote successes among grantees and with the greater Bay Area community.

Report formats and requirements will be provided to grantees with their award materials.

Meetings/conferring

The District will convene an annual meeting of all its grantees in order to share program information and results, and to foster the creation of partnerships and important collaborations among diverse stakeholders throughout the Bay Area. Attendance at the annual meeting is strongly encouraged, but not required.

In addition, District staff will make every attempt to meet individually with all grantees midway through their project implementation. District staff will meet with grantees onsite, to gain as much knowledge as possible about the grantee organization and the project.

**APPENDIX A
CLIMATE PROTECTION GRANT COVER SHEET**

I. Applicant

Name of Organization: _____

Type of Organization: Public agency Small business K-12 school
 501c3 non-profit Sponsored project of another 501c3 non-profit

Mailing Address: _____

Website: _____

Primary Contact Person: _____ Title: _____

Phone #: () _____ Fax #: () _____ E-mail: _____

Executive Director: _____

Phone #: () _____ Fax #: () _____ E-mail: _____

<p>Fiscal Sponsor (if applicable)*: _____</p> <p>Mailing Address: _____</p> <p>Primary Contact Person: _____ Title: _____</p> <p>Phone #: () _____ Fax #: () _____ E-mail: _____</p> <p><i>* A fiscal sponsor is a non-profit or public agency that permits an organization that does not have a tax-exempt status to operate under its auspices. If you have a fiscal sponsor, please complete this box AND attach your fiscal sponsor's IRS tax-exempt letter.</i></p>

II. Project

Project Title: _____

Program Area / Grant Type (e.g. Outreach / Youth Climate Grants):

Total Project Cost: \$ _____ District Funding Request: \$ _____

Individual authorized to enter into a formal agreement with the Air District:

I, _____, authorize the submittal of this grant application and certify that all information is correct and accurately reflects the project scope, costs, timeline, and availability of funds.

Signature: _____ Title: _____

APPENDIX B GUIDELINES FOR ESTIMATING GREENHOUSE GAS REDUCTIONS

Basic Calculations

To determine the amount of greenhouse gas emissions reduced from reductions in various types of energy use, or in switches to “clean” energy sources (solar, wind, etc.), use the following equations:

Electricity: (# of kilowatt hours saved) X 0.000365 = tons of GHG emissions reduced

Natural gas: (# of therms saved) X 0.005277 = tons of GHG emissions reduced

Gasoline: (# gallons of gas saved) X 0.00855 = tons of GHG emissions reduced

Diesel: (# gallons of diesel saved) X 0.01 = tons of GHG emissions reduced

Other energy/fuel sources – contact the Air District for specific guidelines not provided here (Abby Young, ayoung@baaqmd.gov).

For waste reduction projects, identify the type(s) of waste reduced, and the amount reduced for each type: aluminum, glass, plastic, yardwaste, foodwaste, newspaper, office paper, cardboard. If you do not know or can't estimate waste reduction by waste type, indicate the type as “mixed waste”.

Guidelines for Each Program Area

I. Outreach Grants

- Define the target audience – who is your target audience, what is the size of your target audience?

“One hundred households in the Banana Belt neighborhood will be targeted for home weatherization outreach.”

- Estimate the saturation you will achieve into your target audience, describe any assumptions you used.

“The project goal is to reach 50% of these households through door-to-door weatherization audits.”

- Connect the saturation into your target audience with its impact on energy use (electricity, natural gas, gasoline, diesel, other), describe any assumptions you used.

“It is estimated that, as a result of these audits, households will increase energy efficiency and reduce electricity use by 10% and reduce natural gas use by 5%.”

Provide a basis for the estimation – cite a report or similar project, or indicate if it is an educated guess based on experience.

II. Planning Grants

Climate Protection Planning Grants

Describe the breadth of the planning process that will be impacted by the proposed project – for example, which general plan elements will be affected, what sectors/activities will be covered by a greenhouse gas inventory and plan, etc. Also describe the level of authority that your proposed planning project has over emission-producing activities – will targets be mandatory or voluntary?

Provide 3-5 specific examples of how your planning project might impact greenhouse emissions.

Capacity-building Grants

List 3-5 specific known opportunities to save energy that might be facilitated by an energy staff person, and that may help fund the position after the District's seed funding ends. Opportunities may include new municipal construction that is planned, remodels/retrofits that are scheduled for implementation, traffic lights that need upgrading to LEDs, etc.

III. Regional Strategies Grants

In order to estimate emission reductions from your project, you will need to know the amount of energy (electricity, natural gas, gasoline, diesel, etc.) that will be reduced by your proposed activity. If you are planning a policy change, then estimate the emission reductions that policy change will achieve in the near-term (1-2 years) and the long-term (3-5+ years) by following the Basic Calculations above.

Differentiate between greenhouse gas emission achieved in the near-term (pilot phase) versus medium-term (regional implementation phase).

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Mark Ross and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 11, 2007

Re: Report of the Stationary Source Committee Meeting of September 17, 2007

RECOMMENDED ACTION

Receive and file.

BACKGROUND

The Stationary Source Committee will meet on Monday, September 17, 2007.

The Committee will receive the following presentations:

- A) Status Report on Proposed Regulation 6; Rule 2: Commercial Cooking Equipment.
- B) Status Report on Wood Smoke Reduction Program.
- C) Report on Proposed Amendments to Regulation 9; Rule 6: Nitrogen Oxides from Natural Gas-Fired Water Heaters.
- D) Status Report on Flare Minimization Plans Required Under Regulation 12; Rule 12: Flares at Petroleum Refineries.

Attached are the staff reports presented in the Stationary Source Committee packet for your review.

Chairperson, Scott Haggerty will give an oral report of the meeting.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Mary Romaidis
Reviewed by: Mary Ann Goodley

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Haggerty and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 6, 2007

Re: Proposed New Regulation 6, Rule 2: Commercial Cooking Operations

RECOMMENDED ACTION:

Receive and file.

BACKGROUND

On May 16, 2007, the Board of Directors conducted a public hearing to consider adoption of proposed new Regulation 6, Rule 2: Commercial Cooking Operations. The Board referred the item to the Stationary Source Committee for further discussion.

DISCUSSION

At the hearing, a number of questions were raised. Staff has conducted additional research, including a survey of Bay Area restaurants to collect information about charbroiler grill sizes and types and quantities of meat cooked. Staff will provide the Committee with more information on some of the questions raised, including the number and types of restaurants potentially affected by the rule and how to focus on restaurants with the highest emissions. Staff will present proposed changes to the regulatory proposal in preparation for a public workshop.

BUDGET CONSIDERATIONS/FINANCIAL IMPACT

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Guy Gimlen
Reviewed by: Henry Hilken

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Haggerty and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 10, 2007

Re: Status Update on the Wood Smoke Rule Development and the Cleaner
Burning Technology Incentives Program for PM_{2.5} Reductions

RECOMMENDED ACTION:

Receive and file.

BACKGROUND

Last winter the Air District experienced 27 days over the new 35 µg/m³ 24-hr. national standard that was adopted by U.S. EPA in December 2006. Ambient air monitors indicate that residential wood smoke contributes to an overall wood smoke atmospheric burden comprising up to 33% of peak winter PM_{2.5} levels. As a result, a comprehensive wood smoke strategy is needed in order to address the relative contribution of wood smoke to the bay area. The proposed Regulation 6, Rule 3, "Wood-Burning Devices", was developed after researching other air districts' regulations and programs and incorporating the best components.

DISCUSSION

This regulation is composed of six standards which fall into three general areas:

- Curtailment Requirements
 - Mandatory during a forecast exceedance of the national standard
- Operational Requirements
 - No garbage burning
 - Burn only seasoned wood
 - Wood vendor package includes moisture content and information about what you should do during a mandatory curtailment
- Cleaner Burning Technology Requirements
 - EPA certified devices and low emission technology
 - New building construction component

The cleaner burning technology incentives program will provide Bay Area residents with financial incentives, or rebates, ranging from \$100 to \$600 through a "Wood Stove Change-out" program. These rebates will encourage users to upgrade from high-emitting wood burning devices to low-emitting devices.

Staff will provide the Committee with the following information:

- Proposed regulatory standards for wood smoke PM reduction;
- Next steps in the rule development process;
- Cleaner Burning Technology Incentives Program.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Janet Glasgow
Reviewed by: Kelly Wee

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Haggerty and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 6, 2007

Re: Proposed Amendments to Regulation 9, Rule 6: Nitrogen Oxides from
Natural Gas-Fired Water Heaters

RECOMMENDED ACTION:

Receive and file.

BACKGROUND

The 2005 Ozone Strategy Control Measure SS-13 identified Regulation 9, Rule 6 as an area of opportunity for further NO_x reductions from residential water heaters. Staff generated proposed amendments and conducted a workshop with affected parties on June 29, 2007.

DISCUSSION

In this report, Staff will present information on:

- Background on water heaters and small boilers;
- Current District regulations that control NO_x from water heaters and boilers and opportunities for further emission reductions;
- Proposed amendments to Regulation 9, Rule 6;
- Potential NO_x emission reductions; and
- Rule development process and next steps.

BUDGET CONSIDERATIONS/FINANCIAL IMPACT

None

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Guy Gimlen
Reviewed by: Henry Hilken

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Haggerty and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 17, 2007

Re: Status Report on Flare Minimization Plans required under Regulation 12,
Rule 12: Flares at Petroleum Refineries

RECOMMENDED ACTION:

Informational Report. Receive and file.

BACKGROUND

Emissions from petroleum refinery flares are an ongoing concern to the Air District and to residents in communities surrounding refineries. As refinery flares are primarily a safety device that must be available in case of emergency, regulation of their use is extremely difficult. In order to minimize the magnitude and frequency of flare use at refineries, the Air District Board of Directors adopted Regulation 12-12, which is structured to give refineries flexibility to reduce emissions without compromising safety.

The regulation prohibits the non-emergency use of a refinery flare unless that use is consistent with an approved Flare Minimization Plan ("FMP" or "Plan"). Each Flare Minimization Plan approved by the District's APCO/EO must include:

- Information regarding the design and operation of the facility as it relates to flaring;
- Description of the prevention measures previously taken that permanently capture current emission reductions and planned measures to further reduce flare emissions at the refinery; and
- Commitments to implement all additional feasible prevention measures expeditiously.

DISCUSSION

Following extensive review by staff, FMPs submitted by the refineries were released for a 60-day public comment period which ended May 31, 2007. Based on valuable input received during the comment period, staff engaged the refineries to improve and

strengthen prevention measures contained in the plans before taking final action. In order to ensure the FMPs were approvable, the District obtained operational and capital concessions from the refineries to ensure that:

- Sufficient compressor capacity was available at each facility to minimize flaring. Including a commitment for the addition of flare gas recovery compressors at both the Chevron and ConocoPhillips refineries.
- A stronger commitment to reduce production rates and to manage fuel gas balances during unit startup and shutdown to minimize flaring was included in each plan.
- Flare gas source reduction efforts will continue at each facility
- Adequate scrubbing capacity has been provided for flare gas at each facility

The refineries amended their FMPs to provide adequate assurances that efforts in each of these areas are sufficient and will continue to minimize flaring. Based on these commitments, the APCO approved the revised FMPs for the five refinery facilities on July 16th, 2007.

Staff will update the Committee with the following information:

- Description of Compressor Operation and Redundancy
- APCO approval of refinery FMPs
- Focus of Future Flare Minimization Efforts

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Doug Tolar
Reviewed by: Kelly Wee

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Mark Ross and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 13, 2007

Re: Consideration of Change to Board Policy Regarding Reimbursement for Expenses
Related to Upcoming Travel to China

RECOMMENDED ACTION

Consider changing Board policy regarding reimbursement for Board of Directors' attending the Air and Waste Management's People to People Program 2007 delegation to China.

DISCUSSION

The Board of Directors will consider changing its policy adopted in January 2007 relating to the amount of reimbursement provided to Board members attending the 2007 People to People Program Delegation to China. This consideration was requested by Director Garner in his communication of September 13, 2007, directed to Chair Ross and the Executive Committee; attached.

BUDGET CONSIDERATION/FINANCIAL IMPACT

The action approved in January 2007 resulted in a line item in the amount of \$25,000 in Program 121 for fiscal year 2007/2008 budget.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Mary Romaidis
Reviewed by: Mary Ann Goodley
Approved by: Brian Bunger