



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

BOARD OF DIRECTORS  
EXECUTIVE COMMITTEE MEETING

COMMITTEE MEMBERS

MARLAND TOWNSEND – CHAIRPERSON  
MARK ROSS – SECRETARY  
SCOTT HAGGERTY  
JULIA MILLER  
BRAD WAGENKNECHT

GAYLE B. UILKEMA – VICE CHAIRPERSON  
MARK DeSAULNIER  
JERRY HILL  
SHELIA YOUNG

FRIDAY  
MAY 20, 2005  
9:30 A.M.

FOURTH FLOOR CONFERENCE ROOM  
DISTRICT OFFICES

AGENDA

1. **CALL TO ORDER – ROLL CALL**
2. **PUBLIC COMMENT PERIOD** (*Public Comment on Non-Agenda Items Pursuant to Government Code § 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 Committee's subject matter jurisdiction. Speakers will be limited to three (3) minutes each.
3. **APPROVAL OF MINUTES OF MARCH 30, 2005**
4. **REPORT OF THE ADVISORY COUNCIL**

**B. Zamora/4965**  
[bzamora@co.sanmateo.ca.us](mailto:bzamora@co.sanmateo.ca.us)

  - a) *Overview of Advisory Council Activities*
  - b) *Recommendation regarding Climate Change Program.*
5. **ESTABLISHMENT OF CLIMATE CHANGE AND PROTECTION PROGRAM**

**J. Broadbent/5052**  
[jbroadbent@baaqmd.gov](mailto:jbroadbent@baaqmd.gov)

*The Committee will consider recommending that the Board of Directors adopt a resolution to establish a climate change program.*
6. **UPDATE ON THE JOINT POLICY COMMITTEE**

**J. Roggenkamp/4646**  
[jroggenkamp@baaqmd.gov](mailto:jroggenkamp@baaqmd.gov)

*Ted Droettboom, Regional Planning Program Director of the Joint Policy Committee will provide an update on the activities of the Joint Policy Committee.*
7. **STATUS REPORT ON INTERNAL SYSTEMS AND CONTROLS AUDIT**

**J. McKay/4629**  
[jmckay@baaqmd.gov](mailto:jmckay@baaqmd.gov)

*Staff will present a status report on the audit.*

8. **BUDGETARY DISCUSSION AND DIRECTION FROM THE COMMITTEE** J. Broadbent/5052  
[jbroadbent@baaqmd.gov](mailto:jbroadbent@baaqmd.gov)

*Staff to discuss cost recovery, reserve designations and capital planning.*

9. **INFORMATION SYSTEMS DIVISION UPDATE** J. McKay/4629  
[jmckay@baaqmd.gov](mailto:jmckay@baaqmd.gov)

*Staff will present an update on the ongoing work on the Production System Replacement.*

10. **COMMITTEE MEMBER COMMENTS/OTHER BUSINESS**

*Any member of the Committee, 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).*

11. **TIME AND PLACE OF NEXT MEETING: 9:30 A.M., JUNE 29, 2005, 939 ELLIS STREET, SAN FRANCISCO, CA**

12. **ADJOURNMENT**

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

**(415) 749-4965  
FAX: (415) 928-8560  
BAAQMD homepage:  
[www.baaqmd.gov](http://www.baaqmd.gov)**

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

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Office Memorandum

To: Chairperson Townsend and Members  
of the Executive Committee

From: Jack P. Broadbent  
Executive Officer/APCO

Date: May 20, 2005

Re: Executive Committee Draft Meeting Minutes

RECOMMENDED ACTION:

Approve attached draft minutes of the Executive Committee meeting of March 30, 2005.

DISCUSSION

Attached for your review and approval are the draft minutes of the March 30, 2005 Executive Committee meeting.

Respectfully submitted,

Jack P. Broadbent  
Executive Officer/APCO

**Bay Area Air Quality Management District  
939 ELLIS STREET  
SAN FRANCISCO, CALIFORNIA 94109  
(415) 771-6000**

**DRAFT MINUTES**

Summary of Board of Directors  
Executive Committee Meeting  
9:30 a.m., Wednesday, March 30, 2005

1. **Call to Order - Roll Call:** Chairperson Marland Townsend called the meeting to order at 9:30 a.m.

**Present:** Marland Townsend, Chairperson, Mark DeSaulnier, Jerry Hill, Julia Miller, Mark Ross, Gayle B. Uilkema, Brad Wagenknecht, Shelia Young.

**Absent:** Scott Haggerty.

**Also Present:** Pam Torliatt.

2. **Public Comment Period:** There were no public comments.
3. **Approval of Minutes of February 4, 2005:** Director Miller moved approval of the minutes; seconded by Director Wagenknecht; carried unanimously without objection.
4. **Quarterly Report of the Hearing Board:** Hearing Board Chairperson Tom Dailey presented the Hearing Board Quarterly Report – January 2005 – March 2005.

Dr. Dailey urged the Board to re-appoint both Dr. Magalhães and Mr. Trumbull to the Hearing Board.

**Committee Action:** None. This report provided for information only.

5. **Report of the Advisory Council:**

Brian Zamora, Chairperson of the Advisory Council, presented the Report of the Advisory Council and noted that the Council would be discussing a Code of Conduct at its next meeting. Mr. Zamora stated that the Council will submit recommendations to the Board later in the year on the issues the Council has been discussing.

Jack Broadbent, Executive Officer/APCO, advised the Committee that the Advisory Council is beginning the process of inviting speakers to their meetings and doing work on their list of issues for the year. Near the end of the year, the Advisory Council will provide information and recommendations to the staff and the Governing Board on their findings.

**Committee Action:** None. This report provided for information only.

**6. Ozone Modeling and Central California Ozone Study Update:** *Staff presented an update on Ozone Modeling and the Central California Ozone Study.*

Jean Roggenkamp, Deputy APCO, stated that staff will update the Committee on ozone transport and the modeling that will help the District understand ozone and ozone transport. This information will help in discussions with other air districts.

Saffet Tannrikulu, Ph.D., Research and Modeling Manager, presented the report and discussed the following subjects:

- The Central California Ozone Study (CCOS);
- The Air District's participation in CCOS;
- Modeling update;
- Attainment status;
- Using the model for planning, including planning for the future; and
- The schedule and next steps.

**Committee Action:** None. This report provided for information only.

**7. Status Report on Particulate Matter Planning:** *Staff presented a status report on the PM planning requirements as mandated by SB 656 (Sher, 2003). This is an informational item.*

Henry Hilken, Air Quality Planning Manager, presented the report and reviewed the requirements of SB 656; the sources of PM; the Air Resources Board's (ARB) and Air District's lists of potential PM measures; the District's current efforts; and the next steps to be taken.

The next steps include completing the evaluation of the measures appropriate for the Bay Area, developing a schedule, conducting a public workshop in May 2005, considering public input, and bringing the proposed schedule to the Board in July 2005.

**Committee Action:** None. This report provided for information only.

**8. Consider Participation in the California Hydrogen Business Council:** *The Committee considered recommending that the Board of Directors approve the Air District joining the Hydrogen Business Council.*

Ms. Roggenkamp presented the report and reviewed the function and focus of the California Hydrogen Business Council. Ms. Roggenkamp requested the Committee recommend that the Board of Directors approve the Air District joining the California Hydrogen Business Council at the Silver membership level, which would cost \$1,000 per year.

**Committee Action:** Director Miller moved that the Committee approve the staff recommendation as stated above; seconded by Director Uilkema; carried unanimously without objection.

**10. Information Systems Division Update and Consideration of Authorization of a Transfer of Funds and Execution of Purchase Order:** *Staff presented an update on the ongoing work*

*performed by the Information Systems Division on the Production System Replacement and the Committee considered recommending that the Board of Directors authorize approval of the transfer of funds and execution of a purchase order not to exceed \$140,000.*

Jeff McKay, Director of Information Services, presented the report and reviewed the work being done on the Production System Replacement. Mr. McKay requested that the Committee consider recommending that the Board of Directors authorize a transfer of funds from the Capital Account to the Professional Services Account in the Information Systems Division Budget (Program 705) in the amount of \$140,000. In addition, that a purchase order, not to exceed \$140,000, be executed to Doculabs for consulting services to cover design and implementation support for internal pilots of the Production System replacement of IRIS and Databank.

**Committee Action:** Director Miller moved that the Committee approve the staff recommendation as stated above; seconded by Director Wagenknecht.

There was discussion on keeping the cost manageable and that the technology of this system will evolve with the District's needs. The motion then passed unanimously without objection.

10. **Committee Member Comments:** Chairperson Townsend noted that the District's video is being run on Foster City television before meetings.

Mr. Broadbent announced the District's Symposium will be held between 11:00 a.m. and 2:00 p.m. on Monday, June 20, 2005 and that Christine Todd Whitman will be speaking in the late afternoon. There will also be a luncheon speaker.

11. **Time and Place of Next Meeting:** 9:45 a.m., Wednesday, June 29, 2005, 939 Ellis Street, San Francisco, CA.
12. **Adjournment.** The meeting was adjourned at 10:52 a.m.

Mary Romaidis  
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Memorandum

To: Chairperson Townsend and Members of the Executive Committee  
From: Brian Zamora, Chairperson, Advisory Council  
Date: May 11, 2005  
Re: Report of the Advisory Council: March 18 – May 10, 2005

RECOMMENDED ACTIONS:

Receive and file.

DISCUSSION:

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

- a) Air Quality Planning Committee Meeting – April 4, 2005. The Committee received and discussed a presentation on the Governor’s Hydrogen Highway Blueprint from Dr. Shannon Baxter-Clemmons of the California Environmental Protection Agency Region IX. *(Draft minutes included in the May 20, 2005 Board Executive Committee Meeting Agenda packet.)*
- b) Technical Committee Meeting – April 13, 2005. The Committee received and discussed presentations on the Community Air Risk Evaluation (CARE) program and recent developments in the management of greenhouse gas emissions. *(Draft minutes included in the May 20, 2005 Board Executive Committee Meeting Agenda packet.)*
- c) Public Health Committee Meeting – April 18, 2005. The Committee received and discussed a presentation on indoor air quality from the California Air Resources Board. *(Draft minutes included in the May 20, 2005 Board Executive Committee Meeting Agenda packet.)*

Respectfully submitted,

Brian Zamora  
Advisory Council Chairperson

Prepared by: James N. Corazza

FORWARDED BY: \_\_\_\_\_

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

**DRAFT MINUTES**

Air Quality Planning Committee Meeting  
1:00 p.m., Monday, April 4, 2005

- 1. Call to Order – Roll Call.** 1:10 a.m. Present: John Holtzclaw, Ph.D., Chairperson; Harold Brazil, Irvin Dawid, Emily Drennen, Fred Glueck, Kraig Kurucz, Kevin Shanahan.
- 2. Public Comment Period.** There were no public comments.
- 3. Approval of Minutes of February 9, 2005.** Mr. Brazil requested that he be listed as “Present.” Mr. Glueck moved approval of the minutes as corrected; seconded by Mr. Brazil; carried unanimously.
- 4. California Hydrogen Highway Blueprint.** Dr. Shannon Baxter-Clemmons, Special Advisor on Hydrogen and Renewables, California Environmental Protection Agency (Cal-EPA) stated that the draft Blueprint was officially released on March 30, 2005. The first presentation on the Blueprint was given to the National Hydrogen Association last week. This is the second such presentation.

The Blueprint’s inception can be traced to January 6, 2004 when California Governor Arnold Schwarzenegger declared that he intended to promote hydrogen power and a hydrogen highway, and environmental health and economic growth simultaneously. His Executive Order S-7-04 designated 21 interstate freeways in the state as the Hydrogen Highway Network (“H2 CA Net”). He asked Cal-EPA to be the lead agency in developing the Blueprint for its development and implementation. The Governor perceives this approach as having energy security benefits as well. To date, three hydrogen stations have been formally designated as part of the H2 CA Net. There are 16 hydrogen stations in the State, but the other 13 are not yet sufficiently accessible to the public to be declared part of the H2 CA Net.

For assistance and oversight in developing the Blueprint, Cal-EPA put together an advisory panel of over 200 individuals from interest and stakeholder groups, each participating on a voluntary basis. These were allocated among five topic teams that developed independent reports, detailing an approach to the topic and offering roll-out strategies, assessing the status of technology, how to site the stations throughout the state, assessing societal benefits, economic challenges, implementation issues with regard to standards, codes and risk assessment, and public education.

The draft Blueprint contains seven reports. Volume I concerns policy documentation. Volume II addresses technical issues. Together, these represent the consensus of the advisory panel and its recommendations to the Governor. Five independently produced topic team reports follow.

The goal of the H2 CA Net is to diversify the sources of transportation energy used and to provide environmental and economic benefits. A phased approach will make use of existing alternative fuels and emerging technologies to help develop hydrogen use and to bridge the gap between today’s alternative fuel technologies and hydrogen technologies of the future.



Its initial Phase I goal is to have 50-100 fueling stations throughout California, 2000 light-duty fuel cell vehicles (FCVs), 10 heavy-duty FCVs and five stationary or off-road applications. Phase II aims to establish 250 hydrogen fueling stations in a lower-usage mode, 10,000 light-duty FCVs, 100 heavy-duty FCVs, and 60 stationary and off-road vehicle applications. Phase III aims to double the number of light duty vehicles on the road to 20,000, achieve a number of at least 300 heavy-duty FCVs on the road as well as 400 stationary and off-road vehicle applications in operation.

Regarding station build up, the Blueprint contains an action plan and a biennial review process. The action plan is identified in Volume I and calls for the Governor to provide funding, while emphasizing public/private partnerships to build stations and procure vehicles. Societal benefit goals include increasing renewable energy sources and minimizing greenhouse gas emissions. Station build up will begin in urban centers and thereafter spread outward into California.

Cal-EPA and the Bush Administration differ on the station mix criteria. The former seek a diversity of hydrogen producing technologies whereas the latter emphasizes production from coal combustion processes. The advisory panel members agree that renewable energy sources for hydrogen production are to be emphasized, and note that renewable energy sources and hydrogen are reciprocally interconnected in a variety of ways. Also, the lowest cost option is not necessarily to be preferred, inasmuch as other technologies that will be available in the not-to-distant future will become increasingly important. Use of existing stations is highly emphasized along with the development of new ones. The advisory panel also recommends making maximum use of the existing natural gas infrastructure and believes that 50 stations can be established in California by the year 2010. Phase II plans for 250 hydrogen fueling stations which, in urban areas, could be accessible within 5 minutes. Bridging stations would be established between the Bay Area and Los Angeles.

The Blueprint calls for \$53.5 million in funding from the Governor over the next five years for this program. Cost-sharing schemes and incentives for FCVs have been discussed. A major challenge remains in finding ways to sustain the income needed to support the program beyond this time frame. The advisory panel believes that, if the vehicles can be manufactured the infrastructure can be created to meet the need, investment in infrastructure is manageable.

The conclusions concerning the CA H2 Net are as follows:

- The CA H2 Net is a broad initiative for diversifying transportation energy use and for providing environmental and economic benefits.
- The CA H2 Net should be implemented in Phases.
- CA H2 Net will continue to put California in a world class leadership position and position the State for the successful introduction of hydrogen technologies to meet transportation, power generation, and other energy demands in the future.
- The biennial review of the Blueprint will evaluate the pace with which introduction can occur.
- The State-led public-private partnership should begin work to implement the Action Plan.
- The State needs to initiate a funding source.

In response to questions from the Committee members, Dr. Baxter-Clemmons stated:

The auto manufacturers require no convincing that the fuel cell is the future of the vehicle market. One manufacturer forecasts a global approach to the fuel cell vehicle (FCV), in which the basic structure of the FCV would be the same in terms of the frame and fuel cell location, and only the external body would differ—being tailored to each country in which the FCV is sold. This will enable mass production in the largest possible scale and enhance FCV economic attraction. Auto manufacturers have declared they will build a certain number of FCVs, and there is an increasing demand for them in Japan, Germany, Singapore, etc. The incentives created in California will send a message—in particular, to Japan—and although such incentives will not significantly draw down the cost of the vehicle, they will nevertheless assist as mass production capability increases.

The Department of Energy does not believe there is a shortage of the platinum that will be the primary component of the fuel cell, and the amount of platinum needed for a fuel cell decreases exponentially over time as technology improves. Phase III of the Blueprint will establish a basis for broad commercialization, with 20,000 FCVs planned for operation. This is a small percentage of the 20 million cars now driven in California, and some observers believe it will be three decades before the benefits of the Blueprint become manifest. Nevertheless, if the approach to a hydrogen transportation system is not started now, it will never come to fruition.

The history of alternate fuel and electric vehicles has been variously assessed. Electric vehicles still have a rather limited range, and General Motors recently held a symbolic “funeral” for its electric vehicle. Although hydrogen power requires an additional step in which electricity is used to produce hydrogen, never before have all of the stakeholders—environmentalists, car and fuel companies, and government—agreed on a technology that represents the future. Challenges remain with respect to renewable energy sources that are used to make the hydrogen and whether to use these to support existing infrastructure, the power grid or other applications.

The extent to which funding can be obtained for the Blueprint, and how hydrogen could be taxed, requires further discussion. A revenue bond has been suggested. The free market impact must also be considered where prices vary per kilogram, depending on the source producing the hydrogen. Transportation costs also factor in, along with taxes and possible renewable fuel subsidy.

Hydrogen stations may be variously used for both stationary and mobile source power, depending on whether the fuel cell is low or high temperature through electrolysis. Hydrogen stations in the early years of the Blueprint will be “delivered hydrogen” and will diversify from that point on.

Air Districts can assist with public education about the Blueprint, both in terms of short- and long-term goals regarding environmental and economic benefits, program safety, the various phases of the approach, and related aspects. Advocacy of more hydrogen fuel stations in the local Air District jurisdiction would be important, particularly in collaborating with fuel companies, local, regional and state government, and fire department staff. The Bay Area AQMD could be a major player in the development of the H<sub>2</sub> CA Net, and Cal-EPA would welcome working with staff.

Dr. Baxter-Clemmons offered to provide further information to Mr. Shanahan regarding cost comparison of a therm of natural gas in a natural gas vehicle in comparison with the same therm of natural gas delivered down the H<sub>2</sub> CA Net in order to produce hydrogen, and get it to a hydrogen fueling station. References and diagrams can be found in the report issued on the Internet (cf. p. 14, Volume I).

The cost of using bio-gas for vehicles, which occurs in Sweden, is decreasing, but it is not at a point at which it is cost-competitive. The H2 CA Net does not want to abandon near-term options for alternative fuels and vehicles. The approach to FCV's is not exclusive, and the societal benefits will increase as 20,000 such cars are on the road by the year 2015. If society wants hydrogen fuel as the basis for its transportation, it will have to start now and plan for the long-term.

5. **Committee Member Comments/Other Business.** Mr. Dawid commended the minutes from February 9, 2005 meeting for their accuracy and detail, and inquired as to a possible referral from the Board of Directors to the Advisory Council on diesel emission at ports. Peter Hess, Deputy Air Pollution Control Officer, clarified for the Committee that this matter had been referred to another Committee of the Governing Board.
6. **Time and Place of Next Meeting.** 9:30 a.m., Wednesday, June 8, 2005, 939 Ellis Street, San Francisco, California 94109.
7. **Adjournment.** 2:20 p.m.

James N. Corazza  
Deputy Clerk of the Boards

:jc

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

**DRAFT MINUTES**

Advisory Council Technical Committee Meeting  
9:30 a.m., Monday, April 13, 2005

- 1. Call to Order – Roll Call.** Chairperson Hayes called the meeting to order at 9:32 a.m.  
Present: Stan Hayes, Chairperson, Sam Altshuler, P.E., William Hanna, Norman A. Lapera, Jr., Brian Zamora, Advisory Council Chair (ex officio). Absent: Diane Bailey, Louise Bedsworth, Ph.D., Bob Bornstein, Ph.D., John Holtzclaw, Ph.D.
- 2. Public Comment Period.** There were no public comments.
- 3. Approval of Minutes of February 7, 2005.** Mr. Altshuler requested that in line ten of paragraph one on page four, “heat” be inserted before “islands,” and he moved approval of the minutes as amended; seconded by Mr. Hanna; carried unanimously.
- 4. Update on the District’s Community Air Risk Evaluation (CARE) Program.** Janet Stromberg, CARE Program Manager, stated that the District will contract with Sonoma Technologies, Inc., to develop toxic air contaminant (TAC) emission inventory/emission density maps for the Bay Area. These will include an inventory of annual average TAC emissions from area, point- and on-road motor vehicle sources, and weight TAC emissions according to their toxicity. These maps should be completed within three months of the date the contract is signed. District staff is also receiving training in graphical interface system (GIS) mapping, in order to augment in-house capability.

The District is also working to better understand exposures to TACs through measurements and monitoring. It will also add two canister samplers in the neighborhood selected for a cumulative risk assessment pilot project and compare the data gathered with data from the broader emission monitoring network. The goal is to improve the ability to identify ambient diesel particulate (PM).

Attempts to improve the identification of diesel PM are underway. Chemical mass balance analyses show that most anthropogenic PM<sub>10</sub> and PM<sub>2.5</sub> derive from burning wood or fossil fuels. Geological dust, and tire and break wear are small contributors to PM<sub>10</sub> and PM<sub>2.5</sub>. Peak PM concentrations occur in winter due to meteorological conditions conducive to ammonium nitrate production and wood combustion. Carbonaceous PM accounts for about half of peak PM<sub>10</sub> and PM<sub>2.5</sub> and also annual PM<sub>2.5</sub>. Ammonium sulfate is a significant contributor to annual PM<sub>2.5</sub> but only a small contributor to peak concentrations of PM.

Carbon 14 analysis is being used to distinguish the amount of new and old carbon present in a PM sample. The results from 20 samples taken on five separate days suggest that PM from fossil fuel combustion is much lower than previously thought. New techniques developed by Desert Research Institute (DRI) and CalTech, which speciate hydrocarbons for hopanes and steranes, will be used to distinguish gasoline and diesel PM from other fossil fuel carbon. Certain polyaromatic hydrocarbons (PAHs) are found in greater quantities in gasoline PM than in diesel, while certain polar organics provide markers for wood burning and cooking. These will be identified in the speciation.

In reply to Committee member questions, Ms. Stromberg, Peter Hess, Deputy Air Pollution Control Officer, and Gary Kendall, Technical Division Director, made the following points:

- the CARE program will conduct a cumulative risk analysis for a pilot project neighborhood, and its Task Force will provide input for identifying criteria for a pilot neighborhood. These will be combined with the data from the TAC emission maps and a final selection will be made.
- the best available science will be used in assessing concentrations of diesel PM in ambient air. DRI is confident that new markers have been identified for diesel PM in its hydrocarbon speciation. Staff is in the process of discussing additional research projects with DRI.
- staff has tracked measurements obtained during wildfires to distinguish peak versus annual PM concentration. The field of measurement and analysis is expanding, and next week a major conference on this subject is taking place in San Francisco with many well-known experts. A focus on “nano-particulates” is developing in this field.
- the choice of a pilot neighborhood will include not only potential regulatory action that may be taken on a source to reduce TACs, but also creative approaches beyond regulation, and the availability of grant money will provide for the opportunity. The District will seek legislation to obtain additional regulatory authority. The recommendation on which neighborhood to select will be presented to the Council before a decision is made. It is anticipated that the decision could be made some time in the fall of this year.
- communication and public outreach will be a critical component of the CARE program.
- the staff report, distributed at each Committee member’s place, entitled “Sources of Bay Area Fine Particles: A Chemical Mass Balance Analysis,” dated April 2005, is preliminary. When it is near completion, staff will present it to the Council with a more detailed technical focus. Mr. Altshuler’s observations that lube oil has unique markers, and that referring to the coefficient of haze when a filter contains ammonium nitrate, are useful.

**5. Continuing Review of Climate Change Issues.** Committee Chair Hayes presented “Management of Greenhouse Gases: Recent Developments.” He noted that the greenhouse effect is one in which solar radiation passes through the clear atmosphere and is absorbed by the earth’s surface and warms it. Some of this infrared radiation is absorbed and re-emitted by the greenhouse gas molecules and the direct effect is the warming of the earth’s surface and the troposphere. A temperature plot going back 1,000 years—with estimates prior to 1902 based on tree rings and ice core sampling and instrumental data thereafter—shows significant temperature increases since the 1970s, and particularly since 2000. Thermometer readings from 1860 to 2000 confirm this trend.

Six greenhouse gases are the subject of the Kyoto protocol: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride, although not all of these are of equal potency as greenhouse gases (GHGs): the latter being 23,900 times as potent as the first. In 2000, 83% of emissions of GHGs in the US were carbon dioxide, with methane at 9%, nitrous oxide at 6% and hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride at 2%. For carbon dioxide, the energy industry contributes 35%, transportation 26%, manufacturing and construction 12%, commercial, institutional and residential 9%, agriculture 7%, industrial processes 4%, fugitives from fuel production 3% and waste 3%. More than 50% of GHGs in the US were emitted by the electric power production industry. From 1990 to 2000, there is a continual increase in carbon dioxide emissions from the commercial, residential, transportation and industrial sectors.

The Kyoto Protocol establishes binding limits for 38 developed countries to reduce GHGs from 2008 to 2012 by 5% relative to a baseline developed in 1990. To be valid, the Kyoto Protocol required ratification by 55 governments, within which the ratifying governments included developed countries representing at least 55% of that group's 1990 carbon dioxide emissions. This occurred when Russia ratified the Kyoto Protocol in November of last year. The Protocol took effect February 16, 2005, affecting 126 nations. Only four industrialized countries have not ratified the Kyoto Protocol. These are: Australia, Liechtenstein, Monaco and the United States.

The European Union (EU) thought the Kyoto Protocol would be approved and moved forward on its own. Now every one of 30,000 stationary sources in the EU must have an operating permit that limits GHG emissions. This covers about 45% of the carbon dioxide emissions in the EU. Penalties for non-compliance range from 40 to 100 euros per ton of carbon dioxide emitted. National allocation plans were established March 31, 2004 indicating how the reduction in GHG emissions would be allocated. During 2005-2007, 40 euros per tons will be assessed for violating the carbon dioxide emission allowance, and between 2008 and 2012 it will be 100 euros per ton.

In the United States, a Global Climate Change Initiative by the Bush Administration has selected to cut GHG "intensity" by 18% over the next 10 years. Improved GHG registry information is being sought, and will protect transferable GHG emissions reduction credits. Some voluntary initiatives for GHG emissions reporting and reduction include an internal trading program sponsored by BP Amoco and Shell; the Chicago Climate Exchange, with 14 founding members including American Electric Power, DuPont, Ford, International Paper, Motorola and Chicago; a Business Roundtable with members agreeing to measure annual GHG emissions, then publicly report the total and reduce them by a certain amount; and a Climate Group Survey comprised of 22 major corporations, 143 cities, 10 state and 6 countries. Five corporations reduced GHGs by at least 60% and saved a combined \$5.5 billion through energy efficiency, fuel switching and reduced waste output.

There are several state and regional programs for voluntary emissions registers and reductions including the California Climate Action Registry. There is also a Regional Greenhouse Gas Initiative in nine northeast states involving development an emission cap and trade program for carbon dioxide from power plants by April 2005. Other programs include California motor vehicle GHG emission standards and their possible adoption by seven other Northeast states; as well as a subsequent lawsuit against six electric utilities regarding regulation of carbon dioxide. Also, the McCain Lieberman bill (S 139) was rejected when first presented by a vote of 97-0. However, it was defeated more recently but by a much closer margin of 53 to 47. Its advocates believe that, with persistence, it will eventually pass.

What is particularly at stake for companies is that they will experience an increase in energy costs as a percentage of operating costs increase with the transition from coal to natural gas, which may consume 10 - 15% of operating profits, with corresponding impacts on stock prices.

There is considerable linkage between GHG emissions and regulated criteria pollutants. Most GHGs derive from fuel combustion, and reductions in fuel combustion reduce emissions of nitrous oxide (NOx) and volatile organic compounds (VOCs), as well as methane. There are measures that aim to reduce ozone, particulates, and air toxics but also results in GHG emission reductions. Air pollution control measures which have broad applicability are energy conservation, increases in energy efficiency, motor vehicle emissions reductions, vehicle emission standards, transportation control measures, land-use planning and zoning, smart growth, air quality elements in general plans, traffic and roadway measures, public transit, congestion relief measures, and carpool lanes.

There are emerging areas in which an Air District's role in GHG emission management may be discerned. Staff is developing a list of 24 areas in which to reduce GHGs, including adoption of a resolution on global warming, development of a GHG emission inventory, various levels of inter-agency cooperation, public education, grants and funding, and development of model global warming language for inclusion in the air quality elements of local general plans.

Under the Kyoto Protocol, emission credits may be created by sponsoring projects that reduce GHGs, and there are a wide variety of opportunities for doing so that also afford contexts for aligning fiscal and self-interest. Emission reductions created in one of the countries that has ratified the Protocol may be banked. The California Climate Action Registry banks and credits emission reductions, and although a mandatory program is not in place in this country, the actions now taken to reduce GHGs might be able to be folded into the baseline.

Deputy Air Pollution Control Officers Peter Hess and Jean Roggenkamp inquired if the Committee might endorse a broad conceptual approach in which staff would draft a resolution on Climate Change for consideration by the full Council at its May 11, 2005 Regular Meeting. The text would identify links between criteria pollutant regulation, public health and reduction in GHG emissions.

Chairperson Hayes called for discussion on concepts that staff might find useful in composing the text. Mr. Altshuler opined that GHG-related criteria could be built into the grant criteria process. Moreover, a stamp of public health protection could be affixed to GHG emissions with the implication that they be treated like criteria pollutants. GHG emissions affect the environment, which also affects health—in particular, the connection between increased emissions of GHGs and increases in ambient temperature, which in turn increase ozone formation and energy demand. In addition, wars are fought over energy sources to which GHG emissions are linked. Mr. Hanna moved that the Committee endorse the proposal that staff draft a resolution on Climate Change for consideration by the Council on May 11; seconded by Mr. Altshuler; carried unanimously.

Chairperson Hayes inquired as to the status of the list of 24 GHG emission reduction measures. Ms. Roggenkamp replied that the list referred to in the February 7 Technical Committee meeting was preliminary, and when it is further edited, it will be presented to the Committee for review.

6. **Committee Member Comments/Other Business.** Mr. Altshuler distributed a brochure entitled "Something Special in Sunnyvale" featuring a natural gas refuse truck with low emissions.
7. **Time and Place of Next Meeting.** The Committee agreed on two possible dates, to be determined after consultation with Air Quality Planning Committee (AQPC) Chair Holtzclaw: (a) Wednesday, June 8, 2005 at 9:30 a.m., joint meeting with the AQPC, or (b) Tuesday, June 7, 2005 at 9:30 a.m., Technical Committee only, 939 Ellis Street, San Francisco, CA 94109.
8. **Adjournment.** 11:00 a.m.

James N. Corazza  
Deputy Clerk of the Boards

:jc

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

**DRAFT MINUTES**

Advisory Council Public Health Committee Meeting  
1:30 p.m., Tuesday, April 18, 2005

1. **Call to Order – Roll Call.** Chairperson Torreano called the meeting to order at 1:33 p.m.  
Present: Victor Torreano, Chair, Cassandra Adams, Elinor Blake, Jeffrey Bramlett, Linda Weiner.
2. **Public Comment Period.** There were no public comments.
3. **Approval of Minutes of February 15, 2005.** Ms. Adams moved approval of the minutes; seconded by Mr. Bramlett; carried unanimously.
4. **Indoor Air Quality: A California Air Resources Board (CARB) Perspective.** Peggy Jenkins, Manager, CARB Indoor Exposure Assessment Section Research Division, stated that CARB staff recently made a presentation on indoor air quality (IAQ) to the Board of Directors of CARB. The report noted that there are numerous sources of indoor air pollutants, including air cleaners such as ozone generators, biological contaminants such as mold, building materials and furnishings which contain formaldehyde, combustion appliances such as gas stoves, environmental tobacco smoke, soil that contains radon and water with chlorinated solvents, architectural coatings with volatile organic compounds (VOCs), consumer products, household and office equipment, and pesticides.

California adults and teenagers spend 87% of their time indoors, while young children spend a bit more time outdoors than adults. Faculty at the University of California at Berkeley have calculated that emissions from indoor sources emitted in a home or a school building have a thousand times greater likelihood of being inhaled than emissions in ambient air from industrial sources.

The health effects associated with indoor air pollution include asthma, allergies, cancer, premature death, increased heart and respiratory disease, and irritants and other effects. A report in the year 2000 on asthma and exposures confirmed known indoor triggers of asthma, and found new triggers such as high levels of nitrous oxide and also identified possible triggers in formaldehyde and fragrances. More recent studies have also focused on VOCs as possible asthma triggers.

The CARB Indoor Exposure Assessment Section Research Division has produced a preliminary estimate on the potential cancer burden from air toxics in California annually by source: 375 deaths annually from environmental tobacco smoke, 250 from indoor toxic air contaminant, and 375 from outdoor toxic air contaminant sources such as diesel exhaust particles and other sources.

While outdoor particulate matter (PM) is associated with severe respiratory and cardiovascular health effects, a corresponding amount of research has not been conducted on the causal relationship of indoor emissions to health effects. Nevertheless, the general perspective is that indoor sources do contribute to respiratory and cardiovascular health effects. Indoor sources of air pollution contain carbon monoxide which is capable of producing death- and flu-like symptoms.



Indoor sources of air pollution also emit nitrous oxide and ozone which can cause lung damage and respiratory disease. Communicable diseases are also transmitted indoors, and other health effects include irritant effects and sick building syndrome.

Excluding PM, the costs of indoor air pollution in California are estimated at \$45 billion annually, with \$36 billion in premature deaths; \$8.5 billion in lost worker productivity; and \$0.6 billion in other medical costs.

Principle categories of IAQ improvement include source control, ventilation, proper building operation and maintenance, professional training, public education and air cleaning devices. The status quo on IAQ regulations and guidelines features regulations and guidelines spread out among a number of agencies. Workplace standards are regulated by the California Occupational Safety and Health Administration which has adopted some regulations on ventilation. The California Energy Commission has also adopted some ventilation requirements, particularly with regard to the amount of outdoor air applied to a building. In 1995, AB 13 was adopted which established the state's smoke-free workplace requirement. The federal Consumer Products Safety Commission regulates consumer products, although its greatest concern is safety and safe product operation. When it concerns air quality, a labeling requirement comes into play. CARB also regulates consumer products to some extent, as do air districts, when it comes to products that have an impact on outdoor air quality. There are also some indoor air quality benefits associated with this type of regulation. However, no single agency is designated to oversee indoor air quality. There are voluntary guidelines from government agencies, industry and professional groups, with some success. The American Society of Heating, Refrigerating and Air-Conditioning Engineers has developed standards for ventilation; the Carpet and Rug Institute has also developed some product guidelines with the encouragement of the Environmental Protection Agency.

In its report to the Legislature, CARB set forth a prioritization of indoor air pollution by source categories rather than by specific pollutants. Air cleaners—particularly the ones that generate ozone, biological contaminants, building materials and furnishings, combustion appliances, such as gas stoves that are not vented, environmental tobacco smoke, and radon (which has a high cancer risk and inextricably interwoven with sources of tobacco smoke) constitute the major sources. Less than 1% of homes in California exceed any applicable standards for radon concentrations.

The medium priority indoor air pollutant source categories requiring mitigation are architectural coatings, consumer products and personal care products, household and office equipment and appliances, and pesticides. Many of these are already under some level of regulation and their emissions are comparatively lower than those in the high source priority ranking.

With regard to indoor air pollution mitigation, CARB has suggested that such measures include the creation of an indoor air quality management system, establishment of emission limits, requiring emissions testing of products as requisites for equipment procurement, making children's health a top priority, development of clearer indoor air quality guidelines, amendment of building codes, funding public outreach and education programs, conducting more research especially on indoor effects of particulate matter and turpines that add fragrance to consumer products, and funding of innovative technologies for indoor air quality management. CARB's clean air technology program for ambient air has been successful in helping companies with new products and ideas by bringing them into commercialization and can be geared to indoor applications as well.

Mitigation measures for indoor air pollution in schools include urging the implementation of all 16 recommendations from the California Portable Classrooms Study. The District might consider partnering with schools on IAQ with a focus on integrating indoor with outdoor air issues as well as augmenting the Tools for Schools program and improving staff training for it. The promotion of “best practices” for design, construction and maintenance for schools could benefit from District input as well. CARB may approach the District for training programs on indoor air quality in its development of training on indoor air.

In assessing the proven benefits of improving IAQ, CARB has reviewed some case studies, including a healthy home program in Seattle with an asthma intervention program that provided informational materials to low income groups. The program significantly reduced asthma medical costs over a four-year period, lowered inhaler use in elementary schools by 50% and improved attendance by 5%.

CARB’s recent IAQ report was approved by the Board of Directors of CARB last month, and should be forwarded to the Governor through the California Environmental Protection Agency. The State Legislature will hold a hearing on IAQ in May of this year.

With regard to “air purifiers” which are really portable ozone generators, studies show that these emit harmful levels of indoor ozone greater than the ambient standard with normal use. These have been marketed aggressively in California, often with inaccurate advertising, suggesting that these devices eliminate indoor pollutants and airborne microbes. The indoor odor mitigation attributed to these is due to the fact that ozone deadens the sense of smell. Purifiers equipped with sensors that limit ozone concentrations to 50 parts per billion cannot guarantee the longevity of such sensors. These devices counter reductions in ambient ozone levels. The Department of Health Services issued a press release in 1997 on these devices, but it had little effect. CARB has published the names of ozone generator brands to alert the public on ozone emissions.

CARB believes that ozone generators pose an unnecessary public health risk and has submitted an ozone generator mitigation plan to the Attorney General’s Office, which is considering options for legal action. Additional measures in the plan include development of public and professional guidance materials, and an outreach program, as well as working with air cleaner manufacturers to develop test protocols for air cleaners and establish emission limits.

The Air District might consider becoming involved with the ozone generator issue as well as with encouraging implementation of mitigation measures for schools. Involvement with public outreach efforts on IAQ is also recommended for the District, given its existing public outreach network and familiarity with residents and institutions in the Bay Area region. The Advisory Council’s own suggestion that an IAQ summit for the Bay Area region be held is excellent. CARB sponsored a Symposium on IAQ in the year 2000. The District might also consider becoming more involved with training on building filtration systems, and loaning measurement devices to schools and homes for the care of the elderly.

In reply to questions and suggestions from Committee members, Ms. Jenkins noted:

- A large bibliography of studies on IAQ is posted on the CARB website, and additional materials will be e-mailed to the Advisory Council through the Deputy Clerk.

- The District could be encouraged to issue correspondence to magazines discouraging advertisement of ozone generating air purifiers, and the Advisory Council might consider adopting such a recommendation for forwarding to the Governing Board.
- Legislation proposed three years ago would have given CARB authority to regulate IAQ but was unsuccessful. The Portable Classroom Study has recently generated two proposed bills.
- CARB staff can make a presentation on its recent IAQ report to such groups as the American Institute of Architects, Pacific Gas & Electric and other building related networks. The presentation can be tailored to focus on certain fields depending upon the audience. For example, for architectural groups there should be some focus on outdoor coatings.
- Most product labeling requirements concern emissions to outdoor air—such as ones governing volatile organic compounds—and are not specific to IAQ. CARB would like to require manufacturers to test their products and publish the data on labels: this would allow for product comparison and subject improvement in procurement selection. At present, such labeling would be purely voluntary as there is no authority to require it. Moreover, manufacturers do not want to pay for the cost of the test and if the product does not meet a given standard they would have to engage in product reformulation, which would pose an additional cost.
- Indoor ozone generators have created an entire market based on vague, and often inaccurate, science. The strength of regulatory agencies in IAQ management is that they can fund research and conduct public education. There are alternatives to ozone generators for indoor air purification: these include HEPA filters, and electrostatic precipitators and ionizers.
- CARB's Stationary Source Division is handling the issue of the two different resins for indoor and outdoor plywood particle board. The resin used in the indoor plywood emits more formaldehyde than what is used for the outdoor plywood. CARB believes that the resin used in outdoor applications would be acceptable for use in indoor applications as well.

**5. Committee Member Comments/Other Business.** There was none.

**6. Time and Place of Next Meeting.** 1:30 p.m., Monday, June 13, 939 Ellis Street, San Francisco, CA 94109.

**7. Adjournment.** 3:04 p.m.

James N. Corazza  
Deputy Clerk of the Boards

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Resolution No. 89**

**A Resolution Encouraging the Bay Area Air Quality Management District to Address  
Climate Change**

WHEREAS, there is overwhelming scientific evidence that shows concentrations of greenhouse gases in the atmosphere are increasing steadily, and that the Earth's surface and ocean temperatures are rising; and

WHEREAS, most scientists agree that anthropogenic sources of greenhouse gases largely account for these increases and are causing the earth's climate to change and that conflicting views are more about the rate of change and the ultimate results, rather than questioning the underlying premise of human-caused changes to climate; and

WHEREAS, climate change is expected to produce a number of negative public health effects such as extended blooming seasons that will lead to increased formation of allergens including pollen and fungal spores that contribute to asthma, and increased heat expected to lead to higher mortality rates during prolonged periods of high temperatures; and

WHEREAS, global climate change could have significant effects on local weather conditions such as increases in temperatures, the extension of warm weather seasons, changes in wind and precipitation patterns, increases in severity of storms, and changes to other weather variables that have important effects on our local air quality and public health and welfare; and

WHEREAS, ground level ozone and other pollutants are formed due to the photochemical reactions between nitrogen oxides and volatile organic compounds in the presence of sunlight and heat, and as climate change causes temperatures to increase, the emissions of ozone precursors and photochemical reactions will also increase; and

WHEREAS, the Bay Area is a non-attainment area for the national 8-hour ozone standard and the state 1-hour and 8-hour ozone standards, and the Bay Area Air Quality Management District has dedicated significant resources to reducing ground level ozone in the region in order to protect public health, and climate change will adversely impact those efforts; and

WHEREAS, the Bay Area is also a non-attainment area for state particulate matter standards and many sources, specifically fossil fuel combustion, that lead to greenhouse gas emissions also contribute significantly to the region's particulate matter burden; and

WHEREAS, in addition to ozone precursors and particulate matter, fossil fuel combustion also causes emissions of toxic air pollutants and other criteria pollutants that the Bay Area Air Quality Management District regulates in order to protect public health; and

WHEREAS, reducing dependence on fossil fuels has the co-beneficial effect of reducing criteria air pollutants, toxic air contaminants, and greenhouse gas emissions from fossil fuel combustion as well as providing energy independence; and

WHEREAS, the transportation sector accounts for the largest source of greenhouse gas emissions in the region, and the Bay Area Air Quality Management District is already promoting efforts to reduce emissions from mobile sources through lower-emission vehicle incentive programs, transportation control measures, and smart growth policies, and these efforts also reduce greenhouse gas emissions; and

WHEREAS, the Bay Area Air Quality Management District also regulates emissions from energy generation, refineries, and chemical plants in the region, which are also significant sources of both criteria pollutants and greenhouse gases and the District is already promoting energy conservation and efficiency measures that have co-benefits for greenhouse gas reductions; and

WHEREAS, the Bay Area Air Quality Management District is charged with improving public health in the region with respect to air quality and by taking a leadership role in addressing greenhouse gas emissions the District will assist the core goal of achieving health-based air quality standards as well as reduce the regional contribution to global climate change; and

WHEREAS, there are numerous municipal and community- based climate change programs already underway in the region and supporting these efforts will provide additional opportunities to strengthen these programs, stimulate additional activities, and encourage further relationships between the Bay Area Air Quality Management District and its stakeholders.

NOW, THEREFORE, BE IT RESOLVED that the Advisory Council of the Bay Area Air Quality Management District encourages the Bay Area Air Quality Management District Board of Directors to address climate change and climate protection through the District's activities, including outreach and education, data collection and analysis, technical assistance, and leadership and support for local efforts in the Bay Area to reduce greenhouse gas emissions that contribute to climate change.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Memorandum

To: Chairperson Townsend and Members  
of the Executive Committee

From: Jack P. Broadbent  
Executive Officer/APCO

Date: May 13, 2005

Re: Climate Change and Protection Resolution

RECOMMENDED ACTION

Consider recommending that the Board of Directors adopt a resolution to create a Bay Area Climate Protection Program.

BACKGROUND

The world's scientific community agrees that the Earth's climate is changing due to human activity. Respected agencies such as NASA, the National Academy of Sciences, the National Oceanic and Atmospheric Administration, the International Panel on Climate Change, and other eminent scientific bodies in North America, Europe and Asia have issued reports documenting their analysis to support this conclusion. Some of their observations include:

- Average global surface temperature increased more than 1° F over the past 100 years, with a 9° F average increase in the polar regions.
- 1990 – 2000 was the hottest decade of the 20th century – perhaps even the millennium – and 2001, 2002 and 2003 were three of the hottest years ever recorded.
- Concentrations of carbon dioxide (CO<sub>2</sub>) in the atmosphere have been increasing. The current concentration is approximately 375 ppm. Analyses of ice core samples show that this is the highest level in the past 420,000 years. Evidence shows that the greatest CO<sub>2</sub> concentration increases have occurred since about 1750, which coincide with the beginning of human industrialization and widespread use of fossil fuels. The rate of increase has also been on the rise – CO<sub>2</sub> concentrations today are roughly 12 times higher than they were in 1900.
- Concentrations of other greenhouse gases, such as methane and nitrous oxides, have also been increasing. These gases are also created by human activities.

There is still uncertainty about the exact rate and effects of climate change in the future, and a number of variables can impact the pace of the changes, the severity of the impacts, and the regions that would be affected most acutely. However, most scientists agree that because greenhouse gases persist in the atmosphere for extended periods of time (CO<sub>2</sub> remains in the atmosphere for 100 years), the general surface warming trend, and associated sea level rise due to the expansion of water as it warms, is anticipated to continue well into the next century. Scientists warn that while we urgently need to curb greenhouse gas emissions, we must also prepare for the adverse

consequences of the warming trend already underway. One of these consequences is the potentially significant impact of climate change on the District's core mission of attaining air quality standards.

## DISCUSSION

Certain chemical precursors, such as nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs), react in the atmosphere to produce ozone and ammonium nitrate (a form of particulate matter). Higher temperatures increase precursor VOC emissions (from evaporation of petroleum-based products and from biogenic sources), and also increase photochemical reactions forming ozone. Continued warming threatens to potentially erode air quality improvements made in the Bay Area in the past 50 years and may make it more difficult for the region to meet ozone and particulate matter standards.

Reports from STAPPA/ALAPCO, U.S. EPA, and other organizations highlight the co-benefits of "harmonizing" existing air quality rules, regulations, and programs that address criteria and toxic air pollutants with the goals of reducing greenhouse gas emissions. Existing District rules and programs are already reducing greenhouse gas emissions but those reductions are not currently being quantified and documented. For example, programs to reduce vehicle miles traveled (VMT) and energy efficiency measures reduce NO<sub>x</sub> and PM emissions because they reduce emissions from fossil fuels and they also reduce emissions of greenhouse gases.

California has taken the lead in curbing greenhouse gases by setting new emission standards for light duty vehicles to go into affect in the 2009 model year. This new standard was the result of state legislation (AB1493 - Pavley) that directed ARB to set regulations that would achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles. Experts expect that in the coming years other states will adopt these standards and additional state and federal regulations addressing greenhouse gases will be developed.

There are numerous climate protection activities currently underway at the local level throughout the region. Supporting these efforts could help to build synergies between programs and increase their effectiveness, provide opportunities for the District to collaborate with local stakeholders, and stimulate additional activities with regional impacts. The District could undertake climate protection activities such as:

- Continue participating in initiatives in Sonoma County, Marin County, the Silicon Valley, and individual Bay Area cities to quantify and reduce greenhouse gas emissions through the ICLEI Cities for Climate Protection Program.
- Continue collaborating with the California Climate Action Registry.
- Preparing an inventory of region-wide greenhouse gas emissions.
- Hosting a regional conference to help coordinate local climate protection initiatives and create guidance for new initiatives, such as a model ordinance.
- Providing technical assistance to local stakeholders and creating an information clearinghouse to assist local initiatives.

- Developing public education and outreach campaigns about climate protection, energy efficiency, and ways to reduce greenhouse gas emissions at home and in the workplace.
- Creating a curriculum for students in the region about the science of climate change and opportunities to reduce greenhouse gas emissions.

The Advisory Council Technical Committee has discussed climate change in depth, and on May 11, 2005 the Advisory Council unanimously passed a resolution encouraging the District Board of Directors to address climate change. Because this is a new area of focus for the District, staff is recommending that the Board of Directors acknowledge this new step by adopting a resolution that establishes a Climate Protection Program.

#### BUDGET CONSIDERATION/FINANCE IMPACT

The proposed FY 2005/2006 budget includes a new program (#608) reflecting District climate change activities. All personnel costs in program #608 represent existing staff. \$60,000 is proposed for costs associated with hosting a regional conference and conducting public education campaigns.

Respectfully submitted,

Jack P. Broadbent  
Executive Officer

Prepared by: Ina Shlez  
Reviewed by: Henry Hilken

Attachment



## **BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

**Resolution No. \_\_\_\_ 2005**

### **A Resolution Establishing the Bay Area Air Quality Management District's Climate Protection Program**

WHEREAS, there is overwhelming scientific evidence that shows concentrations of greenhouse gases in the atmosphere are increasing steadily, and that the Earth's surface and ocean temperatures are rising;

WHEREAS, most scientists agree that anthropogenic sources of greenhouse gases largely account for these increases and are causing the earth's climate to change and that conflicting views are more about the rate of change and the ultimate results, rather than questioning the underlying premise of human-caused changes to climate;

WHEREAS, these scientists represent respected agencies such as NASA, the National Academy of Sciences, the National Oceanic and Atmospheric Administration, the International Panel on Climate Change, and other eminent scientific bodies in North America, Europe and Asia;

WHEREAS, scientific analysis has shown that average global surface temperature increased more than 1° F over the past 100 years, with a 9° F average increase in the polar regions, and that 1990 – 2000 was the hottest decade of the 20th century, and 2001, 2002, and 2003 were the hottest years ever recorded;

WHEREAS, scientific analysis has also shown that concentrations of carbon dioxide (CO<sub>2</sub>) in the atmosphere have been increasing and the current concentration is the highest level in the past 420,000 years, and the greatest CO<sub>2</sub> concentration increases have occurred since about 1750, which coincide with the beginning of human industrialization and widespread use of fossil fuels, and the rate of increase has also been on the rise in the last century;

WHEREAS, concentrations of other greenhouse gases, such as methane and nitrous oxides, have also been increasing, and these gases are also created by human activities;

WHEREAS, global climate change could have significant effects on local weather conditions such as increases in temperatures, the extension of warm weather seasons, changes in wind and precipitation patterns, increases in severity of storms, and changes in other weather variables that have important effects on our local air quality and public health and welfare;

WHEREAS, ground level ozone and other pollutants are formed due to the photochemical reactions between nitrogen oxides and volatile organic compounds in the presence of sunlight and heat, and as climate change causes temperatures to increase, the emissions of ozone precursors and photochemical reactions will also increase;

WHEREAS, the Bay Area is a non-attainment area for the national 8-hour ozone standard and the state 1-hour and 8-hour ozone standards, and the Bay Area Air Quality Management District has dedicated significant resources to reducing ground level ozone in the region in order to protect public health, and climate change will impact those efforts;

WHEREAS, the Bay Area is also a non-attainment area for state particulate matter standards and many sources, specifically fossil fuel combustion, that lead to greenhouse gas emissions also contribute significantly to the region's particulate matter burden;

WHEREAS, in addition to ozone precursors and particulate matter, fossil fuel combustion also causes emissions of toxic air pollutants and other criteria pollutants that the Bay Area Air Quality Management District regulates in order to protect public health;

WHEREAS, reducing dependence on fossil fuels has the co-beneficial effect of reducing criteria air pollutants, toxic air contaminants, and particulate matter and greenhouse gas emissions that contribute to climate change from fossil fuel combustion as well as providing energy independence;

WHEREAS, AB 1493 (Pavley) directed ARB to set regulations that would achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles and ARB adopted a new emissions standard for light duty vehicles to go into affect in the 2009 model year;

WHEREAS, the transportation sector accounts for the largest source of greenhouse gas emissions in the region, and the Bay Area Air Quality Management District is already promoting efforts to reduce emissions from mobile sources through lower-emission vehicle incentive programs, transportation control measures, and smart growth policies, and these efforts also reduce greenhouse gas emissions and the use of fossil fuels;

WHEREAS, the Bay Area Air Quality Management District also regulates emissions from energy generation, refineries, and chemical plants in the region, which are also a significant sources of both criteria pollutants and greenhouse gases and the District is already promoting energy conservation and efficiency measures that have co-benefits for greenhouse emission reductions;

WHEREAS, the Bay Area Air Quality Management District is charged with improving public health in the region with respect to air quality, and by taking a leadership role in addressing greenhouse gas emissions the District will assist the core goal of achieving health-based air quality standards as well as reduce the regional contribution to global climate change;

WHEREAS, there are already a number of municipal and community- based climate change programs already underway in the region such as efforts in Sonoma and Marin Counties, the Silicon Valley, and the City of Oakland to inventory emissions and set reduction targets, and continuing support of these efforts will provide additional opportunities to strengthen these programs, stimulate additional activities, and encourage further relationships between the Bay Area Air Quality Management District and its stakeholders.

NOW, THEREFORE, BE IT RESOLVED that the Bay Area Air Quality Management District Board of Directors establishes a Bay Area Climate Protection Program to address climate change and climate protection through District activities including outreach and education campaigns, data collection and analysis, technical assistance, hosting a regional conference on climate protection, and support and leadership for local efforts in the Bay Area to reduce emissions that contribute to climate change.

The foregoing resolution was duly and regularly introduced, passed and adopted at a regular meeting of the Board of Directors of the Bay Area Air Quality Management District on the Motion of Director \_\_\_\_\_, seconded by Director \_\_\_\_\_, on the \_\_\_\_\_ day of \_\_\_\_\_ 2005 by the following vote of the Board:

AYES:

NOES:

ABSENT:

---

Marland Townsend  
Chairperson of the Board of Directors

ATTEST:

---

Mark Ross  
Secretary of the Board of Directors

BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Inter-Office Memorandum

To: Chairperson Townsend and Members  
of the Executive Committee

From: Jean Roggenkamp,  
Deputy Air Pollution Control Officer

Date: May 13, 2005

Re: Joint Policy Committee Update

RECOMMENDED ACTION:

Receive and file.

BACKGROUND

Senate Bill No. 849 established the Joint Policy Committee (JPC) consisting of representatives of the Bay Area Air Quality Management District, the Metropolitan Transportation Commission, and the Association of Bay Area Governments to coordinate regional planning in the San Francisco Bay Area. At the February 4, 2005 meeting of the Executive Committee, Ted Droettboom, Regional Planning Program Director for the JPC, provided the Committee with an initial overview of the JPC, its mandate, and its work program.

DISCUSSION

At the May 20, 2005 meeting of the Executive Committee, Ted Droettboom will provide an update on the activities of the Joint Policy Committee.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Jean Roggenkamp  
Deputy Air Pollution Control Officer

FORWARDED: \_\_\_\_\_

BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Inter-Office Memorandum

To: Chairperson Townsend and Members  
of the Executive Committee

From: Jeff McKay,  
Interim Director of Administrative Services

Date: May 20, 2005

Re: Status Report on Internal Systems and Controls Audit

RECOMMENDED ACTION:

Receive and file.

BACKGROUND

The Board of Directors at its January 19, 2005 meeting directed staff to solicit bids and execute an agreement to conduct an independent internal systems and controls audit. The audit would access processes and controls within the organization. Gilbert Associates was awarded the contract and work was initiated April 25, 2005.

DISCUSSION

The audit is ongoing; however, steps are in progress to incorporate draft findings into the District's processes.

The following items are complete:

**Internal Control Cycle Narratives:**

- Completed draft narrative for Cash Receipts, Revenue, and Accounts Receivable Cycle
- Completed draft narrative for Cash Disbursements, Expenditures, and Accounts Payable Cycle
- Completed draft narrative for the Capital Assets Expenditure Cycle
- Completed draft narrative for the Grant Administration Cycle

**Internal Control Questionnaires:**

- Completed Internal Control Questionnaire - Budget
- Completed Internal Control Questionnaire - Cash Disbursements
- Completed Internal Control Questionnaire - Cash Receipts
- Completed Internal Control Questionnaire - General
- Completed Internal Control Questionnaire - Government Grants
- Completed Internal Control Questionnaire - Property & Equipment
- Completed Internal Control Questionnaire - Purchasing

The following items remain to be completed:

- Draft Billing narrative to be completed.
- Draft Budget narrative to be completed.
- Internal Control Questionnaire for Revenue to be completed.
- Design audit programs (after receiving the reviewed narrative drafts and forms)
- Test transactions against the policies and procedures.
- Based on the results of narratives, internal control questionnaires, and testing: draft report for management's review.
- Issue the final report, after review by management.

BUDGET CONSIDERATION/FINANCIAL IMPACT

On January 19, 2005, the Board authorized a transfer of \$200,000 from the General Reserve for the internal systems audit and an adjustment to the Districts' approved FY 2004/05 budget.

Respectfully submitted,

Jeff McKay  
Interim Director of Administrative Services

FORWARDED: \_\_\_\_\_

BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Office Memorandum

To: Chairperson Townsend and Members  
of the Executive Committee

From: Jack P. Broadbent  
Executive Officer/APCO

Date: May 20, 2005

Re: Budgetary Discussion and Direction from the Committee

RECOMMENDED ACTION

Receive and file.

BACKGROUND

Consistency in budgeting can be enhanced with discussion of both revenue-side and expenditure-side planning methods. On the revenue side, an opportunity exists to clarify planning methods relative to Cost Recovery. On the expenditure side, an opportunity exists relative to long term capital planning, and the relation of such capital planning to fund designations.

**Cost Recovery**

State law authorizes the District to assess fees to generate revenue to cover the costs of air quality programs. The District has established, and regularly updates, a fee regulation under these authorities. Currently, approximately one-third of the District's general fund operating budget is derived from fees imposed in accordance with this regulation. From time to time, the District has considered whether these fees result in the collection of a sufficient and appropriate amount of revenue in comparison to the cost of program activities.

In 1999, a comprehensive review of the District's fee structure and revenues was completed by the firm KPMG Peat Marwick LLP. The KPMG study indicated that fee revenue did not nearly offset the full costs of program activities associated with sources subject to fees as authorized by State law. County property tax revenue (and in some years, fund balances) had consistently been used to close this cost recovery gap.

Following the KPMG study, the District approved an across-the-board fee increase of 15 percent – the maximum allowed by law – for fiscal year 1999-00 as a step toward more complete cost recovery. In each of the next five years, the District adjusted fees only to account for inflation (for FY 2004-05, the District also approved further increases in Title V fees, and a new processing fee for renewals of permits to operate).

In 2004, the Board of Directors approved funding for an updated Cost Recovery Study. This study was completed by the firm Stonefield Josephson, Inc. in March 2005. The Stonefield Josephson study indicates that a significant cost recovery gap still exists. For FY 2003-04, fee revenue covered only about 60 percent of program activity costs, leaving a gap of approximately \$13 million to be filled with property tax revenue.

### **Capital Planning and Reserve Designations**

The District currently indicates future plans for Capital spending through designation of reserve funds. The Government Financial Officers Association recommends that decisions on fund balances be made within the context of long term forecasting. The Districts' reserve designations are not currently linked to a long term forecasting process.

### **DISCUSSION**

Staff believes a policy discussion on persistence of Cost Recovery measures and on consolidation of reserve designations with attendant implementation of a five year capital plan will benefit the budgeting process.

### **Cost Recovery**

Staff believes that, as a matter of policy, stationary source fees should be raised in a phased manner over a period of time so that a smaller portion of the District's property tax revenue is needed to close the gap between permit fee revenue and the District's costs allocable to activities related to permitted sources. More property tax revenue could then be used to fund other important initiatives and programs that benefit air quality but that do not have a separate funding source. In order to reduce the cost recovery gap, fee revenue will need to be increased at a rate that exceeds the rate of inflation, as costs can also be expected to increase along with inflation.

For FY 2005-06, staff has proposed fee amendments that would result in an increase in fee revenue of approximately \$1.4 million from projected revenue levels in the current fiscal year, representing an increase of about 7 percent. Under this proposal, the increases in individual fee schedules would be based on the magnitude of the cost recovery gap indicated in the Cost Recovery Study. Fee schedules with the largest cost recovery gaps would be increased by 15 percent; schedules with less significant gaps, along with most administrative fees, would be increased by five percent; schedules with no cost recovery gaps would not be increased. These fee increases will allow the District to address increasing program activity costs, and also fund with property tax revenue important initiatives such as the Community Air Risk Evaluation (CARE) program and the Climate Change program.

Staff recognizes the need to closely monitor the magnitude of the cost recovery gap on an ongoing basis by accurately tracking program activities and fee revenue. Staff intends to enhance existing tracking programs and develop more refined tools for this purpose. In addition, staff believes that measures to improve efficiencies and contain costs must be



pursued on an ongoing basis. Staff will develop a plan and policy proposal to provide guidance in future budget cycles.

### **Capital Planning and Reserve Designations**

The District will be well served by consolidation of proliferating reserve designations and by implementation of a five year capital plan. Use of reserve designations as a default capital planning tool suffers from two disadvantages. First, the reserves do not contain a time component, and second they are poorly suited to the continual additions and changes that capital descriptions entail. In the coming fiscal year, District staff proposes to consolidate reserve designations and initiate a five year capital plan.

### **BUDGET CONSIDERATION/FINANCIAL IMPACT**

None.

Respectfully submitted,

Jack P. Broadbent  
Executive Officer/APCO

Prepared by: Jeff McKay and Brian Bateman

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**  
Inter-Office Memorandum

To: Chairperson Townsend and Members  
of the Executive Committee

From: Jeff McKay,  
Director of Information Services

Date: May 20, 2005

Re: Replacement of DataBank and IRIS

RECOMMENDED ACTION

Receive and file

BACKGROUND

The Air District uses unique software applications, DataBank and IRIS, to carry out business processes in Planning, Permitting, Inspection and Emission Inventory.

The Air District first implemented the DataBank application in 1977. This application pre-dates database technology, and stores information in flat files. In 2001 the District implemented the IRIS application, partially relieving Databank of some function. The migration to modern technology must continue for the District to fulfill its mission.

Ongoing presentations to the Executive Committee have described the importance of Content Management in replacement of existing systems. Prior Committee actions have approved a pilot process, and the early steps will be presented.

DISCUSSION

Content Management capabilities include elements familiar from both common business process and from common office desktop functions. The District has identified broadly categorized capabilities that will be added or enhanced as the District moves from its current state to its future state. The mapping of these capabilities to vendor offerings will be part of the vendor selection process for the pilot.

BUDGET CONSIDERATION/FINANCIAL IMPACT

Initial funds for this work are included in the approved 04/05 budget.

Respectfully submitted,

Jeff McKay  
Director Information Services Division

FORWARDED: \_\_\_\_\_