



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

ADVISORY COUNCIL REGULAR MEETING

WEDNESDAY
JULY 9, 2003
10:00 A.M.

SEVENTH FLOOR
BOARD ROOM

AGENDA

CALL TO ORDER

Opening Comments
Roll Call

William Hanna, Chairperson
Clerk

PUBLIC COMMENT PERIOD

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

1. Approval of Minutes of May 14, 2003

COMMITTEE REPORTS

2. Report of the Air Quality Planning Committee Meeting of May 27, 2003 Chair Kurucz
3. Report of the Public Health Committee Meeting of May 19, 2003 Chair Zamora
4. Report of the Technical Committee Meeting of May 29, 2003 Chair Harley
5. Report of the Joint Public Health & Technical Committee Meeting of June 30, 2003 Chair Zamora
Chair Harley

6. Report of the Executive Committee Meeting of July 9, 2003

Chair Hanna

PRESENTATION(S)

7. Report on the Air & Waste Management Annual Meeting: June 2003

Advisory Council members Altshuler, Brazil, Dawid, Hayes, Holtzclaw and Kurucz attended the Air & Waste Management Association Annual Exhibition & Meeting held in San Diego, California from June 23-27, 2003. They will report on sessions addressing topics applicable to the current Council work plan or which may be proposed for inclusion as a Council study topic.

OTHER BUSINESS

8. Report of the Executive Officer/APCO

William C. Norton

9. Report of Advisory Council Chair

William Hanna

10. Council Member Comments/Other Business

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

11. Time and Place of Next Meeting

10:00 a.m., Wednesday, September 10, 2003, 939 Ellis Street, San Francisco, CA 94109.

12. Adjournment

BH:jc

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

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

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

CLERK OF THE BOARDS OFFICE:
MONTHLY CALENDAR OF DISTRICT MEETINGS
JULY 2003

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Regular Meeting	Wednesday	2	9:45 a.m.	Board Room
Advisory Council Executive Committee	Wednesday	9	9:00 a.m.	Room 716
Advisory Council Regular Meeting	Wednesday	9	10:00 a.m.	Board Room
Board of Directors Mobile Source Committee	Thursday	10	9:30 a.m.	4th Floor Conf. Room
Board of Directors Legislative Committee	Monday	14	9:30 a.m.	4th Floor Conf. Room
Board of Directors Regular Meeting	Wednesday	16	9:45 a.m.	Board Room
Board of Directors Executive Recruitment Ad Hoc Committee	Wednesday	16	Immediately following the Regular Board Meeting	Room 716
Board of Directors Stationary Source Committee - CANCELLED-	Wednesday	16	10:30 a.m.; or immediately following the Regular Board Meeting	Board Room
Advisory Council Air Quality Planning Committee	Tuesday	22	9:30 a.m.	Room 716
Board of Directors Budget & Finance Committee	Wednesday	23	9:30 a.m.	4th Floor Conf. Room
Board of Directors Executive Committee	Wednesday	30	9:30 a.m.	4th Floor Conf. Room

MR:mr
6/25/03 (11:35 a.m.)
P/Library/Calendar/Moncal

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

CLERK OF THE BOARDS OFFICE:
MONTHLY CALENDAR OF DISTRICT MEETINGS
AUGUST 2003

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Regular Meeting - CANCELLED -	Wednesday	6	9:45 a.m.	Board Room
Advisory Council Technical Committee	Thursday	7	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Public Outreach Committee	Monday	11	9:45 a.m.	4 th Floor Conf. Room
Advisory Council Public Health Committee	Monday	11	1:30 p.m.	4 th Floor Conf. Room
Board of Directors Regular Meeting - CANCELLED -	Wednesday	20	9:45 a.m.	Board Room
Board of Directors Budget & Finance Committee	Wednesday	27	9:30 a.m.	4 th Floor Conf. Room

MR:hl
7/01/03 (11:00 a.m.)
P/Library/Calendar/Moncal

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET - SAN FRANCISCO, CALIFORNIA 94109

Draft Minutes: Advisory Council Regular Meeting – May 14, 2003

CALL TO ORDER

Opening Comments: Chairperson Hanna called the meeting to order at 10:05 a.m.

Roll Call: Present: William Hanna, Chair, Sam Altshuler, P.E., Elinor Blake, Harold M. Brazil, Irvin Dawid, Fred Glueck, Stan Hayes, John Holtzclaw, Ph.D., Norman A. Lopera, Jr., Robert F. Sawyer, Ph.D., P.E., Kevin Shanahan, Victor Torreano, Linda Weiner (10:15 a.m.).

Absent: Pamela O'Malley Chang, Patrick Congdon, P.E., Ignatius Ding, Rob Harley, Ph.D., Jane Kelly, Kraig Kurucz, Brian Zamora.

PUBLIC COMMENT PERIOD: There were none.

WELCOMING OF NEW ADVISORY COUNCIL MEMBERS:

William A. Nack, former Advisory Council member, introduced and welcomed Victor Torreano in the Organized Labor Category, and Robert F. Sawyer, Ph.D., P.E., introduced and welcomed Louis Wells Bedsworth in the Public-At-Large Category. In her absence, the Council also welcomed Pamela O'Malley Chang in the Architect Category.

Chairperson Hanna requested each of the Council members to introduce themselves to the new members.

1. **Approval of Minutes of March 12, 2003:** Mr. Lopera requested that the numbering on Page # 3 be made sequential. Mr. Altshuler moved approval of the minutes; seconded by Ms. Blake; carried unanimously.

COMMITTEE REPORTS

2. **Report of the Air Quality Planning Committee Meeting of March 25, 2003**

In the absence of Chairperson Kurucz, Mr. Dawid reported that the Committee continues to work on the issues related to Inspection and Maintenance (I&M) and received a review of pending legislation matters by the District's legislative analyst. The Committee members noted that they would like to receive legislative updates from Staff at future meetings.

3. Report of the Public Health Committee Meeting of April 14, 2003

In the absence of Chairperson Zamora, Ms. Blake reported that at the April 14, 2003, meeting, the Committee began working on the Maritime Emission Sources and Controls issue. The Committee heard a presentation from Jim McGrath, Environmental Planning Manager, Port of Oakland, on maritime emissions. Victor Douglas, Air Quality Specialist, Compliance & Enforcement Division, presented information to the Committee on AB 2650 (Lowenthal) that limits truck idling to 30 minutes.

Ms. Blake invited Advisory Council members to attend the Committee's next meeting on Monday, May 19, 2003, at 1:30 p.m., which is being held at the Senior Center in Rodeo. She explained that this meeting is being convened in Rodeo at the request of members of the community who are interested in providing input to the Committee on fence line monitoring at the refineries. Ms. Weiner emphasized that it would be particularly helpful if any Council members with technical and scientific expertise could attend the meeting since fence line monitoring not only has public health implications but there are also issues in those two areas that will need to be addressed.

Ms. Blake also reported that at the Advisory Council's Executive Committee this morning, Mr. Peter Hess, Deputy APCO, had reported on the May 13, 2003 Toxic Tour in the West Contra Costa County area. A number of people who went on the Toxic Tour will also be attending the Public Health Committee's meeting in Rodeo on Monday, May 19.

4. Report of the Technical Committee Meeting of April 1, 2003

In the absence of Chairperson Harley, Mr. Altshuler reported that there is a considerable amount of discussion and debate on flares at refineries. The Committee received and discussed presentations from the District Staff and industry representatives. He stated that there seems to be a lot of debate as to how much the flares put out. The Committee discussed the technical aspects of how the flares work and when they flare. He noted that ultimately it is important to know the potential impact of these emissions on ozone attainment and the importance of being able to plug the emissions data into the modeling that ENVIRON International Corporation is conducting for the District. Mr. Altshuler stated that the VOC emissions from refineries is a very important issue at this time. Houston, Texas, discovered that this was a very important factor affecting their ability to attain the ozone standard. Mr. Hayes added that this is a very actively followed issue by a number of groups in the Bay Area and that this particular measure would get a lot of scrutiny. Mr. Altshuler pointed out that the Technical Committee's focus is more on the ozone issues but there are also toxic implications that the residents in the area are concerned about. Chairperson Hanna stated that the monitoring that is being considered, has resulted in a couple of refineries already having made improvements to their processes.

Council members and Staff discussed the implications of recalibration of emissions inventory from the flares from two tons/day to 22 tons/day on the overall emissions inventory contributions by the refineries.

5. Report of the Executive Committee Meeting of May 14, 2003

Chairperson Hanna stated that the Committee met earlier today and received a summary of the Committee reports. In addition, Mr. Hess stated that maritime emissions are being discussed and

that the focus of the discussions is to determine whether “cold ironing” (turning off boilers in the ships while they are in port) will reduce emissions. Mr. Hess informed the Committee that the Advisory Council would be among the first to receive the final results of the ozone modeling that is being conducted by ENVIRON; this matter will be scheduled for the September 2003 meeting of the Advisory Council Regular Meeting.

PRESENTATIONS:

6. Staff Presentation: Update on the 2001 Ozone Attainment Plan

Adan Schwartz, Senior Assistant Counsel, provided the Council with a briefing regarding the recent court developments on the 2001 Ozone Attainment Plan. He stated that the District received a recent tentative result from the Superior Court in San Francisco on this case. The plan is still before the Environmental Protection Agency (EPA), awaiting their action. There are three elements that EPA disapproved in the previous 1999 Ozone Attainment Plan and also made a finding that the Bay Area did not attain the standard by November 2000. The 2001 Plan that is now before them attempts to correct those disapproved elements. Mr. Schwartz explained that when EPA disapproves a portion of a plan, the clock begins ticking and at a certain point in time, sanctions kick in. The first of those sanctions is an increase in the offsets required for New Source Review, and this has, in fact, been triggered because 18 months have passed since EPA’s disapproval action. Six months hence the Federal Highway Funds sanction – withholding federal transportation funding – goes into effect, as well as a requirement for EPA to propose a Federal Implementation Plan for the region. The District is working to resolve the outstanding issues before the second sanction goes into effect. EPA is very close to taking action on the 2001 Plan. However, it remains to be seen as to when EPA will actually do that. We do not know what effect the recent Superior Court decision will have on the EPA process.

Petitioners, Communities for a Better Environment (CBE) and Transportation Solutions Defense and Education Fund (TRANSDEF) challenged the 2001 Plan in the San Francisco Superior Court, on a number of grounds. Some of their claims were dropped in the course of the litigation, but the ones that remained were on the California Environmental Quality Act (CEQA) and Section 40233 of the Health and Safety Code. Under Section 40233 of the Health and Safety Code, they challenged the adequacy of the Plan. This Section applies specifically to the Bay Area District and it sets forth certain procedures that the District must follow in conjunction with the Metropolitan Transit Commission (MTC) in developing an ozone plan. The petitioners claim that the District did not follow some of those procedures. They also challenged some actions that the Air Resources Board took in conveying the District’s Plan to EPA. Those issues were minor and the Court dispensed with them. With regard to the CEQA challenge, the Court case proceeded in stages. The District appeared before the Court three times and at each of the first two times the Court requested additional information and continued the matter to a later date. When the District appeared before the Court the second time a tentative ruling on the CEQA portion of the case was given. The petitioners raised a number of issues, the most significant being that the 2001 Plan did not provide for measures that attain the Federal ozone standard and, therefore, it was deficient under CEQA. Petitioners argued that this meant that there was a significant impact to the environment. The District, in its response, described to the Court how it fundamentally disagreed with that interpretation of CEQA and felt that this was a Federal matter and that EPA must determine whether the District’s Plan provides for attainment. The Court sustained the District on this point and this was the most important part of the petitioner's challenge. However, the Court did rule against the District on two significant points. The first

was on measures that the District was describing as Future Study Measures to be enacted; these are labeled as SS13 and 14, and both relate to solvent clean-up. The District's Board of Directors, pursuant to what the Plan described, has adopted regulations on both these measures; they were evaluated under CEQA and the District chose to do a Negative Declaration. Nobody challenged that Negative Declaration decision. The Court tentatively ruled and ordered the District to do impact reports on two Rules that the District already adopted, evaluated under CEQA and were not challenged on those procedures. The District is still awaiting a written order from the Court on this issue.

The second point is regarding Section 40233 of the Health and Safety Code in which the Court was of the opinion that the District had failed to properly estimate reductions needed from transportation sources in order to attain the Federal standard. The Court's reasoning was as follows: the 2001 Plan notes that EPA had commented on the draft of the Plan stating that the Plan required 26 more tons of reductions in order to attain the Federal standard. The Superior Court reviewed EPA's statement and determined that this is the best evidence of the numbers of reductions that are needed. The Court then looked at what the District had done in following the provisions of Section 40233 of the Health and Safety Code. The District had made an estimate, much earlier in the process, of what reductions would be needed from transportation sources, on the order of one ton per day. The Court reviewed this and came to the conclusion that 26 tons is more than one ton per day and, therefore, the District's estimate must have been in error. Therefore, the Court ordered the District to prepare a new plan, within 60 days, that provides an additional 26 tons of reductions. It is unclear as to whether the 60 days starts from the time when the Court made its ruling from the bench, or when it signs the written order. Mr. Schwartz stated that when the Court signs its order, this matter would be clarified.

At this point the District is considering all of its options, including the possibility of an appeal. The District's Counsel Office is thinking about ways to anticipate against these kinds of procedural pitfalls in future planning cycles, including the 2004 Plan process.

There were questions, concerns and discussions among several Council members and District Staff on the 2001 Plan update. Mr. Hess explained that the District is aggressively pursuing all available control measures and mitigation strategies in all the air quality ambient standards.

Dr. Sawyer opined that the District is probably delaying, as much as possible, on the 2001 Plan, hoping that it will become moot as the 2004 Plan becomes the focus. He stated that technically this strategy makes a lot of sense because the 2004 Plan should have a better understanding of what is required to reach the ozone attainment level and a better definition of exactly what reduction is required, if any. The 26 tons per day number is questionable and is a moving target at this point. More action needs to be taken to reduce the hydrocarbons because in doing this, things will be better rather than worse. Dr. Sawyer was concerned that the 2004 Plan will be based on an inventory using the new EMFAC model, which is very optimistic in future years in terms of hydrocarbon reduction and it may turn out that the District does not have to do anything. He is of the opinion that the model seems to be wrong. The numbers seem to be too optimistic in terms of the hydrocarbon reductions from the mobile fleet. Dr. Sawyer felt that, in the meantime, the District should be more aggressive in pursuing reductions because it is the right thing to do rather than pursuing legal dodges in the Court or in dealing with the EPA in trying to get its 2001 Plan approved.

Chairperson Hanna emphasized the fact that the 26 tons per day number is very much questionable, as Dr. Sawyer had stated earlier. It is a very undefined number, and the Central California Ozone Study results in modeling that the District has hired ENVIRON to do is specifically to help define that number so that it is a non-moving target.

7. Looking Back and Ahead: Personal Perspectives on Air Quality Regulation

Robert F. Sawyer, Ph.D., P.E., presented historical and prospective perspectives on air quality issues. His presentation included topics on:

- Heavy Duty Diesel NOx
- Bay Area Ozone Improvements
- BAAQMD Ozone Trends
- Issues Worth Considering for the Future

OTHER BUSINESS:

8. Report of the Executive Officer/APCO

In the absence of Mr. Norton, Mr. Hess reported on the following:

- The Air Resources Board will release designations for the Federal 8-hour Ozone standard very soon.
- There is a meeting of the 2004 Ozone Plan Working Group on May 14, 2003 at 2 p.m., at the MTC Offices in Oakland. He invited all Advisory Council members to attend.
- The District is gearing up for the Spare the Air (SPA) Program this summer. He requested that the Advisory Council members share information about the SPA Program with the groups they represented.
- The Board of Directors will consider the Flare Monitoring Rule on May 21, 2003, and the final action will be taken on June 4, 2003. He thanked the Advisory Council members for their support and input on the Rule.

9. Report of the Chairperson

Chairperson Hanna reported on the following:

- He had attended a couple of the Board of Directors and Executive Committee meetings.
- The recommendations of the Applicant Selection Working Group on the three new appointments of Advisory Council members and the reassignment of one category were accepted by the full Board.
- The resolutions of the Advisory Council on the Improvements to Enhanced Inspection and Maintenance Program, Particulate Matter Abatement and the Sonoma County Climate Protection Campaign were presented and accepted by the Board of Directors at

its meeting on May 7, 2003. The Board accepted the Enhanced Inspection and Maintenance Program resolution and wanted to discuss funding of the Sonoma County Climate Protection Campaign. Chairperson Hanna stated that he did not get an opportunity to present details to the Board of Directors as to why the Advisory Council did not support this matter, but he hoped that Staff would provide the Council's input and reasoning on this issue.

COMMENDATIONS/PROCLAMATIONS:

The Advisory Council recognized Robert Sawyer, Ph.D., P.E., who has served on the Advisory Council for seven years and will resign at the conclusion of this meeting. Chairperson Hanna presented Dr. Sawyer with a Proclamation and thanked him for his astute wisdom and the exemplary performance standards he has set for other Council members.

Dr. Sawyer thanked the Advisory Council members and the staff for their support and hard work during the years that he was involved on the Council. In addition, Dr. Sawyer thanked and appreciated James Corazza, Deputy Clerk of the Boards, for everything he has done for the Advisory Council, and requested that this recognition be incorporated into the minutes of this meeting.

10. Council Member Comments/Other Business

Individual Council members and Staff expressed their appreciation and thanks to Dr. Sawyer.

Mr. Lapera indicated that he would not be able to attend the Technical Committee meeting on May 29, 2003.

11. Time and Place of Next Meeting: - 10:00 a.m., Wednesday, July 9, 2003, 939 Ellis Street, San Francisco, California

12. Adjournment: The meeting was adjourned at 12:15 p.m.

Neel Advani
Deputy Clerk of the Boards

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

DRAFT MINUTES

Advisory Council Air Quality Planning Committee
9:30 a.m., Tuesday, May 27, 2003

1. **Call to Order – Roll Call.** 9:45 a.m. Quorum Present: Kraig Kurucz, Chairperson, Harold Brazil, Irvin Dawid, Fred Glueck, John Holtzclaw, PhD, Kevin Shanahan. Absent: Patrick Congdon.
2. **Public Presentation.** There was none.
3. **Approval of Minutes of March 25, 2003.** Mr. Glueck moved approval of the minutes; seconded by Dr. Holtzclaw; carried unanimously.
4. **Legislative Update.** Thomas Addison, Advanced Projects Advisor, stated that the \$38 billion state budget deficit dominates the Legislature’s discussion of the 3,200 bills that have been introduced in this legislative session. Bills that entail a cost to the state will be difficult to pass. Several key bills must move out of committee this week in order to be heard in public hearings. Those that do not move out of committee are technically “dead” although they could be reintroduced next year.

Two bills that would have imposed a fee on petroleum are dead: SB 981 (Soto) with a \$0.30 per barrel fee and AB 1500 (Diaz and Pavley) with a \$1.00 per barrel fee. The resulting increase of \$0.005 to \$0.01 per gallon of gasoline was considered contentious. The funds generated from the fees would have been devoted to Carl Moyer type programs.

AB 740 (Pavley) proposes to fund Carl Moyer style programs through a bond measure. The Senate Appropriations Committee will hear this bill tomorrow.

SB 656 (Sher) would place particulate matter (PM) in the same hierarchy as ozone in the California Clean Air Act (CCAA) and will be heard by the Senate Appropriations Committee tomorrow. The environmental community supports it but both business and industry oppose it. It is a work-in-progress at this point and emphasizes the identification and implementation of “all feasible measures.” Although a funding mechanism for the bill has not yet been created, the California Air Resources Board (CARB) has opined that certain state level planning processes already in place address most of these costs and only an additional \$50,000 is needed to implement the bill. Some legislators have expressed skepticism over this estimate and surmise that the adoption of regulations followed by the imposition of fines will ultimately provide funding for the bill.

The District proposes to recover some of the staff level planning costs through a change to the motor vehicle registration program funding structure for the Transportation Fund for Clean Air (TFCA). If the TFCA legislation were changed to no longer prohibit the Bay Area from using TFCA funds for both planning and monitoring the enforcement associated with mobile source emissions, fiscal support for this unfounded state mandate would accrue. Mobile sources are the greatest source of Bay Area PM emissions. Staff has forwarded this suggestion to Senator Sher.

Mr. Addison added that SB 656 would create tangible enforcement for PM standards and also balance out the District's long-standing focus on ozone planning. Mr. Shanahan noted that NOx and PM reduction programs are not connected when it comes to funding. Dr. Holtzclaw inquired if there were any effort to change the legislation governing the Carl Moyer program to make it PM-based. Mr. Addison replied this issue was discussed at the March 2003 CARB Board meeting.

In reply to Mr. Dawid, Mr. Addison noted that some NOx emissions convert to PM nitrate through secondary formation in the atmosphere. Diesel engines far surpass gasoline engines in total PM emissions. Mr. Dawid suggested staff consider proposing a separate diesel tax to address PM since diesel emissions disproportionately contribute to the current PM problem. Mr. Addison replied that at present there are no air quality taxes imposed on fuel. Although the District supported both SB 981 and AB 1500, neither of these bills has moved forward. Mr. Shanahan opined that these would have generated a major and constant source of funding for mobile source emission reductions at the cost of one cent or less per gallon of gasoline. Mr. Addison responded that 15% of those funds would have been applied to diesel emission reduction programs.

Mr. Brazil observed that for transportation conformity MTC has created transportation emission budgets. To date they have been based on ozone, but by 2006 they will also be based on PM2.5. Thus, mobile source PM will be addressed by being included in the transportation conformity process. Mr. Shanahan stated that the state's diesel risk reduction strategy mandates an 85% reduction by 2010 and is proceeding incrementally, first through transit bus fleets and then refuse and fuel hauling fleets. Mr. Dawid inquired about biodiesel, which several groups are considering using. Mr. Brazil replied that after a number of demonstration projects several Bay Area transit authorities have concluded it is inadequate. Mr. Addison suggested the Committee receive a presentation on the status of diesel and biodiesel fuel use from District Planning Division staff.

Mr. Dawid inquired if diesel particulate retrofits adversely affect fuel performance. Mr. Shanahan replied that the latter decreases by 3% if a retrofit is connected with a system that injects hydrocarbons into the exhaust. Such a system also reduces NOx by 25% and PM by 90%. A passive filter system has no impact on fuel performance but reduces PM exclusively.

Mr. Addison stated that SB 288 (Sher) is a recent response to pending federal new source review (NSR) reform. Although the federal amendments are being challenged in court, the environmental community provided Senator Sher with 37 pages of current federal NSR language for adoption as state law to prevent any weakening of NSR at the state level. While staff opposes any weakening of NSR, the Sher bill proposes an NSR program that is less stringent than the District's current program. Also, certain citizen suit provisions in the bill are problematic. Staff is working with the Senator and has suggested that he instead propose a single paragraph alternative giving air districts the authority to change but not weaken an NSR program. CARB would have the final authority to make a determination as to whether a proposed change would weaken an NSR program.

In reply to questions, Mr. Addison added that even if the federal NSR program were reformed, it would not supercede state law. Therefore, no loss of regulatory enforcement authority is entailed by federal NSR reform. The District can simultaneously administer separate federal and state NSR programs. The State of California can adopt more stringent standards for mobile sources than the federal standards because the state program predates federal regulations. This precedent is also applicable to NSR, and therefore California may adopt more stringent NSR standards than any contained in the Code of Federal Regulations.

Mr. Addison noted that AB 854 (Koretz) was merged into AB 998 (Lowenthal) and will be heard tomorrow, along with AB 698 (Lieber). AB 998 would impose a \$3.00 tax per gallon of perchloroethylene (perc), increasing by one dollar annually until 2014. AB 698 would impose a \$10 per gallon tax. The funds would be applied to low-income operators for transition to cleaner technologies. Perc is a toxic compound for both air and ground water quality. The District supports the alternative dry cleaning technologies advocated by these bills. Global warming is not affected by these technologies. The cost of both machinery and labor varies for these technologies.

AB 471 (Simitian) concerns cruise ship emissions and would prohibit (a) incineration within 90 miles of the shoreline, and (b) hoteling -- i.e, the use of the ship's engines for power when docked. The ship must now plug into the electric grid at a port. The cruise ship industry opposes the bill.

SB 916 (Perata) will increase bridge tolls but without peak period pricing adjustments. Funds from the increase will support Bay Area mass transit. Mr. Dawid noted that the Sierra Club is concerned about the bill's heavy emphasis on ferry transit and its lack of peak period toll pricing.

Mr. Addison noted that the following bills are dead: AB 729 (Lieber), AB 1624 (Benoit), AB 1613 (Benoit), AB 114 (Nakano), AB 1316 (Parra) and AB 204 (Nation). AB 45 (Simitian) and AB 574 (Yee) would increase vehicle registration surcharges beyond the scheduled increase that will soon occur. These bills are still alive but may not survive much longer. Mr. Dawid opined that flat increases in vehicle license registration fees fail to account for the variable costs of transportation.

Mr. Addison stated that SB 700 (Florez) would remove the exemption for agricultural equipment and is moving forward, but it will apply only to agricultural equipment in the San Joaquin Valley.

Chairperson Kurucz requested that at its next meeting staff provide the Committee with an update on legislation as well as a presentation on the current state of discussion on diesel and biodiesel fuel and what kind of plans are in place that would affect fuel use and impact vehicular emissions. Mr. Dawid requested that staff prepare a one-page summary distinguishing the health effects associated with gasoline emissions from those associated with diesel emissions.

Mr. Addison noted that at the federal level the Bush Administration is proposing legislation entitled "The Safe and Flexible Transportation Efficiency Act" that would reduce Congestion Management Air Quality (CMAQ) funds.

5. **Committee Member Comments/Other Business.** Mr. Dawid raised questions on pending litigation over the District's Clean Air Plan. Mr. Addison referred him to District Counsel Bunger.
6. **Time and Place of Next Meeting.** 9:30 a.m., Tuesday, July 22, 2003, 939 Ellis Street, San Francisco, CA 94109.
7. **Adjournment.** 11:37 a.m.

James N. Corazza
Deputy Clerk of the Boards

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

APPROVED MINUTES

Advisory Council Public Health Committee
1:30 p.m., Monday, May 19, 2003
Rodeo Senior Center, 189 Parker Avenue, Rodeo, California

- 1. Call to Order – Roll Call. 1:33 p.m. Quorum Present:** Brian Zamora, Chairperson, Elinor Blake, Linda Weiner. Absent: Ignatius Ding, Jane Kelly. Also present: Victor Torreano.
- 2. Public Comment Period.** There were none.
- 3. Approval of Minutes of April 14, 2003.** Ms. Blake moved approval of the minutes; seconded by Ms. Weiner; carried.
- 4. Receipt of Community Input on Optical Sensing Emissions Monitoring and Data.** Chairperson Zamora stated the Committee has met twice to discuss the optical open path monitoring system at the ConocoPhillips refinery fence line. It has received presentations from the equipment vendor and the staff of the Contra Costa County Health Services (CCCHS) department. Today community input will be received on the utility of the data generated by the monitoring system.

Several individuals came forward and offered their comments as follows:

*Howard Adams
Shoreline Environmental Alliance
Crockett, California*

- At a Crockett high school two miles east of the refinery, the California Air Resources Board (CARB) installed a monitor that provides real-time data within three to four hours of initial measurement. Fenceline data from an April 5, 2002 flare event showed an increase in nitric oxide (NOx) from 300 parts per billion (ppb) to 400 ppb. The CARB monitor showed an increase in NOx from 0 to 4 ppb and in hydrocarbons (HC) from 200 ppb to 260 ppb. After the July 10, 2002 flaring event no data was recorded at the CARB monitor due to westerly winds, but the north fenceline monitors recorded a sharp increase of butane emissions.
- Monitoring system data can be cumulatively reviewed on a daily, monthly or annual basis. This is helpful in trend analysis. The data are generated independently of community member complaints and can be of additional use in Air District enforcement actions. MTBE has been measured at the refinery fenceline, but it was traced to the adjacent Shoreline Terminal facility. Thus, the data optical monitoring data can assist in locating other sources of air pollution.
- This monitoring data could be used in anticipating a release by being integrated with the local Community Warning System. This type of arrangement would require County authorization.
- The fence line and CARB monitors indicate low levels of emissions from a wide variety of chemicals. Both the community members and the refinery should find such data reassuring.

*Andy Mechling
Selma, Oregon*

- While he was a Crockett resident in the 1990's, he negotiated with the refinery on the selection and siting of the monitoring equipment. He gained expertise in both the technology and evaluating the data that it generates. Every page of data is in response to community concerns.
- There is no quality assurance plan governing the optical monitors at the refinery.
- Within the last four years monitoring data reports have been issued monthly. The posting of real-time data on a Contra Costa County website is anticipated in the near future. The Environmental Protection Agency (EPA) has inexplicably set aside its rules regarding data quality assurance even though it will be posted on-line. This matter requires resolution.
- The type of UV monitor at the refinery fence line is no longer manufactured or technically supported. The scientist who developed it now questions its accuracy.
- There are some problems with where the monitors are sited. The optical pathways are too long to be practical. If they were somewhat shortened they would be more dependable.
- The list of chemicals measured by the monitors is too extensive and should be shortened. Regulatory agency scientists could provide criteria for truncating them. Over the seven years that the monitors have operated, as many as 15-20 chemicals have never registered even a single measurement. Also, a tunable diode laser on each fenceline always reads zero.
- An incident on March 17, 2000 in which a junior high school principal smelled a noxious odor and called a shelter-in-place was confirmed by fence line data reviewed two months later showing the single highest release of butane in two years. Had this principal had access to a computer screen to read the data, this shelter-in-place might have been initiated even earlier.
- Since the monitors were installed in 1997, none of the fenceline monitors have registered a high alarm. However, no major release incident has occurred either. The monitors may constitute a deterrent against major releases since they provide useful emissions data that can be tracked.
- The utility of the optical monitoring system data is not at issue. The central concern is the lack of attention given to the data by professional scientists. In the initial phase (1997-99) of this project, regulatory agency attention was largely absent. Although agency participation has somewhat increased since then, the question remains whether regulatory agencies are willing to increase their dedication to gathering, interpreting and disseminating this optical monitoring data. It contains significant chemistry. Moreover, in the absence of a mandate from regulatory agencies, there is little market incentive for developing and installing technologically improved equipment that detects pressure relief valve leaks or monitors stack emissions.

*Jay Gunkleman
Crockett, California*

- The agreement between the refinery and the community allowed a community member with a computer screen connected to the system to "generally characterize" the data for three days after its initial posting. This was in response to community member requests. These data will soon be available on the County's website and no longer confined to only a few computer screens.
- The computer screen at the Bay Area AQMD that reads the optical monitoring data is not connected to the refinery. It should become operational and read by trained District staff.

- The UV monitors are unreliable and should be replaced with the most up-to-date equipment.
- The community believes that the monitoring system provides useful information regarding events independently of the refinery as the sole source of information. This is important given some past difficulties with the refinery failing to fully inform the community of a release.
- Regulatory agencies should use optical monitoring, as it is superior to point source monitoring.
- Carbon disulfide is a neurotoxin that, like lead, cumulatively leads to damage to the nervous system. It should be monitored during refinery releases, particularly in nearby communities.

*Bill Concannon
Crockett, California*

- The optical monitoring system provides the community with useful on-going data. Community member contact with the refinery in connection with the observance of high readings, or the lack thereof, can help in tracking down the source of an odor incident. This occurred when foul-smelling emissions were traced to a sewage treatment plant rather than to the refinery. Screen shots are taken of the computer screen every five minutes and will soon be uploaded to the County website. In addition to chemical measurements, the screen provides data on wind direction which is also critical to tracking releases through a given period of time.
- A school principal in Crockett has expressed interest in accessing the real-time data. From the outset, a Rodeo resident should have had a computer screen with access to the monitoring data.
- The true gauge of refinery activity is the level of butane emissions.
- The system needs to be refined and upgraded where possible and applied to other refineries.

*Julia May
Communities for a Better Environment
Oakland, California*

- She participated with the community and refinery in the process of selecting monitoring equipment. At the time of its purchase the original UV equipment was innovative. However, it has since been discovered that it is unable to handle the cross-sensitivities of certain gas concentrations that must be measured at low levels and within good detection limits.
- The refinery will soon produce low sulfur diesel fuel. This will increase sulfur emissions at the refinery. The UV monitors measure sulfur compounds and must therefore be reliable. The refinery is willing to discuss this matter. The Advisory Council could also review this issue and make recommendations as appropriate regarding the upgrading of the UV monitors.
- Most refineries have hydrogen sulfide, sulfur dioxide, carbon monoxide and NO_x point source monitors. However, optical monitors measure many other chemicals in real-time and have a better chance to capture emissions than point source monitors. Optical monitors should be installed along the fencelines of the other refineries in the Bay Area.
- While the optical monitoring system data has not yet been used to refute refinery statements about facility emissions, fenceline measurement data combined with wind direction indicators has helped to guide the deployment of the community's bucket brigade during a refinery release. The information gathered by the brigade was provided to the refinery.

- The system provides data relevant to odor complaints well in advance of inspector arrival.
- Bayo Vista residents in Rodeo, who are primarily from minority and low-income groups, were not provided with a computer screen to read the data. This environmental justice (EJ) problem will be solved when the optical monitoring system data is posted on the County's website. The Committee should keep the District's EJ policies in mind as it reviews these issues.

Chairperson Zamora inquired as to whether studies of long-term health effects were conducted on those exposed to refinery releases in the Crockett and Rodeo area. Ms. May replied that a survey was recently conducted by CBE in the Bayo Vista community which revealed that 60% of the children in the project have asthma. A non-random study of households conducted by a CBE youth organization reported one person in each Bayo Vista household has asthma. A UCLA study compared the health of citizens downwind of refineries with other residents not exposed to refinery emissions but with higher exposure to smog. It found that those downwind of refineries showed a greater decrease in lung capacity. Contra Costa County also conducted a study of complainants near the former Pacific Refinery in Hercules, and found that Air District data supported the finding of a correlation between refinery releases and complaints and health problems.

Mr. Mechling added that in the wake of the 1996 Catacarb incident a Good Neighbor Clinic was also created. About 66% of the patients complained of ocular problems and 40% suffered from asthma. A follow-up study of those citizens who moved out of Crockett would likely reveal many health problems, but this cannot take place because all the data from the health clinic was returned to UNOCAL, which operated the refinery at the time. Mr. Adams noted that the members of many families that left Crockett had developed various chemical sensitivities after the Catacarb release. Mr. Gunkelman added that some residents suffered dry eye syndrome due to alkaline burn and required tear duct implants. Immune response and neurological problems were also reported. Ms. May indicated that during flaring events many residents report eye irritation and skin rashes.

The community representatives agreed with the following summary provided by Ms. Weiner: the monitoring system provides the community with a sense of empowerment as well as with useful data but requires refinement and updating. Quality assurance protocols must be developed and the UV monitors upgraded. The Air District should establish a working connection to the fence-line monitoring data. Regulatory agency science should interface appropriately with this system.

- 5. Committee Member Comments/Other Business.** There were none.
- 6. Time and Place of Next Meeting.** 1:30 p.m., Monday, June 9, 2003, 939 Ellis Street, San Francisco, California 94109.
- 7. Adjournment.** 2:57 p.m.

James N. Corazza
Deputy Clerk of the Boards

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

APPROVED MINUTES

Advisory Council Technical Committee
9:30 a.m., Thursday, May 29, 2003

- 1. Call to Order – Roll Call.** 9:33 a.m. Quorum Present: Robert Harley, Ph.D., Sam Altshuler, P.E., Louise Bedsworth, Ph.D., William Hanna, Stan Hayes, John Holtzclaw, Ph.D. Absent: Norman Lapera.
- 2. Public Comment Period.** There were no public comments.
- 3. Approval of Minutes of April 1, 2003.** Chairperson Harley requested that “NMHC” replace “methane” on line three, paragraph two of page three. Mr. Altshuler moved adoption of the minutes as corrected; seconded by Mr. Hayes; carried unanimously.
- 4. Overview of Refinery Flares.** Barry Friedman, Senior Consulting Engineer, The Washington Group, International, Denver, Colorado, reviewed a diagram of a flaring system. He noted that in certain systems a vapor recovery compressor can be placed in front of the seal drum to recover fuel vapors and reduce the amount of gas vented to the flares. However, fuel gas recovery is limited by the need to balance fuel produced with fuel consumed in the refinery, maintain the quality of recycled gas and retain sufficient capacity for emergency relief. To more fully utilize the recovered fuel gas, some refineries have installed power recovery gas turbines. However, enough waste gas must be recovered to justify their purchase and installation.

Flare tip types vary from pipe flares to steam assisted, air assisted, steam and air assisted, staged, and fuel assisted. Pipe flares are the simplest. Steam assisted flares have a ring with jets that generate turbulence at the flare tip to reduce smoke. Steam and air assisted flares have exterior and interior steam rings. Staged flares utilize individual burner nozzles on a ring at the flare tip.

Flaring provides for controlled equipment shutdown in emergencies arising out of the failure of instrumentation, process units and power supply, as well as operator error, fire exposure or loss of cooling water. Non-emergency flaring provides for the safe shutdown and start-up of equipment prior to maintenance and inspections, and prevents the direct venting to the atmosphere of small quantities of emissions from various miscellaneous systems that may contain hydrogen sulfide.

In the early 1980's, the Energy and Environmental Research Corporation and the Environmental Protection Agency (EPA) studied flare efficiency by placing a hood above a small flare tip and sampling the gases coming off the hood. With a stable flame, flare efficiencies of 98% or greater were achieved. Flame stability is affected by heating value, wind velocity and flare tip design. Flare efficiency is highest when the flame is connected to the tip, but it drops when too much steam separates it from the tip. The Chemical Manufacturer's Association (CMA) also conducted studies at this time and found high combustion efficiencies over a wide range of flow rates.

More recently flare emissions have been analyzed with Fourier Transform Infrared Spectroscopy (FTIR). EPA compared FTIR with the hood samples and found it accurate, although it requires use of EPA's engineering assumptions. These assumptions are that soot constitutes less than 0.05%, and unburned heavier hydrocarbons (HC) less than 0.05%, of the total HCs entering the flare. BP Oil has developed a Light Detecting and Ranging (LIDAR) technology. It is similar to radar and measures gases, HCs and methane.

In 1997, Shell Oil studied the combustion efficiency of three large operating natural gas plant flares and found that at high flows efficiency ranged from 99.5-99.7% and at low flows from 98.8-99.2%. In October of 2001, Shell studied two flares at a European olefin plant and found that combustion efficiency in an elevated flare registered at 98%, and at 92% in a poorly maintained ground flare. In June of 2002, Shell studied eight solution gas flares and measured efficiency at 98%.

In 1996, BP Oil studied three steam-assisted refinery flares in England with 42"-48" tips. Flare efficiency registered at 98%. Some data showed even higher efficiencies but these did not discount for soot and unburned HCs. This study used LIDAR and considered the effect of crosswind speed on flare emissions as well.

In 1996, the Alberta Research Council (ARC) studied two small oil production flares and measured sweet solution flare efficiency at 62-71% and sour gas flare efficiency at 84%. Sampling devices were suspended from cranes near the flare plume. Some experts have criticized this sampling method. Also, the advisory group to the ARC study opined that the results of that study deviated in a major way from all previous studies and applied exclusively to flares 6" or less in diameter.

The University of Alberta subsequently studied oil production flares in a wind tunnel and found that crosswind velocity considerably reduced efficiency of flares with 2"-6" tips. The study also opined that these results could not be extrapolated to flare tips larger than 6". In 2000, Blackwell used FTIR to study CO in a flare with a high heating value and subjected to crosswinds. He measured flare efficiency at 98% and found that he could not replicate the ARC study.

EPA flaring regulations (40 CFR 60.18) are based on tests in the 1980's when flares were used for emissions control. The standards are used in setting flare emission inventories and set minimum heating values and velocity requirements, as well as applied Ringelmann opacity standards to smoke levels. They contain broad limits for continuous emissions but do not mandate record keeping.

In reply to questions, Mr. Friedman noted the following:

- Variability in fuel type may prohibit the consistent use of a steam-to-gas ratio in flaring. Automated gas recovery compressors may occasionally require operator adjustment.
- Flare operators can observe flare opacity to a certain extent at night.
- If a flaring event occurs, the operator usually has advanced warning and can react to situations where high-pressure set points are exceeded by high inflows. However, if the events that lead to a flaring event occur in rapid succession, the flare is the only indicator of an upset.
- Operator judgment must not be affected by imposing flare limits that adversely affect safe refinery operations. An error in operator judgment arising out of an effort to conform to flaring limits could result in an accident that emits a far greater than normal quantities of emissions.

Chairperson Harley called for public comment and the following individuals came forward:

Julia May
Communities for a Better Environment
Oakland, California

- A recently published EPA fact-sheet stated that flaring that could be predicted (i.e., start-up/shut-down) may not comply with the Clean Air Act. The District should address this.
- Today's presentation does not necessarily apply to Bay Area refineries. For example, the Tesoro refinery knock-out system vents directly to the atmosphere rather than to the flares.
- Residents near refineries experience eye irritation and adverse respiratory impacts during flaring. The District estimates that flaring emits 15 tons per day of sulfur oxides (SO_x). Combustion efficiency does not affect the levels of SO_x emitted. Some combusted HCs are converted into toxic PM. Flares also emit such greenhouse gases as CO₂ and methane.
- Combustion efficiency estimates are controversial. Industry sponsored studies lack objectivity. A recent Swedish study evaluated high and low flaring loads and found high combustion efficiency at high loads but low efficiency at low loads, with emissions remaining fairly constant. Steam-to-fuel ratios for high loading levels worked well but could not be applied to lower loading levels. This may explain the lower combustion efficiency at lower load levels.
- The Blackwell study also found combustion efficiencies of 85%. The State of Texas has adopted a low loading contingency and selected the mid-range efficiency rate of 93%.
- A recent Dow Chemical study urged that dispersion analyses of flare emissions be conducted. A study of optical sensing techniques to evaluate flares is underway in Texas. Optical monitors measure ground level emissions at the ConocoPhillips refinery fence line. The Council might opine on how optical sensing might be applied to flare plume analysis in the Bay Area.

Kevin Buchan
Western States Petroleum Association (WSPA)

- Reviewed a slide entitled "Refinery Flare Emissions: January 2001 - March 2003."
- WSPA believes that voluntary measures to reduce flaring should be fully implemented before formal emission control measures are considered for refinery flaring.

5. Continued Discussion of Refinery Flares. Mr. Hayes made the following points:

- The ARC study greatly diverges from the predominance of evidence that shows 98% flare efficiency. A 6" pipe in an oil and gas production flare is not analogous to a 48" refinery flare.
- On high ozone days, winds are usually stagnant and therefore flare destabilization is unlikely. Hence, a 98% combustion efficiency estimate can be used for ozone attainment planning.
- PM emissions from flares are likely to be low since operators try to minimize smoke as much as possible and maintain a smokeless flame. Chairperson Harley replied that flares can be kept in a smokeless condition up to, but not beyond, specified flare tip design flow rates.
- A 1997 South Coast AQMD staff report on Rule 1118 indicated that, based on standard estimation techniques, one refinery emitted 1,000 tons of SO_x over a six-month period. It is important to evaluate stack emissions and ground level concentrations of SO_x.

- Refineries are required to conform to federal and state ambient air quality standards for SO₂. The AB 2588 Hots Spots rule addresses toxic impacts from industrial facilities and refineries. The District is considering a toxics New Source Review rule for new and modified sources.

In further discussion, the Committee members offered the following comments:

- Raised stack elevation would increase SO₂ dispersion. Refineries should use smart systems and algorithms to map steam and energy flow characteristics. Former Council member Robert Sawyer, Ph.D., would encourage consideration of flaring boundary conditions. (Altshuler)
- Methane in flare emissions affects global warming and should be inventoried. The time that a stable flame is absent is the key to quantifying ozone precursors from flares. (Bedsworth)
- Flare PM content should be studied and flow monitor calibration clearly described. (Holtzclaw)
- Routine maintenance, waste gas recycling, and refinery operational safety must be balanced. Differently sized stacks could accommodate different non-emergency, routine flows. (Hanna)
- The use of the optical remote sensing technology that measures vehicle emissions might be used to evaluate flare emissions. If successfully applied, it would obtain actual data and thereby avoiding having to extrapolate the results of other studies to the Bay Area. (Harley)

Mr. Hanna moved that the Committee recommend that the Advisory Council concur with the flare combustion efficiency estimate of 98%; seconded by Dr. Holtzclaw; carried unanimously.

In reply to Committee questions, Jim Karas, BAAQMD Air Quality Engineering Manager, stated:

- The Committee has responded to staff's request to opine on the combustion efficiency issue by reaching consensus on the estimate of 98% efficiency, based on the weight of evidence.
- Optical measurement of flares poses resource issues. Technically sophisticated spectroanalysis of flares is underway in Europe and staff will meet with the experts on this in the near future.
- The difference between District and industry calculations of flare HC content is due to different assumptions, the inclusion or exclusion of methane, and flow data variability. Much of the original flow data is unreliable. The flow-monitoring rule will generate better monitoring data.
- Boundary conditions are problematic, which is why the refineries are being encouraged to reduce flaring. One refinery has eliminated half of its flare emissions through gas recovery.

- 6. Committee Member Comments/Other Business.** At its next meeting the Committee agreed to (1) receive presentations on flare emissions and the use of optical sensing technology to evaluate flares, and (2) discuss South Coast Rule 1118 with District staff, industry and the community.
- 7. Time and Place of Next Meeting.** 9:30 a.m., Thursday, August 7, 2003, 939 Ellis Street, San Francisco, CA 94109.
- 8. Adjournment.** 12:30 a.m.

James N. Corazza
Deputy Clerk of the Boards